3GPP TSG-T #5
Kyongju, KOREA, 7-8 October 1999

TSGT2#6(99)177

Agenda Item:

Source: T2

Title: 3G Change Requests

Document for: Approval

TDOCC	SPEC	CR	R	3	SUBJECT	CAT	VERS	NEW
T2-99664	27.010	003			Clarification of CR bit	A	3.1.0	3.2.0
T2-99761	23.040	003			Change to reserved port number range for SMS	C	3.1.0	3.2.0
T2-99902	23.040	004			New TP-PID value for delivery of ANSI-136 Short	B	3.1.0	3.2.0
T2-99667	27.010	004			Correction of the bits in the start and close flags of the	A	3.1.0	3.2.0
T2-99873	23.040	005			EI values in concatenated SM's	D	3.1.0	3.2.0
T2-99840	23.040	006			Language codes for Hebrew,Arabic and Russian	B	3.1.0	3.2.0
T2-99661	27.007	006			ECSD AT command correction	D	3.1.0	3.2.0
T2-99670	27.007	007			Alarm functionality	B	3.1.0	3.2.0
T2-99671	27.007	008			Phonebook storage	B	3.1.0	3.2.0
T2-99672	27.007	009			Time Zone	B	3.1.0	3.2.0
T2-99673	27.007	010			Additional result code for +CSSN	B	3.1.0	3.2.0
T2-99674	27.007	011			New command for setting of Date format	B	3.1.0	3.2.0
T2-99675	27.007	012			New command for Silent mode	B	3.1.0	3.2.0
T2-99676	27.007	013			New command for setting of Time format	B	3.1.0	3.2.0
T2-99763	27.007	014			GSM 400 Spectrum update	B	3.1.0	3.2.0
T2-99822	27.007	015			AT command - Request GPRS service 'D'	A	3.1.0	3.2.0

3GPP TSG-T2 **Document T2-99664**

Helsinki, Finland, 06-09 09 1999

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.010	CR	003	Current Version:	V3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X] for information [ ] *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 30/08/1999

Subject: Clarification of CR bit

3G Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[X]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change:

When control messages are sent on channel 0 there are two fields which contains a CR bit:

1. CR bit on field "Address"
2. CR bit on field "type".

The use of the CR bit is different for both fields, and the document does not specify such difference. This can lead to a misunderstanding.

Clauses affected: 5.4.6.2 Operating procedures

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

5.4.6.2 Operating procedures

Messages always exist in pairs; a command message and a corresponding response message. If the C/R bit is set to 1 the message is a command, if it is set to 0 the message is a response. A response message has the same T bits as the command that provoked it.

If a command does not produce a response within a time T2 the command may be sent again up to N2 times. If no response is received on the N2 transmissions, the multiplexer control channel should be considered faulty and an alarm raised. Resolution of the error situation is implementation dependent.

Note: Notice that when UIH frames are used to convey information on DLCI 0 there are at least two different fields that contain a CR bit, and the bits are set of different form. The CR bit in the Type field shall be set as it is stated above, while the CR bit in the Address field (see subclause 5.2.1.2) shall be set as it is described in subclause 5.4.3.1.

5.4.6.3 Message Type and Actions

5.4.6.3.1 DLC parameter negotiation (PN)

This procedure is optional. If this command is not supported, default values are applied to each DLC.

Before a DLC is set up using the mechanism in subclause 5.4.1, the TE and MS must agree on the parameters to be used for that DLC. These parameters are determined by parameter negotiation.

The parameter negotiation uses the following type field octet:

Bit	1	2	3	4	5	6	7	8
	EA	C/R	0	0	0	0	0	1

The length field octet contains the value 8 and there follow eight value octets. The value octets contain the information in Table 1.

Table 1: Parameter Negotiation

Value Octet	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8
1	D1	D2	D3	D4	D5	D6	0	0
2	I1	I2	I3	I4	CL1	CL2	CL3	CL4
3	P1	P2	P3	P4	P5	P6	0	0
4	T1	T2	T3	T4	T5	T6	T7	T8
5	N1	N2	N3	N4	N5	N6	N7	N8
6	N9	N10	N11	N12	N13	N14	N15	N16
7	NA1	NA2	NA3	NA4	NA5	NA6	NA7	NA8
8	K1	K2	K3	0	0	0	0	0

The various fields are coded as follows:

The D-bits define the DLCI that the other information refers to; Bit D1 is the least significant.

The I-bits define the type of frames used for carrying information in the particular DLC - See Table 2.

Table 2: Meaning of I-bits

Meaning	I1	I2	I3	I4
Use UIH frames	0	0	0	0
Use UI frames	1	0	0	0
Use I frames (note)	0	1	0	0

3GPP TSG-T2 #5 / ETSI SMG4
September 1999
Helsinki, Finland

TSGT2#5(99)761

CHANGE REQUEST No : **003** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 23.040 Version 3.1.0

Submitted to T#5 *list plenary meeting or STC here ↑*
for approval **X**
for information

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: *(at least one should be marked with an X)* SIM [ ] ME [X] Network [ ]

Work item: TEI

Source: T2 **Date:** 9 Sept 1999

Subject: Change to reserved port number range for SMS

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
UMTS	

Reason for change: This proposed change enhances the usefulness of the SMS port numbering scheme, by allowing applications to communicate using an agreed protocol identified by the port number. This extends the capability to communicate from being specific to the TE, to within the ME. Applications that propose to use this mechanism include WAP.
The Internet Assigned Numbers Authority (IANA) provides a central coordinating function for port numbers, as has been recognised by WAP registering port numbers with it.

Clauses affected: 9.2.3.24.4

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

9.2.3.24.4 Application Port Addressing 16 bit address

This facility allows short messages to be routed to one of multiple applications in the TE (terminal equipment), using a method similar to TCP/UDP ports in a TCP/IP network. An application entity is uniquely identified by the pair of TP-DA/TP-OA and the port address. The port addressing is transparent to the transport, and also useful in Status Reports. The total length of the IE is 4 octets

octet 1,2 Destination port

These octets contain a number indicating the receiving port, i.e. application, in the receiving device.

octet 3,4 Originator port

These octets contain a number indicating the sending port, i.e. application, in the sending device.

The port range is up to 65535 using 16 bit addressing space. The Integer value of the port number is presented as in GSM 03.40 subclause 9.1.2.1.

VALUE (port number)	MEANING
~~0- 15999~~	~~Reserved~~
0 - 15999	As allocated by IANA (http://www.IANA.com/)
16000 - 16999	Available for allocation by applications
17000 - 65535	Reserved

A receiving entity shall ignore (i.e. skip over and commence processing at the next information element) any information element where the value of the Information-Element-Data is Reserved or not supported.

3GPP TSG-T2 #6 / ETSI SMG4
Kyongju, KOREA, 4-6 October 1999

TSGT2#6(99)873

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

23.040	CR		Current Version:	V3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submision to:	T#5	for approval	X	strategic		(for SMG use only)
list approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 1.1 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CRF-11.rtf*

Proposed change affects: (U)SIM [ ] ME [X] UTRAN [ ] Core Network [ ]
(at least one should be marked with an X)

Source: T2 **Date:** 5/10/99

Subject: IEI values in concatenated SM's

Work item: Short Message Service (SMS)

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification	X		Release 99	X

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: Guidance has been sought regarding the need to put certain IEI values in every segment of a concatenated SM. In some IEI cases an explicit statement already exists or it is implicit in the IEI function. In cases where no mention is made of the need for the IEI to be included in every segment a warning statement has been added.

Clauses affected: 9.2.3.24.1 to 9.2.3.24.9 inclusive

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

9.2.3.24.1 Concatenated Short Messages

This facility allows short messages to be concatenated to form a longer message.

In the case of uncompressed 8-bit data, the maximum length of the short message within the TP-UD field is 134 (140-6) octets.

In the case of uncompressed GSM Default 7 bit data, the maximum length of the short message within the TP-UD field is 153 (160-7) characters.

In the case of 16 bit uncompressed USC2 data, the maximum length of the short message within the TP-UD field is 67 ((140-6)/2) characters. A UCS2 character must not be split in the middle; if the length of the User Data Header is odd, the maximum length of the whole TP-UD field is 139 octets.

In the case of compressed GSM Default alphabet 7 bit data, 8 bit data or UCS2 the maximum length of the compressed short message within the TP-UD field is 134 (140-6) octets including the Compression Header and Compression Footer, both or either of which may be present (See subclause 3.9).

The maximum length of an uncompressed concatenated short message is 39015 (255*153) default alphabet characters, 34170 (255*134) octets or 17085 (255*67) UCS2 characters.

The maximum length of a compressed concatenated message is 34170 (255*134) octets including the Compression Header and Compression Footer (see subclause 3.9 and Fig 9.2.3.24.1(a) below.

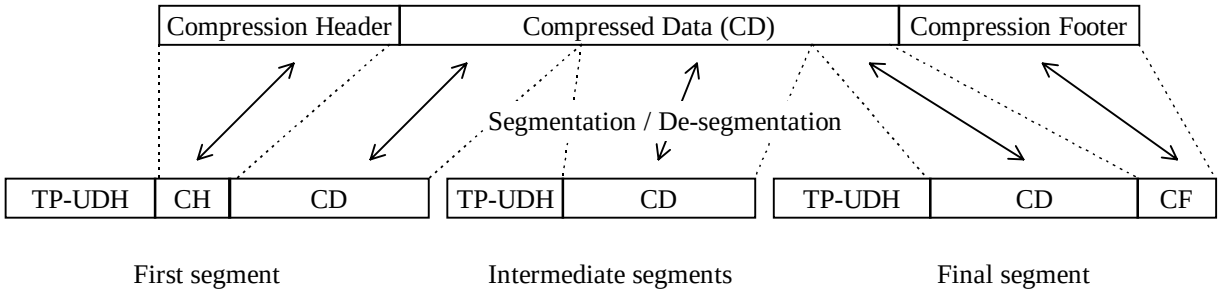

Figure 9.2.3.24.1.(a) Concatenation of a Compressed short message

The Information-Element-Data field contains information set by the application in the SMS-SUBMIT so that the receiving entity is able to re-assemble the short messages in the correct order. Each concatenated short message contains a reference number which together with the originating address and Service Centre address allows the receiving entity to discriminate between concatenated short messages sent from different originating SMEs and/or SCs.

The TP elements in the SMS-SUBMIT PDU, apart from TP-MR, TP-SRR, TP-UDL and TP-UD, should remain unchanged for each SM which forms part of a concatenated SM, otherwise this may lead to irrational behaviour. TP-MR must be incremented for every segment of a concatenated message as defined in subclause 9.2.3.6. A SC willl handle segments of a concatenated message like any other short message. The relation between segments of a concatenated message is made only at the originator, where the message is segmented, and at the recipient, where the message is reassembled. SMS-COMMANDs identify messages by TP-MR and therefore apply to only one segment of a concatenated message. It is up to the originating SME to issue SMS-COMMANDs for all the required segments of a concatenated message.

The Information-Element-Data octets shall be coded as follows.

Octet 1 Concatenated short message reference number

This octet shall contain a modulo 256 counter indicating the reference number for a particular concatenated short message. This reference number shall remain constant for every short message which makes up a particular concatenated short message.

Octet 2 Maximum number of short messages in the concatenated short message.

This octet shall contain a value in the range 0 to 255 indicating the total number of short messages within the concatenated short message. The value shall start at 1 and remain constant for every short message which makes up the concatenated short message. If the value is zero then the receiving entity shall ignore the whole Information Element.

Octet 3 Sequence number of the current short message.

This octet shall contain a value in the range 0 to 255 indicating the sequence number of a particular short message within the concatenated short message. The value shall start at 1 and increment by one for every short message sent within the concatenated short message. If the value is zero or the value is greater than the value in octet 2 then the receiving entity shall ignore the whole Information Element.

The IEI and associated IEI length and IEI data must be present in every segment of the concatenated SM.

9.2.3.24.2 Special SMS Message Indication

There are three levels of "Message Waiting" indication provided within this specification. The first level is to set the Protocol Identifier to "Return Call message", which indicates that a message is waiting and relies on the text of the message to supply the detail. The second level uses the Data Coding Scheme with or without Return Call Message (see GSM 03.38) to indicate the type of message waiting and whether there are some messages or no messages. The third level is described here, and provides the maximum detail level for analysis by the mobile, i.e. an indication of the number and type of messages waiting in systems connected to the PLMN. This third level is provided for future flexibility, as it cannot immediately be used without compatibility problems with the earliest Phase mobiles. It is envisaged that this scheme can start to be used once mobiles supporting TP-UDH become widely available.

This information may be stored by the MS in a form other than an SMS message, for example an indicator may be shown if the number of messages is non-zero or removed if the number of messages is zero. The MS may also store actual number of messages waiting and provide some other MMI to access this information. Text may be included by the SMS Service Centre for backward compatibility with the earliest Phase mobiles and the Data Coding Scheme may also be used to convey this information in parallel for backward compatibility with "middle" Phase mobiles (which support the use of Data Coding Scheme for Message Waiting Indication but not the use of TP-UDH for Message Waiting Indication).

The information-Element octets shall be coded as follows:

Octet 1 Message Indication type and Storage

Bit 7 Indicates whether or not the message shall be stored.

Bit 7

0 Discard message after updating indication

1 Store message

In the event of a conflict between this setting and the setting of the Data Coding Scheme (see GSM 03.38) then the message shall be stored if either the DCS indicates this, or Octet 1 above indicates this.

Bits 6..0 show the message indication type

000 0000	Voice Message Waiting
000 0001	Fax Message Waiting
000 0010	Electronic Mail Message Waiting
000 0011	Other Message Waiting (see GSM 03.38 for definition of "other")

Other values are reserved for future use

Octet 2 Message Count

This octet shall contain a value in the range 0 to 255 indicating the number of messages of the type specified in Octet 1 waiting. The value 255 shall be taken to mean 255 or greater. In the event of a conflict between this setting and the setting of the Data Coding Scheme (see GSM 03.38) then the Message Count in the TP-UDH shall override the indication in the TP-DCS.

If more than one type of message is required to be indicated within one SMS message, then further octets must be used, as in the following example:

[00] TP-UDL [1E] (30 decimal septets)

[01] Length of TP-UDH [08]

[02] IEI = Special SMS Message Indication [01]

[03] Length = 02

[04] Octet 1 = Voice Mail, do not store [00]

[05] Octet 2 = 04 Messages

[06] IEI = Special SMS Message Indication [01]

[07] Length = 02

[08] Octet 1 = Fax Mail, Store [81]

[09] Octet 2 = 02 Messages

+ 5 Fill bits

+ 19 seven-bit character message text

The Total number of bits is 210.

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data must be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However ,in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.

9.2.3.24.3 Application Port Addressing 8 bit address

This facility allows short messages to be routed to one of multiple applications in the TE (terminal equipment), using a method similar to TCP/UDP ports in a TCP/IP network. An application entity is uniquely identified by the pair of TP-DA/TP-OA and the port address. The port addressing is transparent to the transport, and also useful in Status Reports.

The total length of the IE is 2 octets

octet 1 Destination port

This octet contains a number indicating the receiving port, i.e. application, in the receiving device.

octet 2 Originator port

This octet contains a number indicating the sending port, i.e. application, in the sending device.

The port range is up to 255 using 8 bit addressing space. The Integer value of the port number is presented as in GSM 03.40 subclause 9.1.2.1.

VALUE (port number)	MEANING
0 - 239	Reserved
240 - 255	Available for allocation by applications

A receiving entity shall ignore (i.e. skip over and commence processing at the next information element) any information element where the value of the Information-Element-Data is Reserved or not supported.

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data must be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However ,in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.

9.2.3.24.4 Application Port Addressing 16 bit address

This facility allows short messages to be routed to one of multiple applications in the TE (terminal equipment), using a method similar to TCP/UDP ports in a TCP/IP network. An application entity is uniquely identified by the pair of TP-DA/TP-OA and the port address. The port addressing is transparent to the transport, and also useful in Status Reports.

The total length of the IE is 4 octets

octet 1,2 Destination port

These octets contain a number indicating the receiving port, i.e. application, in the receiving device.

octet 3,4 Originator port

These octets contain a number indicating the sending port, i.e. application, in the sending device.

The port range is up to 65535 using 16 bit addressing space. The Integer value of the port number is presented as in GSM 03.40 subclause 9.1.2.1.

VALUE (port number)	MEANING
0 - 15999	Reserved
16000 - 16999	Available for allocation by applications
17000 - 65535	Reserved

A receiving entity shall ignore (i.e. skip over and commence processing at the next information element) any information element where the value of the Information-Element-Data is Reserved or not supported.

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data must be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However ,in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.

9.2.3.24.5 SMSC Control Parameters

The facility enables the SMS protocol headers to be expanded using a flexible method. It may be used to control the SMSC, but is also passed transparently to the receiving mobile. The Information Element must be present in every short message affected by it, i.e. in every short message in a concatenated message.

The Information Element data octets shall be coded as follows:

octet 1 Selective Status Report

This facility is used to control the creation of Status Reports, depending on the error code of the particular message. It is also used by the sending entity to request inclusion of the original UDH into the Status Report. In this case the original UDH must be separated from the rest of the UDH using the Source Indicator. The TP-SRR must be set in order for the Selective Status Report to be enabled. The bits are defined as follows

bit 0

0 No Status Report for short message transaction completed

1 Status Report for short message transaction completed

bit 1

0 No Status Report for permanent error when SC is not making any more transfer attempts

1 Status Report for permanent error when SC is not making any more transfer attempts

bit 2

0 No Status Report for temporary error when SC is not making any more transfer attempts

1 Status Report for temporary error when SC is not making any more transfer attempts

bit 3

0 No Status Report for temporary error when SC is still trying to transfer SM

1 Status Report for temporary error when SC is still trying to transfer SM

bits 4 and 5

reserved for future use.

bit 6

0 No activation

1 A Status Report generated by this Short Message, due to a permanent error or last temporary error, cancels the SRR of the rest of the Short Messages in a concatenated message. This feature can only be used where a SC is aware of the segmentation of a concatenated SM and is therefore an implementation matter.

bit 7

0 Do not include original UDH into the Status Report

1 Include original UDH into the Status Report

9.2.3.24.6 UDH Source Indicator

The facility is used to separate the UDH of the original message, a UDH created by the SMSC, and a UDH provided by the original receiving entity. The Source Indicator is placed in front of the content inserted by the source. The indicated content (one or more Information-Elements) ends at the next UDH-Source-Indicator, or at the end of the UDH. The Separator is intended to be used especially in Status Reports, but can also be used by the SMSC to add information into Short Message (for example Message waiting). The default content for a UDH in a SMS-DELIVERY is the headers inserted by the sending device, and the default content for a UDH in a SMS-STATUS-REPORT is the headers copied from the SMS-DELIVERY-REPORT.

Values of octet:

01 The following part of the UDH is created by the original sender (valid in case of Status Report)

02 The following part of the UDH is created by the original receiver (valid in case of Status Report)

03 The following part of the UDH is created by the SMSC (can occur in any message or report)

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data must be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However ,in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.

9.2.3.24.7 SIM Toolkit Security Headers

There are no IEI data values associated with these IEI values and so the associated Length of Information element field is present but set to zero.

These IEI values implicitly define that a Security Header is always present at the start of the TP-User-Data field which immediately follows the TP-User-Data-Header. Details of the Security Header will be found in GSM 03.48.

In the case where a concatenated message contains a Security Header then the Security Header will only be present in the first segment of a concatenated message.

In the case where SMS compression is applied to a TP-User-Data field which contains a Security Header then the SMS compression header (GSM 03.42) will immediately precede the Security Header.

9.2.3.24.8 Concatenated short messages, 16-bit reference number

This facility is an enhanced variant of the Concatenated Short Message facility (see subclause 9.2.3.24.1). The enhancement is a 16-bit reference number, instead of the short 8-bit reference number. The larger reference number reduces the probability that two different concatenated messages are mistakenly sent with identical reference numbers to a receiver. Except for the size of the reference number this facility is identical to the Concatenated Short Message facility (see subclause 9.2.3.24.1).

In the case of uncompressed 8-bit data, the maximum length of the short message within the TP-UD field is 133 (140-7) octets.

In the case of uncompressed GSM Default 7 bit data, the maximum length of the short message within the TP-UD field is 151 (160-9) characters.

In the case of 16 bit uncompressed USC2 data, the maximum length of the short message within the TP-UD field is 66 ((140-7)/2) characters. A UCS2 character must not be split in the middle; if the length of the User Data Header is odd, the maximum length of the whole TP-UD field is 139 octets.

In the case of compressed GSM Default alphabet 7 bit data, 8 bit data or UCS2 the maximum length of the compressed short message within the TP-UD field is 133 (140-7) octets including the Compression Header and Compression Footer, both or either of which may be present (see subclause 3.9).

The relation between compression and concatenation is the same as for Concatenated Short Messages (see subclause 9.2.3.24.1).

The Information-Element-Data field contains information set by the application in the SMS-SUBMIT so that the receiving entity is able to re-assemble the short messages in the correct order. Each concatenated short message contains a reference number which together with the originating address and Service Centre address allows the receiving entity to discriminate between concatenated short messages sent from different originating SMEs and/or SCs.

The TP elements in the SMS-SUBMIT PDU, apart from TP-MR, TP-UDL and TP-UD, should remain unchanged for each SM which forms part of a concatenated SM, otherwise this may lead to irrational behaviour. TP-MR must be incremented for every segment of a concatenated message as defined in subclause 9.2.3.6. A SC will handle segments of concatenated message like any other short message. The relation between segments of a concatenated message is made at the originator, where the message is segmented, and at the receipient, where the message is reassembled. SMS-COMMANDs identify messages by TP-MR and therefore apply to only one segment of a concatenated message. It is up to the originating SME to issue SMS-COMMANDs for all the required segments of a concatenated message.

The Information-Element-Data octets shall be coded as follows.

Octet 1-2 Concatenated short messages, 16-bit reference number

This octet shall contain a modulo 65536 counter indicating the reference number for a particular enhanced concatenated short message. This reference number shall remain constant for every short message which makes up a particular enhanced concatenated short message.

Octet 3 Maximum number of short messages in the enhanced concatenated short message.

This octet shall contain a value in the range 0 to 255 indicating the total number of short messages within the concatenated short message. The value shall start at 1 and remain constant for every short message which makes up the enhanced concatenated short message. If the value is zero then the receiving entity shall ignore the whole Information Element.

Octet 4 Sequence number of the current short message.

This octet shall contain a value in the range 0 to 255 indicating the sequence number of a particular short message within the concatenated short message. The value shall start at 1 and increment by one for every short message sent within the concatenated short message. If the value is zero or the value is greater than the value in octet 3 then the receiving entity shall ignore the whole Information Element.

The IEI and associated IEI length and IEI data must be present in every segment of the concatenated SM.

9.2.3.24.9 Wireless Control Message Protocol

The Wireless Control Message Protocol (WCMP) is part of the WAP suite of protocols; an open standard specified by the WAP Forum Ltd.
The protocol specifies a set of messages that can be used by the receiver to notify the sender if an error occurs. This can be due to routing problems, no application listening at the destination port number, or due to insufficient buffer capacity. The error messages can be used by the sender to avoid retransmitting packets, that can not be properly handled at the receiver. WCMP can also be used for diagnostics and informational purposes. WCMP messages are usually generated by a datagram transport layer or a management entity.

The Information-Element-Data octet(s) shall be coded as follows.

Octet 1-n Protocol Data Unit of WCMP

This octet(s) shall contain a WCMP protocol data unit.

In the case where this IEI is to be used in a concatenated SM then the IEI, its associated IEI length and IEI data must be contained in the first segment of the concatenated SM. The IEI, its associated IEI length and IEI data should also be contained in every subsequent segment of the concatenated SM although this is not mandatory. However ,in the case where these elements are not contained in every subsequent segment of the concatenated SM and where an out of sequence segment delivery occurs or where the first segment is not delivered then processing difficulties may arise at the receiving entity which may result in the concatenated SM being totally or partially discarded.

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

23.040	CR	004	Current Version:	V3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submision to:	T#5	for approval	X	strategic		(for SMG use only)
list approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 1.1 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CRF-11.rtf*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN [ ] Core Network [X]

Source: T2 **Date:** 990928

Subject: New TP-PID value for delivery of ANSI-136 Short Messages

Work item: Short Message Service (SMS)

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature	X		Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: A new TP-PID value is required for the delivery of ANSI-136 teleservices using GSM SMS procedures.
The opportunity has been taken to remove an ambiguity in a similar section.

Clauses affected:

Other specs affected:

Other 3G core specifications		→ List of CRs:	
Other GSM core specifications	X	→ List of CRs:	11.14
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments: This CR is part of GPRS-136HS project of UWCC

help.doc

<--------- double-click here for help and instructions on how to create a CR.

9.2.3.9 TP-Protocol-Identifier (TP-PID)

The TP-Protocol-Identifier parameter serves the purposes indicated in subclause 3.2.3. It consists of one octet, and the bits in the octet are used as follows:

The MS will interpret reserved or unsupported values as the value 00000000 but shall store them exactly as received.

The SC may reject messages with a TP-Protocol-Identifier containing a reserved value or one which is not supported.

bits	usage
7 6	
0 0	Assigns bits 0..5 as defined below
0 1	Assigns bits 0..5 as defined below
1 0	reserved
1 1	Assigns bits 0-5 for SC specific use

In the case where bit 7 = 0 and bit 6 = 0,

bit 5 indicates telematic interworking:
value = 0 : no interworking, but SME-to-SME protocol
value = 1 : telematic interworking

In the case of telematic interworking, the following five bit patterns in bits 4..0 are used to indicate different types of telematic devices:

4.. .0	
00000	implicit - device type is specific to this SC, or can be concluded on the basis of the address
00001	telex (or teletex reduced to telex format)
00010	group 3 telefax
00011	group 4 telefax
00100	voice telephone (i.e. conversion to speech)
00101	ERMES (European Radio Messaging System)
00110	National Paging system (known to the SC)
00111	Videotex (T.100/T.101)
01000	teletex, carrier unspecified
01001	teletex, in PSPDN
01010	teletex, in CSPDN
01011	teletex, in analog PSTN
01100	teletex, in digital ISDN
01101	UCI (Universal Computer Interface, ETSI DE/PS 3 01-3)
01110..01111	(reserved, 2 combinations)
10000	a message handling facility (known to the SC)
10001	any public X.400-based message handling system
10010	Internet Electronic Mail
10011..10111	(reserved, 5 combinations)
11000..11110	values specific to each SC, usage based on mutual agreement between the SME and the SC (7 combinations available for each SC)
11111	A GSM mobile station. The SC converts the SM from the received TP-Data-Coding-Scheme to any data coding scheme supported by that MS (e.g. the default).

If bit 5 has value 1 in an SMS-SUBMIT PDU, it indicates that the SME is a telematic device of a type which is indicated in bits 4..0, and requests the SC to convert the SM into a form suited for that device type. If the destination network is ISDN, the SC must also select the proper service indicators for connecting to a device of that type.

If bit 5 has value 1 in an SMS-DELIVER PDU, it indicates that the SME is a telematic device of a type which is indicated in bits 4..0.

If bit 5 has value 0 in an SMS-DELIVER PDU, the value in bits 4..0 identifies the SM-AL protocol being used between the SME and the MS.

Note that for the straightforward case of simple MS-to-SC short message transfer the Protocol Identifier is set to the value 0.

In the case where bit 7 = 0, bit 6 = 1, bits 5..0 are used as defined below

5 0	
000000	Short Message Type 0
000001	Replace Short Message Type 1
000010	Replace Short Message Type 2
000011	Replace Short Message Type 3
000100	Replace Short Message Type 4
000101	Replace Short Message Type 5
000110	Replace Short Message Type 6
000111	Replace Short Message Type 7
001000..011110	Reserved
011111	Return Call Message
~~100000..111100~~	~~Reserved~~
100000..111011	Reserved
111100	ANSI-136 R-DATA
111101	ME Data download
111110	ME De-personalization Short Message
111111	SIM Data download

A short message type 0 indicates that the ME must acknowledge receipt of the short message but may discard its contents.

The Replace Short Message feature is optional for the ME and the SIM but if implemented it shall be performed as described here.

For MT short messages, on receipt of a short message from the SC, the MS shall check to see if the associated Protocol Identifier contains a Replace Short Message Type code.

If such a code is present, then the MS will check the originating address and replace any existing stored message having the same Protocol Identifier code and originating address with the new short message and other parameter values. If there is no message to be replaced, the MS shall store the message in the normal way. The MS may also check the SC address as well as the Originating Address. However, in a network which has multiple SCs, it is possible for a Replace Message type for a SM to be sent via different SCs and so it is recommended that the SC address should not be checked by the MS unless the application specifically requires such a check.

If a Replace Short Message Type code is not present then the MS will store the message in the normal way.

In MO short messages the SC reacts similarly but only the address of the originating MS or any other source is checked.

A Return Call Message indicates to the MS to inform the user that a call (e.g. a telephone call) can be established to the address specified within the TP-OA. The RP-OA contains the address of the SC as usual. The message content (if present) gives displayable information (e.g. the number of waiting voice messages). The message is handled in the same way as all other messages of the Replace Short Message Types.

The ME De-personalization Short Message is a ME-specific message which instructs the ME to de-personalities the ME (see GSM 02.22 [25]). The TP-DCS shall be set to Uncompressed, Default Alphabet, and Message Class 1 (ME-specific), which corresponds to a bit coding of 00010001. The TP-UD field contains de-personalization information coded according to GSM 02.22 [25]. This information shall not be displayed by an ME which supports the scheme. The acknowledgement to this message is a SMS-DELIVER-REPORT for RP-ACK in which the TP-User-Data shall be coded according to GSM 02.22.

SIM Data download is a facility whereby the ME must pass the short message in its entirety including all SMS elements contained in the SMS deliver to the SIM using the mechanism described in GSM 11.11. The DCS shall be set to 8 bit message class 2 (either bit coding 1111 0110 or 00010110). The entire user data field is available for SIM Data download. If the DCS is not set to 8-bit message class 2 then the message shall be handled in the normal way by the ME.

ME Data download is a facility whereby the ME shall process the short message in its entirety including all SMS elements contained in the SMS deliver to the ME. The DCS shall be set to message class 1. The entire user data field is available for ME data download.

ANSI-136 R-DATA is a facility whereby the ME must pass the short message in its entirety, including all elements contained in the SMS DELIVER, to the SIM using the mechanism described in GSM 11.14. The DCS shall be set to 8-bit message class 2 (either bit coding 11110110 or 00010110). If the DCS is not set to 8-bit message class 2 then the message shall be handled in the normal way by the ME.

3G CHANGE REQUEST

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27.007 **CR** **007** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG T#5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 31/08/99

Subject: Alarm functionality

3G Work item: Technical Enahncements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: Added functionality to set up single alarm for a specific date and for recurrent alarms.
Added unsolicited result code for the alarm event.
Also, added “snooze” function for the alarms

Clauses affected: 8.xx, Annex B

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.16 Alarm +CALA

Table 1: +CALA parameter command syntax

Command	Possible response(s)
+CALA=<time>[,<n>[,<type>[,<text>[,<recurr>[,<silent>]]]]]	*+CME ERROR: <err>*
+CALA?	[+CALA: <time>,<n1>,<type>,[<text>],[<recurr>],<silent> [<CR><LF>+CALA: <time>,<n2>,<type>,[<text>],[<recurr>],<silent> [...]]] *+CME ERROR: <err>*
+CALA=?	+CALA: (list of supported <n>s),(list of supported <type>s),<tlength>,<rlength>,(list of supported <silent>s) *+CME ERROR: <err>*

Description

Set command sets an alarm time in the ME. There can be an array of different types of alarms, and each alarm may cause different text to be displayed in the ME display. If setting fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

To set up a recurrent alarm for one or more days in the week, the <recurr>-parameter may be used.

When an alarm is timed out and executed, the unsolicited result code +CALV: <n> is always returned, even if the alarm is set up to be silent.

Read command returns the list of current active alarm settings in the ME.

Test command returns supported array index values, alarm types, and maximum length of the text to be displayed.

Defined values

<time>: refer +CCLK

Note! If the <recurr>-parameter is used, the <time>-parameter must not contain a date.

<n>, <n1>, <n2>: integer type value indicating the index of the alarm; default is manufacturer specific

<type>: integer type value indicating the type of the alarm (e.g. sound, volume, LED); values and default are manufacturer specific

<text>: string type value indicating the text to be displayed when alarm time is reached; maximum length <tlength>

<tlength>: integer type value indicating the maximum length of <text>

<recurr>: string type value indicating day of week for the alarm in one of the following formats:

"<1..7>[,<1..7>[…]]" – Sets a recurrent alarm for one or more days in the week. The digits 1 to 7 corresponds to the days in the week, Monday (1), …, Sunday (7).
Example: The string "1,2,3,4,5" may be used to set an alarm for all weekdays.

"0" – Sets a recurrent alarm for all days in the week.

<rlength>: integer type value indicating the maximum length of <recurr>

<silent>: Integer type value indicating if the alarm is silent or not. If set to 1 the alarm will be silent and the only result from the alarm is the unsolicited result code +CALV. If set to 0 the alarm will not be silent.

Implementation

Optional.

8.x Delete alarm +CALD

Table 2: +CALD action command syntax

Command	Possible response(s)
+CALD=<n>	*+CME ERROR: <err>*
+CALD=?	+CALD: (list of supported <n>s) *+CME ERROR: <err>*

Description

Action command deletes an alarm in the ME. If the command fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Test command returns supported array index values.

Defined values

<n>: integer type value indicating the index of the alarm; default is manufacturer specific

Implementation

Optional.

8.x+1 Postpone or dismiss an alarm +CAPD

Table 3: +CAPD action command syntax

Command	Possible response(s)
+CAPD=[<sec>]	*+CME ERROR: <err>*
+CAPD=?	+CAPD: (list of supported <sec>s) *+CME ERROR: <err>*

Description

Set command postpones or dismisses a currently active alarm. If the command fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Test command returns supported <sec>-parameter values.

Defined values

<sec>: integer type value indicating the number of seconds to postpone the alarm. If <sec> is set to 0 (default), the alarm is dismissed.

Implementation

Optional.

Annex B (normative): Summary of result codes

V.25ter [14] result codes which can be used in GSM and codes defined in this ETS:

Table B.1: Result codes

Verbose result code (V.25ter command V1 set)	Numeric (V0 set)	Type	Description
+CALV	as verbose	unsolicited	refer subclause 8.16
+CCCM: <ccm>	as verbose	unsolicited	Refer subclause 7.15 $(AT R97)$
+CCWA: <number>,<type> ,<class>[,<alpha>]	as verbose	unsolicited	refer subclause 7.11
+CCWV	as verbose	unsolicited	refer subclause 8.28
+CDEV: <elem>,<text>	as verbose	unsolicited	refer subclause 8.10
+CIEV: <ind>,<value>	as verbose	unsolicited	refer subclause 8.10
+CKEV: <key>,<press>	as verbose	unsolicited	refer subclause 8.10
+CLAV: <code>	as verbose	unsolicited	refer subclause 8.
+CLIP: <number> ,<type>[,<subaddr> ,<satype>[,<alpha>]]	as verbose	unsolicited	refer subclause 7.6
+CME ERROR: <err>	as verbose	final	refer subclause 9.2
+COLP: <number> ,<type>[,<subaddr> ,<satype>[,<alpha>]]	as verbose	intermediate	refer subclause 7.8
+CR: <type>	as verbose	intermediate	refer subclause 6.8
+CREG: <stat>[,<lac> ,<ci>]	as verbose	unsolicited	refer subclause 7.2
+CRING: <type>	as verbose	unsolicited	refer subclause 6.11
+CSSI: <code1> [,<index>]	as verbose	intermediate	refer subclause 7.16
+CSSU: <code2> [,<index>[,<number>, <type>[,<subaddr>, <satype>]]]	as verbose	unsolicited	refer subclause 7.16
+CUSD: <m>[,<str>,<dcs>]	as verbose	unsolicited	refer subclause 7.14
+DR: <type>	as verbose	intermediate	refer subclause 6.13
+ILRR: <rate>	as verbose	intermediate	refer subclause 4.3
BUSY	6	final	busy signal detected
CONNECT	1	intermediate	connection has been established
CONNECT <text>	manufacturer specific	intermediate	as CONNECT but manufacturer specific <text> gives additional information (e.g. connection data rate)
ERROR	4	final	command not accepted
NO ANSWER	7	final	connection completion timeout
NO CARRIER	3	final	connection terminated
NO DIALTONE	5	final	no dialtone detected
OK	0	final	acknowledges execution of a command line
RING	2	unsolicited	incoming call signal from network

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **008** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: Phonebook storage

3G Work item: Technical Enhancements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: To make it easier to choose a PIN2-locked phone book memory storage by sending the PIN2 as an optional parameter.

Clauses affected: 8.11

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.11 Select phonebook memory storage +CPBS

Table 1: +CPBS parameter command syntax

Command	Possible response(s)
+CPBS=<storage>[,<password>]	*+CME ERROR: <err>*
+CPBS?	+CPBS: <storage>[,<used>,<total>] *+CME ERROR: <err>*
+CPBS=?	+CPBS: (list of supported <storage>s)

Description

Set command selects phonebook memory storage <storage>, which is used by other phonebook commands. If setting fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Read command returns currently selected memory, and when supported by manufacturer, number of used locations and total number of locations in the memory.

Test command returns supported storages as compound value.

Defined values

<storage> values reserved by this ETS:

"DC" ME dialled calls list (+CPBW may not be applicable for this storage) $(AT R97)$

"EN" SIM (or ME) emergency number (+CPBW is not be applicable for this storage) $(AT R97)$

"FD" SIM fixdialling-phonebook

"LD" SIM last-dialling-phonebook

"MC" ME missed (unanswered received) calls list (+CPBW may not be applicable for this storage)

"ME" ME phonebook

"MT" combined ME and SIM phonebook

"ON" SIM (or ME) own numbers (MSISDNs) list (reading of this storage may be available through +CNUM also) $(AT R97)$

"RC" ME received calls list (+CPBW may not be applicable for this storage) $(AT R97)$

"SM" SIM phonebook

"TA" TA phonebook

<password>: string type value representing the PIN2-code required when selecting PIN2-code locked <storage>s above, e.g. “FD”.

<used>: integer type value indicating the number of used locations in selected memory

<total>: integer type value indicating the total number of locations in selected memory

Implementation

Mandatory when phonebook read, find or write command, or direct dialling (refer subclause "Direct dialling from phonebooks") is implemented.

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **009** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: Time Zone

3G Work item: Technical Enhancements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: Added functionality to set up time zone settings and reporting.

Clauses affected: 8.xx, Annex B

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.x Automatic Time Zone Update +CTZU

Table 1: +CTZU parameter command syntax

Command	Possible response(s)
+CTZU=<onoff>	*+CME ERROR: <err>*
+CTZU?	+CTZU: <onoff> *+CME ERROR: <err>*
+CTZU=?	+CTZU: (list of supported <onoff>s) *+CME ERROR: <err>*

Description

Set command enables and disables automatic time zone update via NITZ. If setting fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Read command returns the current settings in the ME.

Test command returns supported on- and off-values.

Defined values

<onoff>: integer type value indicating:

0 – Disable automatic time zone update via NITZ (default).

1 – Enable automatic time zone update via NITZ.

Implementation

Optional.

8.z Time Zone Reporting +CTZR

Table 2: +CTZR parameter command syntax

Command	Possible response(s)
+CTZR=<onoff>	*+CME ERROR: <err>*
+CTZR?	+CTZR: <onoff> *+CME ERROR: <err>*
+CTZR=?	+CTZR: (list of supported <onoff>s) *+CME ERROR: <err>*

Description

This set command enables and disables the time zone change event reporting. If the reporting is enables the ME returns the unsolicited result code +CTZV: <tz> whenever the time zone is changed. If setting fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Read command returns the current reporting settings in the ME.

Test command returns supported <onoff>-values.

NOTE: The Time Zone reporting is not affected by the Automatic Time Zone setting command, +CTZU.

Defined values

<onoff>: integer type value indicating:

0 – disable time zone change event reporting (default).

1 – Enable time zone change event reporting.

Implementation

Optional.

Annex B (normative): Summary of result codes

V.25ter [14] result codes which can be used in GSM and codes defined in this ETS:

Table B.1: Result codes

Verbose result code (V.25ter command V1 set)	Numeric (V0 set)	Type	Description
+CTZV: <tz>	as verbose	unsolicited	refer subclause 8.z
+CCCM: <ccm>	as verbose	unsolicited	refer subclause 7.15 $(AT R97)$
+CCWA: <number>,<type> ,<class>[,<alpha>]	as verbose	unsolicited	refer subclause 7.11
+CCWV	as verbose	unsolicited	refer subclause 8.28
+CDEV: <elem>,<text>	as verbose	unsolicited	refer subclause 8.10
+CIEV: <ind>,<value>	as verbose	unsolicited	refer subclause 8.10
+CKEV: <key>,<press>	as verbose	unsolicited	refer subclause 8.10
+CLAV: <code>	as verbose	unsolicited	refer subclause 8.
+CLIP: <number> ,<type>[,<subaddr> ,<satype>[,<alpha>]]	as verbose	unsolicited	refer subclause 7.6
+CME ERROR: <err>	as verbose	final	refer subclause 9.2
+COLP: <number> ,<type>[,<subaddr> ,<satype>[,<alpha>]]	as verbose	intermediate	refer subclause 7.8
+CR: <type>	as verbose	intermediate	refer subclause 6.8
+CREG: <stat>[,<lac> ,<ci>]	as verbose	unsolicited	refer subclause 7.2
+CRING: <type>	as verbose	unsolicited	refer subclause 6.11
+CSSI: <code1> [,<index>]	as verbose	intermediate	refer subclause 7.16
+CSSU: <code2> [,<index>[,<number>, <type>[,<subaddr>, <satype>]]]	as verbose	unsolicited	refer subclause 7.16
+CUSD: <m>[,<str>,<dcs>]	as verbose	unsolicited	refer subclause 7.14
+DR: <type>	as verbose	intermediate	refer subclause 6.13
+ILRR: <rate>	as verbose	intermediate	refer subclause 4.3
BUSY	6	final	busy signal detected
CONNECT	1	intermediate	connection has been established
CONNECT <text>	manufacturer specific	intermediate	as CONNECT but manufacturer specific <text> gives additional information (e.g. connection data rate)
ERROR	4	final	command not accepted
NO ANSWER	7	final	connection completion timeout
NO CARRIER	3	final	connection terminated
NO DIALTONE	5	final	no dialtone detected
OK	0	final	acknowledges execution of a command line
RING	2	unsolicited	incoming call signal from network

3GPP TSG-T2 #5 / ETSI SMG4
Helsinki, FINLAND, 6-9 September 1999

TSGT2#5(99)673

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **010** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X] for information [ ] *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: Additional result code for +CSSN

3G Work item: Technical Enhancements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: There is an omission in the CSSU: <code 2> codes of +CSSN. In the situation where a call is already in progress and a second incoming call is diverted resulting in a network notification, there will be no way to display the message.

Clauses affected: 7.16

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

7.16 Supplementary service notifications +CSSN

Table 1: +CSSN parameter command syntax

Command	Possible response(s)
+CSSN=[<n>[,<m>]]	
+CSSN?	+CSSN: <n>,<m>
+CSSN=?	+CSSN: (list of supported <n>s),(list of supported <m>s)

Description

This command refers to supplementary service related network initiated notifications. The set command enables/disables the presentation of notification result codes from TA to TE.

When <n>=1 and a supplementary service notification is received after a mobile originated call setup, intermediate result code +CSSI: <code1>[,<index>] is sent to TE before any other MO call setup result codes presented in this ETS or in V.25ter [14]. When several different <code1>s are received from the network, each of them shall have its own +CSSI result code.

When <m>=1 and a supplementary service notification is received during a mobile terminated call setup or during a call, or when a forward check supplementary service notification is received, unsolicited result code +CSSU: <code2>[,<index>[,<number>,<type>[,<subaddr>,<satype>]]] is sent to TE. In case of MT call setup, result code is sent after every +CLIP result code (refer command "Calling line identification presentation +CLIP") and when several different <code2>s are received from the network, each of them shall have its own +CSSU result code.

Test command returns values supported by the TA as a compound value.

Defined values

<n> (parameter sets/shows the +CSSI result code presentation status in the TA):

0 disable

1 enable

<m> (parameter sets/shows the +CSSU result code presentation status in the TA):

0 disable

1 enable

<code1> (it is manufacturer specific, which of these codes are supported):

0 unconditional call forwarding is active

1 some of the conditional call forwardings are active

2 call has been forwarded

3 call is waiting

4 this is a CUG call (also <index> present)

5 outgoing calls are barred

6 incoming calls are barred

7 CLIR suppression rejected

8 call has been deflected

<index>: refer "Closed user group +CCUG"

<code2> (it is manufacturer specific, which of these codes are supported):

0 this is a forwarded call (MT call setup)

1 this is a CUG call (also <index> present) (MT call setup)

2 call has been put on hold (during a voice call)

3 call has been retrieved (during a voice call)

4 multiparty call entered (during a voice call)

5 call on hold has been released (this is not a SS notification) (during a voice call)

6 forward check SS message received (can be received whenever)

7 call is being connected (alerting) with the remote party in alerting state in explicit call transfer operation (during a voice call)

8 call has been connected with the other remote party in explicit call transfer operation (also number and subaddress parameters may be present) (during a voice call or MT call setup)

9 this is a deflected call (MT call setup)

10 Additional incoming call forwarded

<number>: string type phone number of format specified by <type>

<type>: type of address octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.7)

<subaddr>: string type subaddress of format specified by <satype>

<satype>: type of subaddress octet in integer format (refer GSM 04.08 [8] subclause 10.5.4.8)

Implementation
Optional.

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **011** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: New command for setting of Date format

3G Work item: Technical Enhancements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: Added functionality for setting of date format for the date information presented on the ME's display.

Clauses affected: 6.xx

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.19 Settings date format +CSDF

Table 1: +CSDF parameter command syntax

Command	Possible response(s)
+CSDF=[<mode>]	*+CME ERROR: <err>*
+CSDF?	+CSDF:<mode> *+CME ERROR: <err>*
+CSDF=?	+CSDF:(list of supported <mode>s) *+CME ERROR: <err>*

Description

This command sets the date format of the date information presented to the user.

Defined values

<mode>: NOTE: It is manufacturer specific which modes that are supported.

1	DD-MMM-YYYY	NOTE: Presentation of MMM is language dependent.
2	DD-MM-YY	
3	MM/DD/YY	
4	DD/MM/YY	
5	DD.MM.YY	
6	YYMMDD	
7	YY-MM-DD	
8-255	Manufacturer specific	

Implementation

Optional

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **012** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: New command for Silent mode

3G Work item: Technical Enhancements

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: Addition of Silent Mode-setting

Clauses affected: 8.xx

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.19 Silence Command +CSIL

Table 1: +CSIL parameter command syntax

Command	Possible response(s)
+CSIL=[<mode>]	*+CME ERROR: <err>*
+CSIL?	+CSIL:<mode> *+CME ERROR: <err>*
+CSIL=?	+CSIL:(list of supported <mode>s) *+CME ERROR: <err>*

Description

Set command enables/disables the silent mode. When the phone is in silent mode, all sounds from MS are suppressed except voice.

Read command reads the current setting.

Test command lists the supported modes.

Defined values

<mode>:

0 Silent mode off

1 Silent mode on

Implementation

Optional

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007 **CR** **013** Current Version: 3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG #5 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 08/09/99

Subject: New command for setting of Time format

3G Work item: Technical Enhancement

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: Added functionality for setting of time format for the time information presented on the ME's display.

Clauses affected: 8.xx

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.19 Settings time format +CSTF

Table 1: +CSTF parameter command syntax

Command	Possible response(s)
+CSTF=[<mode>]	*+CME ERROR: <err>*
+CSTF?	+CSTF:<mode> *+CME ERROR: <err>*
+CSTF=?	+CSTF:(list of supported <mode>s) *+CME ERROR: <err>*

Description

Set command sets the time format of the time information presented to the user.

Read commands reads the current setting.

Test commands reads the supported <modes>s.

Defined values

<mode>:

1 HH:MM (24 hour clock)

2 HH:MM a.m./p.m.

3-7 Manufacturer specific

Implementation

Optional

3GPP TSG-2 meeting #5 ***Document*** ***T2-99661***

Helsinki, Finland, 6-9 September 1999

3G CHANGE REQUEST

27.007 **CR** **006** Current Version: 3.1.0

For submision to TSG T#5 for approval **X**
for information

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects: USIM ☐ ME **X** UTRAN ☐ Core Network ☐
(at least one should be marked with an X)

Source: T2 **Date:** 1999-08-30

Subject: ECSD AT command correction

3G Work item: EDGE circuit switched data

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in a 2G specification	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	**X**

Reason for change: A reference to GSM 0x.xx in the recently introduced +CHSA AT command, needs removal

Clauses affected: 6.18

Other specs affected:

Other 3G core specifications	☐	→ List of CRs:
Other 2G core specifications	☐	→ List of CRs:
MS test specifications	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:


help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.18 HSCSD non-transparent asymmetry configuration +CHSA

Table 1: +CHSA parameter command syntax

Command	Possible response(s)
+CHSA=<mode>	
+CHSA?	+CHSA: <mode>
+CHSA=?	+CHSA: (list of supported <mode>s)

Descriptiont

Set command controls the preferred asymmetry bias for non-transparent ECSD calls. Downlink biased asymmetry means that 8-PSK modulation is preferred downlink and GMSK modulation uplink. Uplink based asymmetry means that 8-PSK modulation is preferred uplink and GMSK downlink. ~~The allowed preferred asymmetry bias may *be MS Type* dependant (see GSM 0x.xx).~~ Changing of <mode> affects the current call only if <topRx> (refer +CHSN) was non-zero when call was established.

Test command returns values supported by the ME/TA as compound values. The <mode> subparameter range indirectly indicates the MS Type; range (0-1) indicates MS Type A and range (0-2) indicates MS Type B.

NOTE: ECSD is also controlled by +CHSD, +CHSN and +CHST.

Defined values

<mode>:

0 No preference

1 Downlink biased asymmetry

2 Uplink biased asymmetry

Implementation

Mandatory when non-transparent ECSD is implemented.

ETSI STC SMG4
Helsinki, Finland
Sept 6 – 9 1999

T2-99740

CHANGE REQUEST No : **014**

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

3G TS: 27.007 Version: 3.1.0

Submitted to TSG T#5 for approval **X**
list SMG plenary meeting no. here ↑ for information

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: SIM [ ] ME [X] Network [X]
(at least one should be marked with an X)

Work item: **GSM in the 400 MHz bands**

Source: T2 **Date:** Sept 6, 1999

Subject: GSM 400 Spectrum update

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	X
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
UMTS	

Reason for change: Addition of GSM 400 systems and editorial changes where appropriate in 07.07

Clauses affected: 8.29

Other specs affected:

Other releases of same spec		→ List of CRs:
Other core specifications		→ List of CRs:
MS test specifications / TBRs		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.29 Power class +CPWC$(AT R98)$

Table 1: +CPWC parameter command syntax

Command	Possible response(s)
+CPWC=[<class>[,<band>]]	*+CME ERROR: <err>*
+CPWC?	+CPWC: <curr_class1>,<def_class1>,<band1>[,<curr_class2>,<def_class2>,<band2>[...]] *+CME ERROR: <err>*
+CPWC=?	+CPWC: list of supported (<band>,(list of <class>s)) pairs *+CME ERROR: <err>*

Description

This command is used to set the preferred ME power class for each GSM frequency band supported. The interaction of this setting with the selected bearer service (+CBST and HSCSD commands) is manufacturer specific (for example, selecting a multislot operation might reduce the power class automatically). If setting fails in an ME error, +CME ERROR: <err> is returned. Refer subclause 9.2 for <err> values.

Read command returns the currently selected output power class and default output power class for each supported frequency band (as defined by ME manufacturer). Parameter <band1> and its associated power class parameters refer to the currently used frequency band. For example, +CPWC: 2,1,1,5,4,0 in case of a dual-band ME currently using band GSM1800, for which the power class is currently set to 2, the default being class 1, and for which the currently set power class value for GSM900 is class 5 the default being class 4.

Test command returns supported bands and their power classes. For example,

+CPWC: (0,(0,4,5)),(1,(0-2)) in case of a dual-band handheld ME.

Defined values

<class>, <curr_class*n*>s, <def_class*n*>s:

0 default (not applicable to <curr_class>s or <def_class*n*>s)

1… MS output power class as in GSM 05.05 [38]

<band>, <band*n*>s:

0 GSM900

1 GSM1800

2 ~~2~~ reserved for GSM1900

3 GSM 400

Implementation

Optional.

3GPP TSG-T2 #6
Kyongju, KOREA, 4-6 October 1999

TSGT2#6(99)822

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.007	CR	015	Current Version:	3.1.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submision to:	T#5	for approval	X	strategic		(for SMG use only)
list approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 1.1 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-11.rtf*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 18/9/1999

Subject: AT command - Request GPRS service 'D'

Work item: GPRS

Category: *(only one category shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	X
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: Editorial clarification and correction to 27.007 release '99 for the 'D' modem compatibility command. This change was requested by implementers and clarifies the use of the ATD command for GPRS.

Clauses affected: 10.2.1.1

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

10.2.1.1 Request GPRS service 'D'

Table 1: D command syntax

Command	Possible Response(s)
D*<GPRS_SC>[*[<called_address>] [*[<L2P>][*[<cid>]]]]#	CONNECT ERROR

Description

This command causes the MT to perform whatever actions are necessary to establish communication between the TE and the external PDN.

The V.25ter 'D' (Dial) command causes the MT to enter the V.25ter online data state and, with the TE, to start the specified layer 2 protocol. The MT shall return CONNECT to confirm acceptance of the command prior to entering the V.25ter online data state. No further commands may follow on the AT command line.

The detailed behaviour after the online data state has been entered is dependent on the PDP type. It is described briefly in clauses 8 (for X.25) and 9 (for IP) of GSM 07.60. GPRS attachment and PDP context activation procedures may take place prior to or during the PDP startup if they have not already been performed using the +CGATT and +CGACT commands.

When the layer 2 protocol has terminated, either as a result of an orderly shut down of the PDP or an error, the MT shall enter V.25ter command state and return the NO CARRIER final result code.

If <called_address> is supported and provided, the MT shall automatically set up a virtual call to the specified address after the PDP context has been activated.

If <L2P> and <cid> are supported, their usage shall be the same as in the +CGD~~CONT~~ATA command. The +CGDCONT, +CGQREQ, etc. commands may be used in the modem initialisation AT command string to set values for for PDP type, APN, QoS etc..

If <L2P> is not supported or is supported but omitted, the MT shall use a layer 2 protocol appropriate to the PDP type.

If <cid> is not supported or is supported but omitted, the MT shall attempt to activate the context using:

(a) any information provided by the TE during the PDP startup procedure, e.g. the TE may provide a PDP type and/or PDP address to the MT,

or, (b) a priori knowledge, e.g. the MT may implement only one PDP type,

or, (c) using the 'Empty PDP type' (GSM 04.08). (No PDP address or APN shall be sent in this case and only one PDP context subscription record shall be present in the HLR for this subscriber.)

This command may be used in both normal and modem compatibility modes.

NOTE. The dial string conforms to the syntax specified in GSM 02.30.

Defined Values

<GPRS_SC>: (GPRS Service Code) a digit string (value 99) which identifies a request to use the GPRS

<called_address>: a string that identifies the called party in the address space applicable to the PDP. For communications software that does not support arbitrary characters in the dial string, a numeric equivalent may be used. Also, the character comma ',' may be used as a substitute for the character period '.'.
For PDP type OSP:IHOSS, the following syntax may be used for <called_address>:
[<host>][@[<port>][@[<protocol>]]]
where <host>, <port> and <protocol> are defined in the +CGDCONT description. For communications software that does not support arbitrary characters in the dial string, a numeric equivalent to the hostname may be used. However, this should be avoided if at all possible.

<L2P>: a string which indicates the layer 2 protocol to be used (see +CGDATA command). For communications software that does not support arbitrary characters in the dial string, the following numeric equivalents shall be used:

0	NULL
1	PPP
2	PAD
3	X25
9yyyy	M-xxxx

Other values are reserved and will result in an ERROR response

<cid>: a digit string which specifies a particular PDP context definition (see +CGDCONT command).

Implementation

Optional if the +CGDATA command is supported. If the D command is provided, then support for <called_address>, <L2P> and <cid> are optional. If they are not supported but values are provided by the TE, the values shall be ignored and this shall not constitute an error.

3GPP TSG-T2#6
Kyongju Korea. 4th – 6th October 99

Document TSG-T2-99840

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

3G 23.038	CR		Current Version:	3.1.0

Gsfor these languagesM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submision to: T#5 *list approval meeting # here ↑*	for approval	X	Strategic		*(for SMG Use only)*
	for information		non-strategic		

Form: CR cover sheet, version 1.1 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-11.rtf*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 29-9-99

Subject: Language codes for Hebrew,Arabic and Russian

Work item: Technical improvements and enhancements

Category: *(only one category shall be marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature	X		Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X

(releases phase2, 96, 97 and 98 apply only to GSM specifications)

Reason for change: Partner Communications Company Israel network operator requires code points for Hebrew, Arabic and Russian languages to be added to 23.038 in order that their SIM LP file is able to work correctly for these languages.

Clauses affected: Section 5

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments: The opportunity has been taken to carry out some minor editorial corrections to align entries in the table

.

5 Cell Broadcast Data Coding Scheme

The Cell Broadcast Data Coding Scheme indicates the intended handling of the message at the MS, the alphabet/coding, and the language (when applicable). Any reserved codings shall be assumed to be the GSM default alphabet (the same as codepoint 00001111) by a receiving entity. The octet is used according to a coding group which is indicated in bits 7..4. The octet is then coded as follows:

Coding Group Bits 7..4	Use of bits 3..0
0000	Language using the default alphabet Bits 3..0 indicate the language: 0000 German 0001 English 0010 Italian 0011 French 0100 Spanish 0101 Dutch 0110 Swedish 0111 Danish 1000 Portuguese 1001 Finnish 1010 Norwegian 1011 Greek 1100 Turkish 1101 Hungarian 1110 Polish 1111 Language unspecified
0001	0000 Default alphabet; message preceded by language indication. The first 3 characters of the message are a two-character representation of the language encoded according to ISO 639 [12], followed by a CR character. The CR character is then followed by 90 characters of text. A Pre-Phase 2+ MS will overwrite the start of the message up to the CR and present only the text. 0001 UCS2; message preceded by language indication The message starts with a two 7-bit default alphabet character representation of the language encoded according to ISO 639 [12]. This is padded to the octet boundary with two bits set to 0 and then followed by 40 characters of UCS2-encoded message. An MS not supporting UCS2 coding will present the two character language identifier followed by improperly interpreted user data. 0010..1111 Reserved for European languages
0010..	0000 Czech 0001 Hebrew 0010 Arabic 0011 Russian.. 0100 - 1111 Reserved for other ~~European~~ Languages ~~using the default alphabet~~, with unspecified handling at the MS
0011	0000..1111 Reserved for other ~~European~~ Languages ~~using the default alphabet~~, with unspecified handling at the MS

(continued)

(concluded)

01xx	General Data Coding indication Bits 5..0 indicate the following: Bit 5, if set to 0, indicates the text is uncompressed Bit 5, if set to 1, indicates the text is compressed using the GSM standard compressing algorithm. (see GSM TS 03.42) Bit 4, if set to 0, indicates that bits 1 to 0 are reserved and have no message class meaning Bit 4, if set to 1, indicates that bits 1 to 0 have a message class meaning: Bit 1 Bit 0 Message Class: 0 0 Class 0 0 1 Class 1 Default meaning: ME-specific. 1 0 Class 2 SIM specific message. 1 1 Class 3 Default meaning: TE-specific (see GSM TS 07.05 [8]) Bits 3 and 2 indicate the alphabet being used, as follows: Bit 3 Bit 2 Alphabet: 0 0 Default alphabet 0 1 8 bit data 1 0 USC2 (16 bit) [10] 1 1 Reserved
Coding Group Bits 7..4	Use of bits 3..0
1000..1110	Reserved coding groups
1111	Data coding / message handling Bit 3 is reserved, set to 0. Bit 2 Message coding: 0 Default alphabet 1 8 bit data Bit 1 Bit 0 Message Class: 0 0 No message class. 0 1 Class 1 user defined. 1 0 Class 2 user defined. 1 1 Class 3 default meaning: TE specific (see GSM TS 07.05 [8])

3GPP TSG-T2 **Document T2-99667**

Helsinki, Finland, 06-09 09 1999

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

27.010 **CR** **004** Current Version: V3.1.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG T#5 *list TSG meeting no. here ↑*

for approval [X] for information [ ] *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [X] UTRAN [ ] Core Network [ ]

Source: T2 **Date:** 30/08/1999

Subject: Correction of the bits in the start and close flags of the frame in the example on Annex B

3G Work item: TEI

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[X]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: There are several bits that are wrong.

Clauses affected: Annex B
B.1 Example (new)

B.2 Reflected bits (new)

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

B.1 Example

A SABM frame on DLCI 1. Note that bits are written as they are sent on the serial port, LSB bit first and MSB bit last. No start stop bits, transparency bytes, BOFC or EOFC are included in the message. (The length octet is only included in the FCS for UI frames).

BOFC	DLC	Ctrl	FCS	EOFC
10011111~~1~~	11100000	11111100	To be calculated	10011111

k=8*2=16

message=111~~0~~00000 11111100

$$FCS = OnesComplement(R(\frac{11111111'00000000'00000000}{100000111}) \oplus R(\frac{11100000'11111100'00000000}{100000111})) =$$
$$OnesComplement(11010111 \oplus 10111001) = OnesComplement(01101110) = 10010001$$

B.2 Reflected bits

In the example the bits where shown as they was sent on the serial line, this is however not they way the application sees the octets, it will see MSB first and LSB last, so before calculating the FCS the octets bit order must be reversed.

BOFC	DLC	Ctrl	FCS	EOFC
0xF9	0x07	0x3F		0xF9
~~0~~11111001	00000111	00111111	To be calculated	~~0~~11111001

1 Reverse all bit in octets

2 Calculate FCS

3 Reverse all bits in FCS

4 Send the reversed FCS

Fortunately there is an easier way of doing the reversing of the bits, when implementing the CRC calculation using table lookup the table can be reversed.

B.3 Implementation

Implementation is very simple because the FCS will be as wide as the lookup table (8 bits). To avoid having to reverse all bits in the octets all the octets in the crc table is reversed instead.

The term $R(\frac{(x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x^1 + 1)x^k}{x^8 + x^2 + x^1 + 1})$ corresponds to initialising the FCS with 0xFF.