3GPP TSG-T (Terminals) Meeting #8
Düsseldorf, Germany, 21 - 23 June, 2000

Tdoc TP-000094

Source: T3

Title: Change Requests to TS 31.101 "UICC - Terminal interface characteristics"

Agenda item: 6.3.3

Document for: Approval

This document contains several change requests to TS 31.101 v3.1.0 agreed by T3.

T3 Doc	Spec	CR	Rv	Rel	Subject
T3-000256	31.101	011		R99	Error detection and character repetition
T3-000276	31.101	012		R99	Use of status codes 6200, 6400 and 6500
T3-000262	31.101	013		R99	Correction of P2 value for the ACTIVATE and DEACTIVATE commands
T3-000263	31.101	014		R99	Clarification of the UICC characteristics byte
T3-000264	31.101	015		R99	Correction of ACTIVATE/DEACTIVATE commands
T3-000265	31.101	016		R99	Clarification of the file descriptor
T3-000277	31.101	017		R99	Selection by path correction
T3-000287	31.101	018	1	R99	Correction of ATR examples
T3-000279	31.101	019		R99	SEARCH RECORD command: alignment with 7816-9
T3-000305	31.101	020		R99	Correction to T=0 mechanism
T3-000318	31.101	022		R99	Correction of the application activation termination procedures

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Document T3-000256
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

31.101	CR	011	Current Version:	3.10

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

For submission to:	TSG-T#8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)*

(U)SIM		ME	X	UTRAN / Radio		Core Network	

Source: T3 **Date:** 24.05.2000

Subject: Error detection and character repetition

Work item: UICC

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

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

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
Release 00	

Reason for change: The current procedure for error detection and character repetition is not working in a case where a parity error occurs during transmission of the PPS request from the Terminal to the UICC.

Clauses affected: 6.9

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.

6.9 Error handling

Following receipt of an ATR, which is not in accordance with this specification, e.g. because of forbidden ATR characters or too few bytes being transmitted, the Terminal shall perform a Reset. The Terminal shall not reject the UICC until at least three consecutive wrong ATRs are received.

During the transmission of the ATR ~~and the PPS~~, the error detection and character repetition procedure specified in ISO/IEC 7816-3 [12], subclause 6.3.3, is optional for the Terminal. For the subsequent transmission on the basis of T=0 this procedure is mandatory for the Terminal.

For the UICC the error detection and character repetition procedure is mandatory for all communications using T=0..

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***Document* T3-000276**
supersedes T3-000202

CHANGE REQUEST

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TS 31.101	CR	012	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: Use of status codes 6200, 6400 and 6500

Work item: T.E.I.

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change: Status 6200 ("Warning-No information given, state of non volatile memory unchanged"), Status 6400 ("No information given, state of non-volatile memory unchanged") and 6500 ("No information given, state of non-volatile memory changed") could be returned as a result of each command (except "read" commands for 6500)

Clauses affected: 10.2.2

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.

10.2.2 Status Words of the Commands

The following table shows for each command the possible status conditions returned (marked by an asterisk *).

Table 10.16: Commands and status words

Status Words	SELECT	STATUS	UPDATE BINARY	UPDATE RECORD	READ BINARY	READ RECORD	SEARCH RECORD	INCREASE	VERIFY PIN	CHANGE PIN	DISABLE PIN	ENABLE PIN	UNBLOCK PIN	DEACTIVATE FILE	ACTIVATE FILE	AUTHENTICATE	TERMINAL PROFILE	ENVELOPE	FETCH	TERMINAL RESPONSE	MANAGE CHANNEL
90 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
91 XX	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
93 00																		*			
98 50								*													
98 62																*					
62 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
62 81					*	*															
62 82					*	*	*														
62 83	*													*							
62 84	*																				
63 00									*	*	*	*	*								
63 CX			*	*				*	*	*	*	*	*								
64 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
65 00			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
65 81			*	*	*	*	*	*	*	*	*	*	*								
67 00			*	*	*	*	*	*	*	*	*	*	*								
69 81			*	*	*	*	*	*													
69 82			*	*	*	*	*	*						*	*						
69 83									*	*	*	*	*								
69 84			*	*	*	*	*	*	*	*	*	*	*			*					
69 85																*					
69 86			*	*	*	*	*	*						*	*						
6A 81	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6A 82	*		*	*	*	*	*	*						*	*						
6A 83				*		*	*														
6A 86	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6A 87	*													*	*						
6A 88									*	*	*	*	*			*					
6B 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6E 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6F 00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

The responses '91 XX', and '93 00' can only be given by a UICC to a Terminal supporting USAT (see 3G TS 31.111 [4]).

3GPP TSG-T3 (USIM) Meeting #14
Visby, Sweden, 24-26 May 2000

***Document* T3-000262**
supersedes T3-000203

CHANGE REQUEST

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TS 31.101	CR	013	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: correction of P2 value for the ACTIVATE and DEACTIVATE commands

Work item: T.E.I.

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change: In the description of the ACTIVATE and DEACTIVATE commands, the parameter P2 is indicated as being described in the SELECT command description. Unfortunately, a recent change request modified the value of P2 for the SELECT command. This change should not apply to the ACTIVATE and DEACTIVATE commands, so the reference should be removed.

Clauses affected: 11.1.14.2, 11.1.15.2

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.

11.1.14 DEACTIVATE FILE

11.1.14.1 Functional description

This function initiates a reversible deactivation of an EF. After a DEACTIVATE FILE function the respective flag in the file status shall be changed accordingly. This function shall only be performed if the DEACTIVATE FILE access condition for the EF is satisfied.

An deactivated file shall no longer be available within the selected application for any function except for the SELECT and the ACTIVATE FILE functions.

Input:
- none.

Output:
- none.

11.1.14.2 Command parameters

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	As specified for the SELECT command (see 11.1.1).
P2	~~As specified for the SELECT command (see 11.1.1).~~ 00
Lc	Length of subsequent data field or empty.
Data	File ID, DF name (AID), or path to file, according to P1.
Le	Not present.

11.1.15 ACTIVATE FILE

11.1.15.1 Functional description

This function reactivates a deactivated EF. After an ACTIVATE FILE function the respective flag in the file status shall be changed accordingly. This function shall only be performed if the ACTIVATE FILE access condition for the current EF is satisfied.

Input:
- none.

Output:
- none.

11.1.15.2 Command parameters

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	As specified for the SELECT command (see 11.1.1).
P2	~~As specified for the SELECT command (see 11.1.1).~~ 00
Lc	Length of subsequent data field or empty.
Data	File ID, DF name (AID), or path to file, according to P1.
Le	Not present.

T3-00263
Original version

T3-000204

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Document
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

TS 31.101	**CR**	**014**	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: Clarification of the UICC characteristics byte

Work item: T.E.I.

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
				Release 00	

Reason for change:
- several supply voltage classes can be supported, so a plural is needed
- coding has to be clarified (5 bits coded on 3 bits...)

Clauses affected: 11.1.1.4.6.1

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.

11.1.1.4.6.1 UICC characteristics

Byte(s)	Description	Value	Length
1	Tag	'80'	1
2	Length	'01'	1
3	UICC characteristics byte (see table 11.6)		1

Table 11.6: UICC characteristics byte

B8	b7	bB 6	bB 5	b4	b3	b2	b1	Meaning
-	-	-	-	X	X	-	1	Clock stop allowed
-	-	-	-	0	0	-	1	No preferred level
-	-	-	-	0	1	-	1	High level preferred
-	-	-	-	1	0	-	1	Low level preferred
-	-	-	-	1	1	-	1	RFU
-	-	-	-	X	X	-	0	Clock stop not allowed
-	-	-	-	0	0	-	0	Never
-	-	-	-	0	1	-	0	Unless at high level
-	-	-	-	1	0	-	0	Unless at low level
-	-	-	-	1	1	-	0	RFU
			X					Supply voltage class A
		X						Supply voltage class B
-	X	-X	-X	-	-	-	-	Supply voltage class CSupply voltage class (see subclause 6.2.1)
X	-	-	-	-	-	X	-	RFU (shall be set to 0)

If bit b1 is coded '1', stopping the clock is allowed at high or low level. In this case bit b3 and b4 give information about the preferred level (high or low, respectively) at which the clock may be stopped.

If b1 is coded '0', the clock may be stopped only if the mandatory condition b3 = '1' (i.e. stop at high level) or b4 = '1' (i.e. stop at low level) is fulfilled. If all 3 bits are coded '0', then the clock shall not be stopped.

A supply voltage class, as defined in subclause 6.2.1, is supported if the the bit is coded as a '1'. If the coltage class is not supported the bit is coded as '0'.

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***Document* T3-000264**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

TS 31.101	CR	015	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: Correction of ACTIVATE/DEACTIVATE commands

Work item: T.E.I.

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change: The ACTIVATE and DEACTIVATE commands do not apply to ADFs (and DFs) in R'99. Other correction : the ACTIVATE command does not apply only to the current file.

Clauses affected: 11.1.14, 11.1.15

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.

11.1.14 DEACTIVATE FILE

11.1.14.1 Functional description

This function initiates a reversible deactivation of an EF. After a DEACTIVATE FILE function the respective flag in the file status shall be changed accordingly. This function shall only be performed if the DEACTIVATE FILE access condition for the EF is satisfied.

An deactivated file shall no longer be available within the selected application for any function except for the SELECT and the ACTIVATE FILE functions.

Input:
- none.

Output:
- none.

11.1.14.2 Command parameters

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	As specified for the SELECT command (see 11.1.1).
P2	As specified for the SELECT command (see 11.1.1).
Lc	Length of subsequent data field or empty.
Data	File ID, ~~DF name (AID),~~ or path to file, according to P1.
Le	Not present.

11.1.15 ACTIVATE FILE

11.1.15.1 Functional description

This function reactivates a deactivated EF. After an ACTIVATE FILE function the respective flag in the file status shall be changed accordingly. This function shall only be performed if the ACTIVATE FILE access condition for the ~~current~~ EF is satisfied.

Input:
- none.

Output:
- none.

11.1.15.2 Command parameters

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	As specified for the SELECT command (see 11.1.1).
P2	As specified for the SELECT command (see 11.1.1).
Lc	Length of subsequent data field or empty.
Data	File ID, ~~DF name (AID),~~ or path to file, according to P1.
Le	Not present.

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***Document* T3-000265**
supersedes T3-000214

CHANGE REQUEST

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

TS 31.101	CR	016	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: clarification of the file descriptor

Work item: T.E.I.

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change:
- the "data coding byte" field should be mandatory, as it applies to all types of files (transparent or record-based)
- the "record length" field is coded on 2 bytes (according to ISO 7816-4, table 2). In this version of the specification, the record length is up to 255 bytes. Therefore, a clarification is needed
- correction of the "length" field
- added range of possible values for the "number of records" field

Clauses affected: 11.1.1.4.3

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.

11.1.1.4 File Control Parameters

11.1.1.4.1 File size

Byte(s)	Description	Value	Length
1	Tag	'80'	1
2	Length	'02'	1
3 to 4	Number of data bytes in the file, excluding structural information		2

The range of file size is between '0000' and 'FFFF' and the most significant byte comes first in the value field.

For transparent EF, file size is the length of the body part of the EF, and for linear fixed or cyclic EF, it is the record length multiplied by the number of records of the EF.

11.1.1.4.2 Total file size

Byte(s)	Description	Value	Length
1	Tag	'81'	1
2	Length	'02'	1
3 to 4	Number of data bytes in the file, including structural information if any.		2

The range of total file size is between '0000' and 'FFFF' and the most significant byte comes first in the value field.

11.1.1.4.3 File Descriptor

Byte(s)	Description	Status	Value	Length
1	Tag	M	'82'	1
2	Length	M	'0~~1~~2' or '0~~7~~5'	1
3	File descriptor byte (see table 11.5)	M		1
4	Data coding byte	~~C~~M	'20'	1
5 to 6	Record length	C	'0001' to '00FF'	2
7	Number of records	C	'01' to 'FE'	1
M: Mandatory. C: These bytes are mandatory for linear fixed and cyclic files, otherwise they are not applicable.				

- File descriptor.

Contents: File descriptor specifies the file accessibility, and the file type and structure.

Coding: see table below:

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Document T3-000277
superseded T3-000215

CHANGE REQUEST

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TS 31.101	**CR**	**017**	Current Version:	V3.1.0

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

For submission to: TSG-T #8 *list expected approval meeting # here ↑*

for approval [X]
for information [ ]

strategic [ ]
non-strategic [ ]
(for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: Selection by path correction

Work item: T.E.I.

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

F	Correction	[X]	**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	[ ]		Release 99	[X]
				Release 00	[ ]

Reason for change:
- It should not be forbidden to select an ADF by path; it can be used as a "return mechanism" after the corresponding application has been selected.
- It should be clarified that when the path starts from the MF, the last selected DF doesn't matter

- The same with 7FFF

Clauses affected: 8.4.2

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.

8.4.2 SELECT by Path Referencing

A file, DF or EF, may be referenced by path, as defined in clause 8.3. Table 8.2 contains examples of selection by path from figure 8.6. In this example, it is considered that the current application (ADF1) has been previously selected by DF name. The FID of ADF1 is noted '7FFF' (see clause 8.5) in the table. ~~It is not possible to select an ADF by path.~~

Table 8.2: Examples of file selection by path

Last selected DF	Beginning of the path	Example Selections
~~MF~~ any	MF	'EF1', 'EF-DIR', 'DF1', 'DF1||EF2'
any	any	'7FFF||DF3', '7FFF||DF3||EF4', '7FFF||DF3||DF5', '7FFF||DF3||DF5||EF7' '7FFF||DF4', '7FFF ||DF4||EF5', '7FFF||DF4||EF6, '7FFF||EF3'
DF1	Current DF	'EF2'
DF3	Current DF	'DF5', 'DF5||EF7', 'EF4'
DF4	Current DF	'EF5', 'EF6'
DF5	Current DF	'EF7'

3GPP TSG-T3 (USIM) Meeting #14
Visby, Sweden, 24-26 May 2000

Document T3-000287
supersedes T3-000278

CHANGE REQUEST

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TS 31.101	CR	018r1	Current Version:	V3.1.0

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

For submission to: TSG-T #8 *list expected approval meeting # here ↑*

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Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: correction of ATR examples

Work item: T.E.I.

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

F	Correction	[X]	**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	[ ]		Release 99	[X]
				Release 00	[ ]

Reason for change:
ATR examples need to be corrected :
- SELECT by partial AID is not supported in R'99
- concerning speed enhancement : (F,D)=(512,16) support is mandatory

Clauses affected: Annex D

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:

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Annex D (informative): ATR Examples

This annex gives examples of ATRs that can be returned by a UICC after a reset.

1) Example 1: Cold reset for a T=0 protocol only UICC.

Character	Value	Description
TS	'3B' or '3F'	Indicates direct or inverse convention
T0	'97'	TA1 and TD1 are present 7 bytes of historical bytes
TA1	'945'	Clock rate conversion factor FI=9 (F=512) Baud rate adjustment factor DI=45 (D=816)
TD1	'80'	TD2 only is present
TD2	'1F'	TA3 only is present Global interface bytes following
TA3	'42'	Clock stop supported (low electrical state) 3V UICC
T1	'80'	
T2	'31'	Card data services
T3	'EC0'	SELECT by AID supported ~~SELECT by partial AID supported~~ EFDIR present
T4	'73'	Card capabilities
T5	'FBE'	SFI supported
T6	'20'	
T7	'00'	No extended Lc and Le No Logical channels supported
TCK	'XX'	Check byte

2) Example 2: Cold reset for a T=0 and T=1 protocol UICC.

Character	Value	Description
TS	'3B' or '3F'	Indicates direct or inverse convention
T0	'97'	TA1, and TD1 are present 7 bytes of historical bytes
TA1	'945'	Clock rate conversion factor FI=9 (F=512) Baud rate adjustment factor DI=45 (D=816)
TD1	'80'	Only TD2 is present Protocol T=0 supported by UICC
TD2	'B1'	TA3, TB3 and TD3 are present Protocol T=1 supported by UICC
TA3	'FE'	IFSC is 254 bytes long
TB3	'00'	Block Waiting Integer=0 Character Waiting Integer=0
TD3	'1F'	Only TA4 is present Global interface bytes following
TA4	'42'	Clock stop supported (low electrical state) 3V UICC
T1	'80'	
T2	'31'	Card data services
T3	'EC0'	SELECT by AID supported ~~SELECT by partial AID supported~~ EFDIR present
T4	'73'	Card capabilities
T5	'FBE'	SFI supported
T6	'20'	
T7	'00'	No extended Lc and Le No Logical channels supported
TCK	'XX'	Check byte

3) Example 3: Warm reset (specific mode) and T=1 protocol ask by UICC.

Character	Value	Description
TS	'3B' or '3F'	Indicates direct or inverse convention
T0	'97'	TA1, and TD1 are present 7 bytes of historical bytes
TA1	'945'	Clock rate conversion factor FI=9 (F=512) Baud rate adjustment factor DI=45 (D=816)
TD1	'91'	TA2 and TD2 are present Protocol T=1 supported by UICC
TA2	'81'	Protocol T=1 used in specific mode Parameters indicated by the interface bytes, and card is enable to change mode
TD2	'B1'	TA3, TB3 and TD3 are present Protocol T=1 supported by UICC
TA3	'FE'	IFSC is 254 bytes long
TB3	'00'	Block Waiting Integer=0 Character Waiting Integer=0
TD3	'0F'	Global interface bytes following (none so use previous ones)
T1	'80'	
T2	'31'	Card data services
T3	'EC0'	SELECT by AID supported ~~SELECT by partial AID supported~~ EF_{DIR} present
T4	'73'	Card capabilities
T5	'FBE'	SFI supported
T6	'20'	
T7	'00'	No extended Lc and Le No Logical channels supported
TCK	'XX'	Check byte

3GPP TSG-T3 (USIM) Meeting #14
Visby, Sweden, 24-26 May 2000

Document T3-000279
supersedes T3-000212

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TS 31.101	CR	019	Current Version:	V3.1.0

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

For submission to:	T#8	for approval	X	strategic		(for SMG use only)
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Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: SEARCH RECORD command : alignment with ISO/IEC 7816-9

Work item: T.E.I.

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
				Release 00	

Reason for change: The text description of the SEARCH RECORD command should be updated in order to match with the one in ISO/IEC 7816-9, whose description changed recently

Clauses affected: 11.1.7

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:


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11.1.7 SEARCH RECORD

11.1.7.1 Functional description

This function searches through a linear fixed or cyclic EF to find record(s) containing a specific pattern. This function shall only be performed if the READ access condition for this EF is satisfied. The search starts:

- either at the first byte of the record(s) (simple search), or
- from a given offset in the record(s); or
- from the first occurrence of a given byte in the record(s).

The response is either empty or contains the, up to the Le specified number of, record number(s) of the records that matches the search in the selected EF.

If one or more matches are found the record pointer shall be set to the first record where the search pattern was found.

Input:
- search mode (simple/enhanced);
- offset;
- pattern.

Output:
- either none, if Le is empty or no matches where found; or
- at most the number of record(s) number(s) defined in Le.

11.1.7.2 Command parameters and data

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	Record number.
P2	See table 11.8.
Lc	Length of the subsequent data field.
Data	- Simple search : search string - Enhanced search : search indication (2 bytes) followed by search string - Proprietary search : proprietary data ~~Offset indication followed by search string.~~
Le	Empty or maximum length of response data.

Table 11.8: Coding of P2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0	0	0	0	-	-	-	Currently selected EF.
X	X	X	X	X	-	-	-	Short File Identifier.
1	1	1	1	1	-	-	-	RFU.
-	-	-	-	-	0	X	X	RFU – see NOTE.
-	-	-	-	-	1	~~X~~0	X	Simple search. Us~~ag~~e of P1 as a record number.
-	-	-	-	-	1	0	0	Start forward search form record indicated in P1.
-	-	-	-	-	1	0	1	Start backward search form record indicated in P1.
-	-	-	-	-	1	1	0	Enhanced search – see table 11.9.
-	-	-	-	-	1	1	1	Proprietary search~~.~~
NOTE: This value is reserved by ISO/IEC 7816-9 [17].								

Table 11.9: Coding of the first byte ~~in the data field~~ of the search indication ~~in~~ for enhanced search mode

b8	B7	b6	b5	b4	b3	b2	b1	Meaning
0	0	0	0	-	-	-	-	~~RFU.~~
-	-	-	-	0	-	-	-	~~Offset, the subsequent byte indicates the absolute position within the record form where the search starts.~~ The search starts in the record from the offset (absolute position) given in the second byte of the search indication
-	-	-	-	1	-	-	-	~~Offset, indicated as a character. The character (first occurrence) within the record after which the search starts is indicated in the subsequent byte.~~ The search starts in the record after the first occurrence of the value contained in the second byte of the search indication
-	-	-	-	-	0	X	X	RFU – see NOTE.
-	-	-	-	-	1	X	X	Usage of value of P1 as a record number.
-	-	-	-	-	1	0	0	Start forward search form record indicated in P1.
-	-	-	-	-	1	0	1	Start backward search form record indicated in P1.
-	-	-	-	-	1	1	0	Start forward search from next record.
-	-	-	-	-	1	1	1	Start backward search form previous record.
Any other value								RFU
NOTE: This value is reserved by ISO/IEC 7816-9 [17].								

Response data:

Byte(s)	Description	Length
0 – Le	Record number(s).	Le
NOTE: If Le is empty no record numbers will be returned.		

3GPP TSG-T3 (USIM) Meeting #14
Visby, Sweden, 24-26 May 2000

Document T3-000305
supersedes T3-000275

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TS 31.101	CR	020	Current Version:	V3.1.0

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

For submission to:	T#8	for approval	X	strategic		(for SMG use only)
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Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source: T3 **Date:** 26/05/2000

Subject: correction of T=0 mechanisms

Work item: T.E.I.

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change:

Description of T=0 mechanisms in sub-clause 7.3.1needs clarifications. Annex C must be updated accordingly.
The mechanisms described in EMV 2000 specification ("book 1 : application independent IC Card and Terminal Interface Specification") are taken, with the following exception :

- for case 2 and 4 commands, when Le<Luicc, the UICC is not allowed to return the "6C Luicc" status, as the terminal would be forced to re-issue the command

Clauses affected: 7.3.1, Annex C

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:

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7.3.1 Transportation of an APDU using T=0

This subclause describes the mapping of C-APDUs and R-APDUs for T=0 protocol, the APDU exchange and the use of the GET RESPONSE command for case 2 and case 4.

7.3.1.1 Mapping of APDUs to TPDUs

The mapping of the C-APDU onto the T=0 command header is dependent upon the case of the command. The mapping of the data (if present) and status returned by the UICC onto the R-APDU is dependent upon the length of the data returned.

Procedure bytes '61XX' and '6CXX' are returned by the UICC to control exchanges between the Transport Layer of the Terminal and the UICC, and should never be returned to the Application Layer of the Terminal. Command processing in the UICC is not complete if it has returned procedure bytes '61XX' or '6CXX'.

Normal status on completion of processing a command is indicated if the UICC returns status words '9000' to the Transport Layer of the Terminal. ~~Any other value of status words returned by the UICC indicates that the UICC has terminated the processing of the command, and that the processing was unsuccessful for the reasons indicated in the status words.~~ The Transport Layer of the Terminal shall discontinue processing of a command (i.e. pass the R-APDU to the Application Layer and wait for a further C-APDU from the Application Layer)on receipt of any status words (but not on receipt of procedure bytes '61XX' and '6CXX') from the UICC~~, irrespective of whether they indicate a normal, warning, or error condition.~~ For case 4 commands only, immediately following successful transmission of command data to the UICC, the Transport Layer of the Terminal shall continue processing the command if warning status bytes ('62xx' or '63xx') or application related status bytes ('9xxx' except '9000') are received.
The following descriptions of the mapping of data and status returned by the UICC onto the R-APDU are for information, and apply only after the UICC has completed processing of the command, successfully or otherwise, and all data (if present) has been returned by the UICC under the control of '61XX' and '6CXX' procedure bytes. Detailed use of the INS, $\overline{\text{INS}}$, and '60' procedure bytes is not described.

The status returned by the UICC shall relate to the most recently received command; where a GET RESPONSE command is used to complete the processing of a case 2 or case 4 command, any status returned by the UICC after receipt of the GET RESPONSE command shall relate to GET RESPONSE command, not to the case 2 or case 4 command which it completes.

7.3.1.1.1 Case 1

The C-APDU is mapped onto the C-TPDU by assigning the value ´00´ to the body part (P3 = '00').

	Terminal		UICC
Application Layer (C-APDU)	CLA INS P1 P2		
Transport Layer (C-TPDU)	CLA INS P1 P2 P3 = '00'	➔	Command Processing
Transport Layer (R-TPDU)	SW1||SW2	←	SW1||SW2
Application Layer (R-APDU)	SW1||SW2		

Figure 7.6

The flow of the exchange is as follows:
1. The Transport Layer of the Terminal shall send the T=0 command header to the UICC.
2. On receipt of the command header the UICC, under normal or abnormal processing, shall return status to the Transport Layer of the Terminal.
(The UICC shall analyse the T=0 command header to determine whether it is processing a case 1 command or a case 2 command requesting all data up to the maximum length available.)
3. On receipt of status from the UICC, the Transport Layer of the Terminal shall discontinue processing of the command.

See Annex C for details of the exchanges between the Transport Layer of the Terminal and the UICC.

The status words returned to the Transport Layer of the Terminal from the UICC after completion of processing of the command are mapped onto the mandatory trailer of the R-APDU without change.

~~The UICC shall analyse the T=0 command header to determine whether this is a case 1 command or a case 2 command requesting response data of maximum length.~~

7.3.1.1.2 Case 2

The C-APDU is mapped onto the C-TPDU without any change.

	Terminal		UICC
Application Layer (C-APDU)	CLA INS P1 P2 Le		
Transport Layer (C-TPDU)	CLA INS P1 P2 P3=Le	→	Command Processing
Transport Layer (R-TPDU)	Le bytes of DATA||SW1||SW2	←	Le bytes of DATA||SW1||SW2
Application Layer (R-APDU)	Le bytes of DATA||SW1||SW2		

Figure 7.7

The flow of the exchange is as follows:
1. The Transport Layer of the Terminal shall send the T=0 command header to the UICC.
2. On receipt of the command header the UICC:
   (a) under normal processing shall return data and status to the Transport Layer of the Terminal. The UICC shall use procedure bytes '6Cxx' (and if required, procedure bytes '61xx') to control the return of data (see below)
   OR
   (b) under abnormal processing shall return status only to the Transport Layer of the Terminal.

3. On receipt of the data (if present) and status from the UICC, the Transport Layer of the Terminal shall discontinue processing the command.

See Annex C for details of the exchanges between the Transport Layer of the Terminal and the UICC, including use of the '61XX' and '6CXX' procedure bytes.

The R-TPDU is mapped onto the R-APDU without any change.

The data (if present) and status returned to the Transport Layer of the Terminal from the UICC after completion of processing of the command are mapped onto the R-APDU as follows:

The data returned (if present) is mapped onto the conditional body of the R-APDU. If no data is returned, the conditional body of R-APDU is left empty.

The status returned is mapped onto the mandatory trailer of the R-APDU without change.

7.3.1.1.3 Case 3

The C-APDU is mapped onto the C-TPDU without any change. Lc is a value between 1 and 255.

	Terminal		UICC
Application Layer (C-APDU)	CLA INS P1 P2 Lc [Lc bytes of DATA]		
Transport Layer (C-TPDU)	CLA INS P1 P2 P3=Lc [Lc bytes of DATA]	→	Command Processing
Transport Layer (R-TPDU)	SW1||SW2	←	SW1||SW2
Application Layer (R-APDU)	SW1||SW2		

Figure 7.8

The flow of the exchange is as follows:
1. The Transport Layer of the Terminal shall send the T=0 command header to the UICC.
2. On receipt of the command header, if the UICC:
   (a) returns a procedure byte, the Transport Layer of the Terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC

   OR

(b) returns status, the Transport Layer of the Terminal shall discontinue processing of the command.

3. If processing was not discontinued in step 2(b), the UICC shall return status following receipt of the conditional body of the C-APDU and completion of processing the command.
4. On receipt of status from the UICC, the Transport Layer of the Terminal shall discontinue processing the command.

See Annex C for details of the exchanges between the Transport Layer of the Terminal and the UICC.

The status words returned to the Transport Layer of the Terminal from the UICC after completion of processing of the command, or the status words returned by the UICC that caused the Transport Layer of the Terminal to discontinue processing of the command, are mapped onto the R-APDU without change.

7.3.1.1.4 Case 4

The C-APDU is mapped onto the C-TPDU by cutting off the last byte (Le) of the body.

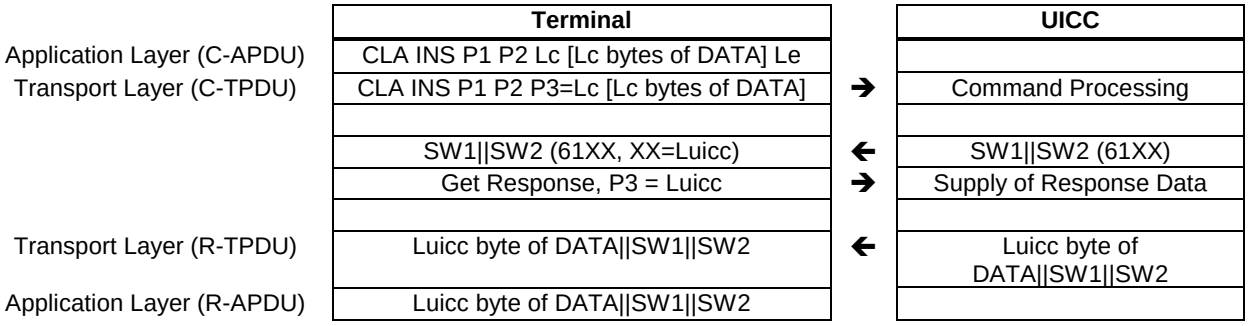

Figure 7.9

The flow of the exchange is as follows:
1. The Transport Layer of the Terminal shall send the T=0 command header to the UICC.
2. On receipt of the command header, if the UICC:
   (a) returns a procedure byte, the Transport Layer of the Terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC

   OR

   (b) returns status, the Transport Layer of the Terminal shall discontinue processing of the command.

3. If processing was not discontinued in step 2(b), following receipt of the conditional body of the C-APDU, the UICC:
   (a) under normal processing, shall return procedure bytes '61xx' to the Transport Layer of the Terminal requesting the Transport Layer of the Terminal to issue a GET RESPONSE command to retrieve the data from the UICC

   OR

   (b) under abnormal processing, shall return status only to the Transport Layer of the Terminal.

4. On receipt of the procedure bytes or status returned in step 3, if the UICC:
   (a) returned '61xx' procedure bytes as in step 3(a), the Transport Layer of the Terminal shall send a GET RESPONSE command header to the UICC with P3 set to a value less than or equal to the value contained in the 'xx' byte of '61xx' procedure bytes

   OR

   (b) returned status as in step 3(b) that indicates a warning ('62xx' or '63xx'), or which is application related ('9xxx' but not '9000'), the Transport Layer of the Terminal shall send a GET RESPONSE command with Le='00'

   OR

   (c) returned status as in step 3(b) other than that described in step 4(b), the Transport Layer of the Terminal shall discontinue processing of the command.

5. If processing was not discontinued in step 4(c), the GET RESPONSE command shall be processed according to the rules for case 2 commands

The first R-TPDU from the UICC indicates that the UICC performed the command correct and that the UICC has more data of length Luicc bytes to transfer. The first R-TPDU is mapped without any changes onto the R-APDU.

See Annex C for details of the exchanges between the Transport Layer of the Terminal and the UICC, including use of the '61XX' and '6CXX' procedure bytes.

7.3.1.1.5 Use of Procedure Bytes '61xx' and '6Cxx'

The UICC returns procedure bytes '61xx 'and '6Cxx' to the Transport Layer of the Terminal to indicate to it the manner in which it should retrieve the data requested by the command currently being processed. These procedure bytes are only used when processing case 2 and 4 commands using T=0.

Procedure bytes '61xx' instruct the Transport Layer of the Terminal to issue a GET RESPONSE command to the UICC. P3 of the GET RESPONSE command header is set to 'xx'.

Procedure bytes '6Cxx' instruct the Transport Layer of the Terminal to immediately resend the previous command header setting P3 = 'xx'.

Usage of these procedure bytes during error free processing with case 2 and 4 commands is as follows. In the case of an error, the UICC may return status indicating error or warning conditions instead of the '61xx' or '6Cxx' response.

7.3.1.1.5.1 Case 2 Commands

1. If the UICC receives a case 2 command header and Le = '00' or Le > Luicc, it shall return :

(a) procedure bytes '6C Luicc' instructing the Transport Layer of the Terminal to immediately resend the command header with P3 = Luicc

OR

(b) status indicating a warning or error condition (but not SW1 SW2 = '90 00')

1. If the UICC receives a case 2 command header and Le = Luicc, it shall return:

(a) data of length Le (= Luicc) under the control of the INS, INS , or '60' procedure bytes followed by the associated status

OR

(b) procedure bytes '61xx' instructing the Transport Layer of the Terminal to issue a GET RESPONSE command with a maximum length of 'xx', 'xx' being less than Luicc (this could happen if the card buffer size is smaller that Luicc)

OR

(c) status indicating a warning or error condition (but not SW1 SW2 = '90 00')

2. If the UICC receives a case 2 command header and Le < Luicc it shall return:

(a) data of length Le under the control of the INS, INS , or '60' procedure bytes followed by procedure bytes '61xx' instructing the Transport Layer of the Terminal to issue a GET RESPONSE command with a maximum length of 'xx'

OR

(b) status indicating a warning or error condition (but not SW1 SW2 = '90 00')

7.3.1.1.5.2 Case 4 Commands

1. If the UICC receives a case 4 command, after processing the data sent with the C-APDU, it shall return :

(a) procedure bytes '61 xx' instructing the Transport Layer of the Terminal to issue a GET RESPONSE command with a maximum length of 'xx'

OR

(b) status indicating a warning or error condition (but not SW1 SW2 = '90 00')

The GET RESPONSE command so issued is then treated as described for case 2 commands.

Annex C (informative): APDU Protocol Transmission Examples

C.1 Exchanges Using T=0

The following examples illustrate exchanges of data and procedure bytes between the terminal and the UICC.

Note the following:

- The use of procedure bytes '60' and $\overline{\text{INS}}$ is not illustrated.
- [Data(X)] means X bytes of data.
- Case 2 and 4 commands may have Le = '00' requesting the return of all data from the UICC up to the maximum available.

The examples in clauses C.1.1.1 to C.1.1.4 illustrate typical exchanges using case 1 to 4 commands. The examples in the subclauses C.1.1.5 and C.1.1.6 illustrate the more extensive use of procedure bytes '61 XX' when used with case 2 and 4 commands. The example in subclause C.1.1.7 illustrates a warning condition with a case 4 command.

C.1.1 Case 1 Command

A C-APDU of {CLA INS P1 P2} is passed from the Terminal to the UICC (note that P3 of the C-TPDU is set to '00').

	Terminal			**UICC**
C-TPDU	[CLA INS P1 P2 P3=00]	⇒		
			⇐	90 00

An R-APDU of {90 00} is returned from the UICC to the Terminal.

C.1.2 Case 2 Command

~~A~~In this example, a C-APDU of {CLA INS P1 P2 Le=00} is passed from the Terminal to the UICC.

	Terminal			**UICC**
C-TPDU	[CLA INS P1 P2 P3=00]	⇒		
			⇐	6C Luicc
C-TPDU	[CLA INS P1 P2 Luicc]	⇒		
			⇐	INS [Data(Luicc)] 90 00

An R-APDU of {[Data(Luicc)] 90 00} is returned from the UICC to the Terminal.

~~(i)If Le ≥ Luicc, the data returned is mapped onto the conditional body of the R-TPDU, and the status returned is mapped onto the mandatory trailer of the R-APDU without change.~~

~~(ii)If Le < Luicc, the first Le bytes of the data returned are mapped onto the conditional body of the R-TPDU, and the status returned is mapped onto the mandatory trailer of the R-APDU without change.~~

~~Since the procedure defined above for Le ≥ Luicc is inefficient one will be forced to re-issue the command. A more practical approach is the following:~~

Terminal				UICC
C-TPDU	[CLA INS P1 P2 P3=00]	⇒		
			⇐	61 XX
GET RESPONSE	[00 C0 00 00 YY]	⇒		
			⇐	C0 [Data(YY)] 61 ZZ
	[00 C0 00 00 ZZ]	⇒		
			⇐	C0 [Data(ZZ)] 90 00

Where YY ≤ XX.

An R-APDU of {[Data(YY + ZZ)] 90 00} is returned from the UICC to the Terminal.

C.1.3 Case 3 Command

A C-APDU of {CLA INS P1 P2 Lc [Data(Lc)]} is passed from the Terminal to the UICC.

Terminal				UICC
C-TPDU	[CLA INS P1 P2 P3=Lc]	⇒		
			⇐	[INS]
	[Data(Lc)]	⇒		
			⇐	90 00

An R-APDU of {90 00} is returned from the UICC to the Terminal.

C.1.4 Case 4 Command

A C-APDU of {CLA INS P1 P2 Lc [Data (Lc)] Le=00} is passed from the Terminal to the UICC.

Terminal				UICC
C-TPDU	[CLA INS P1 P2 P3=Lc]	⇒		
			⇐	[INS]
	[Data(Lc)]	⇒		
			⇐	61 Luicc
GET RESPONSE	[00 C0 00 00 Luicc]	⇒		
			⇐	C0 [Data(Luicc)] 90 00

An R-APDU of {[Data(Luicc)] 90 00} is returned from the UICC to the Terminal.

C.1.5 Case 2 Commands Using the '61' and '6C' Procedure Bytes

A C-APDU of {CLA INS P1 P2 Le=00} is passed from the Terminal to the UICC.

Terminal				UICC
C-TPDU	[CLA INS P1 P2 P3=00]	⇒		
			⇐	6C Luicc
	[CLA INS P1 P2 Luicc]	⇒		
			⇐	61 XX
GET RESPONSE	[00 C0 00 00 YY]	⇒		
			⇐	C0 [Data(YY)] 61 ZZ
	[00 C0 00 00 ZZ]	⇒		
			⇐	C0 [Data(ZZ)] 90 00

Where YY ≤ XX.

An R-APDU of {[Data(YY + ZZ)] 90 00} is returned from the UICC to the Terminal.

C.1.6 Case 4 Command Using the '61' Procedure Byte

A C-APDU of {CLA INS P1 P2 Lc [Data Lc] Le=00} is passed from the Terminal to the UICC.

	Terminal			**UICC**
C-TPDU	[CLA INS P1 P2 P3=Lc]	⇒		
			⇐	[INS]
	[Data(Lc)]	⇒		
			⇐	61 XX
GET RESPONSE	[00 C0 00 00 XX]	⇒		
			⇐	C0 [Data(XX)] 61 YY
	[00 C0 00 00 YY]	⇒		
			⇐	C0 [Data(YY)] 90 00

An R-APDU of {[Data(XX + YY)] 90 00} is returned from the UICC to the Terminal.

C.1.7 Case 4 Command with Warning Condition

A C-APDU of {CLA INS P1 P2 Lc [Data Lc] Le=00} is passed from the Terminal to the UICC.

	Terminal			**UICC**
C-TPDU	[CLA INS P1 P2 P3=Lc]	⇒		
			⇐	[INS]
	[Data(Lc)]	⇒		
			⇐	62 XX
GET RESPONSE	[00 C0 00 00 00]	⇒		
			⇐	6C Luicc
	[00 C0 00 00 Luicc]	⇒		
			⇐	C0 [Data(Luicc)] 90 00

An R-APDU of {[Data(Luicc)] 62 XX} is returned from the Terminal to the UICC containing the data returned together with the warning status bytes.

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Visby, Sweden, 24-26 May 2000

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e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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

TS 31.101	CR	022	Current Version:	V3.1.0

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

For submission to:	TSG-T #8	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

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

Source:	Gemplus, Schlumberger	**Date:**	31/05/2000

Subject:	Correction of the Application Session Activation / Termination procedures

Work item:	UICC

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

F	Correction	X	**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			Release 99	X
				Release 00	

Reason for change:	The mechanisms described in 3G TS 31.102 v3.1.0about activation/termination of a USIM application were not introduced in 3G TS 31.101.

Clauses affected:	

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.

8.5 Application characteristics

An application may be either explicitly or implicitly referenced.

An application is activated by explicit selecting it with the AID. This sets the application's ADF as the current ADF.

A current ADF can be referenced by FID with the implicit reference value '7F FF'.

8.5.1 Explicit Application selection

8.5.1.1 SELECT by DF Name

A selectable application, represented in the UICC by the AID, shall be referenced by a DF name coded on 1 to 16 bytes. Each name shall be unique within a UICC. A DF name can be used in the SELECT command to select a selectable application.

8.5.1.2 SELECT by partial DF Name

Selection by partial DF Name is for further study within 3GPP TSG-T WG3.

8.5.2 Application session activation

~~An application may need a session activation procedure to be performed after the selection. This procedure is outside the scope of the present document but shall be described in the application specification. The procedure is used to bring the terminal and the application in the UICC to a well defined state.~~

The application session is initiated when the terminal sends a SELECT command , with the application's AID, indicating in the command parameters that the application shall be activated.

An application may need an initialisation procedure to be performed after its activation. This procedure is outside the scope of the present document but shall be described in the application specification. The procedure is used to bring the terminal and the application in the UICC to a well defined state.

The ME may send to the UICC a specific Status command indicating that the initialisation procedure of the application has been successfully executed.

There can only be one active session on a given logical channel.

8.5.3 Application session termination

An application may have a session termination procedure to be performed before the application is terminated. This procedure shall be described in the application specification. Before this procedure is executed, the ME may send to the UICC a specific Status command indicating that the termination procedure of the application will start. After this termination procedure has been executed the terminal and the application are in a well defined state.

An application session is then terminated if one of the following events occur on the same logical channel that the application session has been activated on:

- implicitly; if a SELECT by DF_{NAME} command with an AID different from the currently active application is performed by the UICC, indicating in the command parameters that this new application shall be activated;
- explicitly; if the application is reselected using the SELECT by DF_{NAME} command with the AID corresponding to the currently active application, and indicating in the command parameters that the application shall be closed;
- the terminal performs a reset of the UICC.

8.5.4 Application session reset

An application is reset if the application is reselected using the SELECT by DF_{NAME} command with the AID corresponding to the currently active application, indicating in the command parameters that the application shall be activated ~~reset~~.

Reset initialises the application session activation procedure. The security status of the application is updated according to the application's session activation procedure, as specified by the application.

11.1.1 SELECT

11.1.1.1 Functional description

This function selects a file according to the methods described in clause 8.4. After a successful selection the record pointer is undefined.

Input:
- file ID, application ID, path or empty.

Output:
- if the selected file is the MF, a DF or an ADF:
  file ID, total memory space available, PIN enabled/disabled indicator, PIN status and other application specific data;
- if the selected file is an EF:
  file ID, file size, access conditions, invalidated/not invalidated indicator, structure of EF and length of the records in case of linear fixed structure or cyclic structure.

11.1.1.2 Command Parameters and Data

Code	Value
CLA	As specified in 10.1.1
INS	As specified in 10.1.2
P1	Selection control, see table 11.1
P2	Selection control, see table 11.2
Lc	Length of subsequent data field or empty
Data	File ID, DF name, or path to file, according to P1
Le	Empty, '00', or maximum length of data expected in response

Table 11.1: Coding of P1

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0	0	0	0	0	0	0	Select DF, EF or MF by file id
0	0	0	0	0	0	0	1	Select child DF of the current DF
0	0	0	0	0	0	1	1	Select parent DF of the current DF
0	0	0	0	0	1	0	0	Selection by DF name – see NOTE
0	0	0	0	1	0	0	0	Select by path from MF
0	0	0	0	1	0	0	1	Select by path from current DF
NOTE: This is selection by AID								

Table 11.2: Coding of P2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
-	X	X	-	-	-	-	-	Application session control, see note 2.
-	0	0	-	-	-	-	-	- Activation/Reset
-	~~0~~	~~1~~	-	-	-	-	-	~~- Reset~~
-	1	0	-	-	-	-	-	- Termination
0	-	-	0	0	1	0	0	Return FCP template
0	-	-	0	1	1	0	0	No data returned
NOTE1: Whether the FCI information is returned or not depends on the type of APDU NOTE2: This only applies when P1 indicates SELECT by DF_{NAME}								

To avoid ambiguities when P1=P2='00', the following search order applies when selecting a file with a File ID (FID) as a parameter:

- immediate children of the current DF;
- the parent DF;
- the immediate children of the parent DF.

11.1.2 STATUS

11.1.2.1 Functional description

This function returns information concerning the current directory or current application.

In addition, according to the application specification, it ~~is~~may be used to indicate to the application in the UICC that its session activation procedure has been successfully executed, or that its ~~deactivation~~ termination procedure~~s~~ will be~~has been successfully~~ executed.

NOTE : these indications may be used to synchronise the applications in the ME and in the UICC.

Input:
- none.

Output:

One of the following:
- FCP of the current directory;
- The DF_{NAME} TLV Data Object of the currently selected application;
- No data returned.

11.1.2.2 Command parameters

Code	Value
CLA	As specified in 10.1.1.
INS	As specified in 10.1.2.
P1	~~00.~~ Indication of application status
P2	See table 11.8.
Le	Empty, '00', or maximum length of data expected in response.

Table 11.x: Coding of P1

b8	b7	b6	b5	b4	b3	B2	b1	Meaning
0	0	0	0	0	0	0	0	No indication
0	0	0	0	0	0	0	1	Current application is initialised in the ME
0	0	0	0	0	0	1	0	ME will initiate the termination of the current application

Table 11.8: Coding of P2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0	0	0	0	0	0	0	Response parameters and data are identical to the response parameters and data of the SELECT command.
0	0	0	0	0	0	0	1	The DF_{NAME} TLV-object of the currently selected application is returned.
0	0	0	0	1	1	0	0	No data returned.
Any other value								RFU.