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Identification cards — Integrated circuit cards —

Part 4: Organization, security and commands for interchange

AMENDMENT 1: Multiple record handling

Cartes d'identification — Cartes à circuit intégré —

Partie 4: Organisation, sécurité et commandes pour les échanges

AMENDEMENT 1: Manutention multiple record

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Identification cards — Integrated circuit cards —

Part 4:
Organization, security and commands for interchange

AMENDMENT 1: Multiple record handling

Page 17, Table 6

Replace text in the “Meaning” column for SW1 = ‘62‘ and SW2 = ‘87‘ with the following:

> At least one of the referenced records is not processed for some reason, e.g. record deactivated, security status not satisfied or conditions of use not satisfied.

Page 74, 11.3.2, second paragraph, third sentence

Replace the description in parentheses with the following:

> At least one of the referenced records is not processed.

Page 74, 11.3.2, NOTE

Replace the text of the NOTE with the following:

> If the number of records exceeds the numbering range ('01' to 'FE') of the record handling command, records can be handled, e.g. by using next occurrence option of the record identifier, or by using multiple record handling with record number DO‘02‘.

Page 74, 11.3.2, sixth paragraph

Replace the text in P2 with the following:

> P2 — If bits b8 to b4 are not all equal, these bits are a short EF identifier according to Table 69 and bits b3 to b1 depend upon the command. If bits b8 to b1 are set to 11111000 (i.e. P2 = ‘F8‘), P2 indicates multiple record handling (for details, see 11.3.3 to 11.3.10).

Page 74, Table 69

Replace Table 69 and its title with the following:

Table 69 — Coding of P2

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
0	0	0	0	0	—	—	—	Current EF
Not all equal					—	—	—	Short EF identifier (a number from one to thirty)
1	1	1	1	1	0	0	0	Multiple record handling (for details, see 11.3.3 to 11.3.10)
1	1	1	1	1	Not all zero			RFU

Page 74, 11.3.2

Add the following paragraph after the last paragraph:

> In the multiple record handling option of this command group, SW1-SW2 set to ‘6287‘ indicates that some command processes are done and others are not (e.g. some addressed records are read

but others are not). SW1-SW2 set to '6F00' indicates that all command processes are not completed for different reasons (e.g. record deactivated, security status not satisfied).

Page 75, 11.3.3

Add the following paragraphs before Table 70:

If INS = 'B2' and bits b8 to b1 of P2 are set to 11111000 (i.e. P2 = 'F8'), then this command may read multiple records in different EFs. The command data field contains one or more record handling DO'7F76' each containing one file reference DO'51' and one or more integer DO'02'. The value field of DO'51' contains a file identifier or a short EF identifier indicating the record structure EF under current DF. This field may also contain a relative path or an absolute path. The value field of DO'02' is a record number to be read from the file referenced by DO'51'. DO'02' may indicate record number over 254. For each DO'02' under DO'7F76' in the command data field, the response data field contains a corresponding DO'53' or DO'04'. If the addressed record is readable (i.e. record exists, record is activated and security status satisfies the security attributes) then the corresponding DO'53' contains the entire record. When present, a DO'53' denotes an implicit normal processing without corresponding status bytes, i.e. '9000'. Otherwise the corresponding DO'04' contains value of status bytes defined in Table 5 and 6 indicating why the record data is not read. If at least one addressed record is not read, the status bytes '6287' shall be returned. The VA and the record pointer shall not be changed in case P2 = 'F8'.

If INS='B2' and P2 = 'F8' and the command data references missing files or files with incompatible file structure or missing record(s), the command shall be aborted with the respective return code from table 5 or 6 (e.g. command incompatible with file structure '6981', file not found '6A82', record not found '6A83', etc.).

Page 75, Table 70

Replace the two rows in 'Data field' with the following:

Data field	INS = 'B2' and bits b8 to b1 of P2 set to 11111000	One or more record handling DO'7F76'
	INS = 'B2' and bits b8 to b1 of P2 not set to 11111000	Absent
	INS = 'B3'	Offset DO

Data field	INS = 'B2' and bits b8 to b1 of P2 set to 11111000	One or more discretionary data DO'53' and/or DO'04' containing value of status bytes.
	INS = 'B2' and bits b8 to b1 of P2 not set to 11111000	Data read
	INS = 'B3'	Discretionary DO for encapsulating the data read

Page 75, Table 71

Replace Table 71 with the following table:

b8	b7	b6	b5	b4	b3	b2	b1	Meaning	
x	x	x	x	x	—	—	—	Short EF identifier according to Table 69	
(Not all one)									
Not all one					0	x	x	**Record identifier in P1**	
					0	0	0	— Read first occurrence	
					0	0	1	— Read last occurrence	
					0	1	0	— Read next occurrence	
					0	1	1	— Read previous occurrence	
					1	x	x	**Record number in P1**	
					1	0	0	— Read record P1	
					1	0	1	— Read all records from P1 up to the last (for INS = 'B2' only)	
					1	1	0	— Read all records from the last up to P1 (for INS = 'B2' only)	
1	1	1	1	1	0	0	0	INS = 'B2'	P1 set to '00' and one or more record handling DO'7F76' in the command data field
— Any other value is RFU.									

Page 76, 11.3.4

Add the following paragraph before Table 72:

If bits b8 to b1 of P2 are set to 11111000 (i.e. P2 = 'F8'), then this command may write multiple records in different EFs. The command data field contains one or more record handling DO'7F76' each containing one file reference DO'51' and one or more sets of an integer DO'02' and a discretionary data DO'53'. The value field of DO'51' contains a file identifier or a short EF identifier indicating the record structure EF under current DF. This field also may contain a relative path or an absolute path. The value field of DO'02' is a target record number in the file referenced by DO'51'. The value field of DO'53' is the record to be written. DO'02' may indicate record number over 254. This command can be performed only when all addressed records are stored in record structure EF(s), addressed records are present and activated, and when the security status satisfies the security attributes. If at least one addressed record is not written, any of addressed record is not written. The VA and the record pointer shall not be changed in case P2 = 'F8'.

Page 76, Table 72

Replace one row 'Data field' which is command data field with the following:

Data field	Bits b8 to b1 of P2 set to 11111000	One or more record handling DO'7F76'
	Bits b8 to b1 of P2 not set to 11111000	Record to be written

Page 76, Table 73

Replace Table 73 and its title with the following:

Table 73 — Coding of P2 in the WRITE RECORD command and the UPDATE RECORD command with even INS code

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x	x	x	x	x	—	—	—	Short EF identifier according to Table 69
(Not all one)								
Not all one					0	x	x	**P1 set to '00'**
					0	0	0	— First record
					0	0	1	— Last record
					0	1	0	— Next record
					0	1	1	— Previous record
Not all one					1	0	0	**Record number in P1**
1	1	1	1	1	0	0	0	P1 set to '00' and one or more record handling DO'7F76' in the command data field
— Any other value is RFU.								

Page 77, 11.3.5

Add the following paragraph before Table 74:

If INS = 'DC' and bits b8 to b1 of P2 are set to 11111000 (i.e. P2 = 'F8'), then this command may update multiple records in different EFs. The command data field contains one or more record handling DO'7F76' each containing one file reference DO'51' and one or more sets of an integer DO'02' and a discretionary data DO'53'. The value field of DO'51' contains a file identifier or a short EF identifier indicating the record structure EF under current DF. This field also may contain a relative path or an absolute path. The value field of DO'02' is a target record number in the file referenced by DO'51'. The value field in DO'53' is the updating data for the target record. DO'02' may indicate record number over 254. This command can be performed only when all addressed records are stored in record structure EF(s), addressed records are present and activated, and when the security status satisfies the security attributes. If at least one addressed record is not updated, any of addressed record is not updated. The VA and the record pointer shall not be changed in case P2 = 'F8'.

Page 77, Table 74

Replace one row 'Data field' which is command data field with the following:

Data field	INS = 'DC' and bits b8 to b1 of P2 set to 11111000	One or more record handling DO'7F76'
	INS = 'DC' and bits b8 to b1 of P2 not set to 11111000	Updating data
	INS = 'DD'	Offsets DO and discretionary DO for encapsulating the updating data

Page 78, 11.3.6

Add the following paragraph before Table 76:

If bits b8 to b1 of P2 are set to 11111000 (i.e. P2 = 'F8'), then this command may append multiple records to different EFs. The command data field contains one or more record handling DO'7F76' containing one file reference DO'51' and one or more discretionary data DO'53'. The value field of DO'51' contains a file identifier or a short EF identifier indicating the record structure EF under current DF. This field also may contain a relative path or an absolute path. The value field of DO'53' is the record to be appended. This command can be performed only when all addressed EFs are record structure and have enough space for appending record, and when the security status satisfies the security attributes. If at least one of the records is not appended, any of records is not appended to the addressed EFs. The VA and the record pointer shall not be changed in case P2 = 'F8'.

Page 78, Table 76

Replace the row 'P2' with the following:

P2	See Table Amd.1-1

Page 78, Table 76

Replace one row 'Data field' which is command data field with the following:

Data field	Bits b8 to b1 of P2 set to 11111000	One or more record handling DO'7F76'
	Bits b8 to b1 of P2 not set to 11111000	Record to be appended

Page 78

Add the following table after Table 76:

Table — Amd.1-1 — Coding of P2 in the APPEND RECORD command

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x	x	x	x	x	—	—	—	Short EF identifier according to Table 69
(Not all one)								
Not all one					0	0	0	Command data field containing record to be appended
1	1	1	1	1	0	0	0	One or more record handling DO'7F76'
— Any other value is RFU.								

Page 78, 11.3.7

Replace the first sentence with the following:

If bits b8 to b1 of P2 are not set to 11111000 (i.e. P2 = 'F8'), this command initiates a simple or enhanced or proprietary search on records stored within one addressed EF.

Page 78, 11.3.7

Add the following paragraph after the first paragraph:

If bits b8 to b1 of P2 are set to 11111000 (i.e. P2 = 'F8'), this command initiates a search on records stored within one or more addressed EFs (search through multiple EFs). Two options are provided for search through multiple EFs such as simple and enhanced search through multiple EFs. The command data field contains one record handling DO'7F76'. The search covers all activated records in all the EFs addressed by file reference DOs. The response data field gives one or more record handling DO'7F76' each containing one file reference DO'51' with one or more integer DO'02'. DO'51' gives file reference to an EF storing the record matching the search criteria. Value field of DO'02' is the record number indicating the record matching the search criteria. DO'02' may indicate record number over 254. This command can be performed on each activated record in each EF when the security status satisfies the security attribute. If the command data references missing files or files with incompatible file structure, the command shall be aborted with the respective return code from table 5 or 6 (e.g. command incompatible with file structure '6981', file not found '6A82', etc.).

For simple search through multiple EFs, record handling DO'7F76' contains one or more file reference DO'51' and one discretionary data DO'53' (see Table Amd.1-2). The value field of each DO'51' contains a file identifier or a short EF identifier indicating the record structure EF under current DF. This field also may contain a relative path or an absolute path. The value field of DO'53' is a search string. The search covers all activated records in all the EFs addressed by file reference DOs.

For enhanced search through multiple EFs, record handling DO‘7F76‘ contains one or more file reference DO‘51‘, one optional record selection DO’A0‘, one search configuration DO’A1‘, and one search string DO’A3‘ (see Table Amd.1-3).

The record selection DO’A0‘ in a record handling DO‘7F76‘ contains either one or more record number range DO’B0‘ or one record number list DO’B1‘ (see Table Amd.1-4). One record number range DO’B0‘ contains two DO‘02‘. The first DO‘02‘ encodes the start record number to search and the second DO‘02‘ encodes the number of records to search from the start record number. The value 0 of the first data object indicates the last record. The value 0 of the second data object indicates that all records from the start record number are searched. The search order in ascending or descending from the start record number is indicated in a search configuration parameter DO‘80‘ (see Table Amd.1-6) in a search configuration DO’A1‘ (see Table Amd.1-5). The absence of a record selection indicates that all records in all addressed EFs are searched.

The search configuration DO’A1‘ in a record handling DO‘7F76‘ contains one configuration parameter DO‘80‘ and one optional search window DO’B0‘ (see Table Amd.1-5). A search configuration parameter indicates search order, step-width for searching, and search termination (see Table Amd.1-6). A search window contains two DO‘02‘. The first DO‘02‘ encodes the offset indicating the search starting position in the records. The second DO‘02‘ encodes the number of bytes for searching from the offset in the records. The value 0 of this data object indicates all bytes from the offset in the records are searched. If the first DO‘02‘ is empty, it indicates the number of bytes indicated by the second DO‘02‘ at the end of the records are searched, e.g. ‘B0 05 02 00 02 01 03‘ encodes the last 3 bytes of the records are searched.

The search string DO’A3‘ in a record handling DO‘7F76‘ contains either one search string interval DO’B0‘ or one search string set DO’B1‘ (see Table Amd.1-7). A search string interval contains one search string lower bound DO‘81‘ and one search string upper bound DO’82’. The value field of these DOs are interpreted as a binary representation of the lower / upper bound value. A search string set contains one or more sets of one single search string DO‘81‘ and one optional binary filter DO‘5F71‘. The single search string in a DO’81’ and the corresponding binary filter in a DO’5F71’ shall have the same length. If present, the binary filter DO'5F71' follows immediately subsequent to the related single search string DO'81'. If more than one DO'81' is present, the search is successful, if at least one match is found (logical OR).

Page 78, Table 77

Replace the first ’Data field‘ row with the following:

Data field	Bits b8 to b4 of P2 not set to 11111 and bits b3 to b2 of P2 not set to 11, simple search	Search string
	Bits b8 to b4 of P2 not set to 11111 and bits b3 to b1 of P2 set to 110, enhanced search	Search indication (2 bytes, see Table 79) followed by search string
	Bits b8 to b1 of P2 set to 11111000, search through multiple EF	One record handling DO‘7F76‘
	Bits b8 to b4 of P2 not set to 11111 and bits b3 to b1 of P2 set to 111, proprietary search	Proprietary

Replace the second ’Data field‘ row with the following:

Data field	Bits b8 to b1 of P2 set to 11111000, search through multiple EF	Absent, or one or more record handling DO‘7F76‘
	Others	Absent or record number(s)

Page 79, Table 78

Replace Table 78 with the following table:

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x	x	x	x	x	—	—	—	Short EF identifier according to Table 69
(Not all one)								
Not all one					0	x	x	**Simple search with record identifier in P1**
					0	0	0	— Forward from first occurrence
					0	0	1	— Backward from last occurrence
					0	1	0	— Forward from next occurrence
					0	1	1	— Backward from previous occurrence
					1	0	x	**Simple search with record number in P1**
					1	0	0	— Forward from P1
					1	0	1	— Backward from P1
					1	1	0	**Enhanced search**
					1	1	1	**Proprietary search**
1	1	1	1	1	0	0	0	**Search through multiple EFs** P1 set to '00'
— Any other value is RFU.								

Page 79, 11.3.7

Add the following tables after Table 79:

Table — Amd.1-2 — Record handling for simple search through multiple EFs

Tag		Value	Occurrence
'7F76'		Record handling DOs	
	'51'	File reference DO	At least once
	'53'	Discretionary DO	Once, mandatory

Table — Amd.1-3 — Record handling for enhanced search through multiple EFs

Tag		Value	Occurrence	Note
'7F76'		Record handling DOs		
	'51'	File reference DO	At least once	
	'A0'	Record selection DOs	Once, optional	See Table Amd.1-4
	'A1'	Search configuration DOs	Once, mandatory	See Table Amd.1-5
	'A3'	Search string DOs	Once, mandatory	See Table Amd.1-7

Table — Amd.1-4 — Record selection for enhanced search through multiple EFs

Tag				Value	Occurrence
'A0'				Record selection DOs	
Choice between those		'B0'		Record number range DOs	At least once
			'02'	Start record number	Once
			'02'	Number of records to search	Once
		'B1'		Record number list DOs	Once
			'02'	Record number	At least once

Table — Amd.1-5 — Search configuration for enhanced search through multiple EFs

Tag	Value	Occurrence	Note
‘A1‘	Search configuration DOs		
‘80‘	Search configuration parameter	Once, mandatory	See Table Amd.1-6
‘B0‘	Search window DOs	Once, optional	
‘02‘	Offset	Once	
‘02‘	Number of bytes	Once	

Table — Amd.1-6 — Coding of search configuration parameter

b8	b7	b6	b5	b4	b3	b2	b1	Meaning
x	—	—	—	—	—	—	—	Search order
0	—	—	—	—	—	—	—	Search in record number ascending order
1	—	—	—	—	—	—	—	Search in record number descending order
—	x	—	—	—	—	—	—	Step-width for search
—	0	—	—	—	—	—	—	Byte-wise
—	1	—	—	—	—	—	—	Search string-wise, i.e. the length of search string is the step-wise
—	—	x	x	—	—	—	—	Configuration for search termination
—	—	0	0	—	—	—	—	Search all addressed records in all addressed EFs
—	—	0	1	—	—	—	—	Terminate search for one EF after first matching
—	—	1	0	—	—	—	—	RFU
—	—	1	1	—	—	—	—	Terminate search for all EFs after first matching
—	—	—	—	x	x	x	x	0000 (any other value is RFU)

Table — Amd.1-7 — Search string for enhanced search through multiple EFs

Tag			Value	Occurrence
‘A3‘			Search string DOs	
Choice between those	‘B0‘		Search string interval DOs	Once
		‘81‘	Search string lower bound	Once, mandatory
		‘82‘	Search string upper bound	Once, mandatory
	‘B1‘		Search string set DOs	Once
		‘81‘	Single search string	At least once
		‘5F71‘	Binary filter providing a binary mask to be used in a logical AND operation onto the data to be compared	Optional for each DO‘81‘

Page 79, 11.3.8

Replace the first sentence with the following:

If bits b8 to b4 of P2 are not set to 11111, the command sets one or more records of an EF to the logical erase state, either the record referenced by P1, or the sequence of records from P1, sequentially, up to the end of the file.

Add the following paragraph after the first paragraph:

If bits b8 to b1 of P2 set to 11111000 (i.e. P2 = ‘F8‘), the command sets one or more records in different EFs referenced by the command data field to the logical erase state. The command data field contains one or more record handling DO‘7F76‘ each containing one file reference DO‘51‘ and one or more

