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# ISO/IEC 7816-4

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**AMENDMENT 1**
2008-10-01

# Identification cards — Integrated circuit cards —

## Part 4: Organization, security and commands for interchange

## AMENDMENT 1: Record activation and deactivation

*Cartes d'identification — Cartes à circuit intégré —*

*Partie 4: Organisation, sécurité et commandes pour les échanges*

*AMENDEMENT 1: Activation et désactivation d'enregistrement*

Reference number
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# Foreword

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Amendment 1 to ISO/IEC 7816-4:2005 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

It contains the specification of a record life cycle status as well as the ACTIVATE RECORD and DEACTIVATE RECORD commands. Furthermore, the “Profile indicator” as an additional data object for the file control parameters is defined.

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# Identification cards — Integrated circuit cards —

# Part 4:
# Organization, security and commands for interchange

## AMENDMENT 1: Record activation and deactivation

*Page iv, Foreword*

Add the following part to the list of parts:

— *Part 13: Commands for application management in a multi-application environment*

*Page 12, Table 6*

Add a line to the row with SW1='62' as follows:

| SW1 | SW2 | Meaning |
|---|---|---|
| '62' (warning) | '87' | At least one of the referenced records is deactivated |

*Page 19, 5.3.2*

Replace the second list item and its two bullets with the following:

— **Record structure —** The EF is seen at the interface as a single continuous sequence of individually identifiable records accessible by commands for handling records (see 7.3). Record numbering method is an EF-dependent feature. Three attributes are defined.

- The size of the records is either fixed, or variable.
- The organization of the records is either a sequence (linear structure) or a ring (cyclic structure).
- A record life cycle state distinguishing at least the following states: ACTIVATED and DEACTIVATED. The coding of a record life cycle state is out of scope for this part of ISO/IEC 7816. Within a certain EF, either all records have a record life cycle state or no record has a record life cycle state. The presence of record life cycle states is indicated in the FCP (see Table 12).

*Page 20, Table 12*

Add the following row after row '8E':

| Tag | Length | Value | Applies to |
|---|---|---|---|
| '8F' | 1 | Profile indicator, see Table Amd.1-1 | EF supporting records, once |

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*Page 21*

Add the following new subclause after 5.3.3.3:

### 5.3.3.4 Profile Indicator

The following rules apply for the use of tag '8F' in the file control parameters of any EF supporting records:

If a data object with tag '8F' is

a) present, then the value field contains a profile indicator according to Table Amd.1-1;

b) absent, then all records in the EF are implicitly in the unchangeable state ACTIVATED.

**Table Amd.1-1 — Coding of profile indicator**

| b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | Meaning |
|---|---|---|---|---|---|---|---|---|
| 0 | x | x | x | x | x | x | x | Coding of profile indicator defined by ISO/IEC JTC 1/SC 17 |
| 0 | – | – | – | – | – | – | x | Record life cycle state |
| 0 | – | – | – | – | – | – | 0 | All records in this file are in the unchangeable state ACTIVATED |
| 0 | – | – | – | – | – | – | 1 | Each record in this EF has its own record life cycle state, changeable by the commands ACTIVATE RECORD, DEACTIVATE RECORD and ACTIVATE FILE |
| 1 | x | x | x | x | x | x | x | Proprietary coding of profile indicator |
| — Any other value is reserved for future use by ISO/IEC JTC 1/SC 17. | | | | | | | | |

*Page 24, Table 17*

In the rightmost column, replace “ACTIVATE FILE” with “ACTIVATE FILE, ACTIVATE RECORD”.

In the rightmost column, replace “DEACTIVATE FILE” with “DEACTIVATE FILE, DEACTIVATE RECORD”.

*Page 42, 7.3.2*

In the last line of the first paragraph, replace “search or erase” with “search, erase, activate or deactivate”.

*Page 42, 7.3.2*

Insert the following new paragraph after the first paragraph:

The records in an EF may support record life cycle states. If so, in general deactivated records are not accessible by the commands READ RECORD, WRITE RECORD, UPDATE RECORD, ERASE RECORD and APPEND RECORD. If such a command is used, the respective command returns with the status bytes '6287' (at least one of the referenced records is deactivated). Furthermore, deactivated records shall be ignored, when executing a SEARCH RECORD command. Further details and exceptions to the general rules stated above are given in the following subsections.


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*Page 43, 7.3.3*

Insert the following new paragraph after the first paragraph:

If any record referenced by P1 and P2 is in record life cycle state DEACTIVATED, the command terminates with the status bytes '6287' and the response data field shall be empty.

*Page 44, 7.3.4*

Insert the following new paragraph after the fourth paragraph:

If the record referenced by P1 and P2 is in the record life cycle state DEACTIVATED, the command terminates with the status bytes '6287' without changing the record content.

*Page 45, 7.3.5*

Insert the following new list item after the third list item:

— If the record referenced by P1 and P2 is in the record life cycle state DEACTIVATED, the command terminates with the status bytes '6287' without changing the record content.

*Page 45, 7.3.6*

Add the following sentence to the end of paragraph three:

If the record with the highest record number is in the record life cycle state DEACTIVATED the command terminates with the status bytes '6287' without changing any record content or record number.

*Page 45, 7.3.6*

Add the following new paragraph after paragraph three:

If the records in the EF have record life cycle states, the life cycle state of the appended record shall be set to ACTIVATED unless otherwise specified.

*Page 46, 7.3.7*

Add the following new paragraph after paragraph two:

Records with a record life cycle state set to DEACTIVATED shall be ignored during the search.

*Page 46, 7.3.8*

Add the following new paragraph after the first paragraph:

If any record referenced by P1 and P2 is in record life cycle state DEACTIVATED, the command terminates with the status bytes '6287' without changing any record content.

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*Page 47*

Add the following new clauses after 7.3.8:

### 7.3.9 ACTIVATE RECORD command

The ACTIVATE RECORD command sets the record referenced by P1 and P2 to the record life cycle state ACTIVATED. The command shall not affect the record pointer.

If the EF referenced by P2 does not support record life cycle states, the command shall be aborted with the status bytes '6981'.

If the addressed record is already activated, the command shall return the status bytes '9000'.

**Table Amd.1-2 — ACTIVATE RECORD command-response pair**

| | |
|---|---|
| CLA<br>INS<br>P1<br>P2 | As defined in 5.1.1<br>'08'<br>Record number<br>See Table Amd.1-3 |
| Lc field | Absent |
| Data field | Absent |
| Le field | Absent |

| | |
|---|---|
| Data field | Absent |
| SW1-SW2 | See Tables 5 and 6 when relevant, e.g. '6981', '6982', '6986', '6A82', '6A83' |

**Table Amd.1-3 — P2**

| b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | Meaning |
|---|---|---|---|---|---|---|---|---|
| x | x | x | x | x | – | – | – | Short EF identifier according to Table 47 |
| – | – | – | – | – | 1 | x | x | **Record number in P1** |
| – | – | – | – | – | 1 | 0 | 0 | – Activate Record P1 |
| — Any other value is reserved for future use by ISO/IEC JTC 1/SC 17. | | | | | | | | |

### 7.3.10 DEACTIVATE RECORD command

The DEACTIVATE RECORD command sets the record referenced by P1 and P2 to the record life cycle state DEACTIVATED. The command shall not affect the record pointer.

If the EF referenced by P2 does not support record life cycle states, the command shall be aborted with the status bytes '6981'.

If the addressed record is already deactivated, the command shall return the status bytes '9000'.

For the activation of all records in the record life cycle state DEACTIVATED, the ACTIVATE FILE command may be used. Independent from the modification of an optionally present file life cycle state (see ISO/IEC 7816-9) all records will be activated. For activating individual records the ACTIVATE RECORD command shall be used.


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**Table Amd.1-4 — DEACTIVATE RECORD command-response pair**

| | |
|---|---|
| CLA<br>INS<br>P1<br>P2 | As defined in 5.1.1<br>'06'<br>Record number<br>See Table Amd.1-5 |
| Lc field | Absent |
| Data field | Absent |
| Le field | Absent |

| | |
|---|---|
| Data field | Absent |
| SW1-SW2 | See Tables 5 and 6 when relevant, e.g. '6981', '6986', '6A82', '6A83' |

**Table Amd.1-5 — P2**

| b8 | b7 | b6 | b5 | b4 | b3 | b2 | b1 | Meaning |
|---|---|---|---|---|---|---|---|---|
| x | x | x | x | x | – | – | – | Short EF identifier according to Table 47 |
| – | – | – | – | – | 1 | x | x | **Record number in P1** |
| – | – | – | – | – | 1 | 0 | 0 | – Deactivate Record P1 |
| — Any other value is reserved for future use by ISO/IEC JTC 1/SC 17. | | | | | | | | |

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