

INTERNATIONAL  
STANDARD

**ISO/IEC**  
**7813**

Fourth edition  
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**Identification cards — Financial transaction  
cards**

*Cartes d'identification — Cartes de transactions financières*

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Reference number  
ISO/IEC 7813:1995(E)

## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft international Standards adopted by the joint technical committee are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 7813 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Identification cards and related devices*.

This fourth edition cancels and replaces the third edition (ISO/IEC 7813:1990), of which it constitutes a technical revision.

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## Introduction

This International Standard is one of a series of standards describing the parameters for identification cards and the use of such cards for international interchange.

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# Identification cards — Financial transaction cards

## 1 Scope

This International Standard specifies the requirements for cards used in financial transactions. It takes into consideration both human and machine aspects and states minimum requirements of conformity. It contains layout, recording techniques, numbering systems, registration procedures, but not security requirements.

ISO/IEC 10373 specifies the test procedures used to check cards against the parameters specified in this International Standard.

This International Standard specifies the requirements for cards used for identification. It takes into consideration both human and machine aspects and states minimum requirements.

NOTE — Numeric values in the SI and/or Imperial measurement system in this International Standard may have been rounded off and therefore are consistent with, but not exactly equal to, each other. Either system may be used, but the two should not be intermixed or reconverted. The original design was made using the Imperial measurement system.

## 2 Conformance

An identification card is in conformance with this International Standard if it meets all mandatory requirements specified herein.

A prerequisite for conformance with this International Standard is conformance with ISO/IEC 7810, ISO/IEC 7811-1, ISO/IEC 7811-2, ISO/IEC 7811-3, ISO/IEC 7811-4, ISO/IEC 7811-5, ISO/IEC 7816-1,

ISO/IEC 7816-2, and ISO/IEC 7816-3 as specified in clauses 5 to 9.

## 3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 3166:1993, *Codes for the representation of names of countries.*

ISO/IEC 4217:1990, *Codes for the representation of currencies and funds.*

ISO/IEC 4909:1987, *Bank cards — Magnetic stripe data content for track 3.*

ISO/IEC 7810:1995, *Identification cards — Physical characteristics.*

ISO/IEC 7811-1:1995, *Identification cards — Recording technique — Part 1: Embossing.*

ISO/IEC 7811-2:1995, *Identification cards — Recording technique — Part 2: Magnetic stripe.*

ISO/IEC 7811-3:1995, *Identification cards — Recording technique — Part 3: Location of embossed characters on ID-1 cards.*

ISO/IEC 7811-4:1995, *Identification cards — Recording technique — Part 4: Location of read-only magnetic tracks — Tracks 1 and 2.*

ISO/IEC 7811-5:1995, *Identification cards — Recording technique — Part 5: Location of read-write magnetic track — Track 3.*

ISO/IEC 7812-1:1993, *Identification cards — Identification of issuers — Part 1: Numbering system.*

ISO/IEC 7816-1:1987, *Identification cards — Integrated circuit(s) cards with contacts — Part 1: Physical characteristics.*

ISO/IEC 7816-2:1988, *Identification cards — Integrated circuit(s) cards with contacts — Part 2: Dimension and location of the contacts.*

ISO/IEC 7816-3:1989, *Identification cards — Integrated circuit(s) cards with contacts — Part 3: Electronic signals and transmission protocols.*

ISO 9992-1:1990, *Financial transaction cards — Messages between the integrated circuit card and the card accepting device — Part 1: Concepts and structures.*

ISO/IEC 10373:1993, *Identification cards — Test methods.*

## 4 Definitions

For the purposes of this International Standard the following definition applies.

**4.1 financial transaction card:** Card used to identify the card issuer and card holder to aid financial transactions and to provide input data for such transactions.

## 5 Card characteristics

**5.1** The physical characteristics shall conform to ISO/IEC 7810 and ISO/IEC 7816-1.

**5.2** Flammability: Financial transaction cards shall be self-extinguishable within 5 seconds and shall not burn more than 25 mm (0,98 in) after removal from flame.

**5.3** Dimensions: The dimensions shall conform to those specified for card type ID-1 in ISO/IEC 7810.

## 6 Embossing, magnetic stripe and contact areas

The following areas are defined for various media to be selected for the application concerned. One or more areas may be used but must not be relocated.

### 6.1 Embossing area

The embossing area shall be located on the front of the card as specified in ISO/IEC 7811-3.

### 6.2 Magnetic stripe area

The magnetic stripe area shall be located on the back of the card as specified in ISO/IEC 7811-2, ISO/IEC 7811-4 and ISO/IEC 7811-5.

### 6.3 IC contact area

The contacts shall be located as specified in ISO/IEC 7816-2.

## 7 Embossing

Embossing shall be as specified in ISO/IEC 7811-1 and ISO/IEC 7811-3.

## 8 Magnetic stripe

The magnetic stripe shall conform to ISO/IEC 7811-2, ISO/IEC 7811-4 and ISO/IEC 7811-5.

## 9 IC card

The IC card shall conform to ISO/IEC 7810, ISO/IEC 7816-1, ISO/IEC 7816-2, and ISO/IEC 7816-3.

## 10 Magnetic stripe information content, formats

Track 1 and/or track 2 may be used with the following structures.

### 10.1 Track 1 structure

#### 10.1.1 Structure A

Reserved for proprietary use of card issuer.

**10.1.2 Structure B**

|     |   |                              |
|-----|---|------------------------------|
| STX | Start sentinel                          | position 0/5                 |
| FC  | Format code                             | B (position 2/2)             |
| PAN | Identification number                   | up to 19 digits              |
| FS  | Separator                               | position 3/14                |
| CC  | Country code<br>(see 10.1.2.2)          | 3 digits                     |
| NM  | Name (see 10.1.2.3)                     | 2 to 26 characters           |
|     | surname                                 |                              |
|     | surname separator                       | /(0/15)                      |
|     | first name or initial                   |                              |
|     | space (when required)<br>(see 10.1.2.4) | 0/0                          |
|     | middle name or initial                  |                              |
|     | period<br>(when followed by title)      | .(0/14)                      |
|     | title (when used)                       |                              |
| FS  | Separator                               | position 3/14                |
| ED  | Expiration date<br>(see 10.1.2.5)       | 4 digits or<br>position 3/14 |
| SC  | Service code<br>(see 10.1.2.6)          | 3 digits or<br>position 3/14 |
| DD  | Discretionary data                      | balance of<br>characters     |
| ETX | End sentinel                            | position 1/15                |
| LRC | Longitudinal redundancy<br>check        | 1 character                  |
|     | Maximum record length                   | <u>79 characters</u>         |

**10.1.2.1** Characters shall be as described in ISO/IEC 7811-2.

**10.1.2.2** When the primary account number commences with the major industry identifier "5" followed by the digit "9", the encoding of the numeric country code (as specified in ISO 3166) in this position is mandatory. In all other situations, the name shall immediately follow the separator which terminates the primary account number.

**10.1.2.3** Name: Minimum encoded data shall be a single alpha character (as surname) and the surname separator.

**10.1.2.4** Space: The space character is required to separate the logical elements of the name field other than the surname. The separator terminating the name field should be encoded following the last logical element of the name field. If only the surname is encoded, it will follow the surname separator.

**10.1.2.5** Expiration date: Format YYMM.

**10.1.2.6** Service code: A three-digit code assigned by the ISO technical body responsible for this International Standard; currently agreed assignments being as given in table 1.

Position 1 signifies a) the extent of interchange permitted (international, national or restricted), and b) whether additional read facilities, using an alternative technology other than magnetic stripe encoding, are available on the card.

Position 2 signifies the authorization processing indicator attached to this card by the card issuer and used by the issuer or its agent.

Position 3 signifies a) the range of services available to this card; and b) details of the PIN requirements imposed by the card issuer.

Positions 2 and 3 are associated with international interchange — i.e. those listed applying specifically to service codes between 100 through 299. The meaning attached to the values in Position 2 and 3 for all other service code values is outside the scope of this International Standard.

**10.2 Track 2 structure**

|     |                                  |                                |
|-----|----------------------------------|--------------------------------|
| STX | Start sentinel                   | BCD 11                         |
| PAN | Identification number            | up to 19 digits                |
| FS  | Separator                        | BCD 13                         |
| CC  | Country code<br>(see 10.2.2)     | 3 digits                       |
| ED  | Expiration date<br>(see 10.2.3)  | 4 digits or<br>BCD 13          |
| SC  | Service code<br>(see 10.2.4)     | 3 digits or<br>BCD 13          |
| DD  | Discretionary data               | balance of<br>available digits |
| ETX | End sentinel                     | BCD 15                         |
| LRC | Longitudinal redundancy<br>check | 1 digit                        |
|     | Maximum record length            | <u>40 digits</u>               |

**10.2.1** BCD (binary coded digits) are as described in ISO/IEC 7811-2.

**10.2.2** When the primary account number commences with the major industry identifier "5" followed by the digit "9", the encoding of the numeric country code (as specified in ISO 3166) in this position is mandatory. In all other situations, the expiry date field shall immediately follow the separator which terminates the primary account number.

**10.2.3** Expiration date: Format YYMM.

**10.2.4** Service code: The three-digit code specified in 10.1.2.6 shall be available for use in this structure.

**Table 1 - Service Code Assignments**

| Values  | Position 1                                 | Position 2   | Position 3                             |
|---|--|--|--|
| 0   |  | Normal limit indicator (4)                                       | No restrictions / PIN required         |
| 1   | International (1)                          | Low limit indicator  | No restrictions                        |
| 2   | International / alternative technology (1) | Positive authorization is mandatory                              | Goods and services only                |
| 3   |  | High limit indicator   | Cash only / PIN required               |
| 4   |  | Normally positive authorization but special back-up arrangements | Cash only                              |
| 5   | National (2)                               |  | Goods and services only / PIN required |
| 6   | National / alternative technology (2)      |  |  |
| 7   | Private (3)                                |  |  |
| 8   |  |  |  |
| 9   | Test                                       |  |  |
| <p>Notes relating to position 1</p> <p>(1) 1 and 2 = available for international interchange</p> <p>(2) 5 and 6 = available for interchange only in country of issue (although specific bilateral agreements between issuers may override this restriction)</p> <p>(3) 7 = not available for general interchange (although specific bilateral agreements between issuers may override this restriction)</p> <p>Note relating to position 2</p> <p>(4) 0 = shall be used where the issuer does not wish to assign a specific value to the authorization processing indicator</p> |  |  |  |

### 10.3 Track 3 structure

The structure and information content of track 3 is described in ISO 4909.

### 11 Numbering system

The numbering system for issuer identifiers is described in ISO/IEC 7812.

### 12 IC card structure and information content

#### 12.1 Interindustry IC card structure and information content

Structure and information content of IC card is defined in ISO/IEC 7816

#### 12.2 Financial IC card information content

Financial information content of IC card is defined in ISO 9992.

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