INTERNATIONAL STANDARD

ISO/IEC 4909

First edition
2006-07-01

Identification cards — Financial transaction cards — Magnetic stripe data content for track 3

Cartes d'identification — Cartes de transactions financières — Contenu des données de plage magnétique pour la piste 3

Reference number
ISO/IEC 4909:2006(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 4909 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

This first edition of ISO/IEC 4909 cancels and replaces the third edition of ISO 4909:2000, which has been technically revised.

Introduction

This International Standard recognizes the need for formats of track 3 which can be used independently of, or in conjunction with, track 2 as defined in ISO/IEC 7813. This approach is intended to permit the greatest degree of flexibility within the financial community in facilitating international interchange.

Using track 3 in conjunction with track 2 is a mode of operation in both on-line and off-line interchange environments. This mode of operation requires that the original encoded data on track 2 be read; the data on track 3 be read; and, if update is required, all the data on track 3 be rewritten.

Independent use of track 3 is an alternative mode of operation permitting both on-line interchange and off-line interchange based on mutual agreement between interested parties. It requires reading only of the data on track 3 and, if update is required, the rewriting of all the data on track 3.

Identification cards — Financial transaction cards — Magnetic stripe data content for track 3

1 Scope

This International Standard establishes specifications for financial transaction cards using track 3 and is intended to permit interchange based on the use of magnetic stripe encoded information. It specifies the data content and physical location of read/write information on track 3 and is to be used in conjunction with the relevant parts of ISO/IEC 7811 and ISO/IEC 7812.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4217, *Codes for the representation of currencies and funds*

ISO/IEC 7810, *Identification cards — Physical characteristics*

ISO/IEC 7811 (all parts), *Identification cards — Recording technique*

ISO/IEC 7812 (all parts), *Identification cards — Identification of issuers*

ISO 9564-2: *Banking — Personal Identification Number management and security — Part 2: Approved algorithms for PIN encipherment*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
card
financial transaction card generally used to identify parties to a financial transaction, and to provide input data for a transaction

3.2
check digit
check digit character as described in ISO/IEC 7812

3.3
cycle period
fixed or predetermined period of time qualifying the validity of certain transactions

3.4
issuer identification number
IIN
major industry identifier and issuer identifier as described in ISO/IEC 7812

3.5
individual account identification
individual account identification as described in ISO/IEC 7812

3.6
personal identification number
PIN
code or password that the cardholder possesses for verification of identity

3.7
primary account number
PAN
number containing a maximum of 19 digits which serves to identify the card issuer and the card holder, consisting of the IIN, the individual account identification provided by the issuer and a check digit derived by using the Luhn Formula (see ISO/IEC 7812)

3.8
SAN-1
first optional subsidiary account identification held in addition to PAN (see 8.21)

3.9
SAN-2
second optional subsidiary account identification held in addition to PAN and SAN-1 (see 8.23)

4 Physical characteristics of the card

The card shall conform in all respects to the specifications in ISO/IEC 7810.

5 Location and dimensions of embossed data

If present, all embossed data on the card shall conform to the specifications in ISO/IEC 7811-1.

6 Physical and performance characteristics of the magnetic material

6.1 Physical characteristics

The physical characteristics and location of the magnetic material shall conform in all respects to the requirements of ISO/IEC 7811-2 and ISO/IEC 7811-6.

6.2 Performance characteristics

The performance characteristics of the magnetic materials for the card shall conform in all respects to the specifications contained in ISO/IEC 7811-2 and ISO/IEC 7811-6.

7 Encoding specifications

Encoding specifications shall conform in all respects to the requirements of ISO/IEC 7811-2 and ISO/IEC 7811-6.

8 Data content of track 3

The sequence and length of data fields shall be as shown in Table 1 or 2 with details as follows. The coding character set shall be 5 bit numeric as defined in ISO/IEC 7811.

Table 1 — Track 3 information layout for format code 01

Field		M = Mandatory O = Optional	D = Dynamic S = Static (See NOTE 1)	F = Fixed V = Variable	Length
No.	**Content**				
1	Start sentinel	M	S	F	1
2	Format code	M	S	F	2
3	Primary account number: PAN	O	S	V	Max. 19
4	Field separator	M	S	F	1
5	Country code	M	S	F	1
6	Currency	M	S	F	3
7	Currency exponent	M	S	F	1
8	Amount authorized per cycle period	M	S	F	4
9	Amount remaining this cycle	M	D	F	4
10	Cycle begin	M	D	F	4
11	Cycle length	M	S	F	2
12	Retry count	M	D	F	1
13	PINPARM	M See NOTE 3	S	F	6
14	Interchange control	M	S	F	1
15	Type of account and service restriction (PAN)	M	S	F	2
16	TA and SR (SAN-1)	M	S	F	2
17	TA and SR (SAN-2)	M	S	F	2
18	Expiry date	M See NOTE 3	S	F	4
19	Card sequence number	M	S	F	1
20	Card security number	M See NOTE 3	D	F	9
21	SAN -1	O	S	V	See NOTE 2
22	Field separator	M	S	F	1
23	SAN-2	O	S	V	See NOTE 2
24	Field separator	M	S	F	1
25	Relay marker	M	S	F	1
26	CCD	M See NOTE 3	D	F	6
27	Additional data	O	D	V	See NOTE 2
28	End sentinel	M	S	F	1
29	LRC	M	D	F	1
				Maximum	107

NOTE 1 Dynamic fields shall be updated as appropriate by interchange partners. Static fields shall be updated by the card issuer only.

NOTE 2 The total number of characters in track 3 shall not exceed 107.

NOTE 3 If not used, replace by one field separator.

Table 2 — Track 3 information layout for format code 02

Field		M = Mandatory O = Optional	D = Dynamic S = Static (See NOTE 1)	F = Fixed V = Variable	Length
No.	Content				
1	Start sentinel	M	S	F	1
2	Format code	M	S	F	2
3	Primary account number: PAN	O	S	V	Max 19
4	Field separator	M	S	F	1
5	Country code	M	S	F	1
6	Currency	M	S	F	3
7	Currency exponent	M	S	F	1
8	Amount authorized per cycle period	M	S	F	4
9	Amount remaining this cycle	M	D	F	4
10	Cycle begin	M	D	F	4
11	Cycle length	M	S	F	2
12	Retry count	M	D	F	1
13	PINPARM	M See NOTE 3	S	F	6
14	Interchange control	M	S	F	1
15	Type of account and service restriction (PAN)	M	S	F	2
16	TA and SR (SAN-1)	M	S	F	2
17	TA and SR (SAN-2)	M	S	F	2
18	Expiry date	M See NOTE 3	S	F	4
19	Card sequence number	M	S	F	1
20	Card security number	M See NOTE 3	D	F	9
21	SAN -1	O	S	V	See NOTE 2
22	Field separator	M	S	F	1
23	SAN-2	O	S	V	See NOTE 2
24	Field separator	M	S	F	1
25	Relay marker	M	S	F	1
26	CCD	M	D	F	6
27	Additional data	See NOTE 3			
27.1	Transaction date	M See NOTE 3	D	F	4
27.2	Additional verification value	M See NOTE 3	S	F	8
27.3	Alternative card sequence number	O See NOTE 4	S	F	3
27.4	International network identification code	M See NOTE 3	S	F	3
27.5	Discretionary data	O	D	V	See NOTE 2
28	End sentinel	M	S	F	1
29	LRC	M	D	F	1
				Maximum	107

NOTE 1 Dynamic fields shall be updated as appropriate by interchange partners. Static fields shall be updated by the card issuer only.

NOTE 2 The total number of characters in track 3 shall not exceed 107.

NOTE 3 If not used, replace by one field separator.

NOTE 4 A field separator in field 19 indicates that this field is present.

8.1 Field 1: start sentinel

Purpose : To identify the start of data. The start sentinel is the first data character encoded on the track.

Format : One character.

Content : See ISO/IEC 7811-2 and ISO/IEC 7811-6.

8.2 Field 2: format code

Purpose : To identify the data format on track 3.

Format : Two digits.

Content : 00 - Invalid for international interchange.

01 - The layout shall conform to Table 1 of this International Standard.

02 - The layout shall conform to Table 2 of this International Standard.

03-89 – Reserved for future use by ISO.

90-99 - Available for use by individual card issuers but not for international interchange.

8.3 Field 3: primary account number (PAN)

Purpose : To identify the card issuer to which the transaction is to be routed and to identify the card holder.

Format : As defined in 3.7 of this International Standard, and in ISO/IEC 7812

Content : Issuer identification - 6 digits

Individual account identification – variable up to 12 digits.

Check digit - 1 digit

In dual track operation, where the PAN is encoded on track 2, the encoding of PAN on track 3 is optional.

8.4 Field 4: field separator (FS)

Purpose : To indicate the end of the PAN, whether PAN is encoded or not.

Format : One character.

Content : See ISO/IEC 7811-2 and ISO/IEC 7811-6.

8.5 Field 5: country code

Purpose : Deprecated. Previously used by ISO 4909:1987 for Country Code.

Format : One-character

Content : FS - See ISO/IEC 7811-2 and ISO/IEC 7811-6.

8.6 Field 6: currency

Purpose : To denote the type of currency to be employed when calculating for update.

Format : Three digits.

Content : Three zeros in the currency field indicate that the card is not available for international interchange. All other codes shall signify the numeric currency code contained in ISO 4217.