

---

---

**Bank cards — Magnetic stripe data content  
for track 3**

*Cartes bancaires — Zone magnétique — Contenu en données  
de la piste 3*

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO 4909:2000

<https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000>



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

ISO 4909:2000

<https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000>

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

# Contents

Page

Foreword.....	iv
Introduction .....	v
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	2
4 Physical characteristics of the card .....	2
5 Location and dimensions of embossed data.....	2
6 Physical and performance characteristics of the magnetic material.....	3
6.1 Physical characteristics.....	3
6.2 Performance characteristics .....	3
7 Encoding specifications .....	3
8 Data content of track 3 .....	3
8.1 Field 1: start sentinel.....	3
8.2 Field 2, format code.....	3
8.3 Field 3: primary account number (PAN).....	3
8.4 Field 4: field separator (FS) .....	4
8.5 Field 5: country code.....	4
8.6 Field 6: currency .....	4
8.7 Field 7: currency exponent.....	4
8.8 Field 8: amount authorized per cycle period .....	5
8.9 Field 9: amount remaining this cycle.....	5
8.10 Field 10: cycle begin.....	5
8.11 Field 11: cycle length .....	5
8.12 Field 12: retry count .....	6
8.13 Field 13: personal identification number control parameters (PINPARM) .....	6
8.14 Field 14: interchange control.....	7
8.15 Field 15: type of account (TA) and service restriction (SRI) – PAN.....	7
8.16 Field 16: type of account and service restrictions - SAN-1 .....	8
8.17 Field 17: type of account and services restrictions – SAN-2 .....	8
8.18 Field 18: expiry date .....	8
8.19 Field 19: card sequence number.....	9
8.20 Field 20: card security number.....	9
8.21 Field 21: first subsidiary account number (SAN-1).....	9
8.22 Field 22: field separator .....	9
8.23 Field 23: second subsidiary account number (SAN-2) .....	10
8.24 Field 24: field separator .....	10
8.25 Field 25: relay marker.....	10
8.26 Field 26: crypto check digits (CCD) .....	10
8.27 Field 27: additional data.....	10
8.28 Field 28: end sentinel .....	12
8.29 Field 29: longitudinal redundancy check (LRC) .....	12
Annex A (normative) Primary account number formats .....	15

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

International Standard ISO 4909 was prepared by Technical Committee ISO/TC 68, *Banking, securities and other financial services*, Subcommittee SC 6, *Retail financial services*.

This third edition cancels and replaces the second edition (ISO 4909:1987), of which it constitutes a minor revision.

Annex A forms a normative part of this International Standard.

[ISO 4909:2000](https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000)

<https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000>

## 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 7813. This approach is intended to permit the greatest degree of flexibility within the financial community in facilitating international interchange.

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

[ISO 4909:2000](https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000)

<https://standards.iteh.ai/catalog/standards/sist/0c0f385b-47ad-4fe2-b750-8f39ed049477/iso-4909-2000>



# Bank cards — Magnetic stripe data content for track 3

## 1 Scope

This International Standard establishes specifications for cards issued by or acceptable to the banking industry 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 those documents quoted in clause 2.

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.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*.

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

ISO 7810, *Identification cards — Physical characteristics*.

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

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

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

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

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

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

ISO 7813, *Identification cards — Financial transaction cards*.

### 3 Terms and definitions

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

#### 3.1

##### **bank card**

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

#### 3.2

##### **cycle period**

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

#### 3.3

##### **PAN**

##### **primary account number**

assigned number that identifies the card issuer and card holder and is composed of an issuer identification, individual account identification, and an accompanying check digit, as specified in ISO 7812, and supplemented by annex A of this International Standard

NOTE The PAN is equivalent to the identification number as defined in ISO 7812.

#### 3.3.1

##### **issuer identification**

major industry identifier and issuer identifier as described in ISO 7812 and annex A of this International Standard

#### 3.3.2

##### **individual account identification**

individual account identification as described in ISO 7812, and annex A of this International Standard

#### 3.3.3

##### **check digit**

check digit character as described in annex C to ISO 7812, and annex A of this International Standard

#### 3.4

##### **SAN-1**

first optional subsidiary account identification held in addition to PAN (see 8.21)

#### 3.5

##### **SAN-2**

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

#### 3.6

##### **PIN**

##### **personal identification number**

secret code used by a cardholder to authenticate card ownership

### 4 Physical characteristics of the card

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

### 5 Location and dimensions of embossed data

If present, all embossed data on the card shall conform to the specifications in ISO 7811-3.



## 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 7811-2.

### 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 7811-2.

## 7 Encoding specifications

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

## 8 Data content of track 3

The sequence and length of data fields shall be in accordance with Table 1 or 2 and with 8.1 to 8.29.

### 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:* Row 11 of 9.2.2 of ISO 7811-2.

### 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 allocation by ISO/TC 68.

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

Card issuers wishing to use codes in the range 03-89 shall apply, through their national standards organization, to ISO/TC 68.

### 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 3.3 of this International Standard, and as further described in the annex.

*Content:* Issuer identification — variable from 3 to 11 characters.

Individual account identification — up to 23 characters.

Check digit — 1 character.

## ISO 4909:2000(E)

In dual track operation, where the PAN is encoded on track 2, then the encoding of PAN on track 3 is optional. Where PAN is encoded on track 3, it is essential that all the components appear.

### 8.4 Field 4: field separator (FS)

*Purpose:* To indicate the end of the PAN (field 3), whether PAN is encoded or not.

*Format:* One character.

*Content:* Row 13 of 9.2.2 of ISO 7811-2.

### 8.5 Field 5: country code

*Purpose:* To identify the country to which transaction data generated by the card shall be routed.

*Format:* Three digits in the form CCC, where present, or a one-character FS.

*Content:* CCC - To conform with ISO 3166 for the designation of numeric country code.

FS - Row 13 of 9.2.2 of ISO 7811-2 indicates that no country code is present.

Cards encoded in accordance with this edition of ISO 4909 shall contain only an FS in field 5. Cards encoded in accordance with ISO 4909:1987 may contain CCC.

### 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.

### 8.7 Field 7: currency exponent

*Purpose:* To determine the base value of the amount authorized (8.8) and amount remaining (8.9) fields.

*Format:* One digit.

*Content:* A digit denoting the number of times the contents of the amount authorized (8.8) and the amount remaining (8.9) fields must be multiplied by 10 to express the value in the major currency unit of the currency specified in 8.6.

EXAMPLE If the currency exponent is 0, the value is equal to the content.

If the currency exponent is 1, the value is the content multiplied by 10.

If the currency exponent is 2, the value is the content multiplied by 100.

Thus 1 000 lira can be expressed as 1 000 with currency exponent = 0, as 100 with currency exponent = 1, and as 10 with currency exponent = 2.

**8.8 Field 8: amount authorized per cycle period**

*Purpose:* To denote the amount which is used to reset the amount remaining (8.9).

*Format:* Four digits.

*Content:* All zeros indicate that no debits are permitted.

**8.9 Field 9: amount remaining this cycle**

*Purpose:* To denote the remaining available balance of amount authorized for the current cycle period. It is expressed as the nearest unit of the currency in the amount authorized field (8.8).

*Format:* Four digits.

*Content:* On the first use after the commencement of each new cycle period, this field shall be reset to the value shown in the amount authorized field (8.8). Thereafter it shall contain the amount remaining this cycle.

**8.10 Field 10: cycle begin**

*Purpose:* To denote the date on which a new cycle period begins. This field may also be used to define the date on which the card becomes valid.

*Format:* Four digits in the form YDDD, where:

Y is the least significant digit of the year;

DDD is the sequential number of the day within the year in the range 001 to 366.

*Content:* The field shall be updated to the current date when the value of the cycle begin field plus the value of the cycle length field (8.11) is less than or equal to the current date, unless the cycle length field (8.11) is set in the range 80-99.

**8.11 Field 11: cycle length**

*Purpose:* To denote the period of time during which the accumulated sum of all debit transactions shall not exceed the amount authorized (8.8).

*Format:* Two digits.

*Content:* 00 - A card on which the amount remaining this cycle field shall be decremented but shall not be reset.

01-79 - The number of days in the cycle period.

80 - The cycle period shall be of 7 days duration, and the cycle begin field (8.10) shall be updated only by the addition of multiples of 7.

81 - The cycle period shall be of 14 days duration, and the cycle begin field (8.10) shall be updated only by the addition of multiples of 14.

82 - The cycle period shall begin only on the first or fifteenth day of a calendar month, whichever is appropriate.

83 - The cycle period shall begin on the same date of every calendar month commencing on the date represented by the cycle begin field (8.10) which was set at card issue.

84 - The cycle period shall begin on the same date of every third calendar month commencing on the date represented by the cycle begin field (8.10) which was set at card issue.