INTERNATIONAL STANDARD

ISO/IEC 7812-1

Third edition
2006-10-15

Identification cards — Identification of issuers —

Part 1: Numbering system

Cartes d'identification — Identification des émetteurs —

Partie 1: Système de numérotation

Reference number
ISO/IEC 7812-1:2006(E)

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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 7812-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

This third edition cancels and replaces the second edition (ISO/IEC 7812-1:2000), which has been technically revised. It also incorporates Technical Corrigendum ISO/IEC 7812-1:2000/Cor.1:2001.

ISO/IEC 7812 consists of the following parts, under the general title *Identification cards — Identification of issuers*:

— *Part 1: Numbering system*

— *Part 2: Application and registration procedures*

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Introduction

This part of ISO/IEC 7812 is one of a series of International Standards describing the parameters for card issuers and the use of such cards for international, interindustry and/or intra-industry interchange.

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Identification cards — Identification of issuers —

Part 1: Numbering system

1 Scope

This part of ISO/IEC 7812 specifies a numbering system for the identification of issuers of cards that require an issuer identification number (IIN) to operate in international, interindustry and/or intra-industry interchange.

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 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO/IEC 7812-2, *Identification cards — Identification of issuers — Part 2: Application and registration procedures*

ISO 8583-1, *Financial transaction card originated messages — Interchange message specifications — Part 1: Messages, data elements and code values*

ITU-T Rec. E.118, *The international telecommunication charge card*

3 Terms and definitions

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

3.1
card
form factor provided by an issuer, including but not limited to ID-1, virtual, thin flexible, single-use, integrated-circuit and mobile devices

3.2
card holder
customer associated with the primary account number

3.3
card issuer
institution (or its agent) that issues the card to the card holder

3.4
individual account identification
number assigned by the card issuer for the purpose of identifying an individual account

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3.5
interchange
exchange of transaction data between two or more entities

3.6
issuer identification number
IIN
number that identifies the major industry and the card issuer and that forms the first part of the primary account number

3.7
major industry identifier
MII
first digit of the issuer identification number that identifies the major industry of the card issuer

3.8
primary account number
PAN
number containing a maximum of 19 digits that identifies the card issuer and the card holder

NOTE See 4.1 and Figure 1.

3.9
Registration Authority
organization appointed by the ISO Council, responsible for assigning issuer identification numbers and maintaining the *ISO Register of Card Issuer Identification Numbers*

3.10
Registration Management Group
RMG
group established by ISO/IEC JTC 1/SC 17 to act on its behalf in managing the registration and assignment of issuer identification numbers under this part of ISO/IEC 7812

4 Numbering system

4.1 PAN format

The PAN on a card (see 3.8) is made up of three main components:

— a) the IIN (see 4.2);

— b) the individual account identification (see 4.3); and

— c) a check digit (see 4.4).

See Figure 1 for number format.

This part of ISO/IEC 7812 is concerned primarily with the first of these components, the IIN.

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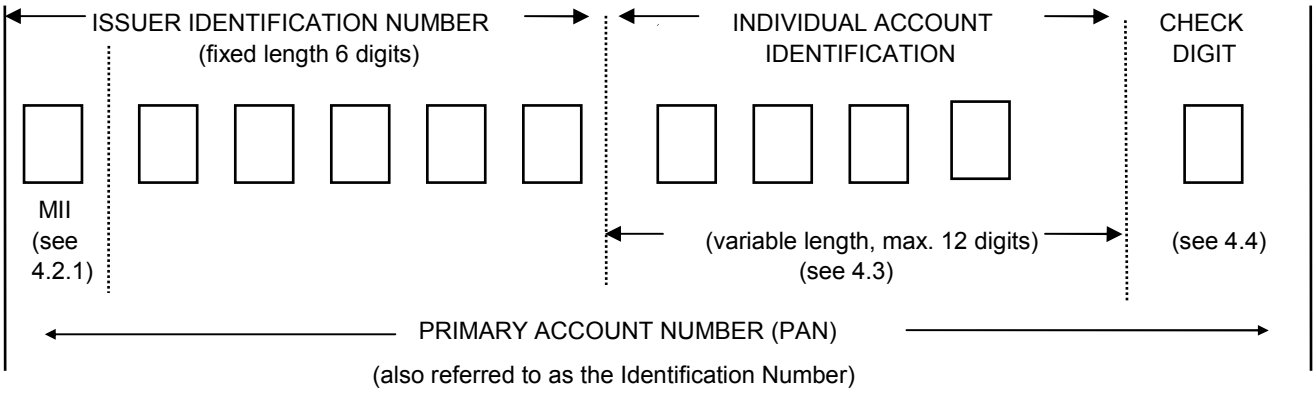


Figure 1 — Composition of the Primary Account Number

4.2 IIN

All issuer identification numbers (IINs) issued in accordance with this part of ISO/IEC 7812 shall be applied for and registered as specified in ISO/IEC 7812-2.

Applicants whose applications fulfil the criteria for approval specified in ISO/IEC 7812-2 will be assigned an IIN or, in the case of a block assignment, a block of IINs.

4.2.1 MII

There are ten single-digit MIIs:

0 for assignment by ISO/TC 68 and for other future industry assignments
1 airlines
2 airlines and other future industry assignments
3 travel and entertainment and banking/financial
4 banking/financial
5 banking/financial
6 merchandising and banking/financial
7 petroleum and other future industry assignments
8 healthcare, telecommunications and other future industry assignments
9 for assignment by national standards bodies

New industry assignments shall be approved by the RMG.

The MII does not in any way reflect or limit the application in which the card is usable. Single-digit MIIs are assigned using the applicant's description of their main area of business on the application form (see Annex A of ISO/IEC 7812-2:2000).

4.2.2 IINs beginning with "00"

Ten thousand IINs in the range "00" have been allocated to ISO/TC 68 for assignment to institutions other than card issuers in order to accommodate requirements in ISO 8583-1. Applicants applying for IINs commencing with "00" shall refer to ISO 8583-1, where application procedures and an application form are provided.

4.2.3 IINs beginning with "80"

IINs beginning with "80" are for use by healthcare institutions. These IINs are managed by individual national registration authorities. Each national registration authority shall register with the ISO/IEC 7812 Registration Authority so that they can be identified in the *ISO Register of Card Issuer Identification Numbers*. The format of the entry for the national registration authorities shall be "80[CCC]", where "80" denotes healthcare and

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"CCC" is the three-digit country code in accordance with ISO 3166-1. The formatting and coding of the digits following "80[CCC]" is at the discretion of the regional healthcare authorities. Enquiries for details of national healthcare registration authorities may be made to the ISO/IEC 7812 Registration Authority.

4.2.4 IINs beginning with "89"

IINs beginning with "89" are for use by telecommunications administrations and recognized private operating agencies in accordance with ITU-T Rec. E.118. These IINs are maintained by the International Telecommunication Union, and applicants applying for IINs for use on telecommunications cards shall apply for an IIN commencing with "89". Enquiries for IINs starting with "89" shall be made to:

International Telecommunication Union,
Place des Nations,
1211 Geneva 20,
Switzerland,
Telephone: +41 227 305 211,
Fax: + 41 227 337 256.

4.2.5 Major industry identifier 9 (MII 9)

MII 9 has been assigned to national standards bodies for national use; it shall be presented as the primary or first digit followed by the three-digit numeric country code as specified in ISO 3166-1.

NOTE In the interest of international conformity, national standards bodies are advised to assign IINs in accordance with the recommendations given in Annex A.

4.3 Individual account identification

The individual account identification (see Figure 1) shall be assigned by the card-issuing institution. It immediately follows the IIN and is variable in length with a maximum of 12 digits.

4.4 Check digit

The individual account identification (see 4.3) shall be followed by a check digit. This digit shall be calculated on all the preceding digits of the PAN (see Figure 1) and shall be computed according to the Luhn formula for modulus-10 check digit (see Annex B).

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Annex A
(informative)

National numbering systems for card issuers

A.1 Introduction

Major industry identifier 9, (MII 9) has been assigned for use by national standards bodies in order to establish national numbering systems for card issuers.

A.2 Role of the Registration Management Group (RMG)

The RMG (see 3.9) acting on behalf of the ISO technical body responsible for this part of ISO/IEC 7812-1 shall, on request, provide advice and counsel to any national standards body on the establishment and operation of a national numbering system.

A.3 Contact with the RMG

National standards bodies that intend to set up national numbering systems for identification of card issuers are asked to supply the RMG with details of the national procedures for the assignment of IINs, the method used to identify card issuers, and the name of the organization administering the system. The RMG believes that this information may be helpful to countries that are considering the establishment of a national numbering system.

A.4 Operation of national numbering systems

National standards bodies are advised to establish rules by means of national standards or other methods for identifying card issuers and individual card holders in a national numbering system (see 4.2.5). They are also advised to make arrangements for the administration of the system, for application and assignment of IINs and the maintenance of a register of assigned IINs (copies of national standards or other systems should be supplied to the secretariat of the RMG [see ISO/IEC 7812-2] at no cost). To this end, national standards bodies may wish to appoint an organization to act as their agent in the administration and maintenance of the system within their countries.

NOTE Where no national standards body exists, or if the national standards body is unable to establish a national numbering system, card issuers in that country may apply to the secretariat of ISO/IEC JTC 1/SC 17 for assistance.

A.5 National schemes using IINs greater than six digits

In order to allow for more than 100 card issuers to participate in national numbering schemes (i.e. 9CCC00 - 9CCC99, where “CCC” is the three digit numeric country code in accordance with ISO 3166-1), national standards bodies developing national numbering systems shall consider using an IIN greater than six digits. An IIN of eight digits, for example, would allow for 10 000 card issuers to participate in the national numbering scheme.

NOTE Card issuers should be advised that certain systems may only be capable of handling six digits.

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Annex B
(normative)

Luhn formula for computing modulus-10 “double-add-double” check digits

The check digit is calculated on all six digits of the IIN and all of the digits of the individual account identification (variable up to 12 digits).

The following steps are involved in this calculation:

— Step 1: Double the value of alternate digits beginning with the first right-hand digit (low order).

— Step 2: Add the individual digits comprising the products obtained in Step 1 to each of the unaffected digits in the original number.

— Step 3: Subtract the total obtained in Step 2 from the next higher number ending in 0 [this is the equivalent of calculating the “tens complement” of the low-order digit (unit digit) of the total]. If the total obtained in Step 2 is a number ending in zero (30, 40, etc.), the check digit is 0.

EXAMPLE

Issuer identification number and individual account identification without check digit: 612345 123456789

6	1	2	3	4	5	1	2	3	4	5	6	7	8	9		PAN
X2		X2		X2		X2		X2		X2		X2		X2		Step 1
1+2+	1+	4+	3+	8+	5+	2+	2+	6+	4+	1+0+	6+	1+4+	8+	1+8	= 67	Step 2
Next higher number ending in 0 = 70																Step 3
70 – 67 = 3																

Issuer Identification Number and Individual Account Identification with check digit: 612345 123456789 3

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Bibliography

[1] ISO/IEC 7810, *Identification cards — Physical characteristics*

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