International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

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SERIES E: OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

International operation – General provisions concerning Administrations

The international telecommunication charge card

ITU-T Recommendation E.118

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ITU-T Recommendation E.118

The international telecommunication charge card

Summary

Telecommunication charge cards may be issued by Operating Agencies (OAs) to allow customers to use their card in connection with various international services at appropriate charges for each transaction and have the charges billed to their account in the country where the OA issued the charge card. Cards issued by OAs in accordance with this Recommendation conform to the appropriate ISO standards.

This Recommendation has been revised to allow alternative, application-specific standards for IC cards where unique form factors require such alternatives.

Source

ITU-T Recommendation E.118 was approved on 11 May 2006 by ITU-T Study Group 2 (2005-2008) under the Resolution 1 approval process.

History

1.0	E.118	1988-11-25
2.0	E.118	1992-08-04
3.0	E.118	1996-07-19
4.0	E.118	2001-02-02
5.0	E.118	2006-05-11

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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The international telecommunication charge card

1 Scope

Telecommunication charge cards may be issued by Operating Agencies (OAs) to allow customers to use their card in connection with various international services at appropriate charges for each transaction and have the charges billed to their account in the country where the OA issued the charge card. Cards issued by OAs in accordance with this Recommendation conform to the appropriate ISO Standards.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[1] ISO/IEC 7812-1:2000, *Identification cards – Identification of issuers – Part 1: Numbering system*.

[2] ITU-T Recommendation E.164 (2005), *The international public telecommunication numbering plan*.

[3] ISO/IEC 7812-2:2000, *Identification cards – Identification of issuers – Part 2: Application and registration procedures*.

3 Abbreviations

This Recommendation uses the following abbreviations:

IC Integrated Circuit

IIN Issuer Identifier Number

MII Major Industry Identifier

4 Numbering system

4.1 Card numbering structure

The numbering of the card to be issued by OAs shall be as follows based on ISO/IEC 7812-1 [1] (Identification cards – Identification of issuers – Part 1: Numbering system) and ISO/IEC 7812-2 [3] (Identification cards – Identification of issuers – Part 2: Application and registration procedures).

The maximum length of the visible card number (primary account number) shall be 19 characters and is composed of the following subparts (see Figure 1):

– Major Industry Identifier (MII);

– country code;

– issuer identifier;

– individual account identification number;

– parity check digit computed according to the Luhn formula (see ISO/IEC 7812-1, Annex B [1]). In addition to the parity check digit, OAs may incorporate a validation check device in some location on the card which could be changed when new cards are issued.

NOTE – Major industry and issuer identifier numbers of the form 66xxxx have already been assigned to some Administrations as a transitional measure. Charge cards of this type are fully compatible with ISO Standards.

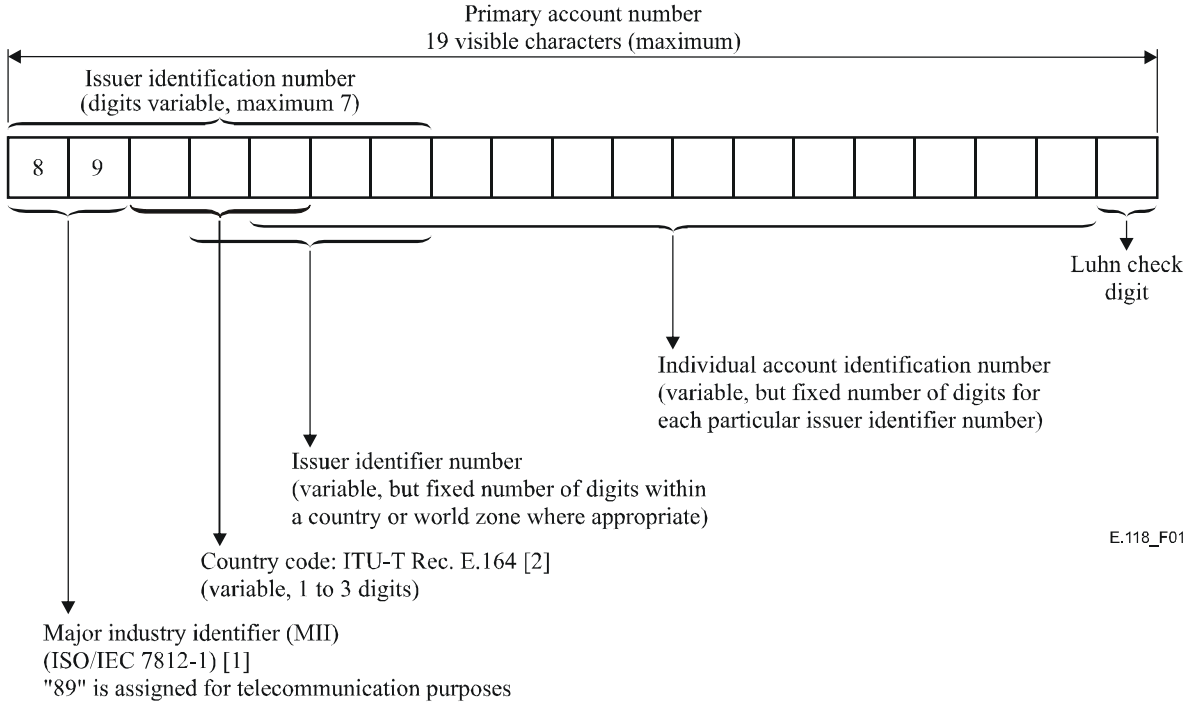

Figure 1/E.118 – Charge card numbering system

4.2 Issuer identifier number assignment and registration procedure

a) The assignment of specific issuer identifier numbers should be the responsibility of a country or group of countries as appropriate. These numbers should only be assigned to OAs with the agreement of their Administrations.

b) These issuer identifier numbers are normally used to distinguish among multiple OAs who issue cards within a country. However, these numbers may also be used to distinguish individual countries sharing the same country code (as defined in ITU-T Rec. E.164 [2]) or, if appropriate, to distinguish both countries and issuers.

c) The Director of TSB is responsible for the registration and/or cancellation of issuer identifier numbers (IINs) for OAs with the approval of their Administrations. An illustrative registration form is contained in Figure 2.

d) A one-time fee shall be collected in order for an IIN to be assigned and registered by TSB. Applications shall be accompanied by evidence of payment to ITU of the one-time fee.

e) In the event of technical or operational difficulties in allocating an IIN, the Director of TSB should consult the Chairman of Study Group 2.

f) The TSB shall maintain a list of the allocated IINs.

g) Additions, deletions and changes to this list should be published in the first available ITU Operational Bulletin.

h) The consolidated list of allocated IINs should be published periodically in the ITU Operational Bulletin.

Registration form for a single Issuer Identifier Number for the international telecommunication charge card

To be returned with registration fee to:

INTERNATIONAL TELECOMMUNICATION UNION
TELECOMMUNICATION STANDARDIZATION BUREAU
PLACE DES NATIONS, CH - 1211 GENEVE 20, SWITZERLAND
FAX: +41 22 730 5853

A. TO BE COMPLETED BY APPLICANT (Card Issuer)

Name or organization		
Address to be registered (maximum two lines, 30 characters per line)		
Principal contact in organization		
Telephone number +	E-mail	Fax number +
Address for correspondence		
Effective date of usage or cancellation		
Date	Signature	
In signing this form, the applicant accepts that further IINs will not be assigned to identify products, services, technologies or geographic locations.		

B. TO BE COMPLETED AND APPROVED BY THE TELECOMMUNICATIONS ADMINISTRATION[a)] OR DULY AUTHORIZED COORDINATING ORGANIZATION

a) Action requested (check appropriate box) Registration ☐ or Cancellation ☐

b) Major industry identifier (MII): 89

c) Country code (CC): _____ (according to the List, Complement to ITU-T Rec. E.164)

d) Issuer identifier number: _____ (according to ITU-T Rec. E.118)

Name of approving organization	
Date	Signature

C. TO BE COMPLETED BY ITU (CENTRAL REGISTRATION AUTHORITY)

Issuer Identification Number registered or cancelled 8 9 ☐ ☐ ☐ ☐ ☐ ☐	Date:

a) and/or Operating Agency (OA).

METHOD OF PAYMENT
(Please specify the form of payment used)

☐ Switzerland: to ITU's current postal account, Geneva 12-50-3;

☐ All other countries: – by international money order, or
– by bank transfer to UBS SA, ITU Geneva, Geneva (Switzerland)
ITU Account No. 240-C8765565.0

(Payment may also be effected by a cheque made out in another currency freely convertible into Swiss francs, provided that the cheque, when cashed and converted, will cover the amount of the registration fee in Swiss francs.)

☐ By credit card EUROCARD-MASTERCARD ☐ VISA ☐ AMERICAN EXPRESS ☐

Credit card number: _____ Valid date: _____

Holder's name: _____ Signature: _____

(This form must be signed if you pay by credit card.) **Please note**: Letters of credit are not accepted.

Figure 2/E.118 – Illustrative registration form

4.3 Information content

The information on an international telecommunication charge card shall clearly include:

1) the card number (on a combined national/international card, the national number, if different, should be appropriately designated);

and should optionally include:

2) the name of the issuing OA[1] and, where appropriate, the country of issue;

3) the card holder's name and signature;

4) the date of expiry, in the format of either "MM/YY" or "MM-YY";

5) instructions on how the card should be used. (Some OAs may prefer to issue instructions separately.)

In addition, the logo of the ITU may, at the card issuer's option, appear somewhere on the card to facilitate recognition of the card by card acceptors where presentation of the card is required as a part of the service (i.e., bureau services).

5 Printed cards

The charge card should be designed to be conveniently carried. Current ISO Standards define the dimensions of financial transaction cards to be 85.60 mm × 53.98 mm (3.370 × 2.125 inches) and the ITU-T considers that telephone charge cards issued by OAs should have similar dimensions.

6 Magnetic stripe cards

For maximum flexibility, convenience of use and economic benefits, the magnetic stripe cards to be issued by OAs should conform to the relevant ISO Standards concerning materials, recording techniques, physical dimensions and the type and format of embossed information.

These are:

ISO/IEC 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 – Low coercivity.

ISO/IEC 7811-6: Identification cards – Recording technique – Part 6: Magnetic stripe – High coercivity.

ISO/IEC 7813: Identification cards – Financial transaction cards.

6.1 Encoding requirements

Track 2 of the magnetic stripe on the telecommunication charge card shall be used as a primary means of communicating data encoded on the magnetic stripe. The Primary Account Number (PAN) is the only field that is required to be encoded. An example of the encoding of this minimum information is contained in Table 1.

[1] Although optional, card issuer OAs are encouraged to include their name, where possible, to avoid problems when the card is presented to an operator.

Table 1/E.118 – Minimum encoding requirements

STX	Start Sentinel	BCD 11
PAN	Primary Account Number	89...(e.g., 8912538360010000L)
FS	Field Separator	BCD 13
ED	Expiration Date	BCD 13
SC	Service Code	BCD 13
DD	Discretionary Data	null
ETX	End Sentinel	BCD 15
LRC	Longitudinal Redundancy Check	[1 digit]

Card issuers may, at their own discretion, encode data on track 2 of the telecommunication charge card in addition to the required information. This data is defined below. An example of the encoding of all such information (except discretionary data) is contained in Table 2.

Table 2/E.118 – Full encoding requirements

STX	Start Sentinel	BCD 11
PAN	Primary Account Number	89...(e.g., 9812538360010000L)
FS	Field Separator	BCD 13
ED	Expiration Date	YYMM (e.g., "9612" for December 1996)
SC	Service Code	XXX (e.g., "125" – International use, positive authorization is mandatory, telecommunications services only with a PIN being required)
DD	Discretionary Data	...
ETX	End Sentinel	BCD 15
LRC	Longitudinal Redundancy Check	[1 digit]

6.2 Expiration date

If the expiration date is embossed on the front of the telecommunication charge card, it should also be encoded on track 2 of the magnetic stripe. The format is defined by ISO/IEC 7813 as YYMM. The position of the expiration date is shown in Table 2 and is dependent on encoding requirements and service agreements. If the expiration date is not embossed on the front of the card and it is not encoded on the magnetic stripe, a field separator shall be encoded in its place (see Table 1).

6.3 Service code

OAs are encouraged to encode information within the service code field. If it is not encoded on the magnetic stripe, a field separator shall be encoded in its place (see Table 1). There are three positions to the service code field. The positions and the interpretation for each of the possible values are contained in Annex A.

6.4 Discretionary data

Any information contained in the discretionary data field is for further study.

7 Integrated Circuit (IC) cards

The standard for the IC card is to be established by ISO/IEC JTC 1/SC 17. In addition, specific applications (e.g., SIM cards in GSM applications and USIM cards in UMTS/IMT-2000 applications) may make use of alternative standards to address unique form factors of their application.

Annex A

Service code assignments

Tables A.1 to A.3 describe the various values that may be used in each of the three positions of the service code field. For each value, the second column of each table describes how the value is interpreted specifically for cards defined by this Recommendation.

The first digit of the service code describes the type of interchange permissible for the card. The second digit describes the level of authorization processing required to validate the card. For this Recommendation, this value is only interpreted for card systems using fully automated validation (see ITU-T Rec. E.113). The third digit describes the types of services allowable by the card holder.

Table A.1/E.118 – Permissible interchange values – Position 1

Values	Telecommunication usage
0	Not used
1	International use is permitted
2	International use is permitted for integrated circuit cards
3	Not used
4	Not used
5	Restricted to use on national networks only
6	Restricted to use on national networks only, for integrated circuit cards
7	Restricted for use only on the card issuer's network
8	Not used
9	Usable for test purposes only

Table A.2/E.118 – Level of authorization – Position 2

Values	Telecommunication usage
0	No specific authorization defined
1	Not used
2	Positive authorization is required when used in a full validation environment
3	Not used
4	Positive authorization is required when used in a full validation environment but special backup arrangements are defined in the service agreement
5	Not used
6	Not used
7	Not used
8	Not used
9	Not used

Table A.3/E.118 – Service availability – Position 3

Values	Telecommunication usage
0	Card not restricted to telecommunication services; PIN required
1	Card not restricted to telecommunication services
2	Can be used to charge telecommunication services only
3	Not used within the scope of ITU-T Rec. E.116
4	Not used within the scope of ITU-T Rec. E.116
5	Can be used to charge telecommunication services only; PIN required
6	Not used
7	Not used
8	Not used
9	Not used

Appendix I

Implementation guidelines for the assignment of issuer identifier numbers

Card issuers will be assigned a single Issuer Identifier Number (IIN) from the ITU's block of "89" IINs. To assist card issuers in effectively planning card services and the TSB in processing applications, the following information may be helpful:

a) Separate Issuer Identifier Numbers should not be used to differentiate between different products or services for which the card may be used.

b) Separate Issuer Identifier Numbers should not be used to differentiate between technologies implemented in the card (e.g., magnetic stripe versus integrated circuit cards) or for products and services based on or implemented using different technologies (e.g., IP-based voice services versus circuit switched voice services).

c) Separate Issuer Identifier Numbers should not be used to differentiate between different branches or subsidiaries of the same corporation. However, situations where card issuers operating in different countries or regulatory environments where different accounting or settlement rates exist, the assignment of additional IINs to a specific card issuer may be justified.

If card issuers need to make such differentiation, different values within the leading digits of the Individual Account Identification should be used.

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