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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Identification cards — Card originated messages — Content for financial transactions

Cartes d'identification — Messages initiés par carte — Contenu pour les transactions financières

To be withdrawn

Reference number
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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7580 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Identification cards — Card originated messages — Content for financial transactions

1 Scope and field of application

This International Standard specifies the contents of messages interchanged between parties in those financial transactions that are originated by identification cards. It contains a data element directory, minimum content specifications of messages and maintenance procedures.

Structuring of data into messages, method of transmission, character set and security aspects are not specified in this International Standard.

2 References

ISO 3166, *Codes for the representation of names of countries.*

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

ISO 4909, *Bank cards — Magnetic stripe data content for track 3.*

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

3 Definitions

For the purpose of this International Standard the following definitions apply.

3.1 account : Data pertaining to a card holder.

3.2 acquirer : Institution (or its agent) that acquires from the card acceptor the financial data relating to the transaction.

3.3 card acceptor : Party accepting the card as identification in relation to the transaction.

3.4 card holder : Customer associated with the account number or with a card number associated with the account number.

3.5 card issuer : Institution that issues the identification card to the card holder.

3.6 conditional data element : A data element that on certain given conditions needs to be included in the message concerned.

3.7 data element : A fact or occurrence for which the definition, representation, identification and meaning has been agreed for the interchange of data.

NOTE — It consists of a generic part representing a defined concept and a contents part, the data item.

Example : Colour of eyes (concept), brown (content).

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3.8 file : A set of related records treated as a unit (for example an issuer's cardholder file).

3.9 mandatory data element : A data element that needs to be included in the message concerned.

3.10 point of service (POS) : Physical location where a transaction is originated.

3.11 settlement institution : Institution accepting responsibility for settling the account with the acquirer.

3.12 source institution : Institution originating the message.

4 Message types and content

The data elements for each of the following message types are listed in table 1 (see clause 6 for the data element directory).

Annex B contains, for information, the correspondence between the message types described in this International Standard and those developed by committees within the American National Standards Institute.

4.1 Authorization advice

This message is used to report, on an "after the fact" basis, that an authorization has occurred against a cardholder account.

4.2 Authorization request

This message, originated by the acquirer and routed to the issuer or his agent, seeks or requests an approval, authorization or guarantee by the issuer for a transaction. It is not intended to convey sufficient data to permit the application of this transaction to the customer's account for the purpose of issuing a bill or statement.

4.3 Authorization utility

This utility message is used for multiple purposes in maintaining the integrity of authorization files.

4.4 Control response

This message, originated by issuers, acquirers, or intermediate network facilities, is generated in response to a financial control message and denotes the disposition of the financial control message.

4.5 File update

This message, originated by the issuer and routed to the acquirer, contains instructions to replace, delete, or add a file or record of cardholder data.

4.6 Financial control

This message contains totals of all messages which affect the settlement or reconciliation between any two points.

4.7 Request response

This message, originated by the issuer or his agent and routed to the acquirer, is generated in response to an authorization transaction request and denotes the disposition of a request.

4.8 Reversal advice

This message is used to reverse or cancel a specific transaction.

4.9 Reversal response

This message, originated by the receiver of a reversal advice, is a response to the reversal advice.

4.10 Transaction advice

This message, originated by the acquirer and routed to the issuer, advises the issuer of a completed transaction, to be applied to the cardholder's account.

4.11 Transaction request

This message, originated by the acquirer and routed to the issuer, requests an approval by the issuer for a transaction which, if approved, is applied to the cardholder's account for billing or statement purposes.

4.12 Verification accepted

This message is generated by the authorization system to the issuer or his agent to acknowledge acceptance and processing of a file update message.

4.13 Verification not accepted

This message is generated by the authorization system to the issuer or his agent to advise the sender that the file update message was not accepted.

5 Message summary

In table 1

— the first column contains the representation and length of the data items, as specified in the legend to table 2;

— the second column contains the name of each data element;

— the remaining columns indicate the mandatory (M) or conditional (C) data elements required in each type of message.

Conditional elements shall be used as stated in the legend to table 1.

Table 1 — Message summary

Representation		Data element name	Authorization advice 1	Authorization request 2	Authorization utility 3	Control response 4
n	..19	ACCOUNT NUMBER	M	M	—	—
n	2	ACCOUNT NUMBER, LENGTH	C3	C3	—	—
n	..31	ACCOUNT NUMBER, EXTENDED	C3	C3	—	—
n	..11	ACQUIRING INSTITUTION ID CODE	—	—	—	C15
ans	..132	ADDITIONAL DATA	—	—	—	—
n	3	ADDITIONAL DATA, LENGTH	—	—	—	—
ans	..14	ADDITIONAL RESPONSE DATA	—	—	—	—
an	..12	AMOUNT, NET SETTLEMENT	—	—	—	C10
n	8	AMOUNT, SETTLEMENT	—	—	—	—
n	8	AMOUNT, TRANSACTION	M	M	—	—
an	..6	AUTHORIZATION IDENTIFICATION	—	—	—	—
n	1	AUTH. IDENTIF. RESPONSE LENGTH	—	C9	—	—
ans	..15	CARD ACCEPTOR ID CODE	M	M	—	C15
ans	..40	CARD ACCEPTOR NAME AND LOCATION	—	—	—	—
a	2	CARD ISSUER CODE DIR. REF.	C2	—	—	—
n	..11	CARD ISSUER IDENTIFICATION CODE	—	—	—	C15
n	1	CARD SEQUENCE No.	C13	C13	—	—
n	8	CONVERSION RATE	C17	C17	—	C17
n	..12	CREDITS, GROSS AMOUNT	—	—	—	C10
n	..10	CREDITS, GROSS NUMBER	—	—	—	C10
n	..12	CREDITS, REVERSAL, GROSS AMOUNT	—	—	—	C10
n	..10	CREDITS, REVERSAL, GROSS NUMBER	—	—	—	C10
a or n	3	CURRENCY CODE, SETTLEMENT	—	—	—	C5
an	3	CURRENCY CODE, TRANSACTION	C5	C5	—	—
n	4	DATE, CAPTURE	—	—	—	C17
n	4	DATE, CONVERSION	C17	C17	—	C17
n	4	DATE, EXPIRATION	—	C11	—	—
n	4	DATE, LOCAL TRANSACTION	M	—	—	—
n	4	DATE, TRANSMISSION	C6	C6	—	C6
n	..12	DEBITS, GROSS AMOUNT	—	—	—	C10
n	..10	DEBITS, GROSS NUMBER	—	—	—	C10
n	..12	DEBITS, REVERSAL, GROSS AMOUNT	—	—	—	C10
n	..10	DEBITS, REVERSAL, GROSS NUMBER	—	—	—	C10
n	2	EXTENDED PAYMENT CODE	—	—	—	—
ans	..17	FILE NAME	—	—	—	—
n	1	FILE UPDATE CODE	—	—	—	—
ans	..107	MAG MATERIAL ENCODED DATA	—	C7	—	—
n	3	MAG MATERIAL ENCODED DATA, LENGTH	—	C17	—	—
n	4	MERCHANT'S TYPE	—	C10	—	—
n	..4	MESSAGE NUMBER	—	—	C16	—
n	..4	MESSAGE NUMBER, LAST	—	—	C16	—
n	..16	MESSAGE SECURITY KEY	C10	C10	—	C10
an	2	MESSAGE SECURITY CODE	—	—	—	—
an	..4	MESSAGE TYPE IDENTIFIER	M	M	M	M
n	..16	PIN	—	C8	—	—
n	2	POINT OF SERVICE CONDITION CODE	—	C11	—	—
n	..11	REQUESTING ORGANIZATION ID	—	—	—	—
an	2	RESPONSE CODE	—	—	M	M
an	..5	RESPONSE INDICATOR	—	—	—	—
an	..12	RETRIEVAL REF. No. (INVOICE No.)	—	—	—	M
n	..42	REVERSAL MESSAGE ORIG. DATA ELEM.	—	—	M	—
an	..7	SERVICE INDICATOR	—	—	M	—
an	..3	SERVICE RESTRICTION CODE	C17	C17	—	—
n	1	SETTLEMENT CODE	—	—	—	M
n	..11	SETTLEMENT INSTITUTION ID CODE	—	—	—	C15
n	6	SYSTEM TRACE AUDIT NUMBER	C6	C6	—	C6
n	6	TRANSMISSION TIME	C6	C6	—	C6
ans	..100	TRANSACTION DESCRIPTION	—	C11	—	—

Table 1 — Message summary (concluded)

File update 5	Financial control 6	Request response 7	Reversal advice 8	Reversal response 9	Transaction advice 10	Transaction request 11	Verification accepted 12	Verification not accepted 13
C1	—	M	—	M	M	M	—	—
C3	—	C3	—	C3	C3	C3	—	—
C3	—	C3	—	C3	C3	C3	—	—
—	C15	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—	—
C4	—	—	—	—	—	—	—	—
—	—	C17	—	—	—	—	—	—
—	C10	—	—	—	C5	C5	—	—
—	—	M	—	—	M	M	—	—
—	—	C12	—	—	M	—	—	—
—	C15	—	—	—	—	C9	—	—
—	—	—	—	—	M	M	—	—
C2	—	—	—	—	C4	C4	—	—
—	C15	—	—	M	—	—	—	—
—	—	C13	—	—	C13	C13	—	—
—	C17	C17	—	—	C17	C17	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	C5	—	—	—	—	—	—	—
—	—	C5	—	—	C5	C5	—	—
—	C17	—	—	—	C17	C17	—	—
—	C17	C17	—	—	C17	C17	—	—
—	—	—	—	—	C11	C11	—	—
—	—	—	—	—	M	M	—	—
—	C6	C6	—	C6	C6	C6	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	C10	—	—	—	—	—	—	—
—	—	—	—	—	C11	C11	—	—
C4	—	—	—	—	—	—	—	—
M	—	—	—	—	—	—	—	—
—	—	—	—	—	C7	C7	—	—
—	—	—	—	—	C17	C17	—	—
—	—	—	—	—	C10	C10	—	—
C17	C17	—	—	—	C17	C17	—	—
—	M	—	—	—	—	—	—	—
M	C10	C10	C10	C10	C10	C10	—	—
M	—	—	—	—	—	—	—	—
M	M	M	M	M	M	M	M	M
—	—	—	—	—	C8	C8	—	—
—	—	—	—	—	C11	C11	—	—
—	C14	—	M	—	—	—	—	—
C1	—	M	M	M	—	—	M	—
—	M	—	—	—	M	—	—	M
—	—	—	M	—	—	—	M	M
—	—	C17	—	C17	C17	C17	—	—
—	C15	—	—	—	—	—	—	—
—	C6	C6	—	C6	C6	C6	—	—
—	C6	C6	—	C6	C6	C6	—	—
—	—	—	—	—	C11	C11	—	—

Legend for conditional (C) data elements in the message columns in the message structure

These C elements become mandatory under the following conditions :

C1   Required for authorization system file updates.

C2   Required if account number does not conform to ISO 7811.

C3   Required if account number begins with 59.

C4   When required by the receiving system.

C5   Required when transaction and settlement amounts are in different currencies.

C6   Shall be present in either the text or the envelope. If in the envelope, shall be made available to receiver(s) of the message.

C7   If track is read, shall be present in the message. It is the responsibility of the receiver(s) of the message to identify which track is present.

C8   Required when PIN is entered.

C9   Required when the message originator cannot accept the full response of six positions.

C10   Codes to be defined by bilateral agreement.

C11   If entered at point of service, shall be present in the message.

C12   Shall be present if transaction is approved.

C13   Shall be present if track 3 is read.

C14   Required if initiated by any organization other than card acceptor.

C15   Two of the following four data elements shall be present :

          a)   card acceptor identification code;

          b)   settlement institution code;

          c)   card issuer code;

          d)   acquiring institution code.

C16   Dependent on type of service requested.

C17   Use is subject to bilateral arrangement.

6 Data element table

The data elements listed in table 2 shall be used in accordance with the specifications contained in table 1.

In table 2

   — the first column contains the names of the data elements;

   — the second column contains the concepts of the data elements;

   — the third column contains specifications for the representation of the data items, partly by reference to clauses in annex A.

Table 2 — Data element directory

Name 1	Description 2	Representation 3
Account number	A series of digits used to identify a customer account or relationship	n ..19 Assigned in accordance with ISO 7811 and ISO 4909. For account numbers not yet in accordance with these International Standards use alphabetic card issuer codes
Account number, length	An indication of the length in character positions of the account number	n 2
Account number, extended	Limited to account numbers beginning with 59. Shall contain country code as last 3 digits	ns ..31 See ISO 7811, ISO 3166 and ISO 4909
Acquiring institution identification code	Code identifying the acquiring institution (i.e. merchant bank) or its agent	n ..11 See ISO 7811 and ISO 4909
Additional data	Data supplemental to that already conveyed in the specific data fields in the message	ans ..132 See additional data length
Additional data, length	An indication of the length in characters of the additional data to follow	n 3
Additional reponse data	Other data (for example a telephone number) required in response to an authorization or other transaction request	ans ..14
Amount, net settlement	The net value of all gross amounts	an ..12 See clause A.4 of annex A An amount in figures immediately preceded by either D = Debit (due to sender) or C = Credit
Amount, settlement	Value of funds transferred	n 8 See clause A.4 of annex A
Amount, transaction	The value agreed by the card holder and card acceptor for purposes of authorization or transaction	n 8 See clause A.4 of annex A
Authorization identification (authorization number or Denial code)	Response identification assigned by the authorizing institution	an ..6 If no number is assigned by the authorization system or the acceptor use a single zero
Authorization identification response length	Maximum length of authorization response which the acquiring switch/centre can accommodate	n 1 The card issuer, or agent, is expected to limit response to this length in the response record
Card acceptor identification code	Code identifying the card acceptor	ans ..15
Card acceptor name and location	The name and location of the card acceptor which defines the point of transaction in both a local and interchange environment	ans ..40 Name, city, region (if required) and country
Card issuer code directory reference	Code identifying the card issuer directory. Essential when the account number is not in accordance with ISO 7811 or ISO 4909	a 2
Card issuer identification code	Code identifying the card issuer or its agent	n ..11 As stated in ISO 7811 or ISO 4909
Card sequence number	A number distinguishing between separate cards with the same personal account number	n 1 See ISO 4909
Conversion rate	The factor used in the conversion from original to settlement currency for example 69972522 = 9,972522	n 8 The first (leftmost) digit denotes the number of positions the decimal point shall be moved from the right-hand end. Positions 2 to 8 give the conversion rate

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Table 2 (*continued*)

Name 1	Description 2	Representation 3
Credits, gross amount	The total amount of all credits processed	n ..12 See clause A.4 of annex A Unsigned
Credits, gross number	The total number of credit transactions processed	n ..10
Credits, reversal, gross amount	The total amount of credit reversals processed	n ..12 See clause A.4 of annex A Unsigned
Credits, reversal, gross number	The total number of credit reversal transactions processed	n ..10
Currency code, settlement	Currency used in settlement	a 3 or n 3 See ISO 4217
Currency code, transaction	Currency used in the original transaction	a 3 or n 3 See ISO 4217
Date, capture	The month and day the transaction data are processed by the acquirer	n 4 MMDD (for example 1231) Local date
Date, conversion	The month and day the conversion rate is effective to convert the transaction amount from original to settlement currency	n 4 MMDD (for example 1231) Local date
Date, expiration	The year and month after which the card expires	n 4 YYMM (for example 8012) Local date
Date, local transaction	The month and day the local transaction takes place	n 4 MMDD (for example 1231) Local date
Date, transmission	The month and day the message is entered into the interchange system	n 4 MMDD (for example 1231) GMT date
Debits, gross amount	The total amount of all debits processed	n ..12 See clause A.4 of annex A Unsigned
Debits, gross number	The total number of debit transactions processed	n ..10
Debits, reversal, gross amount	The total amount of debit reversals processed	n ..12 See clause A.4 of annex A Unsigned
Debits, reversal, gross number	The total number of debit reversal transactions processed	n ..10
Extended payment code	Number of months over which the card holder prefers to pay for this item if permitted by the card issuer	n 2
File name	The actual or abbreviated name of the file being accessed for updating	ans ..17
File update code	Indication to the system maintaining the file which update procedure to follow	n 1 See clause A.2 of annex A
Magnetic material encoded data	Data as encoded on the magnetic material on the card	ans ..107 Including STX, ETX, LRC
Magnetic material encoded data, length	Indication of length of data on the magnetic material	n 3

Table 2 (*continued*)

Name 1	Description 2	Representation 3
Merchant's type	A classification of the merchant's type of business or product or service	n 4 Codes to be developed within each country or industrial area as required
Message number	A sequential, cyclic numbering assigned to each message by the message initiator and used to monitor the integrity and continuity of the data interchange	n 4 Numbers shall not be all zeroes. When the first and last message numbers are used, this number is the first in the sequence
Message number, last	Same as message number	n 4 Numbers shall not be all zeroes. When the first and last message numbers are used, this number is the last in the sequence
Message security key	A message protection code for example Message authentication code, MAC	n ..16 (or 64 bits) The code is determined by agreement between interchange parties
Message security code	A file update security code to indicate that the message originator is authorized to update the file	an 2
Message type identifier	An identifier of the type of message being interchanged	an ..4 See annex B
Personal identification number (PIN)	The secret code used by a cardholder to authenticate card ownership	an ..12
Point of service condition code	An identification of the condition under which the transaction takes place at the point of service	n 2 See clause A.3 of annex A
Requesting organization identification	An identification of the organization requesting the interchange party to perform a certain function for example a settlement	n ..11 See ISO 4909 and ISO 7811
Response code	A code, associated with a specified account number, which defines the action to be taken by the point of service system after a transaction request	an 2 See clause A.1 of annex A
Response indicator	An indication of the file update action taken by the point of service system	an ..5 The code is determined by agreement between interchange parties
Retrieval reference number (Invoice No.)	A document reference supplied by the system retaining the original source document and used to assist in locating that document or a copy thereof	an ..12 Can include the capture date in the MMDD sequence
Reversal message original data elements	The reversal data elements as contained in the original message	n ..42 See clause A.5 of annex A
Service indicator	Indication to the originator of file update messages of the type of support service required by the recipient of file update messages	an ..7 The code is determined by agreement between interchange parties
Service restriction code	An identification of geographic/service availability	an ..3 (Under study)
Settlement code	A code indicating the result of a reconciliation request	n 1 1 = In balance 2 = Out of balance 3 = Error
Settlement institution identification code	Code identifying the settlement institution or its agent	n ..11 See ISO 4909 and ISO 7811

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Table 2 (*concluded*)

Name 1	Description 2	Representation 3
System trace audit number (Message initiator's reference)	A number assigned by a message initiator to uniquely identify a transaction. The trace number remains unchanged for all messages throughout the life of the transaction	n 6
Transmission time	In Greenwich Mean Time the Hour, Minute and Second the message starts entry into the data interchange system	n 6 HHMMSS (for example 210649)
Transaction description	Data describing characteristics of the transaction	ans ..100

Legend for abbreviations used in column 3

a   =   alphabetic characters (A to Z)

n   =   numeric characters (0 to 9)

s   =   space, punctuation and other special characters

an   =   alphabetic and numeric characters

as   =   alphabetic and special characters including space

ns   =   numeric and special characters including space

ans   =   alphabetic, numeric and special characters including space

3   =   fixed length of 3 characters

..17   =   length up to maximum 17 character positions

7 Maintenance of the International Standard

It is recognized that standardization of other data elements and other types of messages within the scope of this International Standard may be required in certain applications.