

Implementation of
EN ISO 8583:1995

Financial transaction card originated messages — Interchange message specifications

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British Standard

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The preparation of this British Standard was entrusted to Technical Committee IST/12, Banking and related financial services, upon which the following bodies were represented:

- APACS (Bank of England)
- APACS (Barclays Bank)
- APACS (Midland Bank)
- APACS (Nat West Bank)
- APACS (TSB)
- Association for Payment Clearing Services (APACS)

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National foreword

This British Standard is the English language version of EN ISO 8583:1995 and implements it as the UK national standard. This British Standard supersedes BS EN 28583:1991 which is withdrawn.

This British Standard is published under the direction of the Information Systems Technology Assembly whose Technical Committee IST/12 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN ISO title page, page 2, the ISO title page, pages ii to vi, pages 1 to 135 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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English version

Financial transaction card originated messages — Interchange message specifications

(ISO 8583:1993)

Messages initiés par carte de transaction
financière — Specifications d'échange de
messages
(ISO 8583:1993)

Nachrichten in Verbindung mit Bankkarten —
Beschreibung des Nachrichtenaustausches
(ISO 8583:1993)

This European Standard was approved by CEN on 1994-11-30. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard has been taken over by the Technical Committee CEN/TC 224 “*Machine-readable cards, related device interfaces and operations*” from the work of ISO/TC 68 “*Banking and related financial services*” of the International Organization for Standardization (ISO).

The document has been submitted to the Formal Vote and it was adopted by the CEN members as European Standard. This European Standard supersedes EN 28583:1989.

For the time being, the standard exists in English and French only.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1995, and conflicting national standards shall be withdrawn at the latest by July 1995.

In accordance with the CEN/CENELEC Internal Regulations, following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

INTERNATIONAL STANDARD

ISO
8583

Second edition
1993-12-15

Financial transaction card originated messages — Interchange message specifications

*Messages initiés par carte de transaction financière — Spécifications
d'échange de messages*



Reference number
ISO 8583:1993(E)

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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.

International Standard ISO 8583 was prepared by Technical Committee ISO/TC 68, *Banking and related financial services*, subcommittee SC 6, Financial transaction cards, related media and operations.

This second edition cancels and replaces the first edition (ISO 8583:1987), of which it constitutes a technical revision.

Annex A forms an integral part of this International Standard. Annex B and Annex C are for information only.

Introduction

Services of the financial industry include the exchange of electronic messages relating to financial transactions. Agreements on application specifications are generally at a private level. This International Standard is designed as an interface specification enabling messages to be exchanged between systems adopting a variety of application specifications. The application specification may remain at the private level. Designers of such applications have complete design freedom within the overall constraint that messages shall be convertible to this interface format in order that international interchange may take place.

This International Standard introduces the concept of a message version number to distinguish between messages which comply with this or subsequent editions of the Standard, and those complying with the 1987 edition.

This International Standard uses a concept called bit map, whereby each data element is assigned a position indicator in a control field, or bit map. The presence of a data element in a specific message is indicated by a one in the assigned position; the absence of a data element is indicated by a zero in the assigned position.

Data representation used in individual systems is subject to the commercial relationships between the parties contracting to each system. The message formats specified in this International Standard are designed to ensure that compatibility between systems conforming to this International Standard is always feasible.

1 Scope

This International Standard addresses the following:

a) Interchange Message Specifications

This International Standard specifies a common interface by which financial transaction card originated messages may be interchanged between acquirers and card issuers. It specifies message structure, format and content, data elements and values for data elements. The method by which settlement takes place is not within the scope of this standard.

b) Registration Authority

This International Standard specifies a numbering system for institution identification codes for financial institutions which do not have an ISO 7812 institution identification number. It also specifies the procedures used for the registration of institution identification codes.

c) Maintenance Agency of Codes

This International Standard establishes procedures for a Maintenance Agency for codes used in this standard, the method of applying for codes and the method of obtaining lists of codes.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3166:1988, *Codes for the representation of names of countries*.

ISO 4217:1990, *Codes for the representation of currencies and funds*.

ISO 4909:1987, *Bank cards — Magnetic stripe data content for track 3*.

ISO 7372:1986, *Trade data interchange — Trade data elements directory (Endorsement of UNECE/TDED, sections 1, 2, 3, 4 and 9)*.

ISO 7810:1985, *Identification cards — Physical characteristics*.

ISO 7812:1987, *Identification cards — Numbering system and registration procedure for issuer identification*.

ISO 7813:1990, *Identification cards — Financial transaction cards*.

ISO 8601:1988, *Data elements and interchange formats — Information interchange — Representation of dates and times*.

ISO 9564-1:1991, *Banking — Personal Identification Number management and security — Part 1: PIN protection principles and techniques*.

ISO 9807:1991, *Banking and related financial services — Requirements for message authentication (retail)*.

ISO 10202-1:1991, *Financial transaction cards — Security architectures of financial transaction systems using integrated circuit cards — Part 1: Card life cycle*.

3 Definitions

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

3.1

acquirer

financial institution (or its agent) which acquires from the card acceptor the data relating to the transaction and initiates that data into an interchange system. The acquirer remains unchanged throughout the transaction

3.2

advice

a message where the sender notifies the receiver of an activity that has been taken, requiring no approval but requiring a response

3.3

authorization

the approval or guarantee of funds given by the card issuer to the acquirer (see 4.1.3.1)

3.4

authorizing agent

an institution that acts on behalf of and with the authority of the card issuer

3.5

bit map

a series of 64 bits used to identify the presence (denoted by 1) or absence (denoted by 0) of each data element in a message (see 4.2)

3.6

card acceptor

party accepting the card and presenting transaction data to an acquirer

3.7

cardholder

customer associated with the primary account number requesting the transaction from the card acceptor

3.8

(card) issuer

financial institution (or its agent) which issues the financial transaction card to the cardholder. The card issuer remains unchanged throughout a transaction

3.9

chargeback

a transaction from the card issuer to the acquirer used to partially or completely reverse a previously completed financial transaction (see 4.1.3.5)

3.10

credit transaction

a claim for funds by the cardholder for the credit of his account. At the same time it provides details of funds acknowledged as payable by the acquirer (and/or the card acceptor) to the card issuer

3.11

debit transaction

an approval by the cardholder of the debit to his account. At the same time it provides a claim of funds made by the acquirer (and/or the card acceptor) against the card issuer

3.12**financial transaction**

a transaction from the acquirer to the card issuer containing all the necessary data elements for authorization, posting and reconciliation (see 4.1.3.2)

3.13**file action**

a transaction used to add, change, delete or replace a file or a record (see 4.1.3.3)

3.14**forwarding institution**

institution within a transaction flow that sends a message forward from the originating institution (see 4.4.4)

3.15**inquiry**

an authorization transaction that requests information

3.16**institution identification code**

unique number assigned to an institution participating in financial card originated message interchange (see 4.4.4 and 4.4.16)

3.17**maintenance agency**

entity under the authority of the ISO Council responsible for maintaining the list of codes within this International Standard

3.18**message**

a set of data elements used to exchange information between institutions (or their agents). No communications (header/trailer, protocol, or character code) or security implications are assumed or identified

3.19**message class**

the set of messages which describes the specific activities being performed

3.20**message function**

the identification of the purpose of a message and the activity involved

3.21**notification**

a message where the sender notifies the receiver of an activity taken, requiring no approval or response

3.22**payment**

a movement of funds from a cardholder account to another party, e.g., a utility bill payment

3.23**point of service**

card acceptor location where the cardholder agrees the transaction takes place

3.24**receiving institution**

institution within a transaction flow that receives a message before it reaches the final destination (see 4.4.4)

3.25

reconciliation

an exchange of messages between two institutions (acquirer, card issuer or their agents) to reach agreement on financial totals (see 4.1.3.6)

3.26

registration authority

entity under the authority of the ISO Council designated to allocate institution identification codes and maintain the register of those codes

3.27

replacement authorization

an authorization used when a previous authorization was approved and a subsequent authorization is required because the amount, transaction is now different from the originally approved amount (see 4.1.3.1)

3.28

representment

a financial transaction originated by an acquirer to partially or wholly recover funds charged back to the acquirer by a card issuer in a chargeback (see 4.1.3.2)

3.29

request

a message where the sender informs the receiver that a transaction is in progress and a response is required to complete the activity

3.30

resubmission

the reentry of a request message which was previously denied or rejected (see 4.1.3.1 and 4.1.3.2)

3.31

reversal

a transaction from the acquirer to the card issuer informing the card issuer that the previously initiated transaction cannot be processed as instructed, i.e., is undeliverable, unprocessed or cancelled by the receiver (see 4.1.3.4)

3.32

settlement

a transfer of funds to complete one or more prior transactions made, subject to final accounting

3.33

settlement institution

financial institution (or its agent) at which the accounts are held by the parties settling. This institution, acting on information provided by the parties, transfers the appropriate funds between the accounts

3.34

supplementary authorization

an authorization used when a previous authorization was approved and one or more subsequent authorizations are required for additional amounts (see 4.1.3.1)

3.35

transaction

one or more related messages within the same message class designed to complete (insofar as this is possible) the intention of the sender of the original message

3.36

transaction destination institution

the final institution receiving the request, advice or notification message in a transaction. The transaction destination remains unchanged throughout the transaction

3.37**transaction originator institution**

the institution initiating the request, advice or notification message in a transaction. The transaction originator remains unchanged throughout the transaction

3.38**transfer**

the movement of funds by a cardholder from one of its accounts to another of the cardholder's accounts both of which are held by the same financial institution

3.39**version**

a description of interchange message formats that distinguishes between different arrangements of data elements within bit maps (i.e., where the data elements are added, deleted or their meaning, position or format changes or the message flows are modified) resulting from revisions of this standard (see 4.1.1)

4 Message structure**4.1 General**

Each message identified in this International Standard shall be constructed in the following sequence: message type identifier, (see 4.1.1), one or two bit maps (see 4.2) and a series of data elements in the order of the bit map representation (see 4.3). Clause 5 shows the circumstances when a message shall (or may) be sent, and the relationship between messages.

4.1.1 Message type identifier structure

The message type identifier is a four-digit numeric field identifying each message version number, message class, message function and transaction originator. Every message shall begin with a message type identifier. Version numbers shall not be assigned as the result of editorial or code list changes.

First Position — Version Number

- 0 — ISO 8583:1987
- 1 — ISO 8583:1993
- 2 – 7 — reserved for ISO use
- 8 — reserved for national use
- 9 — reserved for private use

Where the first position is 1, the second through fourth positions shall be defined as follows:

Second Position — Message Class

- 0 — reserved for ISO use
- 1 — authorization
- 2 — financial
- 3 — file action
- 4 — reversal/chargeback
- 5 — reconciliation
- 6 — administrative
- 7 — fee collection
- 8 — network management
- 9 — reserved for ISO use

Third Position — Message Function

- 0 — request
- 1 — request response
- 2 — advice
- 3 — advice response
- 4 — notification
- 5 – 9 — reserved for ISO use

Fourth Position — Transaction Originator

- 0 — acquirer
- 1 — acquirer repeat
- 2 — card issuer
- 3 — card issuer repeat
- 4 — other
- 5 — other repeat
- 6 – 9 — reserved for ISO use

4.1.2 Message Repeats

In 4.1.3, whenever a repeat message is identified, that repeat message shall be identical to its original message with the exception of the message type identifier and, if necessary, date and time, transmission and the message authentication code data elements.

4.1.3 Message Type Identifier Descriptions

Table 6 identifies the message types supported for each message class. Each of the following message classes support a particular activity:

4.1.3.1 Authorization message class

An authorization is an approval or guarantee of funds given by the card issuer to the acquirer. Authorization messages are not intended to permit the application of the approved transaction amount to the cardholder's account for billing or posting.

The following applies to all authorizations:

- a) Authorization request messages shall be used when the transaction cannot complete at the point of service until the response message is received indicating the action to be taken. The use of an authorization request message does not imply that the cardholder is present (e.g. telephone or mail order).
- b) An authorization request response message shall be sent in response to an authorization request message. It indicates the approval or guarantee of funds or the action to be taken as specified in the action code data element.
- c) Authorization advice messages shall be used to inform the card issuer of an authorization transaction which has completed at the point of service.
- d) An authorization advice response message shall be sent in response to an authorization advice message. An authorization advice response message indicates if the card issuer accepts or rejects the transfer of financial liability.
- e) Authorization notification messages shall be used to inform the card issuer of an authorization transaction which has completed at the point of service. There is no response message to an authorization notification message.
- f) The function code data element shall be used to indicate the type of authorization required (see Table 1) and whether the amount, transaction is accurate or estimated. If the final amount, transaction is available the amount, transaction shall be an accurate amount. If the final amount, transaction cannot be determined until later, the amount, transaction shall be an estimated amount.

g) The following types of authorizations are defined:

- i) Original authorization — the first or only authorization used.
- ii) Replacement authorization — an authorization used when a previous authorization was approved and a subsequent authorization is required to replace the previously authorized amount because the amount of the transaction is now greater or less.
- iii) Resubmission authorization — an authorization used to reenter a previous authorization that was denied or rejected.
- iv) Supplementary authorization — an authorization used when one or more previous authorizations were approved and a further authorization is required for an additional amount (see Table 1).

Table 1 — Amounts in types of authorization messages

In request, advice and notification messages:

Authorization type	Function code	Amount, transaction	Original amount, transaction
original	100,101	transaction amount	—
replacement	102,103	new amount	originally authorized amount
resubmission	104,105	transaction amount	—
supplementary	106,107	additional amount	sum of previous approvals, if available

In response messages:

Authorization type	Function code	Amount, transaction	Original amount, transaction
full approval	—	transaction amount	—
partial approval	—	approved amount	originally requested amount
decline/reject	—	zero	originally requested amount

h) The following types of authorization decisions are defined:

- i) Full approval — an authorization where the response from the card issuer indicates approval of the requested amount.
- ii) Partial approval — an authorization where the response from the card issuer indicates approval of an amount less than the originally requested amount (see Table 1).
- iii) Declined or rejected — an authorization where the request for approval is declined or the authorization request or advice message is rejected (see Table 1).

Table 1 identifies the usage of amount, transaction and original amount, transaction within these authorization message types.

4.1.3.2 Financial message class

A financial transaction permits the application of the approved transaction amount to the cardholder's account for billing or posting.

The following applies to all financial transactions:

- a) Financial request messages shall be used when the transaction cannot complete at the point of service until the response message is received indicating the action to be taken. The use of a financial request message does not imply that the cardholder is present, (e.g. telephone or mail order).
- b) A financial request response message shall be sent in response to a financial request message. A financial request response message indicates the approval or guarantee of funds or the action to be taken as specified in the action code data element.
- c) Financial advice messages shall be used to inform the card issuer of a financial transaction which has completed at the point of service.
- d) A financial advice response message shall be sent in response to a financial advice message. A financial advice response message indicates if the card issuer accepts or rejects the transfer of financial liability.
- e) Financial notification messages shall be used to inform the card issuer of a financial transaction which has completed at the point of service. There is no response message to a financial notification message.

f) The function code shall be used to indicate the type of financial transaction and whether the amount, transaction is the same or different from any previously authorized amount (see Table 2).

g) The following types of financial transactions are defined:

- i) Original — first or only financial transaction used.
- ii) Previously authorized — a financial transaction used when an authorization was previously approved (see Table 2).
- iii) Resubmission — a financial transaction used to reenter a previous financial transaction that was denied or rejected (see Table 2).
- iv) Representment — a financial transaction originated by an acquirer to partially or wholly recover funds charged back to the acquirer by a card issuer in a chargeback (see Table 2).

Table 2 — Amounts in types of financial transaction messages

In request, advice and notification messages:

Financial type	Function code	Amount, transaction	Original amount, transaction
original	200	transaction amount	—
previously authorized	201,202	new amount	originally authorized amount
resubmission	203,204	transaction amount	—
representment	205,206,207	transaction amount	amount of chargeback

In response messages:

Financial type	Function code	Amount, transaction	Original amount, transaction
full approval	—	transaction amount	—
partial approval	—	approved amount	originally requested amount
decline/reject	—	zero	originally requested amount

h) The following types of financial transaction decisions are defined:

- i) Full approval — a financial transaction where the response from the card issuer indicates approval of the originally requested amount (see Table 2).
- ii) Partial approval — a financial transaction where the response from the card issuer indicates approval of an amount less than the originally requested amount (see Table 2).
- iii) Declined or rejected — a financial transaction where the request for approval is declined or the financial request or advice message is rejected (see Table 2).

Table 2 identifies the usage of amount, transaction and original amount, transaction within these financial message types.

4.1.3.3 File action message class

A file action message shall be used to add, change, delete or replace a file or record. In addition, file action messages may be used to inquire into a file or perform card administration (e.g., report lost or stolen cards). The data record data element shall be used to convey specific file action record or file information.

4.1.3.4 Reversal message class

A reversal shall be used to partially or completely nullify the effects of a previous financial or authorization transaction. All reversals shall use the 14xx message series.

A reversal shall use the advice or notification messages since the activity has already occurred. The following applies to all reversals:

- a) A reversal advice or notification shall be initiated by an acquirer. Message reason codes are used to indicate the reason for the reversal (see clause A.7).
- b) The amount, transaction data element in a reversal advice or notification shall contain the amount to be reversed and shall be less than or equal to the original amount as shown in Table 3.
- c) Whenever the acquirer times out waiting for a response to an authorization or financial transaction request or advice, a reversal advice or notification of the transaction shall be sent (see 5.2.12).

d) A reversal advice response message shall be sent to a reversal advice message. A reversal advice shall not be declined by the card issuer, except for specific reasons as defined in A.1.

e) A reversal shall not be reversed.

f) The processing code in a reversal advice or notification shall be the same as presented in the original message. If the original transaction was a debit, the reversal also indicates debit; if the original transaction was a credit, the reversal also indicates a credit.

Table 3 shows the use of amounts in reversal messages:

Table 3 — Amounts in reversal messages

Type of reversal	Amount transaction	Original amount transaction
full	amount reversed	—
partial	amount reversed	original transaction amount

g) Only 11xx or 12xx transactions shall be reversed.

h) Table 4 shows 12xx financial transactions that are not reversals:

Table 4 — Financial transactions

Function	Processing code	Function code
adjustment	02,22	200
return	20	200
representment	—	205,206,207

4.1.3.5 Chargeback message class

A chargeback shall be used to partially or completely nullify a previous 12xx financial transaction. All chargebacks shall use the 14xx message series.

A chargeback shall be an advice or notification as the activity has already occurred.

The following applies to all chargebacks:

a) A chargeback advice or notification shall only be initiated by the card issuer. It shall be used when the card issuer determines that a customer dispute exists, or that an error or a violation of rules has been committed. Message reason codes are used to indicate the reason for the chargeback (see clause A.7).

b) A chargeback advice or notification shall be generated only if the original transaction had financial impact on the cardholder's net position. A chargeback shall not be used to cancel a balance inquiry, account transfer or an authorization transaction.

c) A chargeback advice response shall be sent in response to a chargeback advice message. A chargeback advice shall not be declined by the receiver except for specific reasons as defined in clause A.1 although the original transaction may be represented by the acquirer.

d) The amount, transaction data element in a chargeback shall be the amount to be charged back and shall be less than or equal to the original amount, transaction as shown in Table 5 following:

Table 5 — Amounts in charge back messages

Type of chargeback	Amount, transaction	Original amount, transaction
full	amount charged back	—
partial	amount charged back	original transaction amount

e) The processing code in a chargeback may be used to indicate an adjustment where the card issuer corrects a chargeback, partially or completely, that was submitted in error. All card issuer initiated adjustments are chargeback (14xx) transactions. The processing code in a chargeback may differ from the value in the original transaction. The processing code used in a chargeback shall be selected as follows:

i) to charge back a 12xx financial transaction, the chargeback shall contain the same processing code value as the transaction that is being charged back. If the original transaction was a debit, the chargeback shall also indicate a debit. If the original transaction was a credit, the chargeback shall also indicate a credit.

ii) to cancel, either partially or completely, a previous chargeback that was submitted in error, the card issuer shall initiate a subsequent chargeback containing one of the two adjustment processing codes. If the original transaction was a debit, this subsequent chargeback shall indicate a credit. If the original transaction was a credit, this subsequent chargeback shall indicate a debit.

f) If the transaction that is being charged back requires a response, this response message shall be sent before the chargeback is generated.

g) A card issuer may charge back an original transaction plus any subsequent representment(s) submitted by the acquirer. A separate chargeback message shall be used for each.

h) This International Standard specifies no limits on the timeframe or the number of chargebacks and representments that may be exchanged between an acquirer and card issuer.

4.1.3.6 Reconciliation message class

A reconciliation transaction provides financial totals between one acquirer and one card issuer. The following applies to all reconciliation messages:

a) Reconciliation request messages request the reconciliation totals (number and value).

b) A reconciliation request response message shall be sent in response to a reconciliation request message. A reconciliation request response message shall contain the requested totals, if available. The totals contained in a reconciliation request response message shall be used to indicate the originating institution's position as either acquirer or card issuer (but not both) as defined by the message type identifier.

c) Reconciliation request response messages shall indicate one of the following results:

i) Totals provided — all amounts and number data elements shall be returned with the values from the institution sending the reconciliation request response message.

ii) Totals not available — all amount and number data elements shall be returned with zero values.

d) Reconciliation advice messages request the confirmation of totals (number and value). The totals contained in a reconciliation advice message indicates an originating institution's position as either an acquirer or card issuer (but not both) as defined by the message type identifier.

e) A reconciliation advice response message shall be sent in response to a reconciliation advice message.

f) Reconciliation advice response messages shall indicate one of the following results:

i) Reconciled, in balance — only the amount, net reconciliation data element shall be returned in the reconciliation advice response message.

ii) Reconciled, out of balance — all amount and number data elements shall be returned with the values from the institution sending the reconciliation advice response message.

iii) Totals not available — all amount and number data elements shall be returned with zero values.

g) Reconciliation notification messages shall be used to provide totals (number and value). A response message shall not be sent.

h) Two types of reconciliation transactions are defined:

i) A checkpoint reconciliation transaction shall be indicated by the function code "501" or "503". A checkpoint reconciliation period shall be identified with the reconciliation indicator. The date, reconciliation remains unchanged in a checkpoint reconciliation.

ii) A final reconciliation shall be indicated by the function code "500" or "502". A final reconciliation period shall be identified with the date, reconciliation. A final reconciliation period may contain any number of checkpoint reconciliation periods.

The final reconciliation amounts shall be the sum of all the financial amounts from the individual transactions identified with the same date, reconciliation. The final reconciliation counts shall be the number of transactions identified with the same date, reconciliation.

- i) A checkpoint reconciliation transaction may be preceded by a network management transaction (18xx) indicating checkpoint and the next reconciliation indicator. Any transaction initiated after completion of the network management transaction indicating checkpoint shall contain the new reconciliation indicator (see 5.3.2, Figure 2).
- j) A final reconciliation transaction may be preceded by a network management transaction (18xx) indicating cutover and the new date, reconciliation. Any transaction initiated after completion of the network management transaction indicating cutover shall contain the new date, reconciliation (see 5.3.2, Figure 2).
- k) The calculation of amount, net reconciliation shall be achieved by netting the debit and credit amounts in the reconciliation message (see Table 11).
- l) Reconciliation in multiple currencies shall use a separate reconciliation transaction for each currency.

4.1.3.7 Administrative message class

Administrative messages shall be used when two institutions have identified a need for the exchange of information e.g., retrieval requests.

4.1.3.8 Fee collection message class

Fee collection messages shall be used to collect or disburse miscellaneous service fees. All fee collection messages shall use the 17xx messages series.

The following applies to all fee collection messages:

- a) Fee collection messages may be in either direction; acquirer to card issuer or card issuer to acquirer.
- b) A fee collection message shall not be declined by the receiver except for specific reasons as defined in clause A.1.
- c) Fee collection messages have a financial impact and affect reconciliation totals (see Table 11). They shall not affect a cardholder account.
- d) To cancel, either partially or completely, a previous fee collection transaction that was submitted in error, a subsequent fee collection transaction shall be sent using function code 701.

4.1.3.9 Network management message class

Network management messages shall be used to control the system security and operating condition of the interchange network and may be initiated by any interchanging party. The types of network management messages are:

- a) system condition messages — may be used to establish and report system availability and to give instructions pertaining to message handling during periods of system unavailability. These messages may be used as part of normal system initialization or shutdown or as part of a failure recovery scheme.
- b) system security messages — may be used to control security aspects of the interchange system such as key and password management and security alerts. These messages may be used as part of a security procedure (e.g., automatic periodic key changes).
- c) system accounting messages — may be used to identify the end of a reconciliation period. These messages may be used as part of a reconciliation process (see 5.3.2). System accounting messages shall not be declined by the receiver unless for specific reasons as defined in clause A.1.
- d) system audit control messages — may be used to test integrity of interchange links and/or used as part of an integrity check or failure recovery scheme.

Table 6 — Message type identifiers

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1100	authorization request	requests approval for an authorization transaction	acquirer	issuer	—
1101	authorization request repeat				
1110	authorization request response	carries the answer to an authorization request	issuer	acquirer	shall be sent in response to a 1100 or a 1101
1120	authorization advice	advises of an authorization carried out on behalf of the card issuer	acquirer	issuer	
1121	authorization advice repeat				
1130	authorization advice response	carries the answer to an authorization advice	issuer	acquirer	shall be sent in response to a 1120 or a 1121
1140	authorization notification	notifies of an authorization action	acquirer	issuer	

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1200	financial request	requests approval for a financial transaction	acquirer	issuer	—
1201	financial request repeat				
1210	financial request response	carries the answer to a financial request	issuer	acquirer	shall be sent in response to a 1200 or a 1201
1220	financial advice	advises of a financial transaction carried out on behalf of the card issuer	acquirer	issuer	
1221	financial advice repeat				
1230	financial advice response	carries the answer to a financial advice	issuer	acquirer	shall be sent in response to a 1220 or a 1221
1240	financial notification	notifies of a financial action	acquirer	issuer	

Table 6 — Message type identifiers

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1304	file action request	requests a file be updated	sender	receiver	—
1305	file action request repeat				
1314	file action request response	carries the answer to a file action request	receiver	sender	shall be sent in response to a 1304 or a 1305
1324	file action advice	advises of what was added, deleted or replaced in a file or record	sender	receiver	
1325	file action advice repeat				
1334	file action advice response	carries the answer to a file action advice	receiver	sender	shall be sent in response to a 1324 or a 1325
1344	file action notification	notifies of a file action	sender	receiver	

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1420	reversal advice	reverses an earlier authorization or financial transaction	acquirer	issuer	—
1421	reversal advice repeat				
1430	reversal advice response	carries the answer to a reversal advice	issuer	acquirer	shall be sent in response to a 1420 or a 1421
1440	reversal notification	notifies of a reversal action	acquirer	issuer	

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1422	chargeback advice	charges back an earlier financial transaction	issuer	acquirer	—
1423	chargeback advice repeat				
1432	chargeback advice response	carries the answer to a chargeback advice	acquirer	issuer	shall be sent in response to a 1422 or a 1423
1442	chargeback notification	notifies of a chargeback action	issuer	acquirer	

Table 6 — Message type identifiers

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1500	acquirer reconciliation request	acquirer requests card issuer's totals (number and value) for the last reconciliation period	acquirer	issuer	—
1501	acquirer reconciliation request repeat				
1510	acquirer reconciliation request response	carries card issuer's totals (number and value) in response to a reconciliation request message	issuer	acquirer	shall be sent in response to a 1500 or a 1501
1520	acquirer reconciliation advice	advises of acquirer's totals (number and value) for the last reconciliation period	acquirer	issuer	
1521	acquirer reconciliation advice repeat				
1530	acquirer reconciliation advice response	carries the answer to a reconciliation advice message	issuer	acquirer	shall be sent in response to a 1520 or a 1521

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1540	acquirer reconciliation notification	notifies the card issuer of the acquirer's totals (number and value) for the last reconciliation period	acquirer	issuer	
1502	card issuer reconciliation request	card issuer requests acquirer's totals (number and value) for the last reconciliation period	issuer	acquirer	—
1503	card issuer reconciliation request repeat				
1512	card issuer reconciliation request response	carries acquirer's totals (number and value) in response to a reconciliation request message	acquirer	issuer	shall be sent in response to a 1502 or a 1503
1522	card issuer reconciliation advice	advises of card issuer's totals (number and value) for the last reconciliation period	issuer	acquirer	
1523	card issuer reconciliation advice repeat				
1532	card issuer reconciliation advice response	carries the answer to a reconciliation advice message	acquirer	issuer	shall be sent in response to a 1522 or a 1523
1542	card issuer reconciliation notification	notifies the acquirer of the card issuer's totals (number and value) for the last reconciliation period	issuer	acquirer	

Table 6 — Message type identifiers

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1604	administrative request	requests information to support the interchange network	sender	receiver	—
1605	administrative request repeat				
1614	administrative request response	carries the answer to an administrative request	receiver	sender	shall be sent in response to a 1604 or a 1605
1624	administrative advice	advises of information to support the interchange network	sender	receiver	
1625	administrative advice repeat				
1634	administrative advice response	carries the answer to an administrative advice	receiver	sender	shall be sent in response to a 1624 or a 1625
1644	administrative notification	notifies of an administrative action	sender	receiver	

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1720	acquirer fee collection advice	advises of a service fee due to be collected	acquirer	issuer	—
1721	acquirer fee collection advice repeat				
1730	acquirer fee collection advice response	carries the answer to an acquirer fee collection advice	issuer	acquirer	shall be sent in response to a 1720 or a 1721
1740	acquirer fee collection notification	notifies of a service fee due to be collected	acquirer	issuer	
1722	issuer fee collection advice	advises of a service fee due to be collected	issuer	acquirer	
1723	issuer fee collection advice repeat				
1732	issuer fee collection advice response	carries the answer to an issuer fee collection advice	acquirer	issuer	shall be sent in response to a 1722 or a 1723
1742	issuer fee collection notification	notifies of a service fee due to be collected	issuer	acquirer	

Table 6 — Message type identifiers

MTI	MESSAGE	PURPOSE	FROM	TO	USAGE
1804	network management request	requests a network management activity	sender	receiver	—
1805	network management request repeat				
1814	network management request response	carries the answer to a network management request	receiver	sender	shall be sent in response to a 1804 or a 1805
1824	network management advice	advises of a network management activity	sender	receiver	
1825	network management advice repeat				
1834	network management advice response	carries the answer to a network management advice	receiver	sender	shall be sent in response to a 1824 or a 1825
1844	network management notification	notifies of a network management action	sender	receiver	

4.2 Bit maps

The second message component is one or two bit maps each consisting of 64 bits. Each bit signifies the presence (1) or the absence (0) in the message of the data element associated with that particular bit.

The primary bit map (bits 1–64) shall always be present, and the most frequently used data elements are indexed from these bit positions. Infrequently used data elements are indexed from the secondary bit map (bits 65–128). The presence of the secondary bit map shall be signified by a “1” in bit 01 of the primary bit map (see Figure 1).

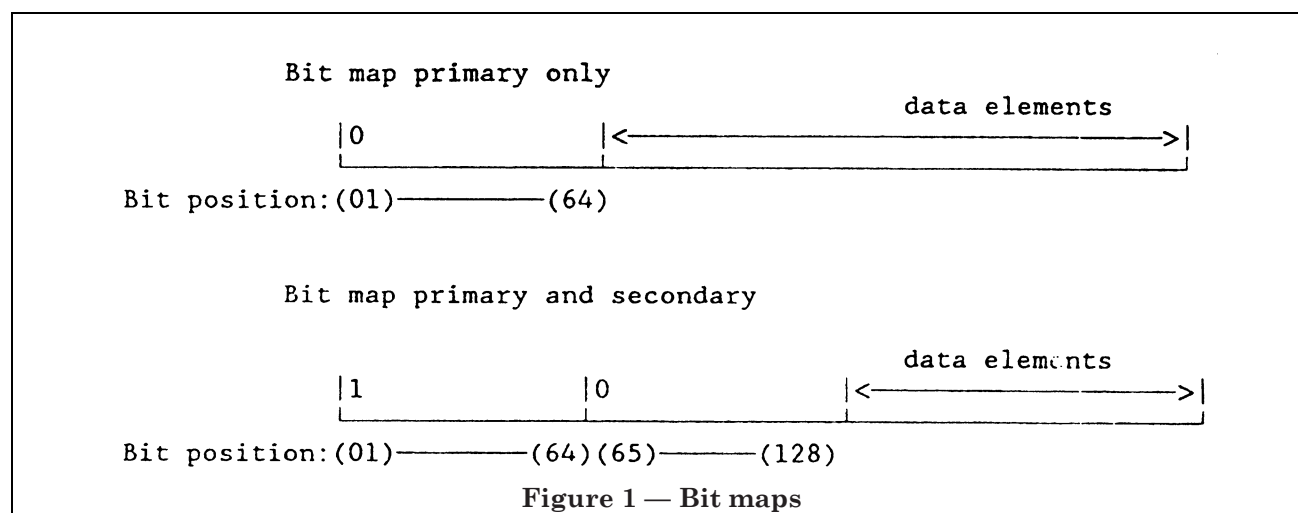


Table 7A shows:

- a) the data element assignment to each bit;
- b) the data element length, format and attribute specification as outlined in 4.3 and in the legend preceding the table.

Table 7B shows:

- a) the mandatory or conditional presence specification for each message type identifier. "M" (mandatory) signifies that the data element is required in that message. "ME" (mandatory echo) signifies the contents shall be returned unaltered in a response message.
- b) the conditional status, shown as "nn" which references Table 8. If the condition identified in Table 8 applies, then the data element shall be present, otherwise its inclusion in a message is subject to bilateral agreement.

Nothing in Table 7B prohibits the use of any data element within any message. Messages may include additional data elements to those specified as mandatory and/or conditional. The use of these additional data elements in a message is subject to bilateral agreement.

Legend for abbreviations used under attribute in Table 7A and Table 9 (see ISO 7372):

- a = alphabetical characters, A through Z and a through z
- n = numeric digits, 0 through 9
- p = pad character, space
- s = special characters
- an = alphabetic and numeric characters
- as = alphabetic and special characters
- ns = numeric and special characters
- anp = alphabetic, numeric and space (pad)characters
- ans = alphabetic, numeric and special characters
- MM = Month, 01 through 12
- DD = Day, 01 through 31
- YY = Year, 00 through 99
- hh = Hour, 00 through 23
- mm = Minute, 00 through 59
- ss = Second, 00 through 59
- LL = length of variable data element that follows, 01 through 99
- LLL = length of variable data element that follows, 001 through 999
- VAR = variable length data element
- 3 = fixed length of three characters
- ..17 = variable length up to maximum 17 characters. All variable length fields shall in addition contain two or three positions at the beginning of the data element to identify the number of positions following to the end of that data element.
- x = "C" for credit, "D" for debit and shall always be associated with a numeric amount data element, i.e., $x + n$ 16 in amount, net reconciliation means prefix "C" or "D" and 16 digits of amount, net reconciliation.
- b = binary representation of data
- z = Tracks 2 and 3 code set as defined in ISO 4909 and ISO 7813.

NOTE All fixed length "n" data elements are assumed to be right justified with leading zeroes. All other fixed length data elements are left justified with trailing spaces. In all "b" data elements, blocks of 8 bits are assumed to be left justified with trailing zeroes. All data elements are counted from left to right, i.e. the leftmost position is number 1.

Table 7A — Bit maps (in numerical order)

Bit	Data Element Name	Format	Attribute
1	(see 4.2 for usage)		b 8
2	primary account number	LLVAR	n..19
3	processing code		n 6
4	amount, transaction		n 12
5	amount, reconciliation		n 12
6	amount, cardholder billing		n 12
7	date and time, transmission	MMDDhhmmss	n 10
8	amount, cardholder billing fee		n 8
9	conversion rate, reconciliation		n 8
10	conversion rate, cardholder billing		n 8
11	systems trace audit number		n 6
12	date and time, local transaction	YYMMDDhhmmss	n 12
13	date, effective	YYMM	n 4
14	date, expiration	YYMM	n 4
15	date, settlement	YYMMDD	n 6
16	date, conversion	MMDD	n 4
17	date, capture	MMDD	n 4
18	merchant type		n 4
19	country code, acquiring institution		n 3
20	country code, primary account number		n 3
21	country code, forwarding institution		n 3
22	point of service data code		an 12
23	card sequence number		n 3
24	function code		n 3
25	message reason code		n 4
26	card acceptor business code		n 4
27	approval code length		n 1
28	date, reconciliation	YYMMDD	n 6
29	reconciliation indicator		n 3
30	amounts, original		n 24
31	acquirer reference data	LLVAR	ans..99

Table 7A — Bit maps (in numerical order)

Bit	Data Element Name	Format	Attribute
32	acquirer institution identification code	LLVAR	n..11
33	forwarding institution identification code	LLVAR	n..11
34	primary account number, extended	LLVAR	ns..28
35	track 2 data	LLVAR	z..37
36	track 3 data	LLLVAR	z..104
37	retrieval reference number		anp 12
38	approval code		anp 6
39	action code		n 3
40	service code		n 3
41	card acceptor terminal identification		ans 8
42	card acceptor identification code		ans 15
43	card acceptor name/location	LLVAR	ans..99
44	additional response data	LLVAR	ans..99
45	track 1 data	LLVAR	ans..76
46	amounts, fees	LLLVAR	ans..204
47	additional data — national	LLLVAR	ans..999
48	additional data — private	LLLVAR	ans..999
49	currency code, transaction		a 3 or n 3
50	currency code, reconciliation		a 3 or n 3
51	currency code, cardholder billing		a 3 or n 3
52	personal identification number (PIN) data		b 8
53	security related control information	LLVAR	b..48
54	amounts, additional	LLLVAR	ans..120
55	integrated circuit card system related data	LLLVAR	b..255
56	original data elements	LLVAR	n..35
57	authorization life cycle code		n 3
58	authorizing agent institution identification code	LLVAR	n..11
59	transport data	LLLVAR	ans..999
60-61	reserved for national use	LLLVAR	ans..999 ^a
62-63	reserved for private use	LLLVAR	ans..999 ^a
64	message authentication code field		b 8
65	reserved for ISO use		b 8

Table 7A — Bit maps (in numerical order)

Bit	Data Element Name	Format	Attribute
66	amounts, original fees	LLLVAR	ans..204
67	extended payment data		n 2
68	country code, receiving institution		n 3
69	country code, settlement institution		n 3
70	country code, authorizing agent institution		n 3
71	message number		n 8
72	data record	LLLVAR	ans..999
73	date, action	YYMMDD	n 6
74	credits, number		n 10
75	credits, reversal number		n 10
76	debits, number		n 10
77	debits, reversal number		n 10
78	transfer, number		n 10
79	transfer, reversal number		n 10
80	inquiries, number		n 10
81	authorizations, number		n 10
82	inquiries, reversal number		n 10
83	payments, number		n 10
84	payments, reversal number		n 10
85	fee collections, number		n 10
86	credits, amount		n 16
87	credits, reversal amount		n 16
88	debits, amount		n 16
89	debits, reversal amount		n 16
90	authorizations, reversal number		n 10
91	country code, transaction destination institution		n 3
92	country code, transaction originator institution		n 3
93	transaction destination institution identification code	LLVAR	n..11
94	transaction originator institution identification code	LLVAR	n..11
95	card issuer reference data	LLVAR	ans..99
96	key management data	LLLVAR	b..999

Table 7A — Bit maps (in numerical order)

Bit	Data Element Name	Format	Attribute
97	amount, net reconciliation		x + n 16
98	payee		ans 25
99	settlement institution identification code	LLVAR	an..11
100	receiving institution identification code	LLVAR	n..11
101	file name	LLVAR	ans..17
102	account identification 1	LLVAR	ans..28
103	account identification 2	LLVAR	ans..28
104	transaction description	LLVAR	ans..100
105	credits, chargeback amount		n 16
106	debits, chargeback amount		n 16
107	credits, chargeback number		n 10
108	debits, chargeback number		n 10
109	credits, fee amounts	LLVAR	ans..84
110	debits, fee amounts	LLVAR	ans..84
111–115	reserved for ISO use	LLVAR	ans..999 ^a
116–122	reserved for national use	LLVAR	ans..999 ^a
123–127	reserved for private use	LLVAR	ans..999 ^a
128	message authentication code field		b 8
^a Attribute for each bit.			

Table 7B — Bit maps (by message type)

AUTHORIZATION MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1100 1101	1110	1120 1121	1130	1140
1	(see 4.2 for usage)					
2	primary account number	07	16	07	16	07
3	processing code	M	27	M	27	M
4	amount, transaction	26	26	26	26	26
11	systems trace audit number	M	ME	M	ME	M
12	date and time, local transaction	M	ME	M	ME	M
13	date, effective	02		02		02
14	date, expiration	02		02		02
22	point of service data code	M		M		M
23	card sequence number	02		02		02
24	function code	M		M		M
26	card acceptor business code	M		M		M
27	approval code length	18				
28	date, reconciliation		12		12	12
29	reconciliation indicator		14		14	23
30	amounts, original	08	21	08		08
32	acquiring institution identification code	M	ME	M	ME	M
33	forwarding institution identification code	10	10	10	10	10
34	primary account number, extended	15	16	15	16	15
35	track 2 data	06		06		06
36	track 3 data	06		06		06
39	action code		M	M	M	M
40	service code	02		02		02
41	card acceptor terminal identification		16		16	
42	card acceptor identification code		16		16	
45	track 1 data	06		06		06
46	amounts, fees	01	01	01	01	01
49	currency code, transaction	26	16	26	16	26
58	authorizing agent institution identification code		20	20		20
59	transport data		16		16	
100	receiving institution identification code	19	19	19	19	19

Table 7B — Bit maps (by message type)

FINANCIAL MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1200 1201	1210	1220 1221	1230	1240
1	(see 4.2 for usage)					
2	primary account number	07	16	07	16	07
3	processing code	M	27	M	ME	M
4	amount, transaction	M	M	M	M	M
5	amount, reconciliation		05		05	05
9	conversion rate, reconciliation		05		05	05
10	conversion rate, cardholder billing	04	04	04	04	04
11	systems trace audit number	M	ME	M	ME	M
12	date and time, local transaction	M	ME	M	ME	M
13	date, effective	02		02		02
14	date, expiration	02		02		02
16	date, conversion		05		05	05
17	date, capture			22		22
22	point of service data code	M		M		M
23	card sequence number	02		02		02
24	function code	M		M		M
26	card acceptor business code	M		M		M
27	approval code length	18				
28	date, reconciliation		12		12	12
29	reconciliation indicator		14		14	23
30	amounts, original	08	21	08		08
32	acquiring institution identification code	M	ME	M	ME	M
33	forwarding institution identification code	10	10	10	10	10
34	primary account number, extended	15	16	15	16	15
35	track 2 data	06		06		06
36	track 3 data	06		06		06
37	retrieval reference number		16		16	
39	action code		M	M	M	M
40	service code	02		02		02
41	card acceptor terminal identification		16		16	
42	card acceptor identification code		16		16	
43	card acceptor name/location	M		M		M
45	track 1 data	06		06		06
46	amounts, fees	01	01	01	01	01
49	currency code, transaction	M	ME	M	ME	M
50	currency code, reconciliation		05		05	05
51	currency code, cardholder billing	04	04	04	04	04
58	authorizing agent institution identification code		20	20		20
59	transport data		16		06	
100	receiving institution identification code	19	19	19	19	19

Table 7B — Bit maps (by message type)

FILE ACTION MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1304 1305	1314	1324 1325	1334	1344
1	(see 4.2 for usage)					
2	primary account number	28	16	28	16	28
11	systems trace audit number	M	ME	M	ME	M
12	date and time, local transaction	M	ME	M	ME	M
24	function code	M		M		M
25	message reason code	28		28		28
33	forwarding institution identification code	10	10	10	10	10
39	action code		M	M	M	M
59	transport date		16		16	
71	message number		16		16	
72	date record	29		29		29
93	transaction destination institution identification code	M	ME	M	ME	M
94	transaction originator institution identification code	M	ME	M	ME	M
100	receiving institution identification code	19	19	19	19	19
101	file name	29		29		29

Table 7B — Bit maps (by message type)

REVERSAL MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1420 1421	1430	1440		
1	(see 4.2 for usage)					
2	primary account number	07	16	07		
3	processing code	03	16	03		
4	amount, transaction	M	M	M		
5	amount, reconciliation		05	05		
9	conversion rate, reconciliation		05	05		
10	conversion rate, cardholder billing	04	04	04		
11	systems trace audit number	M	ME	M		
12	date and time, local transaction	M	ME	M		
16	date, conversion		05	05		
24	function code	M		M		
28	date, reconciliation		12	12		
29	reconciliation indicator		14	23		
30	amounts, original	08		08		
32	acquiring institution identification code	M	ME	M		
33	forwarding institution identification code	10	10	10		
34	primary account number, extended	15	16	15		
38	approval code	17		17		
39	action code		M	M		
41	card acceptor terminal identification		16			
42	card acceptor identification code		16			
46	amounts, fees	01	01	01		
49	currency code, transaction	03	16	03		
50	currency code, reconciliation		05	05		
51	currency code, cardholder billing	04	04	04		
56	original data elements	M		M		
58	authorizing agent institution identification code	17		17		
59	transport data		16			
94	transaction originator institution identification code	09	16	09		
100	receiving institution identification code	19	19	19		

Table 7B — Bit maps (by message type)

CHARGEBACK MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1422 1423	1432	1442		
1	(see 4.2 for usage)					
2	primary account number	07	16	07		
3	processing code	M	ME	M		
4	amount, transaction	M	M	M		
5	amount, reconciliation		05	05		
9	conversion rate, reconciliation		05	05		
11	systems trace audit number	M	ME	M		
12	date and time, local transaction	M	ME	M		
16	date, conversion		05	05		
24	function code	M		M		
28	date, reconciliation		12	12		
29	reconciliation indicator		14	23		
30	amounts, original	08		08		
32	acquiring institution identification code	M	ME	M		
33	forwarding institution identification code	10	10	10		
34	primary account number, extended	15	16	15		
37	retrieval reference number	17		17		
39	action code		M	M		
46	amounts, fees	01	01	01		
49	currency code, transaction	03	16	03		
50	currency code, reconciliation		05	05		
56	original data elements	M		M		
59	transport data		16			
94	transaction originator institution identification code	11	16	11		
100	receiving institution identification code	19	19	19		

Table 7B — Bit maps (by message type)

RECONCILIATION MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1500 1501	1510	1520 1521	1530	1540
		1502 1503	1512	1522 1523	1532	1542
1	(see 4.2 for usage)					
2	primary account number	M	ME	M	ME	M
11	systems trace audit number	M	ME	M	ME	M
12	date and time, local transaction	M	ME	M	ME	M
24	function code	M		M		M
28	date, reconciliation	M	ME	M	ME	M
29	reconciliation indicator	23	16	23	16	23
32	acquiring institution identification code	M	ME	M	ME	M
33	forwarding institution identification code	10	10	10	10	10
39	action code		M		M	
50	currency code, reconciliation	M	ME	M	ME	M
59	transport data		16		16	
74	credits, number		M	M	13	M
75	credits, reversal number		M	M	13	M
76	debits, number		M	M	13	M
77	debits, reversal number		M	M	13	M
86	credits, amount		M	M	13	M
87	credits, reversal amount		M	M	13	M
88	debits, amount		M	M	13	M
89	debits, reversal amount		M	M	13	M
97	amount, net reconciliation		M	M	M	M
100	receiving institution identification code	19	19	19	19	19
105	credits, chargeback amount		M	M	13	M
106	debits, chargeback amount		M	M	13	M
107	credits, chargeback number		M	M	13	M
108	debits, chargeback number		M	M	13	M
109	credits, fee amounts		01	01	13	01
110	debits, fee amounts		01	01	13	01

Table 7B — Bit maps (by message type)

ADMINISTRATIVE MESSAGES		MESSAGE TYPE IDENTIFIERS				
BIT	DATA ELEMENT NAME	1604 1605	1614	1624 1625	1634	1644
1	(see 4.2 for usage)					
11	systems trace audit number	M	ME	M	ME	M
12	date and time, local transaction	M	ME	M	ME	M
24	function code	M		M		M
33	forwarding institution identification code	10	10	10	10	10
39	action code		M	M	M	M
59	transport data		16		16	
72	data record	M		M		M
93	transaction destination institution identification code	M	ME	M	ME	M
94	transaction originator institution identification code	M	ME	M	ME	M
100	receiving institution identification code	19	19	19	19	19

FEE COLLECTION MESSAGES		MESSAGE TYPE IDENTIFIERS					
BIT	DATA ELEMENT NAME	1720 1721	1730	1740	1722 1723	1732	1742
1	(see 3.2 for usage)						
2	primary account number	M	ME	M	M	ME	M
11	systems trace audit number	M	ME	M	M	ME	M
12	date and time, local transaction	M	ME	M	M	ME	M
24	function code	M		M	M		M
28	date, reconciliation		12	12		12	12
29	reconciliation indicator		14	23		14	23
32	acquiring institution identification code	M	ME	M	M	ME	M
33	forwarding institution identification code	10	10	10	10	10	10
39	action code		M	M		M	M
46	amounts, fees	M	ME	M	M	ME	M
59	transport data		16			16	
100	receiving institution identification code	19	19	19	19	19	19

Table 7B — Bit maps (by message type)

NETWORK MANAGEMENT MESSAGES		MESSAGE TYPE IDENTIFIERS					
BIT	DATA ELEMENT NAME	1804 1805	1814	1824 1825	1834	1844	
1	(see 4.2 for usage)						
11	systems trace audit number	M	ME	M	ME	M	
12	date and time, local transaction	M	ME	M	ME	M	
24	function code	M		M		M	
28	date, reconciliation	24	16	24	16	24	
29	reconciliation indicator	25	16	25	16	25	
33	forwarding institution identification code	10	10	10	10	10	
39	action code		M	M	M	M	
59	transport data		16		16		
93	transaction destination institution identification code	M	ME	M	ME	M	
94	transaction originator institution identification code	M	ME	M	ME	M	
100	receiving institution identification code	19	19	19	19	19	

Table 8 — Conditions used in Table 7B

Code	Condition
—	Optional
M	Mandatory
ME	Mandatory echo, shall echo the same data as the original message.
00	Reserved for ISO use.
01	Mandatory if fees affect reconciliation.
02	Mandatory if information is available and not present in the track 1, track 2 or track 3 data.
03	Mandatory, shall contain the same data as the original authorization (11xx) or financial (12xx) message.
04	Mandatory if amount, cardholder billing or amount, cardholder billing fee is present.
05	Mandatory when the reconciliation and transaction currencies differ and this data element was not provided in the request or advice message.
06	Mandatory if track data is captured at the point of service.
07	Mandatory if the primary account number conforms to ISO 7812.
08	Mandatory in a replacement transaction, previously authorized transaction, representment, partial reversal or partial chargeback. Mandatory in a supplementary authorization, if available.
09	Mandatory when the transaction originator institution is not the same as the acquiring institution.
10	Mandatory when the forwarding institution is not the same as the institution originating the message.
11	Mandatory when the transaction originator institution is not the same as the institution identified in either the PAN or PAN extended.
12	Mandatory if transaction affects reconciliation and this data element was not provided in the request or advice message.
13	Mandatory if the reconciliation is not in balance; contains the value calculated by the institution sending the reconciliation advice response.
14	Mandatory if the transaction affects reconciliation and checkpoint reconciliation is used and this data element was not provided in the request or advice message.
15	Mandatory when the primary account number begins with “59” as defined in ISO 4909 and therefore has a field separator.
16	Mandatory in a response message if the data element was present in the original request or advice message. If present, it shall contain the same data as the original message.
17	Mandatory in the advice/notification if the data element was present in the original authorization/financial request/advice notification message. If present, it shall contain the same data as the original message.
18	Mandatory if the approval code is required to be less than six characters.
19	Mandatory when the receiving institution is not the same as the final destination of the message.
20	Mandatory when the institution that processed (approved or denied) an authorization or financial transaction is not the same institution identified in either the primary account number or the primary account number, extended.
21	Mandatory if a partial approval, declined or rejected transaction.
22	Mandatory if different from date and time, local transaction.
23	Mandatory if transaction affects reconciliation and checkpoint reconciliation used.
24	Mandatory if this message is used for cutover or checkpoint reconciliation.
25	Mandatory if this message is used for checkpoint reconciliation.
26	Mandatory for all processing codes except for inquiry services, i.e., processing code 3xxxxx.
27	Mandatory, shall echo the first two positions of the processing code in the original message.
28	Mandatory if function code indicates card administration.
29	Mandatory if function code is other than card administration.

4.3 Data element directory

The third message component and its data content is made up of series of data elements. Table 7B specifies those data elements which are present, according to the message type identifier.

Messages are reconstructed using the bit map as index of data elements that are present. Some data elements are of fixed length; some of variable length.

The actual length of any given variable length data element shall be provided in its fixed length prefix.

The message structure does not preclude the use of additional data elements in a message as required for national interchange or private use.

The data elements in Table 9 shall be used in the messages specified in Table 7B

Table 9 — Data element directory

Name	Description	Representation	Bit
Account identification 1	A series of digits and/or characters used to identify a customer account or relationship (e.g., for the “from” account).	ans..28 (see 4.4.1 and 4.4.5)	102
Account identification 2	A series of digits and/or characters used to identify a customer account or relationship (e.g., for the “to” account).	ans..28 (see 4.4.1 and 4.4.5)	103
Account type, additional amounts	Code used to describe the accounts affected. Contained in amounts, additional data element	n 2 (see 4.4.12)	54 ^a
Acquirer reference data	Data supplied by an acquirer in an authorization or financial request, advice or notification that may be required to be provided in a subsequent transaction.	ans..99	31
Acquiring institution identification code	Code identifying the acquirer.	n..11 (see 4.4.1, 4.4.4 and 4.4.16)	32
Action code	A code which defines the action taken or to be taken as well as the reason for taking this action.	n 3 (see 4.4.7, 4.4.15 and A.1)	39
Additional data — national	Reserved for national organizations to define data unique to country applications.	ans..999 (see 4.4.2) The use of this data element is under the control of national bodies.	47
Additional data — private	Reserved for private data.	ans..999 (see 4.4.2) The use of this data element is determined by bilateral agreement.	48
Additional response data	Other data (e.g., a telephone number) required in response.	ans..99 (see 4.4.1)	44
Amount, additional amounts	Amount contained in the amounts, additional data element.	x + n 12 (see 4.4.8 and 4.4.12)	54 ^a
Amount, cardholder billing	Amount billed to the cardholder in the currency of the cardholder account exclusive of cardholder billing fees.	n 12 (see 4.4.8 and 4.4.13)	6
Amount, cardholder billing fee	Fee to be billed to the cardholder by the card issuing institution in the same currency as amount, cardholder billing	n 8 (see 4.4.8 and 4.4.13)	8
Amount, fee	Amount of the fee within the fee type code. Contained in the amounts, fees data element.	x + n 8 (see 4.4.17)	46 ^a

Table 9 — Data element director

Name	Description	Representation	Bit
Amount, fee total	The sum amount of all fees of the fee type specified. Contained in the credits, fee amounts and debits, fee amounts data elements.	n 12 (see 4.4.11 and 4.4.19)	109 ^a 110 ^a
Amount, net reconciliation	The net value of all gross amounts.	x + n 16 (see 4.4.8, and 4.4.11)	97
Amount, reconciliation	Funds to be transferred between the acquirer and card issuer equal to the amount, transaction in the currency of reconciliation.	n 12 (see 4.4.8 and 4.4.11)	5
Amount, reconciliation fee	Fee to be transferred between the acquirer and card issuer equal to the amount, fee in the currency of reconciliation. Contained in the amounts, fees data element.	x + n 8 (see 4.4.8, 4.4.11 and 4.4.17)	46 ^a
Amount, transaction	Funds requested by the cardholder in the local currency of the acquirer or source location of the transaction, exclusive of amounts, fees.	n 12 (see 4.4.8 and 4.4.11)	4
Amount type, additional amounts	Identifies the kind of amount contained in the amounts, additional data element.	n 2 (see 4.4.8, 4.4.12, 4.4.15 and A.2)	54 ^a
Amounts, additional	Information on up to six amounts and related account data for which specific data elements have not been defined.	ans..120 (see 4.4.2, 4.4.8, 4.4.12 and 4.4.15)	54
Amounts, fees	Fees associated with this transaction.	ans..204 (see 4.4.2, 4.4.8, 4.4.11, 4.4.17, 4.4.18 and A.5)	46
Amounts, original	The amount data elements from the original transaction (see Table 1, Table 2, Table 3 and Table 5).	n 24 (see 4.4.8 and 4.4.10)	30
Amounts, original fees	The original amounts, fees necessary to perform a partial reversal, partial chargeback or partial approval or to replace or supplement a previously authorized transaction.	ans..204 (see 4.4.8, 4.4.11, 4.4.18 and A.5)	66
Approval code	Code assigned by the authorizing institution indicating approval.	anp 6	38
Approval code length	Maximum length of the approval code which the acquirer may accommodate. The card issuer or agent shall limit the approval code to this length.	n 1	27
Authorization life cycle code	A value in calendar days, hours or minutes which defines the time period for which the acquirer is requesting guarantee of funds, or that the card issuer shall guarantee funds for a financial transaction which may follow.	n 3 (see A.3 and 4.4.15)	57
Authorizations, number	The sum number of all authorization transactions.	n 10 (see 4.4.11)	81
Authorizations, reversal number	The sum number of all reversal transactions processed where the message type identifier in the original data elements indicated an authorization (1xxx).	n 10	90
Authorizing agent institution identification code	Code identifying the authorizing agent institution.	n..11 (see 4.4.1, 4.4.4 and 4.4.16)	58
Card acceptor business code	Code classifying the type of business being done by the card acceptor for this transaction.	n 4 (see A.4 and 4.4.15)	26

Table 9 — Data element directory

Name	Description	Representation	Bit
Card acceptor identification code	Code identifying the card acceptor.	ans 15	42
Card acceptor name/location	The name and location of the card acceptor as known to the cardholder.	ans..99 (see 4.4.1 and 4.4.9)	43
Card acceptor terminal identification	Unique code identifying a terminal at the card acceptor location.	ans 8	41
Card issuer reference data	Data supplied by a card issuer in an authorization or financial response message, or in a chargeback, that may be required to be provided by the acquirer in subsequent transactions.	ans..99	95
Card sequence number	A number distinguishing between separate cards with the same primary account number or primary account number extended (see ISO 4909).	n 3	23
Conversion rate, cardholder billing	The factor used in the conversion from transaction to cardholder billing amount. The amount, transaction is multiplied by conversion rate, cardholder billing to determine amount, cardholder billing.	n 8 (see 4.4.14)	10
Conversion rate, fee	The factor used in the conversion from fee amount to reconciliation fee amount. The amount, fee is multiplied by conversion rate, fee to determine the amount, reconciliation fee. Contained in the amounts, fees data element.	n 8 (see 4.4.14 and 4.4.17)	46 ^a
Conversion rate, reconciliation	The factor used in the conversion from transaction to reconciliation amount. The amount, transaction is multiplied by conversion rate, reconciliation to determine the amount, reconciliation.	n 8 (see 4.4.14)	9
Country code, acquiring institution	The code of the country where the acquiring institution is located (see ISO 3166).	n 3 (see 4.4.4)	19
Country code, authorizing agent institution	The code of the country where the authorizing agent institution is located (see 3166).	n 3 (see 4.4.4)	70
Country code forwarding institution	The code of the country where forwarding institution is located (see ISO 3166).	n 3 (see 4.4.4)	21
Country code, primary account number(PAN)	The code of the country where the card issuing institution is located (see ISO 3166).	n 3 (see 4.4.4)	20
Country code, receiving institution	The code of the country where receiving institution is located (see ISO 3166).	n 3 (see 4.4.4)	68
Country code, settlement institution	The code of the country where settlement institution is located (see ISO 3166).	n 3 (see 4.4.4)	69
Country code, transaction destination institution	The code of the country where the transaction destination is located (see ISO 3166).	n 3 (see 4.4.4)	91