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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. Annexes B and C are for information only.

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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.

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Financial transaction card originated messages — Interchange message specifications

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 clause 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, continued

| 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, continued

| 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, continued

| 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, concluded

| 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).

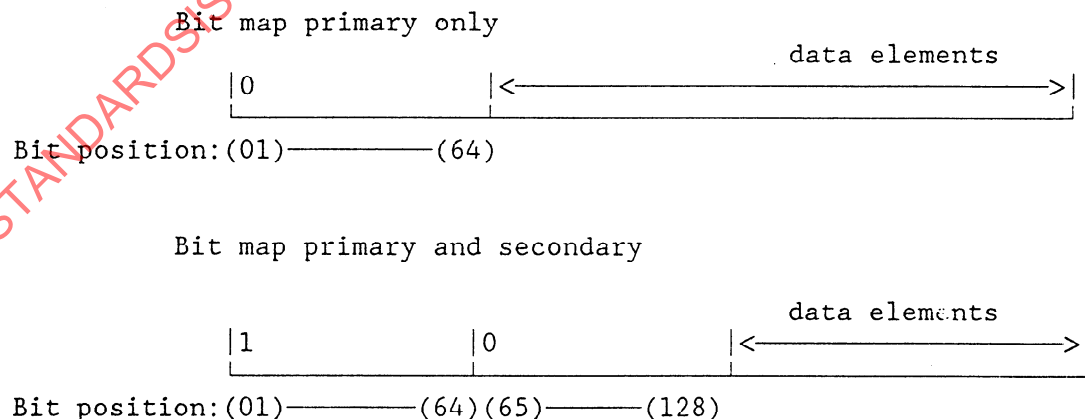


Figure 1 — Bit maps

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 Tables 7A and 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), continued

| 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 ¹ |
| 62-63 | reserved for private use | LLLVAR | ans..999 ¹ |
| 64 | message authentication code field | | b 8 |
| 65 | reserved for ISO use | | b 8 |

Table 7A — Bit maps (in numerical order), continued

| 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), concluded

| Bit | Data Element Name | Format | Attribute |
|---------|--|--------|-----------------------|
| 97 | amount, net reconciliation | | x + n 16 |
| 98 | payee | | ans 25 |
| 99 | settlement institution identification code | LLVAR | ans..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 | LLLVAR | 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 | LLLVAR | ans..999 ¹ |
| 116-122 | reserved for national use | LLLVAR | ans..999 ¹ |
| 123-127 | reserved for private use | LLLVAR | ans..999 ¹ |
| 128 | message authentication code field | | b 8 |

¹ 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), continued

| 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 | | 16 | |
| 100 | receiving institution identification code | 19 | 19 | 19 | 19 | 19 |

Table 7B — Bit maps (by message type), continued

| 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 data | | 16 | | 16 | |
| 71 | message number | | 16 | | 16 | |
| 72 | data 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 |

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Table 7B — Bit maps (by message type), continued

| 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), continued

| 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), continued

| 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), continued

| 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), concluded

| 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 | |

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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

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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 ¹ |
| 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 ¹ |
| 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 ¹ |
| 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 ¹ 110 ¹ |
| 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 ¹ |

Table 9 — Data element director, continued

| Name | Description | Representation | Bit |
|---|---|--|-----------------|
| 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 ¹ |
| 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 Tables 1, 2, 3 and 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 |
| 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 |

Table 9 — Data element directory, continued

| Name | Description | Representation | Bit |
|---|---|---|-----------------|
| 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 ¹ |
| 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 ISO 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 |
| Country code, transaction originator institution | The code of the country where the transaction originator is located (see ISO 3166). | n 3 (see 4.4.4) | 92 |
| Credits, amount | The sum amount of amount, transaction in all financial transactions exclusive of any fees where positions 1-2 of the processing code in the financial transaction indicated a credit (20-29). | n 16 (see 4.4.8 and 4.4.11) | 86 |
| Credits, chargeback amount | The sum amount of amount, transaction in all chargeback transactions exclusive of any fees where positions 1-2 of the processing code in the chargeback transaction indicated a debit (00-19). | n 16 (see 4.4.8 and 4.4.11) | 105 |
| Credits, chargeback number | The sum number of all chargeback transactions where positions 1-2 of the processing code in the chargeback transaction indicated a debit (00-19). | n 10 (see 4.4.11) | 107 |
| Credits, fee amounts | The sum amount of amounts, fees in all authorization, financial reversal and fee collection transactions where the amount, fee, x, indicated a credit, "C". | ans.. 84 (see 4.4.8, 4.4.11, 4.4.19 and A.5) | 109 |
| Credits, number | The sum number of all financial transactions where positions 1-2 of the processing code in the financial transaction indicated a credit (20-29). | n 10 (see 4.4.11) | 74 |
| Credits, reversal amount | The sum amount of amount, transaction of all reversal transactions exclusive of any fees where positions 1-2 of the processing code in the reversal transaction indicated a debit (00-19). | n 16 (see 4.4.8 and 4.4.11) | 87 |
| Credits, reversal number | The sum number of all reversal transactions where positions 1-2 of the processing code in the reversal transaction indicated a debit (00-19). | n 10 (see 4.4.11) | 75 |

Table 9 — Data element directory, continued

| Name | Description | Representation | Bit |
|-----------------------------------|--|--------------------------------------|-----------------|
| Currency code, additional amounts | Code defining the currency of the amount contained in the amounts, additional data element (see ISO 4217). | a 3 or n 3 (see 4.4.8 and 4.4.12) | 54 ¹ |
| Currency code, cardholder billing | Code defining currency of amount, cardholder billing and amount, cardholder billing fee (see ISO 4217). | a 3 or n 3 | 51 |
| Currency code, fee | Code defining currency of amount, fee contained in the amounts, fees data element (see ISO 4217). | a 3 or n 3 (see 4.4.17) | 46 ¹ |
| Currency code, reconciliation | Code defining currency of reconciliation (see ISO 4217). | a 3 or n 3 (see 4.4.11) | 50 |
| Currency code, reconciliation fee | Code defining the currency of amount, reconciliation fee in the amounts, fees data element (see ISO 4217). | a 3 or n 3 (see 4.4.17) | 46 ¹ |
| Currency code, transaction | The local currency of the acquirer or source location of the transaction. Currency used in amount, transaction (see ISO 4217). | a 3 or n 3 | 49 |
| Data record | Other data required to be passed to support an administrative or file action message. | ans..999 (see 4.4.2) | 72 |
| Date, action | A date for a future action or a specific date such as a birth date. | n 6 YYMMDD | 73 |
| Date and time, local transaction | The local year, month, day and time the transaction takes place at the card acceptor location in authorization and financial messages. | n 12 YYMMDDhhmmss | 12 |
| Date and time, transmission | In file action, reversal, chargeback, reconciliation, administrative, fee collection and network management transactions, it is the year, month, day and time set by the initiator of the first message in the transaction. Date and time this message is sent by the message initiator. To be expressed in Coordinated Universal Time (UTC) (see ISO 8601); formerly known as Greenwich Mean Time (GMT). | n 10 MMDDhhmmss | 7 |
| Date, capture | The month and day the transaction data was processed by the acquirer. | n 4 MMDD | 17 |
| Date, conversion | The month and day the conversion rate is effective to convert the transaction amount from the original to reconciliation currency. | n 4 MMDD | 16 |
| Date, effective | The year and month in which the card becomes effective. | n 4 YYMM | 13 |
| Date, expiration | The year and month after which the card expires. | n 4 YYMM | 14 |
| Date, reconciliation | The year, month and day for which financial totals are reconciled between the acquirer and the card issuer. | n 6 YYMMDD | 28 |
| Date, settlement | The year, month and day for which funds shall be transferred between acquirer and card issuer. | n 6 YYMMDD | 15 |
| Debits, amount | The sum amount of amount, transaction in all financial transactions exclusive of any fees where positions 1-2 of the processing code in the financial transaction indicated a debit (00-19). | n 16 (see 4.4.8 and 4.4.11) | 88 |
| Debits, chargeback amount | The sum amount of amount, transaction in all chargeback transactions exclusive of any fees where positions 1-2 of the processing code in the chargeback transaction indicated a credit (20-29). | n 16 (see 4.4.8 and 4.4.11) | 106 |
| Debits, chargeback number | The sum number of all chargeback transactions where positions 1-2 of the processing code in the chargeback transaction indicated a credit (20-29). | n 10 (see 4.4.11) | 108 |

Table 9 — Data element directory, continued

| Name | Description | Representation | Bit |
|---|---|---|--|
| Debits, fee amounts | The sum amount of amount, fee in all authorization, financial, reversal and fee collection messages where the amount, fee, x, indicated a debit, "D". | ans.. 84 (see 4.4.8, 4.4.11, 4.4.19 and A.5) | 110 |
| Debits, number | The sum number of all financial transactions where positions 1-2 of the processing code in the financial transaction indicated a debit (00-19). | n 10 (see 4.4.11) | 76 |
| Debits, reversal amount | The sum amount of amount, transaction of all reversal transactions exclusive of any fees where positions 1-2 of the processing code in the reversal transaction indicated a credit (20-29). | n 16 (see 4.4.8 and 4.4.11) | 89 |
| Debits, reversal number | The sum number of all reversal transactions where positions 1-2 of the processing code in the reversal transaction indicated a credit (20-29). | n 10 (see 4.4.11) | 77 |
| Extended payment data | Number of months that the cardholder prefers to pay for this item if permitted by the card issuer. | n 2 | 67 |
| Fee collections, number | The sum number of all fee collection transactions. | n 10 (see 4.4.11) | 85 |
| Fee type code | Code indicating the type of fee. Contained in the data elements amounts, fees; credits, fee amounts; and debits, fee amounts. | n 2 (see 4.4.15, 4.4.17, 4.4.19 and A.5) | 46 ¹ , 109 ¹ , and 110 ¹ |
| File name | The actual or abbreviated name of the file being accessed. | ans..17 (see 4.4.1) | 101 |
| Forwarding institution identification code | Code identifying the forwarding institution. | n..11 (see 4.4.1, 4.4.4 and 4.4.16) | 33 |
| Function code | Code indicating the specific purpose of the message within its message class. | n 3 (see A.6 and 4.4.15) | 24 |
| Inquiries, number | The sum number of all authorization transactions processed where positions 1-2 of the processing code in the authorization transaction indicated an inquiry (30-39). | n 10 (see 4.4.11) | 80 |
| Inquiries, reversal number | The sum number of all reversal transactions processed where positions 1-2 of the processing code in the reversal transaction indicated an inquiry (30-39). | n 10 (see 4.4.11) | 82 |
| Integrated circuit card (ICC) system related data | Contains data related to integrated circuit card systems. The structure of this data element is described in ISO 10202. | b..255 (see 4.4.3) | 55 |
| Key management data | Contains data related to key management. | b..999 (see 4.4.3) | 96 |
| Merchant type | The classification of the merchant's type of business product or service. Codes to be developed within each country. | n 4 | 18 |
| Message authentication code (MAC) field | Used to validate the source and the text of the message between the sender and receiver. The last bit position within any bit map shall be reserved for the MAC field data element. If authentication is to be used on a message, the MAC field data element shall be represented by the final bit in the final bit map of that message. The final bit of the previous bit map shall contain zero, i.e., only one MAC field data element per message and the MAC field data element shall be the last data element of the message. (See ISO 9807.) | b 8 (see 4.4.3) | 64 or 128 |
| Message number | A number assigned to a message by the transaction originator and used to monitor the integrity and continuity of the data being exchanged. | n 8 | 71 |

Table 9 — Data element directory, continued

| Name | Description | Representation | Bit |
|--|--|---|--|
| Message reason code | Provides the receiver of a request, advice or notification message with the reason, or purpose, of that message. For original authorizations and financial transactions identifies why the type of message was sent (e.g., why an advice versus a request); for other messages, states why this action was taken. | n 4 (see A.7 and 4.4.15) | 25 |
| Number, fee total | The count of all fees of the fee type specified. Contained in the credits, fee amounts and debits, fee amounts data elements. | n 10 (see 4.4.19) | 109 ¹ or 110 ¹ |
| Original acquiring institution identification code | The acquiring institution identification code of the original financial transaction. Contained in the original data elements. | n..11 (see 4.4.1, 4.4.4, 4.4.6 and 4.4.16) | 56 ¹ |
| Original amount, fee | The original amount of the fee in a reversal, chargeback or partial approval. Contained in the amounts, original fees data element. | x + n 8 (see 4.4.8, 4.4.11 and 4.4.18) | 66 ¹ |
| Original amount, reconciliation | The original amount of the transaction expressed in the reconciliation currency (see tables 2, 3 and 5). Contained in the amounts, original data element. | n 12 (see 4.4.8, 4.4.10 and 4.4.11) | 30 ¹ |
| Original amount, reconciliation fee | The original amount of the fee expressed in the reconciliation currency (see tables 2, 3 and 5). Contained in the amounts, original fees data element. | x + n 8 (see 4.4.8, 4.4.11 and 4.4.18) | 66 ¹ |
| Original amount, transaction | The original amount of the transaction (see Table 2, 3 and 5). Contained in the amounts, original data element. | n 12 (see 4.4.8 and 4.4.10) | 30 ¹ |
| Original conversion rate, fee | The factor used in the conversion from transaction to reconciliation fee amount. The original amount fee is multiplied by original conversion rate, fee to determine original amount, reconciliation fee. Contained in the amounts, original fees data element. | n 8 (see 4.4.14 and 4.4.18) | 66 ¹ |
| Original currency code, fee | Code defining currency of original amount, fee. Contained in the amounts, original fees data element (see ISO 4217). | a 3 or n 3 (see 4.4.18) | 66 ¹ |
| Original currency code, reconciliation fee | Code defining currency of original amount, reconciliation fee. Contained in the amounts, original fees data element (see ISO 4217). | a 3 or n 3 (see 4.4.18) | 66 ¹ |
| Original data elements | The data elements contained in the original message, intended for transaction matching. | n..35 (see 4.4.1 and 4.4.6) | 56 |
| Original date and time, local transaction | The local date and time of the original transaction. Contained in the original data elements. | n 12 (see 4.4.6) | 56 ¹ |
| Original fee type code | Code used to indicate the type of fee. Contained in the original amounts, fees data element. | n 2 (see 4.4.15, 4.4.18 and A.5) | 66 ¹ |
| Original message type identifier | The message type identifier of the original transaction. Contained in the original data elements. | n 4 (see 4.4.6) | 56 ¹ |
| Original system trace audit number | The system trace audit number of the original transaction. Contained in the original data elements. | n 6 (see 4.4.6) | 56 ¹ |
| Payee | The third party beneficiary in a financial transaction where the processing code indicates a payment (50-59). | ans 25 | 98 |
| Payments, number | The sum number of all financial transactions processed where positions 1-2 of the processing code in the financial transaction indicated a payment (50-59). | n 10 (See 4.4.11) | 83 |
| Payments, reversal number | The sum number of all reversal transactions processed where positions 1-2 of the processing code in the reversal transaction indicated a payment (50-59). | n 10 (see 4.4.11) | 84 |

Table 9 — Data element directory, continued

| Name | Description | Representation | Bit |
|--|---|--|-----|
| Personal identification number (PIN) data | Used to identify the cardholder at the point of service. (See ISO 9564-1.) | b 8 (see 4.4.3) | 52 |
| Point of service data code | A series of codes intended to identify terminal capability, terminal environment and presentation security data. It shall be used to indicate specific conditions that are (or were) present at the time a transaction took place at the point of service and/or when the transaction has been initiated. | an 12 (see A.8 and 4.4.15) | 22 |
| Primary account number (PAN) | A series of digits used to identify a customer account or relationship. In reconciliation or fee collection messages this data element contains the card issuer's institution identification number only. (See ISO 7812.) | n..19 (see 4.4.1 and 4.4.5) | 2 |
| Primary account number (PAN), extended | Used only when the primary account number begins with "59" and contains a field separator as defined in ISO 4909 and shall be used to identify a customer account or relationship. | ns..28 (see 4.4.1 and 4.4.5) | 34 |
| Processing code | Code used to describe the effect of a transaction on the customer account and the accounts affected. | n 6 (see A.9 and 4.4.15) | 3 |
| Receiving institution identification code | Code identifying the receiving institution. | n..11 (see 4.4.1, 4.4.4 and 4.4.16) | 100 |
| Reconciliation indicator | A value used to allow reconciliation of time periods within a reconciliation date, the value being subject to bilateral agreement. | n 3 | 29 |
| Retrieval reference number | A reference supplied by the system retaining the original source information and used to assist in locating that information or a copy thereof. | anp 12 | 37 |
| Security related control information | Identifies security management information used in the current transaction or specifies security management information to be used in future transactions. | b..48 (see 4.4.3) | 53 |
| Service code | An identification of geographic/service availability (see ISO 7813). | n 3 | 40 |
| Settlement institution identification code | Code identifying settlement institution or its agent. | an..11 (see 4.4.1) | 99 |
| Systems trace audit number | A number assigned by a transaction originator to assist in identifying a transaction uniquely. The trace number remains unchanged for all messages within the transaction. | n 6 | 11 |
| Track 1 data | The information encoded on track 1 of the magnetic stripe as defined in ISO 7813, including field separators but excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein. | ans..76 (see 4.4.1) | 45 |
| Track 2 data | The information encoded on track 2 of the magnetic stripe as defined in ISO 7813, excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein. | z..37 (see 4.4.1) | 35 |
| Track 3 data | The information encoded on track 3 of the magnetic stripe as defined in ISO 4909, including field separators, but excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein. | z..104 (see 4.4.2) | 36 |
| Transaction description | Data describing additional characteristics of the transaction for billing, fee collection or representment purposes. This data element can be used to provide information about merchandise in an authorization or a financial transaction e.g., airline itineraries. | ans..100 (see 4.4.2) | 104 |

Table 9 — Data element directory, concluded

| Name | Description | Representation | Bit |
|---|--|--|-----|
| Transaction destination institution identification code | Code identifying the institution that is the transaction destination | n..11 (see 4.4.1, 4.4.4 and 4.4.16) | 93 |
| Transaction originator institution identification code | Code identifying the institution that is the transaction originator | n..11 (see 4.4.1, 4.4.4 and 4.4.16) | 94 |
| Transfer, number | The sum number of all financial transactions processed where positions 1-2 of the processing code in the financial transaction indicated a transfer (40-49). | n 10 (see 4.4.11) | 78 |
| Transfer, reversal number | The sum number of all reversal transactions processed where positions 1-2 of the processing code in the reversal transaction indicated a transfer (40-49). | n 10 (see 4.4.11) | 79 |
| Transport data | Contains data from the originator of the message that shall be returned unaltered in a response message. | ans..999 (see 4.4.2) | 59 |

¹ Bit position of the data element in which this data element is contained.

4.4 Requirements for data elements

4.4.1 Variable length data elements less than 100

For any variable length data element with a maximum length of less than 100 characters, an additional two numeric positions shall prefix the data element and shall give its length.

The format shall be LLVAR. None of the variable length data element definitions in this International Standard include the two numeric positions of length in the representation column in table 9.

All length attributes shall be right-aligned and zero filled, e.g., primary account number 123456789012 is represented by 12123456789012. The first "12" indicates 12 digits to follow.

4.4.2 Variable length data elements less than 1000

For any variable length data element with a maximum length of less than 1 000 characters, an additional three numeric positions shall prefix the data element and shall give its length.

The format shall be LLLVAR. None of the variable length data element definitions in this International Standard include the three numeric positions of length in the representation column in table 9.

All length attributes shall be right-aligned and zero filled, e.g., if Track 3 was included in a message and Track 3 contained only 70 characters of information, the data element would be represented as 070nnn...nnn. The "070" indicates 70 characters to follow.

4.4.3 Binary data elements

Binary data shall be grouped into blocks of 8 bits. The length attribute defines the number of such blocks present (e.g., the personal identification number data element has an attribute "b 8", i.e. 64 bits of data). In all "b" data elements, blocks of 8 bits are assumed to be left-aligned with trailing zeroes.

If the format indicates a variable length (LLVAR or LLLVAR) the first two or three numeric positions contain the length in 8 bit blocks of the binary data element which follows. Binary data elements shall have a length which is a multiple of 8 bits.

4.4.4 Identification of institutions

Card issuing institutions and their country codes shall be identified by the procedure specified in ISO 7812, ISO 3166 and annex A of ISO 4909. If the major industry identifier "59" is used, then the associated country code data element shall be used. Institutions that are not card issuers shall be identified by a six digit code as defined in 4.4.16.

In a transaction from acquirer or transaction originator to card issuer or transaction destination the values for these fields shall be as shown in table 10. The acquirer and card issuer remain the same for the life of the transaction. The authorizing agent shall be used in the response message to indicate where an agent stands in for the card issuer.

Where the transaction originator and transaction destination are used, they remain unchanged for the life of the transaction.

Table 10 — Usage of institution identification codes

For request, advice or notification messages:

| Institution identification code | Acquirer to A | A to B | B to C | C to Card Issuer |
|--|---|--------|--------|------------------|
| acquirer or transaction originator | remains the same throughout the transaction | | | |
| card issuer or transaction destination | remains the same throughout the transaction | | | |
| forwarding institution | (acquirer) | A | B | C |
| receiving institution | A | B | C | (card issuer) |

For a response message:

| Institution identification code | Issuer to C | C to B | B to A | A to Acquirer |
|--|---|--------|--------|---------------|
| acquirer or transaction originator | remains the same throughout the transaction | | | |
| card issuer or transaction destination | remains the same throughout the transaction | | | |
| forwarding institution | (card issuer) | C | B | A |
| receiving institution | C | B | A | (acquirer) |

Note: A, B and C represent potential agents that may be present between acquirers and card issuers.

4.4.5 Identification of account numbers

The following data elements shall contain account numbers used to identify a customer account or relationship and shall remain unchanged for the life of a transaction:

- a) Primary account number (PAN) or
- b) Primary account number, (PAN) extended.

The PAN or PAN, extended shall be present in a message but not both.

The following data elements shall be used to identify specific accounts held by the cardholder at the card issuer and if present, they shall remain unchanged for the life of a transaction :

- c) Account identification 1
- d) Account identification 2

4.4.6 Original data elements

These four data elements are in variable length format totalling a maximum of 35 numerics, including the length attribute of the original acquiring institution identification code:

- a) Original message type identifier n 4;
- b) Original system trace audit number n 6;

c) Original date and time, local transaction n 12;

d) Original acquiring institution identification code n..11 (LLVAR).

Absence of data shall be indicated by zeroes.

4.4.7 Action code

The numbering scheme for action codes shall be based upon the type of action and has no direct correlation to the message type identifier. The action codes are grouped as follows:

- 0xx — authorization/financial transaction approved
- 1xx — authorization/financial transaction denied
- 2xx — authorization/financial transaction denied, pick up card
- 3xx — file actions
- 4xx — reversal or chargeback actions
- 5xx — reconciliation actions
- 6xx — administrative actions
- 7xx — fee collection actions
- 8xx — network management actions
- 9xx — error/response actions

The action code values are in clause A.1.

4.4.8 Expression of amounts

The amount shall be expressed in the currency of the associated currency code data element. Where a minor unit of currency applies, amounts shall be expressed in the minor unit of currency, without a decimal separator. For example, an amount value of 100 in US currency signifies one US dollar, but 100 in Italian currency signifies 100 lire.

4.4.9 Card acceptor name/location

The card acceptor name/location data element shall consist of six data elements totalling up to 99 characters. The first three data elements are of variable length, separated from the remaining data elements and each other by a back slash (\). The remaining three data elements are fixed format as shown below:

- a) name\street\city\ans..83;
- b) postal code ans 10;
- c) region ans 3;
- d) country code a 3.

The last three positions shall contain the three character country code as defined in ISO 3166.

4.4.10 Original amounts

The amounts, original data element shall consist of two data elements in fixed length format totalling 24 digits:

- a) Original amount, transaction n12;
- b) Original amount, reconciliation n12.

Absence of data shall be indicated by zeroes. These data elements shall be used when attempting to partially reverse or partially chargeback a previous transaction or to perform a partial approval and shall contain the original amounts. They shall also be used when performing replacement or supplementary authorizations. The new transaction amounts shall be in the appropriate data elements. These amounts are for information only and shall not be used in the calculation of reconciliation totals.

4.4.11 Reconciliation

All amounts in the reconciliation messages are in the currency of reconciliation. The "x" portion of the fee data element, defined as $x + n 8$, shall contain a "D" if the fee is due to the acquirer or a "C" if the fee is due from the acquirer.

For the purposes of table 11 it is assumed that the transaction currency is the same currency as that of reconciliation. If the currency of reconciliation is different from that of the transaction, then the reconciliation amounts and fees shall be added to the reconciliation data elements in place of the transaction amounts and fees.

The first portion of table 11 identifies how the specific amount data elements from individual authorization, financial, reversal, chargeback and fee collection transactions shall be computed for reconciliation. The second portion identifies how the reconciliation counts shall be accumulated for inquiries, authorizations, payments, transfers, financials, reversals, chargebacks and fee collections.

A repeat (xxx1 or xxx3) message is not added to reconciliation totals unless the original message was not received.

For calculation of amount, net reconciliation:

add the sum of:

credits, fee amounts
credits, amount
credits, reversal amount
credits, chargeback amount

less the sum of:

debits, fee amounts
debits, amount
debits, reversal amount
debits, chargeback amount

equals:

amount, net reconciliation

If the amount, net reconciliation after completing the computation above results in a negative value the character "D" shall be inserted into the "x" portion of amount, net reconciliation otherwise the character "C" shall be inserted in the "x" portion.

Table 11 — Reconciliation calculation

| Amount Calculations | | | | |
|------------------------|--------------|------------------------------|------------------------------|---|
| MTI | | "x" portion of amounts, fees | Add data element: | To data element: |
| 11xx, 12xx, 14xx, 17xx | | C | amount, fee of amounts, fees | amount, fee total of credits, fee amounts |
| 11xx, 12xx, 14xx, 17xx | | D | | amount, fee total of debits, fee amounts |
| MTI | Original MTI | Processing Code | Add data element: | To data element |
| 12xx | -- | 00-19 | amount, transaction | debits, amount |
| 12xx | -- | 20-29 | | credits, amount |
| 14x0 | 12xx | 00-19 | | credits, reversal amount |
| 14x0 | 12xx | 20-29 | | debits, reversal amount |
| 14x2 | -- | 00-19 | | credits, chargeback amount |
| 14x2 | -- | 20-29 | | debits, chargeback amount |

| Count Calculations | | | | |
|--------------------|--------------|------------------------------|--------------------|--|
| MTI | | "x" portion of amounts, fees | Add | To data element: |
| 11xx, 12xx, 14xx | | C | numeric value of 1 | number, fees total of credits, fee amounts |
| 11xx, 12xx, 14xx | | D | | number, fees total of debits, fee amounts |
| MTI | Original MTI | Processing Code | Add | To data element: |
| 11xx | -- | 00-29 | numeric value of 1 | authorizations, number |
| 11xx | -- | 30-39 | | inquiries, number |
| 12xx | -- | 00-19 | | debits, number |
| 12xx | -- | 20-29 | | credits, number |
| 12xx | -- | 40-49 | | transfers, number |
| 12xx | -- | 50-59 | | payments, number |
| 14x0 | 12xx | 00-19 | | credits, reversal number |
| 14x0 | 12xx | 20-29 | | debits, reversal number |
| 14x2 | 12xx | 00-19 | | credits, chargeback number |
| 14x2 | 12xx | 20-29 | | debits, chargeback number |
| 14x0 | 11xx | 00-29 | | authorizations, reversal number |
| 14xx | -- | 30-39 | | inquiries, reversal number |
| 14xx | -- | 40-49 | | transfers, reversal number |
| 14xx | -- | 50-59 | | payments, reversal number |
| 17xx | -- | n/a | | fee collections, number |

4.4.12 Additional amounts

The amounts, additional data element shall consist of up to six sets of values. Each set of values shall consist of four parts in the following order :

- a) Account type, additional amounts, n2 as defined in positions 3 and 4 or positions 5 and 6 of the processing code data element.
- b) Amount type, additional amounts, n2. Amount type code values are in clause A.2.
- c) Currency code, additional amounts, n3 or a3.
- d) Amount, additional amounts, x + n12.

4.4.13 Use of Cardholder Billing Information

Amount, cardholder billing and amount cardholder billing fee may be used to:

- a) provide cardholder fee information in a financial transaction response (e.g., for printing on a receipt),
- b) provide the amount, transaction expressed in the currency of the cardholder in a response message (e.g., for printing on a receipt),
- c) provide the amount, transaction expressed in the currency of the cardholder in a request, advice or notification message when it is different from both the currency of transaction and currency of reconciliation.

4.4.14 Conversion Rates

The leftmost digit denotes the number of positions the decimal separator shall be moved from the right. Position 2-8 is the rate, e.g., a conversion rate value of 91234567 would equate to 0,001234567.

The maximum number of digits to the right of the decimal separator is 9, provided the first two digits to the right of the decimal separator are zeroes.

4.4.15 Maintenance of codes

Any institution or organization using this International Standard may submit an application to the ISO Secretariat of the Maintenance Agency for an additional code value for each data element referenced by this note.

The need for an additional code value shall be evidenced by a substantiated application, which may be submitted from any source (see clause 7).

4.4.16 Maintenance of institution identification codes

Any institution already holding an identification number assigned through ISO 7812 shall use that identification number as their institution identification

code. An institution involved in financial transaction interchange that does not have an identification number assigned through ISO 7812, shall apply for a number using the procedures described in clause 7.2.

4.4.17 Amounts, fees

The amounts, fees data element shall consist of up to six sets of values. Each set of values shall consist of six data elements in fixed length format totalling 34 characters as follows:

- a) fee type code, n 2
- b) currency code, fee, n 3 or a 3
- c) amount, fee, x + n 8
- d) conversion rate, fee, 8
- e) amount, reconciliation fee, x + n 8
- f) currency code, reconciliation fee, n 3

4.4.18 Amounts, original fees

The amounts, original fees data element shall consist of up to six sets of values. Each set of values shall consist of six data elements in fixed length format totalling 34 characters as follows:

- a) original fee type code, n 2
- b) original currency code, fee, n 3 or a 3
- c) original amount, fee, x + n 8
- d) original conversion rate, fee, n 8
- e) original amount, reconciliation fee, x + n 8
- f) original currency code, reconciliation fee, n 3

These data elements shall be used when attempting to partially reverse or partially chargeback a previous transaction, or to perform a partial approval and shall contain the original fee amounts. The new fee amounts shall be in the appropriate data elements. The original fee amounts are for information only and shall not be used in the calculation of reconciliation totals.

4.4.19 Fee amounts in reconciliation

Fees are accumulated for reconciliation in one of two data elements. The credits, fee amounts and debits, fee amounts data elements shall consist of up to six sets of values. Each set of values shall consist of three data elements in fixed length format totalling 24 characters as follows:

- a) fee type code, n 2
- b) amounts, fee total, n 12
- c) number, fee total, n 10

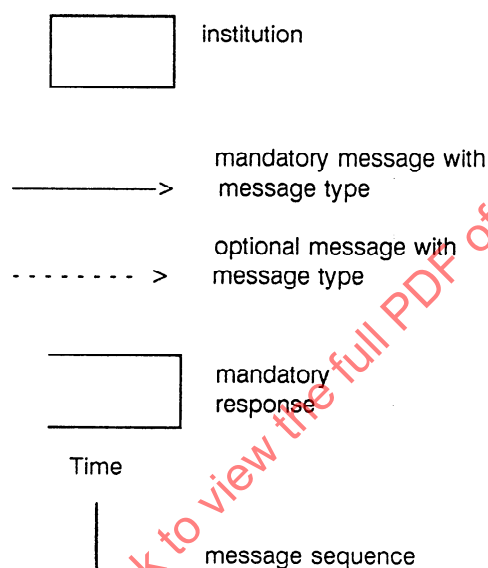
5 Message and transaction flows

5.1 General

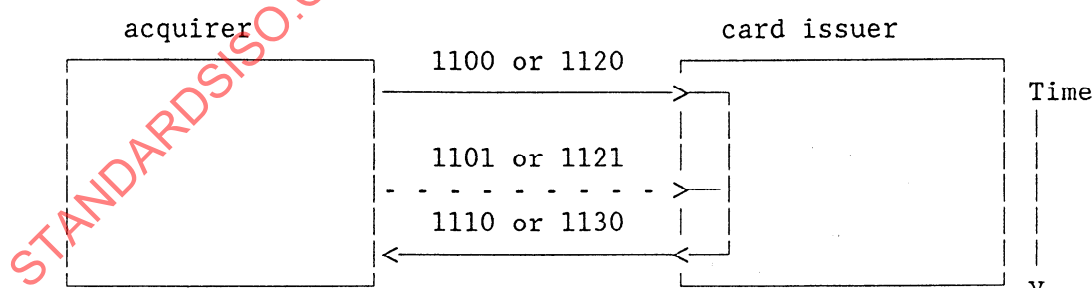
This International Standard specifies a message protocol i.e., the circumstances under which particular messages/transactions shall (or may) be sent, the relationship between one message and another, but not the commercial responsibilities which flow from a particular message/transaction being transmitted. The following shows mandatory and optional message and transaction sequences:

5.2 Message flow diagrams

The following symbols are used in the message flow diagrams:

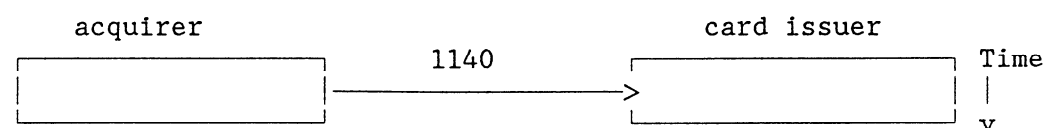


5.2.1 Authorization transactions



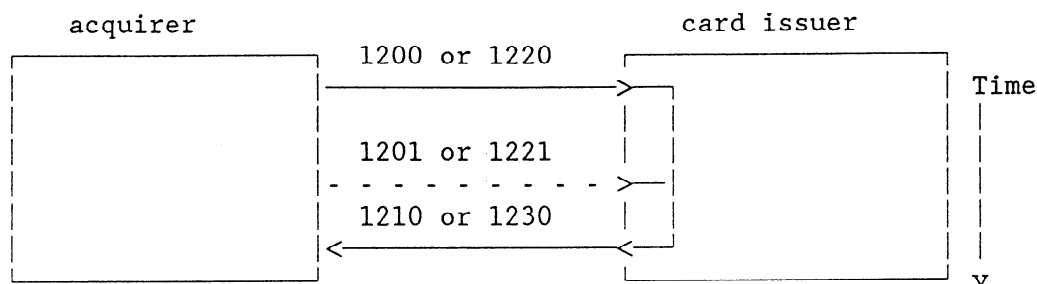
1100/1101 authorization request/authorization request repeat
1110 authorization request response

1120/1121 authorization advice/authorization advice repeat
1130 authorization advice response



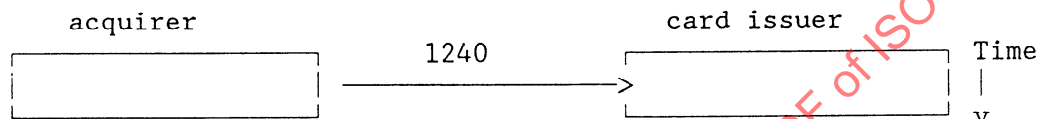
1140 authorization notification

5.2.2 Financial transactions



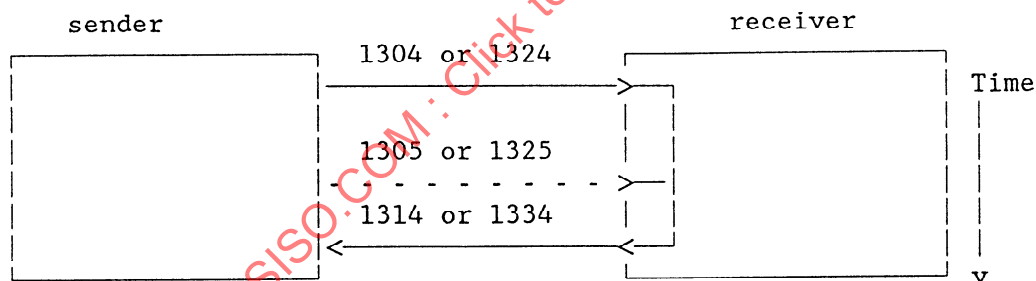
1200/1201 financial request/financial request repeat
1210 financial request response

1220/1221 financial advice/financial advice repeat
1230 financial advice response



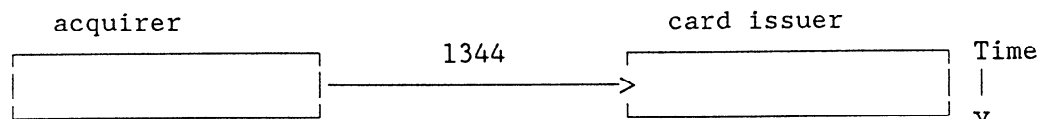
1240 financial notification

5.2.3 File action transactions



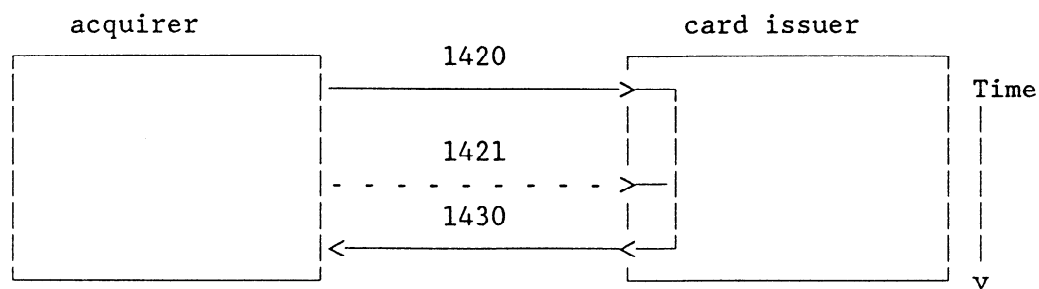
1304/1305 file action request/file action request repeat
1314 file action request response

1324/1325 file action advice/file action advice repeat
1334 file action advice response

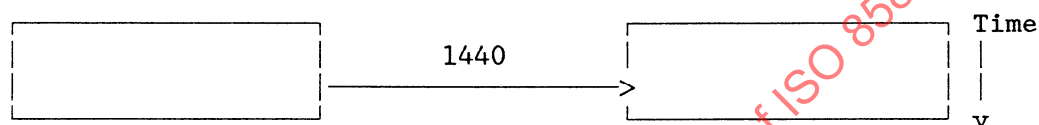


1344 file action notification

5.2.4 Reversal transactions

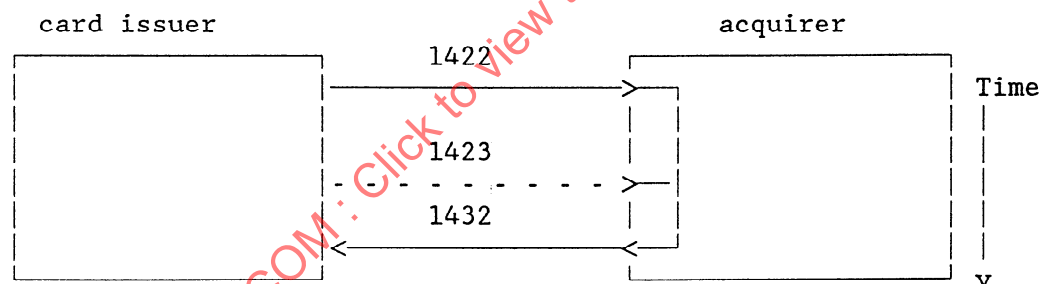


1420/1421 reversal advice/reversal advice repeat
 1430 reversal advice response

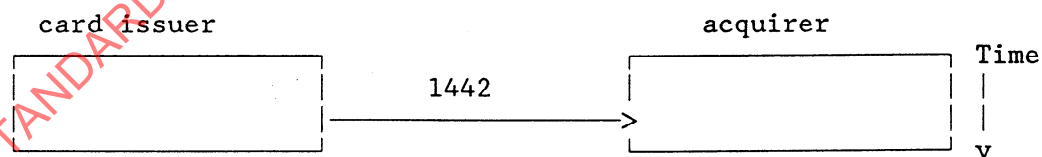


1440 reversal notification

5.2.5 Chargeback transactions

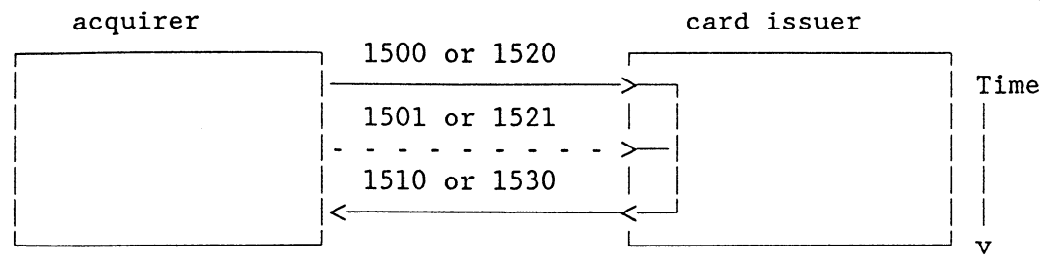


1422/1423 chargeback advice/chargeback advice repeat
 1432 chargeback advice response

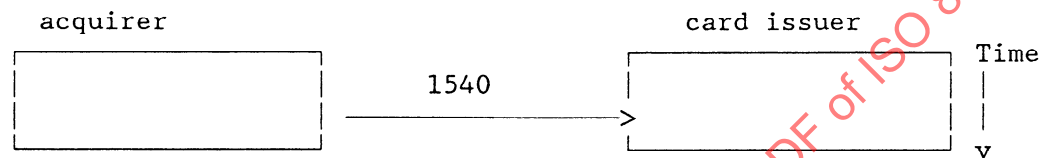


1442 chargeback notification

5.2.6 Acquirer reconciliation transactions

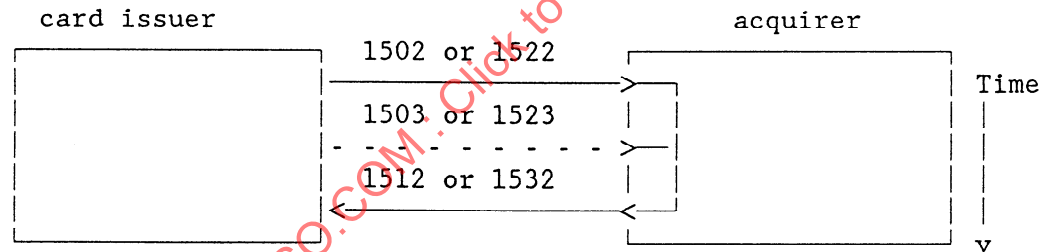


- 1500/1501 acquirer reconciliation request/acquirer reconciliation request repeat
- 1510 acquirer reconciliation request response
- 1520/1521 acquirer reconciliation advice/acquirer reconciliation advice repeat
- 1530 acquirer reconciliation advice response

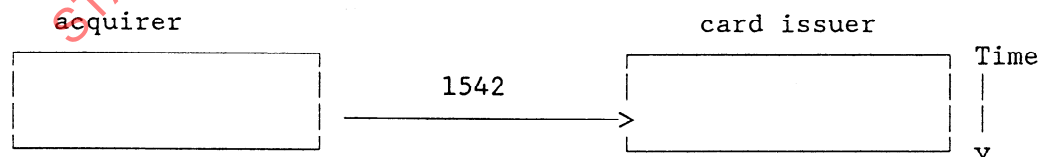


- 1540 acquirer reconciliation notification

5.2.7 Card issuer reconciliation transactions

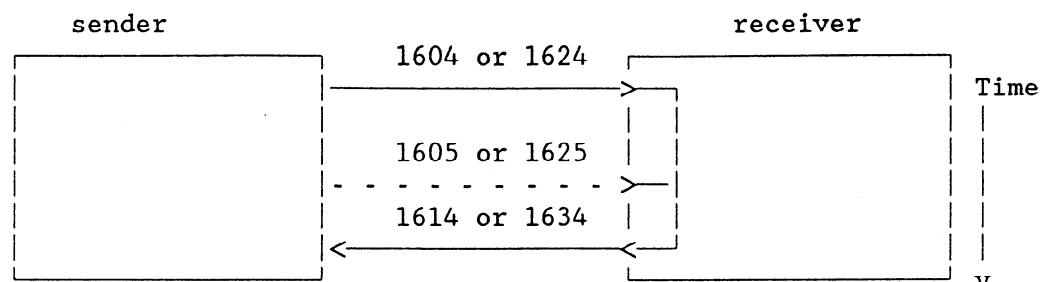


- 1502/1503 card issuer reconciliation request/card issuer reconciliation request repeat
- 1512 card issuer reconciliation request response
- 1522/1523 card issuer reconciliation advice/card issuer reconciliation advice repeat
- 1532 card issuer reconciliation advice response



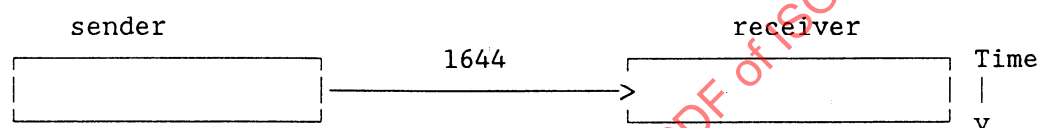
- 1542 card issuer reconciliation notification

5.2.8 Administrative transactions



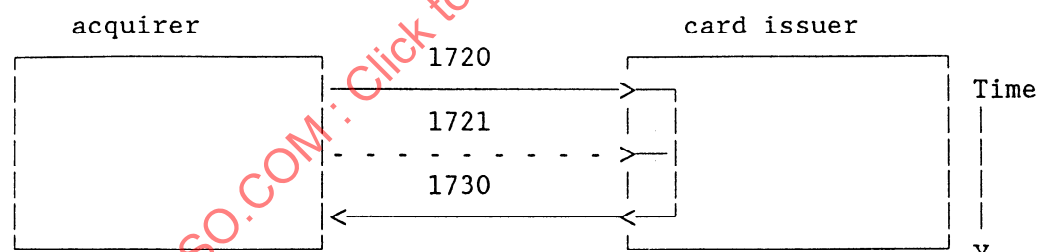
1604/1605 administrative request/administrative request repeat
 1614 administrative request response

1624/1625 administrative advice/administrative advice repeat
 1634 administrative advice response

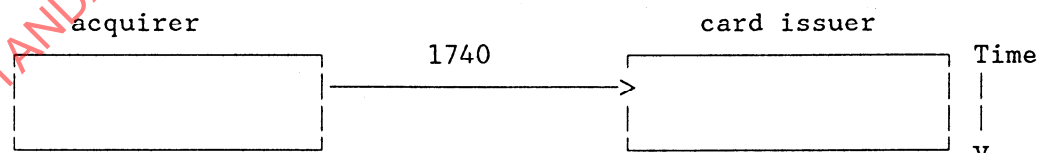


1644 administrative notification

5.2.9 Acquirer fee collection transactions

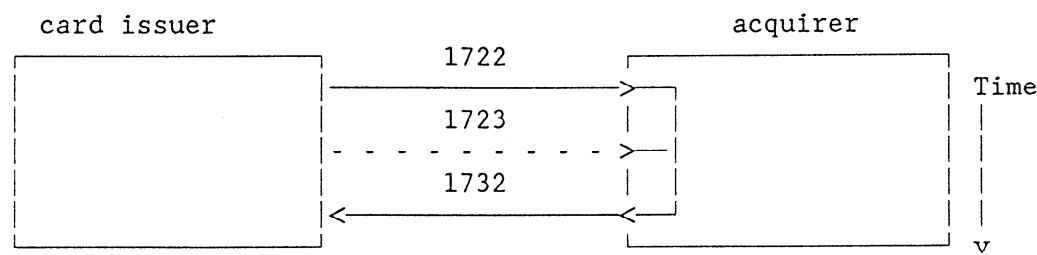


1720/1721 acquirer fee collection advice/acquirer fee collection advice repeat
 1730 acquirer fee collection advice response

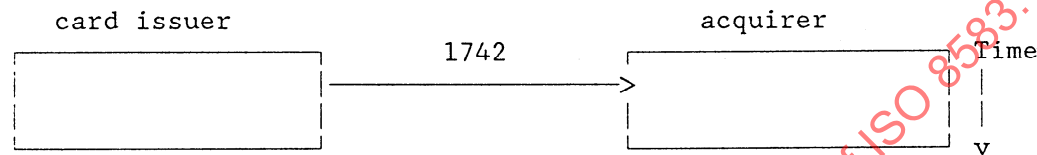


1740 acquirer fee collection notification

5.2.10 Card issuer fee collection transactions

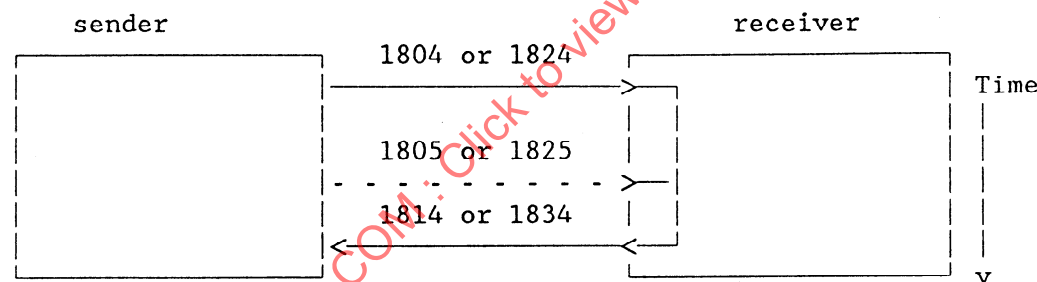


1722/1723 card issuer fee collection advice/card issuer fee collection advice repeat
1732 card issuer fee collection advice response



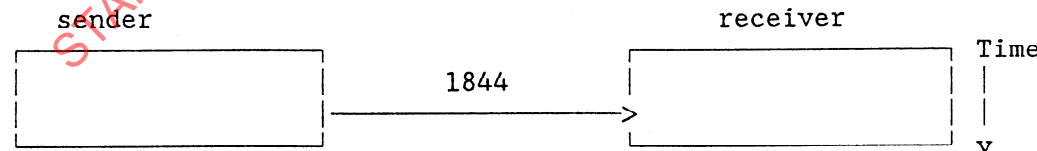
1742 card issuer fee collection notification

5.2.11 Network management transactions



1804/1805 network management request/network management request repeat
1814 network management request response

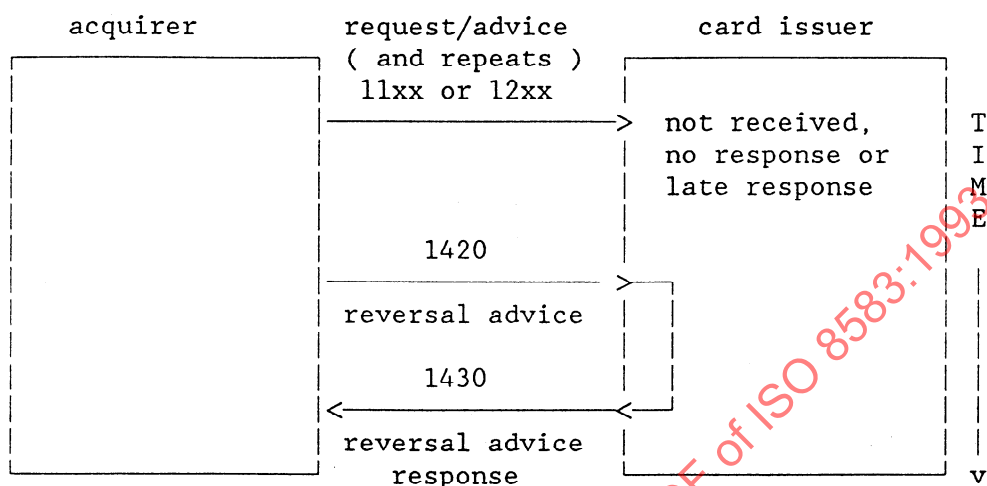
1824/1825 network management advice/network management advice repeat
1834 network management advice response



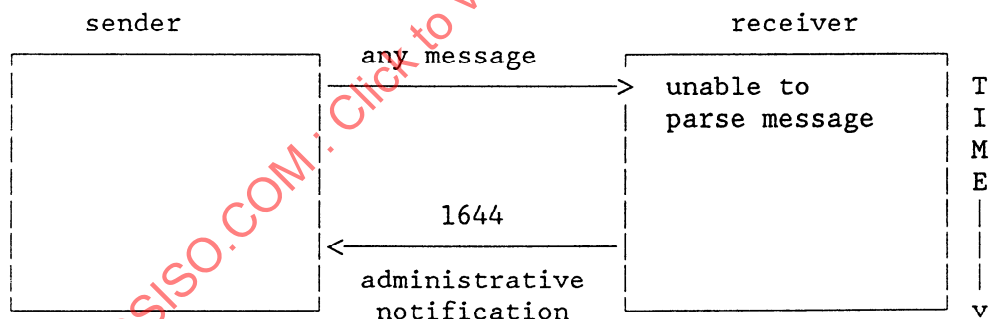
1844 network management notification

5.2.12 Exception Message Flows

If the original request/advice/repeat sequence is not responded to for whatever reason, the acquirer shall send a reversal. If the acquirer stands-in for the card issuer, the advice follows the reversal. A late response shall be ignored by the acquirer because a reversal (and possibly an advice) has been sent.

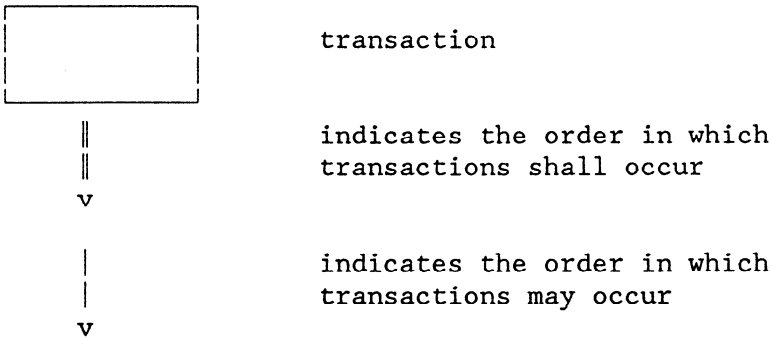


If a message cannot be identified (e.g., the message type identifier cannot be determined) the receiver may send a 1644 administrative notification message with a function code of "650" indicating inability to parse the original message.



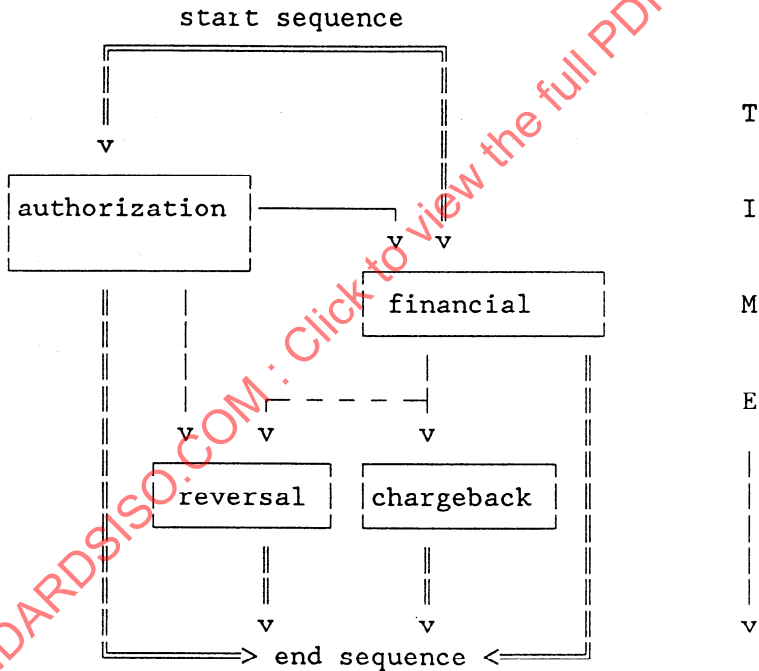
5.3 Transaction flow diagrams

The following symbols are used in the transaction flow diagrams :



5.3.1 Transaction flows for 11xx, 12xx, 14xx transactions

The following shows possible sequences of transactions relating to a single instance of business at a point of service in a full implementation of this standard.



5.3.2 Transaction flows for reconciliation

If the network management messages are used to initiate cutover, the following applies:

- The receiver of the network management request or advice message indicating cutover or checkpoint shall initiate new transactions with the new date, reconciliation or reconciliation indicator (as indicated in the network management request or advice message) only after sending the network management response message.
- The sender of the network management request or advice message indicating cutover or checkpoint shall initiate new transactions with the new date, reconciliation or reconciliation indicator only after receiving the network management response message.
- The reconciliation request or advice message shall be sent with the previous date reconciliation or reconciliation indicator only after receiving (or sending) the network management response message (see figure 2).

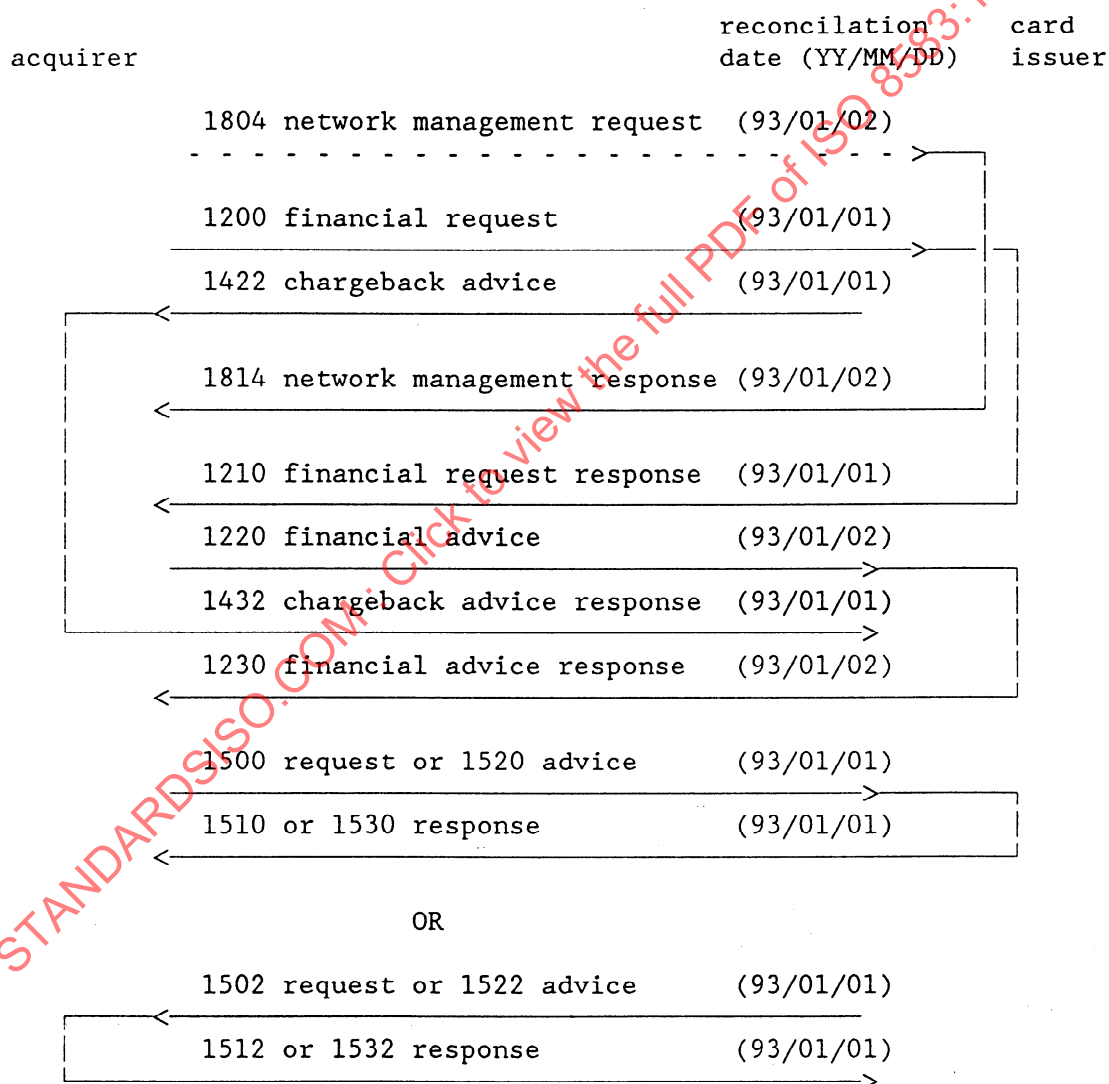


Figure 2 — Reconciliation example

6 Message and transaction matching

6.1 General

Where matching is required it is achieved by reference to a set of fixed unchanged data elements. Two types of matching are defined:

- a) matching within a transaction and
- b) matching between transactions.

6.2 Message matching

In order to match messages within a transaction, the response message shall return the data elements needed for matching. These are identified by condition codes ME, 16 and 27 in table 7B. Any or all of these data elements may be used by the originator of the transaction for matching.

6.3 Transaction matching

In order to achieve transaction matching any or all of the following data elements may be used:

- a) Primary account number (PAN).
- b) Original data elements as contained in the transaction being matched (see 4.4.6).
- c) Retrieval reference number of the original transaction.
- d) Approval code.

Conditions for these data elements are specified in Table 7B.

7 Maintenance Agency and Registration Authority

7.1 Maintenance of codes

A Maintenance Agency established by ISO Council shall act in accordance with the procedures specified in this International Standard. Membership shall consist of representatives of interested bodies appointed by Technical Committee ISO/TC 68.

7.1.1 Maintenance Agency responsibilities

These relate to all codes within this standard and are as follows:

- a) to develop the procedures for processing submitted applications;

b) to define the necessary conditions to be fulfilled for a code value to be allocated;

c) to ensure publication and dissemination of code listings.

7.1.2 Maintenance Agency functions

Functions are divided into two categories :

a) Those relating to ISO 8583 institution identification codes, which are entrusted to the Registration Authority (see 7.2).

b) Those relating to all other ISO 8583 codes, which are entrusted to the Maintenance Agency and its Secretariat (see 7.3).

7.2 ISO 8583 Institution identification codes

7.2.1 Registration Authority

For the purposes of this International Standard and according to the rules for designation and operation of registration authorities in the ISO Directives the ISO Council has appointed the American Bankers Association to act as Registration Authority.

7.2.2 Registration Authority functions

These relate to codes to be used to identify institutions involved in financial transaction interchange within the scope of this standard and that are not eligible for an issuer identification number (IIN) assigned through the procedures specified in ISO 7812. The functions are as follows:

a) to allocate one institution identification code per applicant, as required, for immediate use and to notify the applicant;

b) to prepare regular updating reports on applications and code assignments to the ISO 8583 Registration Management Group;

c) to maintain a register of the numbers assigned as institution identification codes.

7.2.3 Applications for ISO 8583 institution identification codes

An institution shall apply for an institution identification code using the form shown in annex C. The application shall be made to their national standards body, who will forward it to the Registration Authority.

7.3 All other ISO 8583 codes

7.3.1 Maintenance Agency Secretariat

For the purposes of this International Standard and according to ISO Directives, the ISO Council has designated AFNOR Association Française de Normalisation to act as the Secretariat for the Maintenance Agency.

7.3.2 Secretariat functions

Under the authority of the ISO Council, the Secretariat to the Maintenance Agency shall be entrusted with the following functions:

- a) to maintain the list of codes currently assigned within this standard (see annex A);
- b) to consult the Maintenance Agency and then process all submitted applications for new code values, inform the applicants whether their request has been granted and where appropriate make additions and changes to the list of codes;
- c) to establish in the normal course of work, additional rules for the practical application of the principles for assigning codes within this standard.

7.3.3 Applications for new code values

An institution shall apply for new code values using the form shown in annex C. The application shall be made to their national standards body, who will forward it to the Maintenance Agency. The application shall provide the following information:

- a) date of application;
- b) name of the applicant;
- c) name of data element;
- d) definition and proposed use;
- e) if applicable, description of mandatory or conditional use of new value;
- f) if applicable, describe impact on other data elements;
- g) date of implementation (indicate if special conditions of urgency apply);
- h) address for correspondence (name, address, telephone and fax/telex numbers, etc., of applicant).

8 Guidance on the use of this International Standard

8.1 Additional message types

This International Standard is so constructed that new message type identifiers may be added by either

amendment to this International Standard, or by use of the national or private series of message type identifiers within the terms of this International Standard.

8.2 Additional data elements

This International Standard is constructed so that new data elements may be added. An unassigned bit shall be required. Such assignment shall be made either by amendment to this International Standard or by national or private agreement within the terms of this International Standard.

The addition of a new data element is facilitated by the assignment of that data element to a position in the bit map and the use of that position to indicate the presence or absence of the new data element. In conjunction with the bit map technique, each data element is either fixed in length or preceded by a fixed length attribute "LL" or "LLL" indicating the length of the variable data to follow. The length attribute and data consume only one bit position in the bit map.

8.3 Mandatory and conditional data elements

The designation of a data element within a message as mandatory (M) is based upon one criterion ; the data element so designated is one that shall be present to support the purpose of the message. This designation may, in some cases, conflict with existing system capability or the needs of potential users of this International Standard. To avoid unnecessary controversy over these designations, it shall be understood that the designations apply to interchange messages between two or more systems or networks. If a self-contained network chooses to modify these designations for intrasystem use, this would not constitute a violation of this International Standard. If, however, a message is sent from one system to another, all parties in the system shall be prepared to meet the mandatory requirements unless these designations are bilaterally modified during the course of normal business negotiations by the systems involved.

The designation of a data element within a message as Conditional (nn) is based upon one criterion : the data element so designated is one that shall be present if the condition specified in table 8 is satisfied.

8.4 Unintentional introduction of control characters

A bit stream, such as a bit map, PIN or password data elements in the International Standard, may unintentionally introduce a control character into the transmission stream under certain communications protocols. Users of such protocols should take steps to avoid this occurrence.

Annex A

(normative)

Code listings

STANDARDSISO.COM : Click to view the full PDF of ISO 8583:1993

A.1 Action codes**Code Description**

000-099 Used in 1110, 1120, 1121, 1140 and 1210, 1220, 1221 and 1240 messages to indicate that the transaction has been approved.

000 approved

001 honour with identification

002 approved for partial amount

003 approved (VIP)

004 approved, update track 3

005 approved, account type specified by card issuer

006 approved for partial amount, account type specified by card issuer

007 approved, update ICC

008-059 reserved for ISO use

060-079 reserved for national use

080-099 reserved for private use

100-199 Used in 1110, 1120, 1121, 1140 and 1210, 1220, 1221 and 1240 messages to indicate that the transaction has been processed for authorization by or on behalf of the card issuer and has been denied (not requiring a card pick-up)

100 do not honour

101 expired card

102 suspected fraud

103 card acceptor contact acquirer

104 restricted card

105 card acceptor call acquirer's security department

106 allowable PIN tries exceeded

107 refer to card issuer

108 refer to card issuer's special conditions

109 invalid merchant

110 invalid amount

111 invalid card number

112 PIN data required

113 unacceptable fee

114 no account of type requested

115 requested function not supported

116 not sufficient funds

117 incorrect PIN

118 no card record

119 transaction not permitted to cardholder

120 transaction not permitted to terminal

121 exceeds withdrawal amount limit

122 security violation

123 exceeds withdrawal frequency limit

124 violation of law

125 card not effective

126 invalid PIN block

127 PIN length error

128 PIN key synch error

129 suspected counterfeit card

130-159 reserved for ISO use

160-179 reserved for national use

180-199 reserved for private use

200-299 Used in 1110, 1120, 1121, 1140 and 1210, 1220, 1221 and 1240 messages to indicate that the transaction has been processed for authorization by or on behalf of the card issuer and has been denied requiring the card to be picked up.

200 do not honour

201 expired card

202 suspected fraud

203 card acceptor contact acquirer

204 restricted card

205 card acceptor call acquirer's security department

206 allowable PIN tries exceeded

207 special conditions

208 lost card

209 stolen card

210 suspected counterfeit card

211-259 reserved for ISO use

260-279 reserved for national use

280-299 reserved for private use

300-399 Used in 1314, 1324, 1325 and 1344 messages to indicate the result of the file action.

300 successful

301 not supported by receiver

302 unable to locate record on file

303 duplicate record, old record replaced

304 field edit error

305 file locked out

306 not successful

307 format error

308 duplicate, new record rejected

309 unknown file

310-359 reserved for ISO use

360-379 reserved for national use

380-399 reserved for private use

| | | | |
|----------------|--|----------------|--|
| 400-499 | Used in 1430, 1432, 1440 and 1442 messages to indicate the result of the reversal or chargeback. | 860-879 | reserved for national use |
| 400 | accepted | 880-899 | reserved for private use |
| 401-459 | reserved for ISO use | 900 | Advice acknowledged, no financial liability accepted |
| 460-479 | reserved for national use | 901 | Advice acknowledged, financial liability accepted |
| 480-499 | reserved for private use | 902-949 | Used in request response and advice response messages to indicate transaction could not be processed. |
| 500-599 | Used in 1510, 1512, 1530 and 1532 messages to indicate the result of a reconciliation. | 902 | invalid transaction |
| 500 | reconciled, in balance | 903 | re-enter transaction |
| 501 | reconciled, out of balance | 904 | format error |
| 502 | amount not reconciled, totals provided | 905 | acquirer not supported by switch |
| 503 | totals not available | 906 | cutover in process |
| 504 | not reconciled, totals provided | 907 | card issuer or switch inoperative |
| 505-559 | reserved for ISO use | 908 | transaction destination cannot be found for routing |
| 560-579 | reserved for national use | 909 | system malfunction |
| 580-599 | reserved for private use | 910 | card issuer signed off |
| 600-699 | Used in 1614, 1624, 1625, and 1644 messages | 911 | card issuer timed out |
| 600 | accepted | 912 | card issuer unavailable |
| 601 | not able to trace back original transaction | 913 | duplicate transmission |
| 602 | invalid reference number | 914 | not able to trace back to original transaction |
| 603 | reference number/PAN incompatible | 915 | reconciliation cutover or checkpoint error |
| 604 | POS photograph is not available | 916 | MAC incorrect |
| 605 | item supplied | 917 | MAC key sync error |
| 606 | request cannot be fulfilled -required/ requested documentation is not available | 918 | No communication keys available for use |
| 607-659 | reserved for ISO use | 919 | encryption key sync error |
| 660-679 | reserved for national use | 920 | security software/hardware error — try again |
| 680-699 | reserved for private use | 921 | security software/hardware error — no action |
| 700-799 | Used in 1720, 1721, 1740, 1722, 1723 and 1742 messages. | 922 | message number out of sequence |
| 700 | accepted | 923 | request in progress |
| 701-749 | reserved for ISO use | 924-929 | reserved for ISO use |
| 750-769 | reserved for national use | 930-939 | reserved for national use |
| 770-799 | reserved for private use | 940-949 | reserved for private use |
| 800-899 | Used in 1814, 1824, 1825 and 1844 messages. | 950-999 | Used in advice response messages (1x3x) to indicate the reason for rejection of the transfer of financial liability. |
| 800 | accepted | 950 | violation of business arrangement |
| 801-859 | reserved for ISO use | 951-983 | reserved for ISO use |
| | | 984-991 | reserved for national use |
| | | 992-999 | reserved for private use |

A.2 Amount type codes**Code Description****00-19 Account related balances**

| | |
|-------|---------------------------|
| 00 | Reserved for ISO use |
| 01 | Account ledger balance |
| 02 | Account available balance |
| 03 | Amount owing |
| 04 | Amount due |
| 05 | Account available credit |
| 06-10 | Reserved for ISO use |
| 11-15 | Reserved for national use |
| 16-19 | Reserved for private use |

20-39 Card related amounts

| | |
|-------|-----------------------------|
| 20 | Amount remaining this cycle |
| 21-30 | Reserved for ISO use |
| 31-35 | Reserved for national use |
| 36-39 | Reserved for private use |

40-59 Transaction related amounts

| | |
|-------|---------------------------|
| 40 | Amount cash |
| 41 | Amount goods and services |
| 42-50 | Reserved for ISO use |
| 51-55 | Reserved for national use |
| 56-59 | Reserved for private use |
| 60-79 | Reserved for ISO use |
| 80-89 | Reserved for national use |
| 90-99 | Reserved for private use |

A.3 Authorization life cycle codes**Position 1 — time code****Code Description**

| | |
|-----|---------------------------|
| 0 | Reserved for ISO use |
| 1 | calendar days |
| 2 | hours |
| 3 | minutes |
| 4-5 | reserved for ISO use |
| 6-7 | reserved for national use |
| 8-9 | reserved for private use |

Position 2-3 — time interval**Code Description**

| | |
|-------|---|
| 01-99 | A value of 01 through 99 indicating the number of reiterations indicated in position 1. |
|-------|---|

A.4 Card acceptor business codes

The following codes are used to classify the type of business being done by the card acceptor for a transaction.

A.4.1 Card acceptor business codes (numerically)**Agricultural service****Code Description**

| | |
|------|--|
| 0742 | Veterinary services |
| 0763 | Agricultural cooperatives |
| 0780 | Landscaping and horticultural services |

Contracted services**Code Description**

| | |
|------|--|
| 1520 | General contractors-Residential buildings |
| 1711 | Heating, plumbing, air conditioning contractors |
| 1731 | Electrical contractors |
| 1740 | Masonry, stonework, tile setting, plastering, insulation contractors |
| 1750 | Carpentry |
| 1761 | Roofing, siding, sheet metal work |
| 1771 | Concrete work |
| 1799 | Special trade contractors, not elsewhere classified |

Transportation**Code Description**

| | |
|------|---|
| 4011 | Railroads |
| 4111 | Local and suburban commuter passenger transportation, including ferries |
| 4119 | Ambulance services |
| 4121 | Taxicabs, limousines |
| 4131 | Bus lines, charters, tour buses |

| | |
|------|---|
| 4214 | Motor freight carriers, trucking- local and long distance, moving and storage companies, local delivery |
| 4215 | Courier services — Air and ground, freight forwarders |
| 4225 | Public warehousing — Farm products, refrigerated goods, household goods, storage |
| 4411 | Steamships, cruise lines |
| 4457 | Boat rentals, boat leases |
| 4468 | Marinas, marine service-supplies |
| 4511 | Airlines, air carriers |
| 4582 | Airports, flying fields, airport terminals |
| 4722 | Travel agencies |
| 4761 | Telemarketing: travel related services, vitamins |
| 4784 | Tolls, bridge fees |
| 4789 | Transportation services, not elsewhere classified |

Utilities

Code Description

| | |
|------|--|
| 4812 | Telecommunication equipment including telephone sales |
| 4814 | Telecommunication service including local and long distance calls, credit card calls, calls through use of magnetic stripe reading telephones, fax services. |
| 4821 | Telegraph services |
| 4829 | Wire transfer, money orders |
| 4899 | Cable services |
| 4900 | Utilities — electric, gas, water, sanitary |

Retail Stores

Code Description

| | |
|------|--|
| 5211 | Lumber, building materials stores |
| 5231 | Glass, paint, wallpaper stores |
| 5251 | Hardware stores |
| 5261 | Nurseries, lawn, garden supply stores |
| 5271 | Mobile home dealers |
| 5310 | Discount stores |
| 5311 | Department stores |
| 5331 | Variety stores |
| 5399 | Miscellaneous general merchandise stores |
| 5411 | Grocery stores, supermarkets |
| 5422 | Freezer, locker meat provisioners |
| 5441 | Candy, nut, confectionery stores |

| | |
|------|---|
| 5451 | Dairy products stores |
| 5462 | Bakeries |
| 5499 | Miscellaneous food stores-specialty markets, convenience |
| 5511 | Automobile and truck dealers (new and used) sales, service, parts |
| 5521 | Automobile and truck dealers (used only) sales |
| 5531 | Auto stores, home supply stores |
| 5532 | Automotive tire stores |
| 5533 | Automotive parts, accessories stores |
| 5541 | Service stations |
| 5542 | Automated gasoline dispensers |
| 5551 | Boat dealers |
| 5561 | Recreational and utility trailers, camper dealers |
| 5571 | Motorcycle dealers |
| 5592 | Motor home dealers |
| 5598 | Snowmobile dealers |
| 5599 | Miscellaneous automotive dealers, not elsewhere classified |
| 5611 | Men's and boy's clothing and accessory stores |
| 5621 | Women's ready to wear stores |
| 5631 | Women's accessory and specialty stores |
| 5641 | Children's and infant's wear stores |
| 5651 | Family clothing stores |
| 5655 | Sports apparel, riding apparel stores |
| 5661 | Shoe stores |
| 5681 | Furriers, fur shops |
| 5691 | Men's and women's clothing stores |
| 5697 | Tailors, seamstresses, mending, alterations |
| 5698 | Wig and toupee stores |
| 5699 | Miscellaneous apparel and accessory stores |
| 5712 | Furniture, home furnishings and equipment stores, except appliances |
| 5713 | Floor covering stores |
| 5714 | Drapery, window coverings, upholstery |
| 5718 | Fireplace, fireplace screens and accessories stores |
| 5719 | Miscellaneous home furnishing specialty stores |
| 5722 | Household appliance stores |
| 5732 | Radio, television and stereo stores |
| 5733 | Music stores, musical instruments, pianos, sheet music |
| 5734 | Computer software stores |
| 5735 | Record stores |
| 5811 | Caterers |
| 5812 | Eating places, restaurants |

| | |
|------|---|
| 5813 | Drinking places (alcoholic beverages) — bars, taverns, nightclubs, cocktail lounges, discotheques |
| 5814 | Fast food restaurants |
| 5912 | Drug stores, pharmacies |
| 5921 | Package stores, beer, wine, liquor |
| 5931 | Used merchandise stores, second hand stores |
| 5932 | Antique shops |
| 5933 | Pawn shops |
| 5935 | Wrecking and salvage yards |
| 5937 | Antique reproduction stores |
| 5940 | Bicycle shops- sales and service |
| 5941 | Sporting goods stores |
| 5942 | Book stores |
| 5943 | Stationery, office and school supply stores |
| 5944 | Jewelry, watches, clocks and silverware stores |
| 5945 | Hobby, toy and game stores |
| 5946 | Camera and photographic supply stores |
| 5947 | Gift, card, novelty and souvenir stores |
| 5948 | Luggage and leather goods stores |
| 5949 | Sewing, needlework, fabric and piece goods stores |
| 5950 | Glassware and crystal stores |
| 5961 | Mail order houses including catalog order stores, book and record clubs |
| 5963 | Direct selling establishments, door-to-door sales |
| 5970 | Artist supply and craft stores |
| 5971 | Art dealers and galleries |
| 5972 | Stamp and coin stores-Philatelic and numismatic supplies |
| 5973 | Religious goods stores |
| 5974 | Rubber stamp stores |
| 5975 | Hearing aids-sales, service, supply stores |
| 5976 | Orthopedic goods — Artificial limb stores |
| 5977 | Cosmetic stores |
| 5978 | Typewriter stores — sales, service, rentals |
| 5983 | Fuel dealers — Fuel oil, wood, coal, liquified petroleum |
| 5992 | Florists |
| 5993 | Cigar stores and stands |
| 5994 | News dealers and newsstands |
| 5995 | Pet shops, pet food and supplies |
| 5996 | Swimming pools — sales and supplies |
| 5997 | Electric razor stores — sales and service |
| 5998 | Tent and awning stores |
| 5999 | Miscellaneous and specialty retail stores |

Service providers

| Code | Description |
|------|---|
| 6010 | Financial institutions — Manual cash disbursements |
| 6011 | Financial institutions — Automated cash disbursements |
| 6012 | Financial institutions — Merchandise and services |
| 6051 | Non financial institutions — Foreign currency, money orders (not wire transfer), scrip, travelers' checks, postage stamps |
| 6211 | Securities — brokers and dealers |
| 6300 | Insurance — sales and underwriting |
| 6381 | Insurance premiums |
| 6399 | Insurance, not elsewhere classified |
| 6611 | Overpayments, reclamation |
| 6760 | Savings bonds |
| 7011 | Lodging-hotels, motels, resorts |
| 7032 | Sporting and recreational camps, boys' and girls' camps |
| 7033 | Trailer parks and campgrounds |

Personal service providers

| Code | Description |
|------|---|
| 7210 | Laundry, cleaning and garment services |
| 7211 | Laundry services — family and commercial |
| 7216 | Dry cleaners |
| 7217 | Carpet and upholstery cleaning |
| 7221 | Photographic studios |
| 7230 | Beauty shops, barber shops |
| 7251 | Shoe repair shops, shoe shine parlors, hat cleaning shops |
| 7261 | Funeral service and crematories |
| 7273 | Dating and escort services |
| 7276 | Tax preparation service |
| 7277 | Counseling service — marriage, personal |
| 7278 | Buying and shopping services, clubs |
| 7279 | Debt counseling |
| 7280 | Hospital patient personal funds withdrawal accounts |
| 7295 | Babysitting services |
| 7296 | Clothing rental — costumes, uniforms |
| 7297 | Massage parlors |
| 7298 | Health and beauty spas |
| 7299 | Miscellaneous personal services, not elsewhere classified |

Business services**Code Description**

| | |
|------|--|
| 7311 | Advertising services |
| 7321 | Consumer credit reporting agencies |
| 7322 | Debt collection agencies |
| 7332 | Blueprinting and photocopying services |
| 7333 | Commercial photography, art, graphics |
| 7338 | Quick copy and reproduction services |
| 7339 | Stenographic services |
| 7341 | Window cleaning services |
| 7342 | Exterminating and disinfecting services |
| 7349 | Cleaning and maintenance, janitorial services |
| 7361 | Employment agencies, temporary help services |
| 7372 | Computer and data processing services |
| 7389 | Telemarketing other than travel related services |
| 7392 | Management, consulting, public relations services |
| 7393 | Detective agencies, protective agencies, security services, including armored cars, guard dogs |
| 7394 | Equipment rental and leasing services, tool rental, Furniture rental, appliance rental |
| 7395 | Photorefinishing laboratories, photo developing |
| 7399 | Business services — not elsewhere classified |
| 7512 | Automobile rental and leasing |
| 7513 | Truck and utility trailer rental |
| 7519 | Motor home and recreational vehicle rental |
| 7523 | Automobile parking lots and garages |

Repair services**Code Description**

| | |
|------|--|
| 7531 | Automotive body repair shops |
| 7534 | Tire retreading and repair shops |
| 7535 | Automotive paint shops |
| 7538 | Automotive repair shops (non-dealer) |
| 7542 | Car washes |
| 7549 | Towing services |
| 7622 | Radio, television and stereo repair shops |
| 7623 | Air conditioning and refrigeration repair shops |
| 7629 | Electrical and small appliance repair shops |
| 7631 | Watch, clock and jewelry repair shops |
| 7641 | Reupholstery and furniture repair, furniture refinishing |

7692 Welding

7699 Miscellaneous repair shops and related services

Amusement and entertainment**Code Description**

| | |
|------|---|
| 7832 | Motion picture theaters |
| 7833 | Motion picture theaters (quick payment services) |
| 7841 | Video rental stores |
| 7911 | Dance halls, studios, and schools |
| 7922 | Theatrical producers (except motion pictures), ticket agencies |
| 7929 | Bands, orchestras, entertainers |
| 7932 | Billiard and pool establishments |
| 7933 | Bowling alleys |
| 7941 | Commercial sports, professional sports clubs, athletic fields, sports promoters |
| 7991 | Tourist attractions and exhibits |
| 7992 | Golf courses — public |
| 7993 | Video amusement game supplies |
| 7994 | Video game arcades and establishments |
| 7995 | Betting (including lottery tickets, casino Gaming chips, off track betting, and wagers at race tracks) |
| 7996 | Amusement parks, circuses, carnivals, fortune tellers |
| 7997 | Membership clubs (sports, recreation, athletic), country clubs, private golf courses |
| 7998 | Aquariums, seaquariums, dolphinariums |
| 7999 | Recreation services (including swimming pools, miniature golf and driving ranges, ski slopes, sport and games instruction, boat rentals and aircraft rentals) |

Professional services and membership organization**Code Description**

| | |
|------|--------------------------------------|
| 8011 | Doctors |
| 8021 | Dentists, orthodontists |
| 8031 | Osteopathic physicians |
| 8041 | Chiropractors |
| 8042 | Optometrists, ophthalmologists |
| 8043 | Opticians |
| 8044 | Optical goods and eyeglasses |
| 8049 | Chiropodists, podiatrists |
| 8050 | Nursing and personal care facilities |
| 8062 | Hospitals |
| 8071 | Medical and dental laboratories |

| | |
|------|--|
| 8099 | Medical services, health practitioners, not elsewhere classified |
| 8111 | Legal services, attorneys |
| 8211 | Elementary and secondary schools |
| 8220 | Colleges, universities, professional schools and Junior colleges |
| 8241 | Correspondence schools |
| 8244 | Business and secretarial schools |
| 8249 | Vocational and trade schools |
| 8299 | Schools and educational services, not elsewhere classified |
| 8351 | Child care services |
| 8398 | Charitable and social service organizations |
| 8641 | Civic, social and fraternal associations |
| 8651 | Political organizations |
| 8661 | Religious organizations |
| 8675 | Automobile associations |
| 8699 | Membership organizations, not elsewhere classified |
| 8911 | Architectural, engineering, and surveying services |
| 8931 | Accounting, auditing and bookkeeping services |
| 8999 | Professional services, not elsewhere classified |

Government services**Code Description**

| | |
|------|--|
| 9211 | Court costs, including alimony and child support |
| 9222 | Fines |
| 9223 | Bail and bond payments |
| 9311 | Tax payments |
| 9399 | Government services, not elsewhere classified |
| 9401 | Food stamps |
| 9411 | Government loan payments |

A.4.2 Card acceptor business codes (alphabetically)**-A-****Code Description**

| | |
|------|---|
| 8931 | Accounting, auditing and bookkeeping services |
| 7311 | Advertising services |
| 0763 | Agricultural cooperatives |
| 7623 | Air conditioning and refrigeration repair shops |
| 4511 | Airlines, air carriers |

| | |
|------|---|
| 4582 | Airports, flying fields, airport terminals |
| 4119 | Ambulance services |
| 7999 | Amusement and recreation services, (including swimming pools, miniature golf and driving ranges, ski slopes, sport and games instruction, and boat rentals) |
| 7996 | Amusement parks, circuses, carnivals, fortune tellers |
| 5937 | Antique reproduction stores |
| 5932 | Antique shops |
| 7394 | Appliance rental |
| 7998 | Aquariums, seaquariums, dolphinariums |
| 5971 | Art dealers and galleries |
| 5970 | Artist supply and craft stores |
| 5531 | Auto stores, home supply stores |
| 5542 | Automated gasoline dispensers |
| 5511 | Automobile and truck dealers-(new and used)-sales, service, parts |
| 5521 | Automobile and truck dealers-(used only) sales |
| 8675 | Automobile associations |
| 7523 | Automobile parking lots and garages |
| 7512 | Automobile rental and leasing |
| 7531 | Automotive body repair shops |
| 7535 | Automotive paint shops |
| 5533 | Automotive parts, accessories stores |
| 7538 | Automotive repair shops (non-dealer) |
| 5532 | Automotive tire stores |

-B-**Code Description**

| | |
|------|--|
| 7295 | Babysitting services |
| 9223 | Bail and bond payments |
| 5462 | Bakeries |
| 7929 | Bands, orchestras, entertainers |
| 5813 | Bars |
| 7230 | Beauty shops, barber shops |
| 7995 | Betting (including lottery tickets, casino gaming chips, off track betting, and wagers at race tracks) |
| 5940 | Bicycle shops- sales and service |
| 7932 | Billiard and pool establishments |
| 7332 | Blueprinting and photocopying services |
| 5551 | Boat dealers |
| 4457 | Boat rentals, boat leases |
| 5942 | Book stores |
| 7933 | Bowling alleys |
| 4131 | Bus lines, charters, tour buses |
| 8244 | Business and secretarial schools |
| 7399 | Business services, not elsewhere classified |
| 7278 | Buying and shopping services, clubs |

-C-

| Code | Description |
|------|---|
| 4899 | Cable services |
| 5946 | Camera and photographic supply stores |
| 5441 | Candy, nut, confectionery stores |
| 7542 | Car washes |
| 1750 | Carpentry |
| 7217 | Carpet and upholstery cleaning |
| 5811 | Caterers |
| 8398 | Charitable and social service organizations |
| 8351 | Child care services |
| 5641 | Children's and infants' wear stores |
| 8049 | Chiropodists, podiatrists |
| 8041 | Chiropractors |
| 5993 | Cigar stores and stands |
| 8641 | Civic, social and fraternal associations |
| 7349 | Cleaning and maintenance, janitorial services |
| 7296 | Clothing rental — costumes, uniforms |
| 5813 | Cocktail lounges |
| 8220 | Colleges, universities, professional schools and junior colleges |
| 7333 | Commercial photography, art and graphics |
| 7941 | Commercial sports, professional sports clubs, athletic fields, sports promoters |
| 7372 | Computer and data processing services |
| 5734 | Computer software stores |
| 7321 | Consumer credit reporting agencies |
| 1771 | Concrete work |
| 8241 | Correspondence schools |
| 5977 | Cosmetic stores |
| 7279 | Counseling service — debt |
| 7277 | Counseling service — marriage, personal |
| 4215 | Courier services — air, ground, freight forwarders |
| 9211 | Court costs, including alimony and child support |

-D-

| Code | Description |
|------|---|
| 5451 | Dairy products stores |
| 7911 | Dance halls, studios, and schools |
| 7273 | Dating and escort services |
| 7322 | Debt collection agencies |
| 8021 | Dentists, orthodontists |
| 5311 | Department stores |
| 7393 | Detective agencies, protective agencies, and security services including armored cars, guard dogs |

| | |
|------|--|
| 5963 | Direct selling establishments, door-to-door sales |
| 5813 | Discotheques |
| 5310 | Discount stores |
| 8011 | Doctors |
| 5714 | Drapery |
| 5813 | Drinking places (alcoholic beverages) -bars, taverns, nightclubs, cocktail lounges, discotheques |
| 5912 | Drug stores, pharmacies |
| 7216 | Dry cleaners |

-E-

| Code | Description |
|------|--|
| 5812 | Eating places, restaurants |
| 5997 | Electric razor stores — sales and service |
| 7629 | Electrical and small appliance repair shops |
| 1731 | Electrical contractors |
| 8211 | Elementary and secondary schools |
| 7361 | Employment agencies, temporary help services |
| 8911 | Engineering, architectural and surveying services |
| 7394 | Equipment rental, and leasing services, tool rental, furniture rental and appliance rental |
| 7342 | Exterminating and disinfecting services |

-F-

| Code | Description |
|------|--|
| 5651 | Family clothing stores |
| 5814 | Fast food restaurants |
| 6011 | Financial institutions — automated cash disbursements |
| 6010 | Financial institutions — manual cash disbursements |
| 6012 | Financial institutions — Merchandise and services |
| 9222 | Fines |
| 5718 | Fireplace, fireplace screens and accessories stores |
| 5713 | Floor covering, rug and carpet stores |
| 5992 | Florists |
| 9401 | Food stamps |
| 5422 | Freezer, locker meat provisioners |
| 5983 | Fuel dealers — fuel oil, wood, coal, liquified petroleum |
| 7261 | Funeral service and crematories |
| 5712 | Furniture, home furnishings and equipment stores, except appliance |
| 7394 | Furniture rental |
| 5681 | Furriers, fur shops |

-G-**Code Description**

| | |
|------|---|
| 1520 | General contractors-residential buildings |
| 5947 | Gift, card, novelty and souvenir stores |
| 5231 | Glass, paint, wallpaper stores |
| 5950 | Glassware and crystal stores |
| 7992 | Golf courses — public |
| 9411 | Government loan payments |
| 9399 | Government services, not elsewhere classified |
| 5411 | Grocery stores, supermarkets |

-H-**Code Description**

| | |
|------|--|
| 5251 | Hardware stores |
| 7298 | Health and beauty spas |
| 5975 | Hearing aid sales, service, supply stores |
| 1711 | Heating, plumbing, air conditioning contractors |
| 5945 | Hobby, toy and game stores |
| 8062 | Hospitals |
| 7280 | Hospital patient personal funds withdrawal account |
| 5722 | Household appliance stores |

-I-**Code Description**

| | |
|------|-------------------------------------|
| 6399 | Insurance, not elsewhere classified |
| 6300 | Insurance — sales and underwriting |
| 6381 | Insurance premiums |

-J-**Code Description**

| | |
|------|--|
| 7349 | Janitorial services |
| 5944 | Jewelry, watches, clocks and silverware stores |

-L-**Code Description**

| | |
|------|--|
| 0780 | Landscaping and horticultural services |
| 7211 | Laundry services — family and commercial |
| 7210 | Laundry, cleaning and garment services |
| 8111 | Legal services, attorneys |

| | |
|------|---|
| 4111 | Local and suburban commuter passenger transportation, including ferries |
| 7011 | Lodging — hotels, motels, resorts |
| 5948 | Luggage and leather goods stores |
| 5211 | Lumber, building materials stores |

-M-**Code Description**

| | |
|------|---|
| 5961 | Mail order houses including catalog order stores, book and record clubs |
| 7392 | Management, consulting, public relations services |
| 4468 | Marinas, marine service-supplies |
| 1740 | Masonry, stonework, tile setting, plastering, insulation contractors |
| 7297 | Massage parlors |
| 8071 | Medical and dental laboratories |
| 8099 | Medical services, health practitioners, not elsewhere classified |
| 7997 | Membership clubs (sports, recreation, athletic), country clubs, private golf courses |
| 8699 | Membership organizations; not elsewhere classified |
| 5611 | Men's and boys' clothing and accessory stores |
| 5691 | Men's and women's clothing stores |
| 5999 | Miscellaneous and specialty retail stores |
| 5699 | Miscellaneous apparel and accessory stores |
| 5599 | Miscellaneous automotive dealers, not elsewhere classified |
| 5499 | Miscellaneous food stores-specialty, markets, convenience |
| 5399 | Miscellaneous general merchandise stores |
| 5719 | Miscellaneous home furnishing specialty stores |
| 7299 | Miscellaneous personal services, not elsewhere classified |
| 7699 | Miscellaneous repair shops and related services |
| 5271 | Mobile home dealers |
| 7832 | Motion picture theaters |
| 7833 | Motion picture theaters (quick payment service) |
| 4214 | Motor freight carriers, trucking- local and long distance, moving and storage companies, local delivery |
| 7519 | Motor home and recreational vehicle rental |
| 5592 | Motor home dealers |
| 5571 | Motorcycle dealers |
| 5733 | Music stores, musical instruments, pianos, sheet music |

-N-

| Code | Description |
|------|---|
| 5994 | News dealers and newsstands |
| 5813 | Nightclubs |
| 6051 | Non financial institutions — foreign currency, money orders (not wire transfer), scrip travelers checks, postage stamps, and quasi cash |
| 5261 | Nurseries, lawn, garden supply stores |
| 8050 | Nursing and personal care facilities |

-O-

| Code | Description |
|------|---|
| 8044 | Optical goods and eyeglasses |
| 8043 | Opticians |
| 8042 | Optometrists, ophthalmologists |
| 5976 | Orthopedic goods — artificial limb stores |
| 8031 | Osteopathic physicians |
| 6611 | Overpayments |

-P-

| Code | Description |
|------|--|
| 5921 | Package stores, — beer, liquor, wine |
| 5933 | Pawn shops |
| 8050 | Personal care services |
| 5995 | Pet shops, pet food and supplies |
| 7395 | Photorefinishing laboratories, photo developing |
| 7221 | Photographic studios |
| 8651 | Political organizations |
| 8999 | Professional services, not elsewhere classified |
| 4225 | Public warehousing — farm products, refrigerated goods, household goods, storage |

-Q-

| Code | Description |
|------|--------------------------------------|
| 7338 | Quick copy and reproduction services |

-R-

| Code | Description |
|------|--|
| 7622 | Radio, television and stereo repair shops |
| 5732 | Radio, television and stereo stores |
| 4011 | Railroads |
| 5735 | Record stores |
| 5561 | Recreational and utility trailers, camper dealers |
| 5973 | Religious goods stores |
| 8661 | Religious organizations |
| 5812 | Restaurants |
| 7641 | Reupholstery and furniture repair, furniture refinishing |
| 1761 | Roofing and siding, sheet metal work |
| 5974 | Rubber stamp stores |

| Code | Description |
|------|--|
| 6760 | Savings bonds |
| 8299 | Schools and educational services, not elsewhere classified |
| 6211 | Securities — brokers and dealers |
| 5541 | Service stations |
| 5949 | Sewing, needlework, fabric and piece goods stores |
| 7251 | Shoe repair shops, shoe shine parlors, hat cleaning shops |
| 5661 | Shoe stores |
| 5598 | Snowmobile dealers |
| 1799 | Special trade contractors, not elsewhere classified |
| 7032 | Sporting and recreational camps, boys' and girls' camps |
| 5941 | Sporting goods stores |
| 5655 | Sports apparel, riding apparel stores |
| 5972 | Stamp and coin stores — philatelic and numismatic supplies |
| 5943 | Stationery, office and school supply stores |
| 4411 | Steamships, cruise Lines |
| 7339 | Stenographic services |
| 5996 | Swimming pools — sales and supplies |

-T-

| Code | Description |
|------|--|
| 5697 | Tailors, seamstresses, mending, alterations |
| 5813 | Taverns |
| 9311 | Tax payments |
| 7276 | Tax preparation service |
| 4121 | Taxicabs limousines |
| 4821 | Telegraph services |
| 4761 | Telemarketing: travel related services, vitamins |
| 4814 | Telecommunication service including local and long distance calls, credit card calls, calls through use of magnetic stripe reading telephones, fax service |
| 4812 | Telecommunication equipment including telephone sales |
| 7361 | Temporary help services |
| 5998 | Tent and awning stores |
| 7922 | Theatrical producers (except motion pictures), ticket agencies |
| 7534 | Tire retreading and repair shops |
| 4784 | Tolls, bridge fees |
| 7394 | Tool rental |
| 7549 | Towing services |
| 7991 | Tourist attractions and exhibits |
| 7033 | Trailer parks and campgrounds |
| 4011 | Trains |
| 4789 | Transportation services, not elsewhere classified |
| 4722 | Travel agencies |
| 9700 | Travellers cheques, foreign currency, money, scrip, precious metals |
| 7513 | Truck and utility trailer rental |
| 5978 | Typewriter stores — sales, service, rentals |

-U-

| Code | Description |
|------|---|
| 5931 | Used merchandise stores, second hand stores |
| 4900 | Utilities — electric, gas, water, sanitary |

-V-

| Code | Description |
|------|-------------------------------|
| 5331 | Variety stores |
| 0742 | Veterinary services |
| 7993 | Video amusement game supplies |

| | |
|------|---------------------------------------|
| 7994 | Video game arcades and establishments |
| 7841 | Video rental stores |
| 8249 | Vocational and trade schools |

-W-

| Code | Description |
|------|--|
| 7631 | Watch, clock and jewelry repair shops |
| 7692 | Welding |
| 5698 | Wig and toupee stores |
| 7341 | Window cleaning services |
| 5714 | Window covering upholstery services |
| 4829 | Wire transfer, money orders |
| 5631 | Women's accessory and specialty stores |
| 5621 | Women's ready to wear stores |
| 5935 | Wrecking and salvage yards |

A.5 Fee type codes

| Code | Description |
|-------|---|
| 00 | transaction fee |
| 01 | transaction processing fee |
| 02 | fee collection fee |
| 03 | file action fees |
| 04 | telex, telephone and cable charges |
| 05 | auto-telex charges |
| 06 | lost/stolen card report fees |
| 07 | merchant service fees |
| 08 | recovered card awards |
| 09 | invalid chargeback handling fee |
| 10 | recovery of copy/original fees |
| 11 | returned guaranteed cheque |
| 12 | emergency cash disbursement handling fee |
| 13 | arbitration cash disbursement handling fee |
| 14 | incorrect merchant identification / transaction data handling fee |
| 15 | currency conversion fee |
| 16 | special handling fee |
| 17 | investigation fees |
| 18 | emergency card replacement fee |
| 19 | warning bulletin handling fee |
| 20 | good faith acceptance |
| 21 | collection letters |
| 22-39 | reserved for ISO use |
| 40-69 | reserved for national use |
| 70-99 | reserved for private use |

A.6 Function codes**Code Description****000-099** reserved for ISO use**100-199** Used in 1100, 1101, 1120, 1121 and 1140 messages

100 original authorization — amount accurate

101 original authorization — amount estimated

102 replacement authorization — amount accurate

103 replacement authorization — amount estimated

104 resubmission — amount accurate

105 resubmission — amount estimated

106 supplementary authorization — amount accurate

107 supplementary authorization — amount estimated

108 inquiry

109-159 reserved for ISO use

160-179 reserved for national use

180-199 reserved for private use

200-299 Used in 1200, 1201, 1220, 1221 and 1240 messages

200 original financial request/advice

201 previously approved authorization — amount same

202 previously approved authorization — amount differs

203 resubmission of a previously denied financial request

204 resubmission of a previously reversed financial transaction

205 first representment

206 second representment

207 third or subsequent representment

208-259 reserved for ISO use

260-279 reserved for national use

280-299 reserved for private use

300-399 Used in 1304, 1305, 1324, 1325 and 1344 messages

300 unassigned

301 add record

302 change record (see note 1)

303 delete record

304 replace record

305 inquiry

306 replace file

307 add file

308 delete file

309 card administration

310-359 reserved for ISO use

360-379 reserved for national use

380-399 reserved for private use

400-449 Used in 1420, 1421 and 1440 messages to indicate the function of the reversal

400 full reversal, transaction did not complete as approved

401 partial reversal, transaction did not complete for full amount

402-419 reserved for ISO use

420-439 reserved for national use

440-449 reserved for private use

450-499 Used in 1422, 1423 and 1442 messages to indicate the function of the chargeback

450 first chargeback, full

451 second chargeback, full

452 third or subsequent chargeback, full

453 first chargeback, partial

454 second chargeback, partial

455 third or subsequent chargeback, partial

456-469 reserved for ISO use

470-489 reserved for national use

490-499 reserved for private use

500-599 Used in 1500, 1501, 1502, 1503, 1520, 1521, 1522, 1523, 1540 and 1542 messages

500 final reconciliation

501 checkpoint reconciliation

502 final reconciliation in a specified currency

503 checkpoint reconciliation in a specified currency

504 request for reconciliation totals

505-539 reserved for ISO use

540-569 reserved for national use

570-599 reserved for private use

600-649 Used in 1604, 1605, 1624, 1625 and 1644 messages for retrievals

600 original receipt, retrieval request
 601 original receipt, repeat retrieval request
 602 original receipt, fulfillment
 603 copy, retrieval request
 604 copy, repeat retrieval request
 605 copy, fulfillment
 606 vehicle rental agreement
 607 hotel charge detail
 608 POS photograph
 609 proof of delivery
 610 imprint
 611-629 reserved for ISO use
 630-639 reserved for national use
 640-649 reserved for private use

650-699 Used in 1604, 1605, 1624, 1625 and 1644 messages for administrative messages

650 unable to parse message
 651-669 reserved for ISO use
 670-689 reserved for national use
 689-699 reserved for private use

700-799 Used in 1720, 1721, 1740, 1722, 1723 and 1742 messages

700 fee collection message
 701 fee collection cancellation, full/partial
 702-759 reserved for ISO use
 760-779 reserved for national use
 780-799 reserved for private use

800-899 Used in 1804, 1805, 1824, 1825 and 1844 messages

800 reserved for ISO use
 801 system condition/sign-on
 802 system condition/sign-off
 803 system condition/target system unavailable
 804 system condition/message originator's system in backup
 805 system condition/special instruction
 806 system condition/initiate alternate routing
 807-810 reserved for ISO use
 811 system security/key change
 812 system security/security alert
 813 system security/password change
 814 system security/device authentication

815-820 reserved for ISO use
 821 system accounting/cutover
 822 system accounting/checkpoint
 823-830 reserved for ISO use
 831 system audit control/echo test
 832-859 reserved for ISO use
 860-879 reserved for national use
 880-899 reserved for private use
 900-939 reserved for ISO use
 940-969 reserved for national use
 970-999 reserved for private use

NOTE 1 To be used when fields within a record are being replaced; if the entire record is being changed code 304 is recommended.

A.7 Message reason codes

| Code | Description |
|------|-------------|
|------|-------------|

| | |
|------------------|------------------|
| 0000-0999 | reserved for ISO |
|------------------|------------------|

| | |
|------------------|---|
| 1000-1499 | Reason for an advice/notification message rather than a request message |
|------------------|---|

| | |
|-----------|---|
| 1000 | stand-in processing at the card issuer's option |
| 1001 | card issuer signed off |
| 1002 | card issuer timed out on original request |
| 1003 | card issuer unavailable |
| 1004 | terminal processed |
| 1005 | ICC processed |
| 1006 | under floor limit |
| 1007 | stand-in processing at the acquirer's option |
| 1008-1150 | reserved for ISO use |
| 1151-1375 | reserved for national use |
| 1376-1499 | reserved for private use |

| | |
|------------------|---|
| 1500-1999 | Reason for a request message rather than an advice/notification message |
|------------------|---|

| | |
|------|--|
| 1500 | ICC application, common data file unable to process |
| 1501 | ICC application, application data file unable to process |
| 1502 | ICC random selection |
| 1503 | terminal random selection |
| 1504 | terminal not able to process ICC |
| 1505 | on line forced by ICC (CDF or ADF) |
| 1506 | on line forced by card acceptor |
| 1507 | on line forced by CAD to be updated |
| 1508 | on line forced by terminal |

| | | | |
|------------------|---|------------------|--|
| 1509 | on line forced by card issuer | 4006 | response received too late |
| 1510 | over floor limit | 4007 | card acceptor device unable to complete transaction |
| 1511 | merchant suspicious | 4008 | deposit out of balance |
| 1512-1650 | reserved for ISO use | 4009 | no check in envelope |
| 1651-1775 | reserved for national use | 4010 | payment out of balance |
| 1776-1999 | reserved for private use | 4011 | deposit out of balance/applied contents |
| 2000-2999 | Reason for a representment | 4012 | payment out of balance/applied contents |
| 2000 | general — invalid chargeback | 4013 | unable to deliver message to point of service |
| 2001 | invalid acquirer reference number on chargeback | 4014 | suspected malfunction/card retained |
| 2002 | non-receipt of required documentation to support chargeback | 4015 | suspected malfunction/card returned |
| 2003 | correct transaction date provided | 4016 | suspected malfunction/track 3 not updated |
| 2004 | correct merchant description provided (DBA) | 4017 | suspected malfunction/no cash dispensed |
| 2005 | correct merchant location provided | 4018 | timed-out at taking money/no cash dispensed |
| 2006 | incorrect transaction date provided on chargeback | 4019 | timed-out at taking card/card retained and no cash dispensed |
| 2007 | transaction did not exceed merchant floor limit | 4020 | invalid response, no action taken |
| 2008 | transaction authorized by issuer | 4021 | timeout waiting for response |
| 2009 | no error in addition of sale — amount correct in original transaction | 4022-4199 | reserved for ISO use |
| 2010 | no proof of altered amount (customer stated in chargeback that amount had been altered) | 4200-4350 | reserved for national use |
| 2011 | credit previously issued | 4351-4499 | reserved for private use |
| 2012 | original transaction was valid | 4500-4999 | Reason for a chargeback |
| 2013-2399 | reserved for ISO use | 4500 | invalid merchant |
| 2400-2699 | reserved for national use | 4501 | invalid transaction |
| 2700-2999 | reserved for private use | 4502 | customer dispute |
| 3000-3999 | Reason for a file action | 4503 | expired card |
| 3000 | lost card | 4504 | transaction not permitted to terminal |
| 3001 | stolen card | 4505 | security violation |
| 3002 | undelivered card | 4506 | system malfunction |
| 3003 | counterfeit card | 4507 | disputed transaction amount |
| 3004-3399 | reserved for ISO use | 4508 | authorized amount exceeded |
| 3400-3699 | reserved for national use | 4509 | authorized time limit exceeded |
| 3700-3999 | reserved for private use | 4510 | credit submitted as a debit |
| 4000-4499 | Reason for a reversal | 4511 | debit submitted as a credit |
| 4000 | customer cancellation | 4512 | duplicate processing of transaction |
| 4001 | unspecified, no action taken | 4513 | credit not received |
| 4002 | suspected malfunction | 4514 | fraudulent transaction |
| 4003 | format error, no action taken | 4515 | cardholder denies transaction was finalized |
| 4004 | completed partially | 4516 | non-fulfillment of request for information |
| 4005 | original amount incorrect | 4517 | non-fulfillment of request, illegible copy |
| | | 4518 | cardholder does not recognize merchant description |

| | | | |
|-----------|---|-----------|---|
| 4519 | stand-in processing not allowed | 5000-5999 | Reason for a reconciliation |
| 4520 | stand-in processing criteria not fulfilled | | |
| 4521 | transaction exceeds floor limit | 5000-5299 | reserved for ISO use |
| 4522 | declined authorization | 5300-5599 | reserved for national use |
| 4523 | non-matching account number | 5600-5999 | reserved for private use |
| 4524 | error in addition | | |
| 4525 | altered amount | 6000-6499 | Reason for a retrieval request |
| 4526 | missing signature | 6001 | cardholder request or dispute |
| 4527 | missing card imprint | 6002 | cardholder demand |
| 4528 | canceled preauthorized transaction | 6003 | chargeback documentation |
| 4529 | delinquent reconciliation | 6004 | legal or fraud investigation |
| 4530 | currency conversion errors | 6005 | legal request |
| 4531 | claim or defense on receipt of goods | 6006 | fraud analysis |
| 4532 | defective merchandise | 6007 | handwriting/paper analysis |
| 4533 | fraudulent transaction prior to embossed valid date | 6008 | cardholder requests copy bearing signature |
| 4534 | imprint of multiple slips | 6009 | request for T&E document (e.g., car rental) |
| 4535 | warning bulletin/exception file | | |
| 4536 | late presentment | 6010 | original lost in transit |
| 4537 | no show disputed | 6011 | written cardholder demand for original |
| 4538 | advance lodging deposit | 6012 | legal process (e.g., subpoena) specifies original |
| 4539 | cardholder disputes transaction date | 6013 | copy previously sent illegible |
| 4540 | card not yet effective | 6014 | cardholder does not recognize transaction |
| 4541 | illegible data | | |
| 4542 | transaction not received | 6015 | cardholder does not agree with transaction amount |
| 4543 | duplicate processing by multiple institutions | 6016 | cardholder needs for personal records |
| 4544 | cancelling recurring transaction | 6017 | legal/fraud analysis — signature verification |
| 4545 | currency conversion not allowed | | |
| 4546 | mail/telephone order transaction unauthorized purchaser | 6018 | legal/fraud analysis — amount verification |
| 4547 | card listed on warning bulletin | 6019 | legal/fraud analysis — imprint verification |
| 4548 | cardholder dispute — transaction under merchant floor limit | 6020-6199 | reserved for ISO use |
| 4549 | incorrect account number | 6200-6299 | reserved for national use |
| 4550 | cardholder disputes card activated telephone transaction | 6300-6499 | reserved for private use |
| 4551 | original transaction currency not provided | 6500-6999 | Reason for an administrative message |
| 4552 | mail/telephone order on expired card | 6500-6599 | reserved for ISO use |
| 4553 | transaction not as described | 6600-6799 | reserved for national use |
| 4554 | non-receipt of merchandise | 6800-6999 | reserved for private use |
| 4555 | services not rendered | | |
| 4556 | merchandise not as described | 7000-7999 | Reason for a fee collection message |
| 4557-4649 | reserved for ISO use | 7000-7299 | reserved for ISO use |
| 4650-4749 | reserved for national use | 7300-7599 | reserved for national use |
| 4750-4999 | reserved for private use | 7600-7999 | reserved for private use |

8000-8999 Reason for a network management message

8000-8299 reserved for ISO use

8300-8599 reserved for national use

8600-8999 reserved for private use

9000-9299 reserved for ISO use

9300-9599 reserved for national use

9600-9999 reserved for private use

4 biographic

5 electronic authentication inoperative

6 other

7 reserved for ISO use

8 reserved for national use

9 reserved for private use

A-I reserved for ISO use

J-R reserved for national use

S-Z reserved for private use

A.8 Point of service data code

Position 1 — Card data input capability

Indicates the primary means of getting the information on the card into the terminal.

Code Description

0 unknown

1 manual, no terminal

2 magnetic stripe read

3 bar code

4 OCR

5 ICC (see note 1)

6 key entered

7 reserved for ISO use

8 reserved for national use

9 reserved for private use

A-I reserved for ISO use

J-R reserved for national use

S-Z reserved for private use

Position 3 — Card capture capability

Indicates whether or not the terminal has the ability to capture a card.

Code Description

0 none

1 capture

2-4 reserved for ISO use

5-7 reserved for national use

8-9 reserved for private use

A-I reserved for ISO use

J-R reserved for national use

S-Z reserved for private use

Position 4 — Operating environment (see note 2)

Indicates if the terminal is attended by the card acceptor and its location.

Code Description

0 no terminal used

1 on premises of card acceptor, attended

2 on premises of card acceptor, unattended

3 off premises of card acceptor, attended

4 off premises of card acceptor, unattended

5 on premises of cardholder, unattended

6-7 reserved for ISO use

8 reserved for national use

9 reserved for private use

A-I reserved for ISO use

J-R reserved for national use

S-Z reserved for private use

Position 2 — Cardholder authentication capability

Indicates the primary means of verifying the cardholder at this terminal. When no order of priorities can be made, value "6" shall be used.

Code Description

0 no electronic authentication

1 PIN

2 electronic signature analysis

3 biometrics

Position 5 — Cardholder present

Indicates if the cardholder is present at the point of service or not and if not why not.

| Code | Description |
|------|--|
| 0 | cardholder present |
| 1 | cardholder not present, unspecified |
| 2 | cardholder not present, mail order |
| 3 | cardholder not present, telephone |
| 4 | cardholder not present, standing authorization |
| 5-6 | reserved for ISO use |
| 7-8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

| | |
|-----|--|
| 0 | cardholder present |
| 1 | cardholder not present, unspecified |
| 2 | cardholder not present, mail order |
| 3 | cardholder not present, telephone |
| 4 | cardholder not present, standing authorization |
| 5-6 | reserved for ISO use |
| 7-8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 6 — Card present

Indicates if the card is present at the point of service or not.

| Code | Description |
|------|---------------------------|
| 0 | card not present |
| 1 | card present |
| 2-4 | reserved for ISO use |
| 5-7 | reserved for national use |
| 8-9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

| | |
|-----|---------------------------|
| 0 | card not present |
| 1 | card present |
| 2-4 | reserved for ISO use |
| 5-7 | reserved for national use |
| 8-9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 7 — Card data input mode

Indicates method used to input the information from the card to the terminal.

| Code | Description |
|------|----------------------|
| 0 | unspecified |
| 1 | manual, no terminal |
| 2 | magnetic stripe read |
| 3 | bar code |
| 4 | OCR |
| 5 | ICC (see note 1) |
| 6 | key entered |

| | |
|---|----------------------|
| 0 | unspecified |
| 1 | manual, no terminal |
| 2 | magnetic stripe read |
| 3 | bar code |
| 4 | OCR |
| 5 | ICC (see note 1) |
| 6 | key entered |

| | |
|-----|---------------------------|
| 7 | reserved for ISO use |
| 8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 8 — Cardholder authentication method

Indicates the method for verifying the cardholder identity.

| Code | Description |
|------|---|
| 0 | not authenticated |
| 1 | PIN |
| 2 | electronic signature analysis |
| 3 | biometrics |
| 4 | biographic |
| 5 | manual signature verification |
| 6 | other manual verification (e.g., drivers license) |
| 7 | reserved for ISO use |
| 8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

| | |
|-----|---|
| 0 | not authenticated |
| 1 | PIN |
| 2 | electronic signature analysis |
| 3 | biometrics |
| 4 | biographic |
| 5 | manual signature verification |
| 6 | other manual verification (e.g., drivers license) |
| 7 | reserved for ISO use |
| 8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 9 — Cardholder authentication entity

Indicates the entity verifying the cardholder identity.

| Code | Description |
|------|---|
| 0 | not authenticated |
| 1 | ICC (see note 1) |
| 2 | CAD (see note 1) |
| 3 | authorizing agent (identified in authorizing agent institution identification code) |
| 4 | by merchant |
| 5 | other |
| 6 | reserved for ISO use |
| 7 | reserved for national use |
| 8-9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

| | |
|-----|---|
| 0 | not authenticated |
| 1 | ICC (see note 1) |
| 2 | CAD (see note 1) |
| 3 | authorizing agent (identified in authorizing agent institution identification code) |
| 4 | by merchant |
| 5 | other |
| 6 | reserved for ISO use |
| 7 | reserved for national use |
| 8-9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 10 — Card data output capability

Indicates the ability of the terminal to update the card.

Code Description

| | |
|-----|---------------------------|
| 0 | unknown |
| 1 | none |
| 2 | magnetic stripe write |
| 3 | ICC (see note 1) |
| 4-5 | reserved for ISO use |
| 6-7 | reserved for national use |
| 8-9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

| | |
|-----|---------------------------|
| 9 | nine characters |
| A | ten characters |
| B | eleven characters |
| C | twelve characters |
| D-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

NOTES

1 CAD, ICC, ADF and CDF are terms defined in ISO 10202. For the purposes of this International Standard, CAD shall be synonymous with terminal.

2 If both values 4 and 5 apply, 5 shall be used.

A.9 Processing codes

Positions 1 and 2 are two digits that describe a specific transaction.

Code Description

| | |
|-------|--|
| 00-19 | Debits |
| 00 | Goods and service |
| 01 | Cash |
| 02 | Adjustment |
| 03 | Cheque guarantee (funds guaranteed) |
| 04 | Cheque verification (funds available but not guaranteed) |
| 05 | Eurocheque |
| 06 | Traveller cheque |
| 07 | Letter of credit |
| 08 | Giro (postal banking) |
| 09 | Goods and services with cash disbursement |
| 10 | Non-cash financial instrument (e.g., wire transfer) |
| 11 | quasi-cash and scrip |
| 12-13 | Reserved for ISO use |
| 14-16 | Reserved for national use |
| 17-19 | Reserved for private use |

20-29 Credits

| | |
|-------|---------------------------|
| 20 | Returns |
| 21 | Deposits |
| 22 | Adjustment |
| 23 | Cheque deposit guarantee |
| 24 | Cheque deposit |
| 25-26 | Reserved for ISO use |
| 27 | Reserved for national use |
| 28-29 | Reserved for private use |

Position 11 — Terminal output capability

Indicates the ability of the terminal to print/display messages.

Code Description

| | |
|-----|---------------------------|
| 0 | unknown |
| 1 | none |
| 2 | printing |
| 3 | display |
| 4 | printing and display |
| 5-6 | reserved for ISO use |
| 7-8 | reserved for national use |
| 9 | reserved for private use |
| A-I | reserved for ISO use |
| J-R | reserved for national use |
| S-Z | reserved for private use |

Position 12 — PIN capture capability

Indicates the length of PIN which the terminal is capable of capturing.

Code Description

| | |
|-----|---------------------------------------|
| 0 | no PIN capture capability |
| 1 | device PIN capture capability unknown |
| 2-3 | reserved for ISO use |
| 4 | four characters |
| 5 | five characters |
| 6 | six characters |
| 7 | seven characters |
| 8 | eight characters |

30-39 Inquiry services

- 30 Available funds inquiry
- 31 Balance inquiry
- 32-35 Reserved for ISO use
- 36-37 Reserved for national use
- 38-39 Reserved for private use

40-49 Transfer services

- 40 Cardholder accounts transfer
- 41-45 Reserved for ISO use
- 46-47 Reserved for national use
- 48-49 Reserved for private use

50-59 Payment services

- 50 Payment
- 51-55 Reserved for ISO use
- 56-57 Reserved for national use
- 58-59 Reserved for private use

60-99 Reserved

- 60-79 Reserved for ISO use
- 80-89 Reserved for national use
- 90-99 Reserved for private use

Positions 3 and 4 are a two digit code describing the account type affected for debits and inquiries and the "from" account for transfers.

Positions 5 and 6 are a two digit code describing the account type affected for credits and the "to" account for transfers.

These two codes are allocated as follows:

| Code | Description |
|-------|--|
| 00 | Default — unspecified |
| 01-02 | Default — Reserved for ISO use |
| 03-07 | Default — Reserved for national use |
| 08-09 | Default — Reserved for private use |
| 10 | Savings account — default |
| 11-12 | Savings account — Reserved for ISO use |
| 13-17 | Savings account — Reserved for national use |
| 18-19 | Savings account — Reserved for private use |
| 20 | Cheque account — default |
| 21-22 | Cheque account — Reserved for ISO use |
| 23-27 | Cheque account — Reserved for national use |
| 28-29 | Cheque account — Reserved for private use |
| 30 | Credit Facility — default |
| 31-32 | Credit Facility — Reserved for ISO use |
| 33-37 | Credit Facility — Reserved for national use |
| 38-39 | Credit Facility — Reserved for private use |
| 40 | Universal account — default |
| 41-42 | Universal account — Reserved for ISO use |
| 43-47 | Universal account — Reserved for national use |
| 48-49 | Universal account — Reserved for private use |
| 50 | Investment account — default |
| 51-52 | Investment account — Reserved for ISO use |
| 53-57 | Investment account — Reserved for national use |
| 58-59 | Investment account — Reserved for private use |
| 60-69 | Reserved for ISO use |
| 70-79 | Reserved for ISO use |
| 80-89 | Reserved for national use |
| 90-99 | Reserved for private use |

Annex B

(informative)

Conversion guide

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B.1 Introduction

This International Standard was first published in 1987. It has been implemented by a number of national and international institutions and, is now in widespread use. Among the various financial networks, the standard brought a higher level of commonality and interoperability. Considerable efficiencies were realized by using a common set of message types, message flows, message contents, formats and vocabulary terms.

After some experience with the first edition of this International Standard had been gained, it was recognized that there were some inconsistencies among the various implementations. This was mainly due to the many options that were left to the discretion of each system implementor. This International Standard was intentionally designed to provide sufficient flexibility to accommodate the unique business requirements of individual implementations. This International Standard also included some definitions that were sufficiently imprecise to be subject to varying interpretations. These factors combined to produce some implementations that were incompatible with each other even though they complied with the standard. Although a degree of standardization has been achieved, it was clear that comprehensive inter-network compatibility had not been achieved. The net result was that the experience gained during implementation uncovered some opportunities for additional standardization that could be of further benefit to users.

Towards this end, a Working Group was formed in 1988 to enhance and refine this International Standard. This Working Group used the collective implementation experience gained to produce a new edition. This second edition is an enhancement of the first edition, rather than a completely new standard. It builds upon the first edition to further promote standardization and inter-network compatibility. Messages based on the 1993 edition are distinguished from those which follow the 1987 edition by means of a version number, incorporated as the first position of a restructured Message Type Identifier (MTI).

Like the first edition, this second edition is designed as an interface specification enabling messages to be exchanged between systems adopting a variety of application specifications. Designers of application specifications have complete design freedom within the overall constraint that messages shall be convertible to the interface format in order that international interchange may take place.

B.2 Purpose

This annex provides guidance and assistance to those concerned with compatibility and equivalency between the 1987 and 1993 editions of this International Standard. It outlines the differences between the two editions and provides equivalency charts. The authors of ISO 8583 (1993) recognized that there would be a transitional period during which both editions of the standard would be in use. During this transitional period there should be some direction available to assist users in evaluating and converting to ISO 8583 (1993). This annex fulfills that need and is intended for use mainly by those concerned with converting systems from the first to the second edition. It should also be useful to operators of switches that support both versions simultaneously.

ISO 8583 (1993) is a completely self contained standard. It is not necessary for any user of the standard to refer to this Conversion Guide for explanations or information about the standard. This Conversion Guide will be useful only to those users who need to be aware of the differences between the first and second editions.

NOTE — This annex is for information only and does not constitute part of this International Standard. The annex will not be re-issued. Future changes in the Code Tables associated with ISO 8583 can be obtained from the ISO 8583 Maintenance Agency or from national standards bodies (see clause 7). To utilize the Conversion Guide, reference to both editions of ISO 8583 will be required.

B.3 Differences between 1987 and 1993 editions of ISO 8583

B.3.1 General

The scope and field of application remains largely unchanged between the two editions. This International Standard is intended to provide a common interface by which financial transaction card originated messages may be interchanged between systems. Both the 1987 and 1993 editions specify message structure, format and content, data elements and values for data elements. Neither edition addresses:

- communication protocols;
- data representation;
- batch communications;
- the method of settlement between interchange parties.

There are notable improvements contained in ISO 8583 (1993). These include:

- simplification of message type identifiers;
- more detailed description of message classes;
- restructuring of reversal processing, with clear distinction made between reversals and chargebacks;
- inclusion of integrated circuit card data elements (as defined by ISO/TC 68/SC 6/WG 7);
- inclusion of security data elements (as defined by ISO/TC 68/SC 6/WG 6);
- extension of message series to cover fee collections;
- provision of a mechanism for updating and maintaining the code tables given in this International Standard;
- provision of a mechanism for registering institution identification codes;
- restructuring of reconciliation processing;
- specific advice on exception processing;
- guidance on transaction and message matching;
- consistency in the use of amount data elements;
- support for payment transactions.

The following additional standards are now referenced; ISO 7372, ISO 8601, ISO 9564, ISO 9807 and ISO 10202. References to ISO 7580 have been deleted. The revised standard is drafted and presented in accordance with the latest edition of the ISO/IEC Directives.

B.3.2 Definitions

The following additions, changes and deletions were made to the definitions section:

B.3.2.1 Additions

The following definitions in ISO 8583 (1993) have been added to clarify types of transactions not previously defined, to define composition of message type identifiers and to define other terms not previously addressed:

- bit map (formerly defined in Data Element Directory);
- authorizing agent;
- chargeback;
- codes management group;

- file action;
- financial transaction;
- forwarding institution;
- inquiry;
- institution identifier;
- maintenance agency;
- message class;
- message function;
- notification;
- payment;
- receiving institution;
- reconciliation;
- registration authority;
- replacement authorization;
- representment;
- resubmission;
- supplementary authorization;
- transaction destination institution;
- transaction originator institution;
- version.

B.3.2.2 Changes

The following definitions in ISO 8583 (1987) have been modified to further clarify intentions of messages sent and to augment previous definitions:

- acquirer;
- advice;
- authorization;
- cardholder accounts transfer (renamed 'transfer');
- card issuer;
- point of service;
- request;
- reversal;
- settlement institution;
- transaction.

B.3.2.3 Deletions

The following definitions have been deleted:

- interactive message;
- intermediate network facility;
- non-interactive message;
- processing code;
- reversal credit;
- reversal debit;
- reversal transfer;
- routing;
- transaction fee.

The reasons for the deletions are:

- a) The revised message type identifier (MTI) expanded the identification of the purpose and activity involved, rather than restricting messages to two types — interactive and non-interactive.
- b) Reversal credit, reversal debit and reversal transfer have been deleted because Processing Code describes the financial effects of these transactions.
- c) ISO 8583 (1993) specifies the circumstances in which particular messages/transactions shall (or may) be sent; it does not address commercial (routing) responsibilities.
- d) Processing code is defined in the data element directory.
- e) Intermediate network facility is no longer used anywhere in the standard.

B.3.3 Message Structure

The components of message structure are unchanged from the 1987 to the 1993 edition of the standard.

Each message is constructed in the same sequence, namely message type identifier (MTI), the bit maps and a series of data elements in the order of bit map representation.

B.3.4 Message Types

The four-digit numeric message type identifiers (MTI's) specified in ISO 8583 (1987) have been restructured to give each digit position a specific meaning thus providing an easy method of determining

which MTI should be utilized in any particular situation.

The revised MTI structure is described in 4.1.1 of the standard. The incorporation of a version number, as the first position of the MTI, provides a means of identifying messages exchanged under the respective editions of the standard. Version is defined in 3.39 of ISO 8583 (1993).

In consequence of these revisions, certain MTI's have been eliminated or renamed. All MTI's have been renumbered.

A general overview of improvements is given below.

- a) MTI's have been eliminated or modified when their usage was imprecise or addressed by other message sets.
- b) MTI's which supported three legged transactions have been eliminated.
- c) All completion messages have been eliminated as part of the removal of three legged transactions.
- d) Message functions within each message class have been standardized to facilitate the full range of message processing scenarios, e.g. request — request response, advice — advice response, notification.
- e) Reference to interactive and non-interactive messages has been removed. Request and advice messages have, however, been re-defined as follows:

Request: A message where the sender asks the receiver for an action to be taken.

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

- f) Notification messages have been added. These are messages where the sender notifies the receiver of an activity taken, requiring no approval or response (as distinct from an advice).
- g) A new 17XX message series has been added to accommodate the collection of miscellaneous service fees (e.g. request for copy fees).
- h) Reversal messages have been refined to distinguish between reversals and chargebacks.

The remainder of this annex describes the changes by message class.

Table B.1 — Comparison of message classes

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|---|------|-----------------|--------------------------------|
| Message name | MTI | MTI | Message name |
| authorization request | 0100 | 1100 | authorization request |
| authorization request repeat | 0101 | 1101 | authorization request repeat |
| authorization completion confirmation | 0102 | — | — |
| authorization completion confirmation repeat | 0103 | — | — |
| authorization request response | 0110 | 1110 | authorization request response |
| authorization completion response | 0112 | — | — |
| authorization advice | 0120 | 1120 | authorization advice |
| authorization advice repeat | 0121 | 1121 | authorization advice repeat |
| authorization advice completion confirmation | 0122 | — | — |
| authorization advice completion confirmation repeat | 0123 | — | — |
| authorization advice response | 0130 | 1130 | authorization advice response |
| authorization advice completion response | 0132 | — | — |
| — | — | 1140 | authorization notification |

Notes:

- a) Elimination of authorization completion messages removes 0102, 0103, 0112, 0122, 0123, 0132
- b) Addition of authorization notification message 1140.

Table B.1 — Comparison of message classes, continued

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|---|------|-----------------|----------------------------|
| Message name | MTI | MTI | Message name |
| financial transaction request | 0200 | 1200 | financial request |
| financial transaction request repeat | 0201 | 1201 | financial request repeat |
| financial transaction completion confirmation | 0202 | — | — |
| financial transaction completion confirmation repeat | 0203 | — | — |
| financial transaction request response | 0210 | 1210 | financial request response |
| financial transaction completion response | 0212 | — | — |
| financial transaction advice | 0220 | 1220 | financial advice |
| financial transaction advice repeat | 0221 | 1221 | financial advice repeat |
| financial transaction advice completion confirmation | 0222 | — | — |
| financial transaction advice completion confirmation repeat | 0223 | — | — |
| financial transaction advice response | 0230 | 1230 | financial advice response |
| financial transaction advice completion response | 0232 | — | — |
| — | — | 1240 | financial notification |

Notes:

- Elimination of financial transaction completion messages removes 0202, 0203, 0212, 0222, 0223, 0232.
- Addition of financial notification message 1240.
- Message names changed to remove word "transaction".

Table B.1 — Comparison of message classes, continued

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|--|------|-----------------|------------------------------|
| Message name | MTI | MTI | Message name |
| acquirer file update request | 0300 | — | — |
| card issuer file update request | 0302 | — | — |
| — | — | 1304 | file action request |
| — | — | 1305 | file action request repeat |
| acquirer file update request response | 0310 | — | — |
| card issuer file update request response | 0312 | — | — |
| — | — | 1314 | file action request response |
| acquirer file update advice | 0320 | — | — |
| card issuer file update advice | 0322 | — | — |
| — | — | 1324 | file action advice |
| — | — | 1325 | file action advice repeat |
| acquirer file update advice response | 0330 | — | — |
| card issuer file update advice response | 0322 | — | — |
| — | — | 1334 | file action advice response |
| — | — | 1344 | file action notification |

Notes:

- Removed acquirer and card issuer MTI designations as new data elements, transaction originator institution identification code and transaction destination institution identification code, were added to the messages.
- Addition of repeat MTI's if no response received by originator.
- Addition of file action notification 1344.
- Message names changed to replace "update" with "action".

Table B.1 — Comparison of message classes, continued

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|--------------------------------------|------|-----------------|----------------------------|
| Message name | MTI | MTI | Message name |
| acquirer reversal request | 0400 | — | — |
| acquirer reversal request repeat | 0401 | — | — |
| card issuer reversal request | 0402 | — | — |
| card issuer reversal request repeat | 0403 | — | — |
| acquirer reversal request response | 0410 | — | — |
| card issuer request response | 0412 | — | — |
| acquirer reversal advice | 0420 | 1420 | reversal advice |
| acquirer reversal advice repeat | 0421 | 1421 | reversal advice repeat |
| card issuer reversal advice | 0422 | 1422 | chargeback advice |
| card issuer reversal advice repeat | 0423 | 1423 | chargeback advice repeat |
| acquirer reversal advice response | 0430 | 1430 | reversal advice response |
| card issuer reversal advice response | 0432 | 1432 | chargeback advice response |
| — | — | 1440 | reversal notification |
| — | — | 1442 | chargeback notification |

Note:

- Reversals can only be initiated by an acquirer and responded to by a card issuer.
- Chargebacks can only be initiated by a card issuer and responded to by an acquirer.
- Removal of request MTI's as reversals and chargebacks have been redefined as advices only.
- Message names changed to reflect new MTI definitions.
- Addition of reversal notification message 1440 and chargeback notification message 1442.

Table B.1 — Comparison of message classes, continued

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|---|------|-----------------|---|
| Message name | MTI | MTI | Message name |
| acquirer reconciliation request | 0500 | 1500 | acquirer reconciliation request |
| acquirer reconciliation request repeat | 0501 | 1501 | acquirer reconciliation request repeat |
| card issuer reconciliation request | 0502 | 1502 | card issuer reconciliation request |
| card issuer reconciliation request repeat | 0503 | 1503 | card issuer reconciliation request repeat |
| acquirer reconciliation request response | 0510 | 1510 | acquirer reconciliation request response |
| card issuer reconciliation request response | 0512 | 1512 | card issuer reconciliation request response |
| acquirer reconciliation advice | 0520 | 1520 | acquirer reconciliation advice |
| acquirer reconciliation advice repeat | 0521 | 1521 | acquirer reconciliation advice repeat |
| card issuer reconciliation advice | 0522 | 1522 | card issuer reconciliation advice |
| card issuer reconciliation advice repeat | 0523 | 1523 | card issuer reconciliation advice repeat |
| acquirer reconciliation advice response | 0530 | 1530 | acquirer reconciliation advice response |
| card issuer reconciliation advice response | 0532 | 1532 | card issuer reconciliation advice response |
| — | — | 1540 | acquirer reconciliation notification |
| — | — | 1542 | card issuer reconciliation notification |

Note:

- a) Numbering changed.
- b) Addition of reconciliation notification messages.

Table B.1 — Comparison of message classes, continued

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|---------------------------------------|------|-----------------|---------------------------------|
| Message name | MTI | MTI | Message name |
| administrative request | 0600 | 1604 | administrative request |
| administrative request repeat | 0601 | 1605 | administrative request repeat |
| administrative request response | 0610 | 1614 | administrative request response |
| administrative advice | 0620 | 1624 | administrative advice |
| administrative advice repeat response | 0621 | 1625 | administrative advice repeat |
| administrative advice response | 0630 | 1634 | administrative advice response |
| — | — | 1644 | administrative notification |

Notes:

- a) Addition of administrative notification message 1644.

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|-----------------|-----|-----------------|--|
| Message name | MTI | MTI | Message name |
| — | — | 1720 | acquirer fee collection advice |
| — | — | 1721 | acquirer fee collection advice repeat |
| — | — | 1730 | acquirer fee collection advice response |
| — | — | 1740 | acquirer fee collection notification |
| — | — | 1722 | card issuer fee collection advice |
| — | — | 1723 | card issuer fee collection advice repeat |
| — | — | 1732 | card issuer fee collection advice response |
| — | — | 1742 | card issuer fee collection notification |

Notes:

- a) New message series.
b) Messages are generated by either the acquirer or the card issuer and are restricted to advices and notifications.

Table B.1 — Comparison of message classes, concluded

| ISO 8583 (1987) | | ISO 8583 (1993) | |
|-------------------------------------|------|-----------------|-------------------------------------|
| Message name | MTI | MTI | Message name |
| network management request | 0800 | 1804 | network management request |
| network management request repeat | 0801 | 1805 | network management request repeat |
| network management request response | 0810 | 1814 | network management request response |
| network management advice | 0820 | 1824 | network management advice |
| network management advice repeat | 0821 | 1825 | network management advice repeat |
| network management advice response | 0830 | 1834 | network management advice response |
| — | — | 1844 | network management notification |

Note:

- a) Addition of network management notification message 1844.

B.3.5 Data elements

The following additions, changes and deletions were made to the data element directory:

B.3.5.1 Additions

The following data elements (in alphabetical order) have been added to ISO 8583 (1993).

a) Acquirer reference data (bit 31) — Added to indicate the reference data supplied by an acquirer for its own transaction matching.

b) Action code (bit 39) — Added to define the action taken or the action to be taken as well as the reason for taking the action. Incorporates information previously contained in response code and settlement code (now both deleted). A mapping of the new and former data elements is given in B.3.5.4.

c) Amounts, fees (bit 46) — Added to denote all fees affecting reconciliation. Indicates the type of fee, the fee amount, currency code, conversion rate and amount reconciliation fee (if the transaction currency is different from the reconciliation currency). Incorporates information previously contained in amount transaction fee, amount transaction processing fee, amount settlement fee, amount settlement processing fee, conversion rate transaction fee, conversion rate transaction processing fee, currency code transaction fee and currency code transaction processing fee. Use of this data element is explained in B.4.4.

d) Amounts, original (bit 30) — Added to indicate original amounts, where appropriate in authorization, financial, reversal and chargeback messages. Not used in reconciliation processing. Advice on the usage of amount data elements is given in B.4.1.

e) Amounts, original fees (bit 31) — Added to indicate original fee amounts (as distinct from original amounts). Not used in reconciliation processing. Use of this data element is explained in B.4.4.

f) Authorizing agent institution identification code (bit 58) — Added to indicate the institution that processed an authorization or financial transaction if different from that identified in either the PAN or PAN extended data elements.

g) Authorization life cycle code (bit 57) — Added to indicate how long an authorization request will remain outstanding.

h) Authorization, reversal number (bit 90) — Added to support a reconciliation count of authorization transactions.

i) Card issuer reference data (bit 95) — Added to indicate the reference data supplied by a card issuer for its own transaction matching.

j) Card acceptor business code (bit 26) — Added to provide an international classification of merchant type (bit 18). A list of code values for this data element was added to Annex A.

k) Country code, authorizing agent institution (bit 70) ; country code, transaction destination institution (bit 91) ; country code, transaction originator institution (bit 92) — Added in conjunction with new institution identification codes.

l) Credits, chargeback amount (bit 105) ; Credits, chargeback number (bit 107) — Added because chargebacks are card issuer to acquirer generated as opposed to reversals, which are acquirer to card issuer generated. Use of these data elements in the reconciliation process is explained in B.4.2.

m) Credits, fee amounts (bit 109) — Added to indicate (by fee type) the sum of all fee amounts fees due from the Acquirer. Use of this data element in the reconciliation process is explained in B.4.2.

n) Currency code, fee (bit 46) — Added, in conjunction with new amounts, fees data element.

o) Data record (bit 72) — Added to support an administrative or file action message.

p) Date and time, local transaction (bit 12) — Incorporates information previously contained in date, local transaction and time, local transaction. The date representation now includes "YY".

q) Date, effective (bit 13) — Added because of its increasing usage.

r) Date, reconciliation (bit 28) — Added to indicate the applicable reconciliation period.

s) Debits, chargeback amount (bit 106) ; debits, chargeback number (bit 108) — Added because chargebacks are card issuer to acquirer generated as opposed to reversals, which are acquirer to card issuer generated. Use of these data elements in the reconciliation process is explained in B.4.2.

t) Debits, fee amounts (bit 110) — Added to indicate (by fee type) the sum of all fee amounts due to the acquirer. Use of this data element in the reconciliation process is explained in B.4.2.

u) Fee collections, number (bit 85) — Added to support a reconciliation count of fee collections.

v) Function code (bit 24) — Added to indicate the specific purpose of the message within its message class (e.g. a retrieval request as a type of administrative message).

Incorporates information previously contained in file update code, network management information code and some response codes (now all deleted). A comparison of the new and former data elements is given in B.3.5.4.

w) Inquiries, reversal number (bit 82) — Added to allow cancellation of any fees associated with the inquiry.

x) Integrated circuit card (ICC) system-related data (bit 55) — Added to meet processing needs relating to use of integrated circuit cards (ICCs).

y) Key management data (bit 96) — Added because former security related data elements are insufficient to convey key management data.

z) Message reason code (bit 25) — Provides the card issuer with the reason an advice or notification message is sent rather than a request message or vice versa.

aa) Payments, number (bit 83) ; payments, reversal number (bit 84) — Added to support a reconciliation count of payment transactions.

ab) Point of service data code (bit 22) — Added to provide more information to support authorization decisions. Incorporates information previously contained in point of service condition code, point of service entry mode and point of service PIN capture code (now all deleted). A mapping of the new and former data elements is given in B.3.5.5.

ac) Reconciliation indicator (bit 29) — Added to support a checkpoint reconciliation within a reconciliation period.

ad) Transaction destination institution identification code (bit 93) ; Transaction originator institution identification code (bit 94) — Added to support general message routing.

ae) Transport data (bit 59) — Added to support remapping and retrieval of transaction originator information.

B.3.5.2 Changes

For ease of updating and reference, the coded values for data elements were moved to annex A.

Attention is drawn to three general changes in the representation of data elements :

a) Binary data is now considered to be grouped into blocks of 8 bits e.g. b8 refers to 64 bits of data. If the format indicates a variable length (LLVAR or LLLVAR) the first two or three positions contain in character form the length in 8-bit blocks of the binary data element which follows. It is not permitted to have a binary data element with a length which is not a multiple of 8 bits.

b) A new representation 'anp' is specified. This allows use of alphabetic, numeric and space (pad) characters.

c) The primary and secondary bit map indicators (P and S) have been removed. Bit map positions are expressed only as a number between 1 and 128. Sub-data elements are so noted.

The following data elements that appeared in ISO 8583 (1987) have been changed in some way. Modifications are varied and include changes to title, description and/or representation.

a) Additional response data (bit 44) — Representation is changed from 'ans..25' to 'ans..99'.

b) Amounts, additional (bit 54) — Formerly additional amounts.

c) Approval code — (bit 38) — Formerly authorization identification response. Representation is changed from 'an' to 'anp'.

d) Approval code length (bit 27) — Formerly authorization identification response length.

e) Authorizations, number (bit 81) — Description modified.

f) Bit map extended (bit 65) — No longer a data element. Position reserved.

g) Card acceptor name/location (bit 43) — Designated a variable length data element. A field separator character (/) was added to delineate sub-fields within this data element.

h) Country code, acquiring institution (bit 19) — Formerly acquirer institution country code.

i) Country code, forwarding institution — (bit 21) — Formerly forwarding institution country code.

j) Country code, primary account number (PAN) (bit 20) — Formerly primary account number (PAN) extended, country code.

k) Credits, amount — (bit 86) — Description expanded.

l) Date, expiration — (bit 14) — Description modified.

m) Date and time, transmission (bit 7) — Formerly transmission date and time. Greenwich Mean Time (GMT) is replaced by Coordinated Universal Time (UTC).

n) Date, reconciliation — (bit 28) — Representation is changed from "n 4" to "n 6" and "YY" is added.

o) Date, settlement — (bit 15) — Description excludes reference to intermediate network facility, which has been deleted from the standard. Representation is changed from "n 4" to "n 6" and "YY" is added.

p) Debits, amount (bit 88) ; debits, number (bit 76) ; debits, reversal amount (bit 89) ; debits, reversal number (bit 89) — Descriptions expanded in overall attempt to better describe reconciliation data elements.

q) Forwarding institution identification code (bit 33) — Description simplified. 4.4.4 of ISO 8583 (1993) describes the relationship and intended use of all institution identification codes.

r) Inquiries, number (bit 80) — Description modified to include reference to processing codes (30-39) as opposed to processing code 30 only. Inquiries are considered to be authorization transactions.

s) Message authentication code (bit 64 or bit 128) — Reference is made in the description to ISO 9807 which provides details of the MAC technique to be used in retail banking.

The representation for binary data is expressed as a block of 8 bits.

t) Original data elements (bit 56) — Description modified. Bit position re-assigned.

Representation reduced from 42 fixed length numeric digits to 35 variable numeric digits. The data element is variable because of changes to the acquiring institution identification code. Description of contents modified.

Original transmission date and time and original forwarding institution identification code are no longer required for transaction matching. Original date and time, local transaction is, however, intended for transaction matching.

u) Personal identification number (PIN) data (bit 52) — Reference is made in the definition to ISO 9564 which provides details of the PIN block formats to be used in retail banking. The representation for binary data is expressed as a block of 8 bits.

v) Primary account number (PAN) (bit 2) — Description simplified.

w) Primary account number (PAN) extended (bit 34) — Description modified to include reference to ISO 4909.

x) Processing code (bit 3) — An additional code is specified in positions 1 and 2, namely 10 (non-cash financial instrument e.g. wire transfer). Positions 3, 4 and 5 re-structured. Code range (50-59) assigned for payment services e.g. a utility bill payment where the card issuer debits the cardholder account and credits the utility company.

y) Receiving institution identification code (bit 100) — Description simplified. Subclause 4.4.4 of ISO 8583 (1993) describes the relationship and intended use of all institution identification codes.

z) Retrieval reference number (bit 37) — Representation is changed from 'an' to 'anp'.

aa) Security related control information (bit 53) — Description modified. Representation is changed from 'n16' to 'b..48'.

ab) Settlement institution identification code (bit 99) — Representation is changed from 'n..11' to 'an..11'.

ac) Service code (bit 40) — Formerly service restriction code. Representation is changed from "an" to "n". Refers to value specified in amendment to ISO 7813.

ad) Transaction description (bit 104) — Description modified to describe additional characteristics of a transaction, not only for billing, but also for fee collection and representation purposes. This data element can be used to provide information about merchandise in an authorization or a financial transaction e.g. airline itineraries.

ae) Transfer, number (bit 78) ; transfer, reversal number (bit 79) — Description modified. Transfers are considered to be financial transactions.

B.3.5.3 Deletions

The following data elements, that appeared in ISO 8583 (1987), have been deleted.

a) Amount, transaction fee ; amount, transaction processing fee ; amount, settlement fee ; amount, settlement processing fee ; conversion rate, transaction fee — Incorporated within consolidated amounts, fees (bit 46).

b) Credits, transaction fee amount ; credits, transaction processing fee amount — Incorporated within consolidated credits, fee amounts (bit 109).

c) Date, local transaction — Incorporated within consolidated date and time, local transaction (bit 12).

d) Debits, transaction fee amount ; debits, transaction processing fee amount — Incorporated within consolidated debits, fee amounts (bit 110).

e) File security code — No evidence of international need/usage identified.

f) File update code — Incorporated within new function code (bit 24) (see B.3.5.4).

g) Intermediate network facility — No longer referenced in the standard.

h) Message security code ; message number last ; network international identifier — No evidence of international need/usage identified.

i) Network management information code — Incorporated within new function code (bit 24) (see B.3.5.4).

j) Point of service condition code ; point of service entry mode ; point of service PIN capture code — Incorporated within new point of service data code (bit 22) (see B.3.5.5).

k) Replacement amounts — Included in amount, transaction (bit 4), the use of which has been modified. Advice on the usage of amount data elements is given in B.4.1.

l) Response code — Incorporated within new function code (bit 24) and action code (bit 39) (see B.3.5.4).

m) Response indicator — Incorporated within an action code (bit 39).

n) Service indicator — No evidence of international need/usage identified.

o) Settlement code — Incorporated within new action code (bit 39) (see B.3.5.4).

p) Time, local transaction — Incorporated within consolidated date and time, local transaction (bit 12).

B.3.5.4 Action, function and message reason code mapping

The following Tables show the mapping of:

a) The former file update code, which is replaced by the newly defined function code, values 300-399;

b) The former network management information code, which is replaced by the newly defined function code, values 800-899;

c) The former response code, which is replaced by the newly defined message reason codes and/or action codes;

d) The former settlement code, which is replaced by the newly defined action code, values 500-599.

Where codes have been deleted, there may be no direct mapping of new function and action codes, which are more precise. In these cases the new code closest in meaning has been indicated.

A complete listing of function and action codes is given in annex A of ISO 8583 (1993).

**Table B.2 — File update code (1987)
mapped to function code (1993)**

| Code (1987) | Description | Code (1993) |
|----------------|-----------------------------|----------------|
| 0 | unassigned | 300 |
| 1 | add record | 301 |
| 2 | change record | 302 |
| 3 | delete record | 303 |
| 4 | bulk replacement | 304 |
| 5 | inquiry | 305 |
| 6 | delete record, system purge | 303 |
| 7 | add file | 307 |
| 8 | delete file | 308 |
| 9 | unassigned | 300 |
| A-F | reserved for ISO use | 309-359 |
| G-N | reserved for national use | 360-379 |
| O-Z | reserved for private use | 380-399 |

Table B.3 — Network management information code (1987) mapped to function code (1993)

| Code (1987) | Description | Code (1993) |
|---|--|-------------|
| 000 | system condition/reserved | 800 |
| 001 | system condition/sign-on | 801 |
| 002 | system condition/sign-off | 802 |
| 003 | system condition/target system unavailable | 803 |
| 004 | system condition/message originator's system in back-up mode | 804 |
| 005 | system condition/special instructions | 805 |
| 006 | system condition/initiate alternative routing | 806 |
| 007-039 | system condition/reserved for ISO use | 807-809 |
| 100 | system security/reserved | 810 |
| 101 | system security/key | 811 |
| 102 | system security/security alert | 812 |
| 103 | system security/password change | 813 |
| 104 | system security/device authentication | 814 |
| 105-139 | system security/reserved for ISO use | 815-819 |
| 200 | system accounting/reserved | 820 |
| 201 | system accounting/initiate cut-off | 821 |
| 202 | system accounting/cut-off complete | 822 |
| 203-239 | system accounting/reserved for ISO use | 823-829 |
| 300 | system audit control/echo test | 831 |
| 302-339 | system audit control/reserved for ISO use | 832-859 |
| 040-059 140-159 240-259 340-359 600-799 | reserved for national use | 860-879 |
| 060-099 160-199 260-299 360-399 800-999 | reserved for private use | 880-899 |

Table B.4 — Response code (1987) mapped to message reason code and action code (1993)

| Code | response code/action code (1987) | message reason code (1993) | action code (1993) |
|------|---|----------------------------|---|
| 00 | approved or completed successfully/approve | | 000, 300, 600, 800, 900 |
| 01 | refer to card issuer/decline | | 107 |
| 02 | refer to card issuer special conditions | | 108 |
| 03 | invalid merchant | 4500 (chargebacks) | 109 (in authorization and financial transactions) |
| 04 | pick-up/pick -up | | 200 |
| 05 | do not honour | | 100 |
| 06 | error | | 913 |
| 07 | pick-up card, special condition/pick-up | | 207 |
| 08 | honour with identification/approve | | 001 |
| 09 | request in progress | | 901 |
| 10 | approved for partial amount/approve | | 002 |
| 11 | approved (VIP)/approve | | 003 |
| 12 | invalid transaction | 4501 (chargebacks) | 902 (in response messages) |
| 13 | invalid amount | | 110 |
| 14 | invalid card number (no such number) | | 111 |
| 15 | no such issuer/decline | | 908 |
| 16 | approved, update track 3/approve | | 004 |
| 17 | customer cancellation | 4000 | |
| 18 | customer dispute | 4502 | |
| 19 | reenter transaction/decline | | 903 |
| 20 | invalid response | 4020 | |
| 21 | no action taken | 4001 | |
| 22 | suspected malfunction | 4014, 4015, 4016, 4017 | |
| 23 | unacceptable transaction fee/decline | | 113 |
| 24 | file action not supported by receiver | | 301 |
| 25 | unable to locate record on file | | 302 |
| 26 | duplicate file action record, old record replaced | | 303 |
| 27 | file action field edit error | | 304 |

Table B.4 — Response code (1987) mapped to message reason code and action code (1993), continued

| Code | response code/action code (1987) | message reason code (1993) | action code (1993) |
|------|---|----------------------------|--------------------|
| 28 | file action file locked out | | 305 |
| 29 | file action not successful/contact Acquirer | | 306 |
| 30 | format error | | 307 |
| 31 | bank not supported by switch/decline | | 905/908 |
| 32 | completed partially | 4004 | |
| 33 | expired card/pick-up | | 201 |
| 34 | suspected fraud/pick-up | | 202 |
| 35 | card acceptor contact acquirer/pick-up | | 203 |
| 36 | restricted card/pick-up | | 204 |
| 37 | card acceptor call acquirer security/pick-up | | 205 |
| 38 | allowable PIN tries exceeded/pick-up | | 206 |
| 39 | no credit account/decline | | 114 |
| 40 | requested function/not supported/decline | | 115 |
| 41 | lost card/pick-up | | 208 |
| 42 | no universal account/decline | | 114 |
| 43 | stolen card, pick-up/pick-up | | 209 |
| 44 | no investment account/decline | | 114 |
| 51 | no sufficient funds/decline | | 116 |
| 52 | no cheque account/decline | | 114 |
| 53 | no savings account/decline | | 114 |
| 54 | expired card/decline | | 101 |
| 55 | incorrect PIN/decline | | 117 |
| 56 | no card record | | 118 |
| 57 | transaction not permitted to cardholder/decline | | 119 |
| 58 | transaction not permitted to terminal/decline | | 120 |
| 59 | suspected fraud/decline | | 102 |
| 60 | card acceptor contact acquirer/decline | | 103 |
| 61 | exceeds withdrawal amount limit/decline | | 121 |
| 62 | restricted card/decline | | 104 |
| 63 | security violation | | 122 |
| 64 | original amount incorrect/decline | 4005 | 110 |
| 65 | exceeds withdrawal frequency limit/decline | | 123 |
| 66 | card acceptor call acquirer's security department/decline | | 105 |

Table B.4 — Response code (1987) mapped to message reason code and action code (1993), concluded

| Code | response code/action code (1987) | message reason code (1993) | action code (1993) |
|------|---|----------------------------|--------------------|
| 67 | hard capture (requires that card be picked-up at ATM/pick-up) | | 200 |
| 68 | response received too late | 4006 | |
| 75 | allowable number of PIN tries exceeded/decline | | 106 |
| 90 | cut-off is in process (Switch ending a day's business and starting the next. Transaction can be sent again in a few minutes). | | 906 |
| 91 | issuer or switch is inoperative/decline | | 907 |
| 92 | financial institution or intermediate network facility cannot be found for routing/decline | | 908 |
| 93 | transaction cannot be completed. Violation of law/decline | | 124 |
| 94 | duplicate transmission | | 913 |
| 95 | reconcile error | | 915 |
| 96 | system malfunction | | 909 |

Table B.5 — Settlement code (1987) mapped to action code (1993)

| Code (1987) | Description | Code (1993) |
|-------------|---------------------------------|-------------|
| 1 | in balance | 500 |
| 2 | out of balance | 501 |
| 3 | error | 915 |
| 4 | not reconciled, totals provided | 504 |
| 4-5 | reserved for ISO use | 505-559 |
| 6-7 | reserved for national use | 560-579 |
| 8-9 | reserved for private use | 580-599 |

Where codes have been deleted, there may be no direct mapping of new codes. In these cases, the new code closest in meaning has been indicated.

A complete listing of codes specified under point of service data codes is given in annex A of ISO 8583 (1993).

Table B.6 — Point of service PIN capture code (1987) mapped to point of service data (1993)

| Code | 1987 Description | Code | Position 12 |
|-------|---|------|---|
| 0-3 | reserved for ISO use | 2-3 | reserved for ISO use |
| 4-12 | the code indicates the maximum number of PIN characters accepted by the point of service device | 4-C | the code indicates the maximum number of PIN characters accepted by the point of service device |
| 13-59 | reserved for ISO use | D-I | reserved for ISO use |
| 60-79 | reserved for national use | J-R | reserved for national use |
| 80-99 | reserved for private use | S-Z | reserved for private use |

B.3.5.5 Point of service data code mapping

The following tables show the mapping of:

- The former point of service PIN capture code and the corresponding values in the newly defined point of service data.
- The former point of service condition code and the corresponding values in the newly defined point of service data.
- The former point of service entry mode and the corresponding values in the newly defined point of service data.

Table B.7 — Point of service condition code (1987) mapped to point of service data (1993)

| Code | Description | Code | Description |
|------|---|--|---|
| 00 | normal presentment | (see note 1) | |
| 01 | customer not present | position 5=1-4 | cardholder not present |
| 02 | unattended terminal able to retain card | position 3=1 position 4=1 position 4=3 | capture unattended, on premises unattended, off premises |
| 03 | merchant suspicious | (see note 5) | |
| 04 | electronic cash register interface | (see note 2) | |
| 05 | customer present, card not present | position 5=0 position 6=0 | cardholder present card not present |
| 06 | pre-authorized request | (see note 3) | |
| 07 | telephone device request | position 4=1 position 4=3 | on premises of card acceptor, attended off premises of card acceptor, attended |
| 08 | mail and/or telephone order | position 5=2 position 5=3 | mail order telephone order |
| 09 | security alert | (see note 5) | |
| 10 | customer identity verified | position 8=1 through 6 | PIN, electronic signature analysis, biometrics, biographic, manual, other |
| 11 | suspected fraud | (see note 5) | |
| 12 | security reasons | (see note 5) | |
| 13 | representation of item | (see note 3) | |
| 14 | public utility terminal | (see note 2) | |
| 15 | customer terminal (home terminal) | position 4=4 | off premises of card acceptor, unattended |
| 16 | administration terminal | (see note 2) | |
| 17 | returned item (chargeback) | (see note 4) | |
| 18 | no cheque in envelope/all returned | (see note 5) | |
| 19 | deposit out of balance/all returned | (see note 5) | |
| 20 | payment out of balance/all returned | (see note 5) | |
| 21 | manual reversed | (see note 4) | |
| 22 | terminal error/counted | (see note 3) | |
| 23 | terminal error/not counted | (see note 3) | |
| 24 | deposit out of balance (applied contents) | (see note 5) | |
| 25 | payment out of balance (applied contents) | (see note 5) | |
| 26 | withdrawal had error/reversed | (see note 4) | |
| 27 | unattended terminal unable to retain card | position 3=0 position 4=2 position 4=4 | no capture on premises of card acceptor, unattended off premises of card acceptor, unattended |

Note 1 - "Normal presentment" dependent upon type of transaction as defined by processing code and point of service data.

Note 2 - There is no matching code as no standard terminal classification exists.

Note 3 - Handled via the function code.

Note 4 - Handled via the message type identifier (MTI).

Note 5 - Handled via the message reason code.

**Table B.8 — Point of service entry mode (1987)
mapped to point of service data (1993)**

| Code | Positions 1 and 2 | Code | Position 7 |
|------------|-------------------------|-------------|---------------------------------------|
| 00 | unspecified | 0 | unknown |
| 01 | manual | 1 | manual - embossed |
| | | 6 | manual - key entered |
| 02 | magnetic stripe | 2 | magnetic stripe |
| 03 | bar code | 3 | bar code |
| 04 | OCR | 4 | OCR |
| 05 | ICC | 5 | ICC |
| position 3 | | position 12 | |
| 0 | unspecified entry | 1 | device PIN capture capability unknown |
| 1 | PIN capability | 4-C | number of PIN digits captured |
| 2 | no PIN entry capability | 0 | no PIN capture capability |

B.3.6 Usage of data elements

The following tables provide comparison, for each message class, of the mandatory and conditional data elements required under the 1987 edition with those required under the 1993 edition of this International Standard. The reasons for changing the usage of data elements are given in following notes:

- A This is a message matching data element and must be the same as in the original request or advice (see 5.2 of ISO 8583:1993).
- B This is not a message matching data element and is therefore optional or conditional in a response (see 5.2 of ISO 8583:1993).
- C This is replaced by date and time, local transaction as a matching data element.
- D Added to support reconciliation or reconciliation of fees.
- E Point of service data code incorporates the former point of service condition code, point of service entry mode and point of service PIN capture code.
- F No international usage/requirement identified.
- G Added to support international usage/requirement.
- H Function code incorporates former file update code, network management information code and some response codes.
- I Acquirer may not have information.
- J This is a transaction matching data element and is therefore not required in a response (see 5.3 of ISO 8583:1993).
- K Revised use of amount and fee data elements.
- L Generic message is now used.
- M This is not a transaction matching data element.
- N Identifies the card issuer.
- O Optional for reconciliation.
- P Action code incorporates former settlement code.
- R Reason for file action message and PAN affected.

Table B.9 - Data Elements by Message Class

| Table B.9 - Data Elements by Message Class | | | | | | | | | | | | | | | | | |
|--|------------------------|--------------|------|------|--------------|--------------|------|------|------------------------|--|------------------------|------|--------------|------|------|--|------------------|
| Bit (1987) | Condition Codes (1987) | | | | | | | | Authorization Messages | Bit (1993) | Condition Codes (1993) | | | | | | N O T E |
| | 0100 0101 | 0102 0103 | 0110 | 0112 | 0120 0121 | 0122 0123 | 0130 | 0132 | | | 1100 1101 | 1110 | 1120 1121 | 1130 | 1140 | | |
| 1 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | bit map extended | 1 | | | | | | |
| 2 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | primary account number | 2 | 07 | 16 | 07 | 07 | | |
| 3 | M | M | M | M | M | M | M | M | M | processing code | 3 | M | 27 | M | M | | |
| 4 | M | M | M | M | M | M | M | M | M | amount, transaction | 4 | 26 | 26 | 26 | 26 | | |
| 7 | M | M | M | M | M | M | M | M | M | date and time, transmission | 7 | | | | | | |
| 11 | M | M | M | M | M | M | M | M | M | systems trace audit number | 11 | M | ME | M | M | | |
| 12+13 | | | | | | | | | | date and time, local transaction | 12 | M | ME | M | M | | |
| | | | | | | | | | | date, effective | 13 | 02 | | 02 | 02 | | |
| 14 | 02 | | | | 02 | | | | | date, expiration | 14 | 02 | | 02 | 02 | | |
| 19 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, acquiring institution | 19 | | | | | | |
| 20 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, primary account number | 20 | | | | | | |
| 21 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, forwarding institution | 21 | | | | | | |
| 22 | 08 | 08 | | | 08 | 08 | | | | point of service entry mode | | | | | E | | |
| | | | | | | | | | | point of service data code | 22 | M | M | M | E | | |
| 23 | 02 | | | | 02 | | | | | card sequence number | 23 | 02 | | 02 | | | |
| 24 | | | 16 | 16 | | | 16 | 16 | 16 | network international identifier | | | | | F | | |
| | | | | | | | | | | function code | 24 | M | M | M | H | | |
| 25 | 02 | | | | 02 | | | | | point of service condition code | | | | | E | | |
| 26 | 14 | 14 | | | 14 | 14 | | | | point of service PIN capture code | | | | | E | | |
| | | | | | | | | | | card acceptor business code | 26 | M | M | M | G | | |
| 27 | 18 | | | | 18 | | | | | approval code length | 27 | 18 | | | | | |
| | | | | | | | | | | date, reconciliation | 28 | | 12 | 12 | D | | |
| | | | | | | | | | | reconciliation indicator | 29 | | 14 | 14 | D | | |
| | | | | | | | | | | amounts, original | 30 | 08 | 21 | 08 | K | | |
| 32 | M | M | M | M | M | M | M | M | M | acquiring institution identification code | 32 | M | ME | M | A | | |
| 33 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | forwarding institution identification code | 33 | 10 | 10 | 10 | | | |

Table B.9 - Data Elements by Message Class, continued

| Bit (1987) | Condition Codes (1987) | | | | | | | | | | Authorization Messages, continued | Blt (1993) | Condition Codes (1993) | | | | | | N O T E |
|---------------|------------------------|--------------|------|------|--------------|--------------|------|------|--------------|------|---|---------------|------------------------|------|------|----|----|---|------------------|
| | 0100 0101 | 0102 0103 | 0110 | 0112 | 0120 0121 | 0122 0123 | 0130 | 0132 | 1100 1101 | 1110 | | | 1120 1121 | 1130 | 1140 | | | | |
| 34 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | primary account number, extended | 34 | 15 | 16 | 15 | 16 | 15 | A | |
| 35 | | | | | | | | | | | Track 2 data | 35 | 06 | | 06 | | 06 | G | |
| 36 | | | | | | | | | | | Track 3 data | 36 | 06 | | 06 | | 06 | G | |
| 39 | | M | M | M | M | M | M | M | M | M | action code (was response code) | 39 | | M | M | M | M | | |
| 40 | | | | | | | | | | | service code (was service restriction code) | 40 | 02 | | 02 | | 02 | | |
| 41 | | | 16 | 16 | | | | 16 | 16 | | card acceptor terminal identification | 41 | | 16 | | 16 | | | |
| 42 | | | | | | | | | | | card acceptor identification code | 42 | | 16 | | 16 | | | |
| 45 | | | | | | | | | | | track 1 data | 45 | 06 | | 06 | | 06 | G | |
| | | | | | | | | | | | amounts, fees | 46 | 01 | 01 | 01 | 01 | 01 | D | |
| 49 | M | M | M | M | M | M | M | M | M | M | currency code, transaction | 49 | 26 | 16 | 26 | 16 | 26 | | |
| 54 | | | | | | | | | | | additional amounts | 54 | | | | | | | |
| | | | | | | | | | | | authorizing agent institution identification code | 58 | | 20 | 20 | | 20 | G | |
| | | | | | | | | | | | transport data | 59 | | 16 | | 16 | | G | |
| 66 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, receiving institution | | | | | | | | |
| 100 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | receiving institution identification code | 100 | 19 | 19 | 19 | 19 | 19 | | |

Table B.9 - Data Elements by Message Class, continued:

| Bit (1987) | Condition Codes (1987) | | | | | | | | Financial messages | Bit (1993) | Condition Codes (1993) | | | | | | | N O T E | |
|---------------|------------------------|--------------|------|------|--------------|--------------|------|------|--------------------|--------------------------------------|------------------------|------|--------------|------|------|----|--|------------------|---|
| | 0200 0210 | 0202 0203 | 0210 | 0212 | 0220 0221 | 0222 0223 | 0230 | 0232 | | | 1200 1201 | 1210 | 1220 1221 | 1230 | 1240 | | | | |
| 1 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | bit map extended | 1 | | | | | | | | |
| 2 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | 07 | primary account number | 2 | 07 | 16 | 07 | 16 | 07 | | | A |
| 3 | M | M | M | M | M | M | M | M | M | processing code | 3 | M | 27 | M | ME | M | | | A |
| 4 | M | M | M | M | M | M | M | M | M | amount, transaction | 4 | M | M | M | M | M | | | |
| 5 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | amount, reconciliation | 5 | | 05 | | 05 | 05 | | | I |
| 7 | M | M | M | M | M | M | M | M | M | date and time, transmission | 7 | | | | | | | | C |
| 9 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | conversion rate, reconciliation | 9 | | 05 | | 05 | 05 | | | I |
| 10 | | | | | | | | | | conversion rate, cardholder billing | 10 | 04 | 04 | 04 | 04 | 04 | | | |
| 11 | M | M | M | M | M | M | M | M | M | systems trace audit number | 11 | M | ME | M | ME | M | | | A |
| 12+13 | | | | | | | | | | date and time, local transaction | 12 | M | ME | M | ME | M | | | A |
| | | | | | | | | | | date, effective | 13 | 02 | | 02 | | 02 | | | G |
| 14 | 02 | | | | 02 | | | | | date, expiration | 14 | 02 | | 02 | | 02 | | | |
| 16 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | date, conversion | 16 | | 05 | | 05 | 05 | | | |
| 17 | | | | | M | | | | | date, capture | 17 | | | 22 | | 22 | | | |
| 19 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, acquiring institution | 19 | | | | | | | | |
| 20 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, primary account number | 20 | | | | | | | | |
| 21 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, forwarding institution | 21 | | | | | | | | |
| 22 | 08 | 08 | | | 08 | 08 | | | | point of service entry mode | | | | | | | | | E |
| | | | | | | | | | | point of service data code | 22 | M | | M | | M | | | E |
| 23 | 02 | | 16 | | 02 | | 16 | | | card sequence number | 23 | 02 | | 02 | | 02 | | | B |
| 24 | | | 16 | 16 | | | 16 | 16 | | network international identifier | | | | | | | | | F |
| | | | | | | | | | | function code | 24 | M | | M | | M | | | H |
| 25 | 02 | | | | 02 | | | | | point of service condition code | | | | | | | | | E |
| 26 | 14 | 14 | | | 14 | 14 | | | | point of service PIN capture code | | | | | | | | | E |
| | | | | | | | | | | card acceptor business code | 26 | M | | M | | M | | | G |

Table B.9 - Data Elements by Message Class, continued

| Table B.9 - Data Elements by Message Class, continued | | | | | | | | | | | | | | | | | | | |
|---|------------------------|--------------|------|------|--------------|--------------|------|------|-------------------------------|---|------------------------|------|--------------|------|------|----|----|---|------------------|
| Bit (1987) | Condition Codes (1987) | | | | | | | | Financial messages, continued | Bit (1993) | Condition Codes (1993) | | | | | | | | N O T E |
| | 0200 0201 | 0202 0203 | 0210 | 0212 | 0220 0221 | 0222 0223 | 0230 | 0232 | | | 1200 1201 | 1210 | 1220 1221 | 1230 | 1240 | | | | |
| 27 | 18 | | | | | 18 | | | | approval code length | 27 | 18 | | | | | | | |
| | | | | | | | | | | date, reconciliation | 28 | | 12 | | 12 | | 12 | D | |
| | | | | | | | | | | reconciliation indicator | 29 | | 14 | | 14 | | 23 | D | |
| | | | | | | | | | | amounts, original | 30 | 08 | 21 | 08 | | 08 | | K | |
| 32 | M | M | M | M | M | M | M | M | | acquiring institution identification code | 32 | M | ME | M | ME | M | | A | |
| 33 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | forwarding institution identification code | 33 | 10 | 10 | 10 | 10 | 10 | 10 | | |
| 34 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | primary account number, extended | 34 | 15 | 16 | 15 | 16 | 15 | 15 | A | |
| 35 | | | | | | | | | | track 2 data | 35 | 06 | | 06 | | 06 | | | |
| 36 | | | | | | | | | | track 3 data | 36 | 06 | | 06 | | 06 | | G | |
| 37 | 02 | | 16 | | 02 | | | 16 | | retrieval reference number | 37 | | 16 | | 16 | | | | |
| 39 | 17 | M | M | M | 17 | M | M | M | M | action code (was response code) | 39 | | M | M | M | M | | | |
| 40 | | | | | | | | | | service code (was service restriction code) | 40 | 02 | | 02 | | 02 | | | |
| 41 | | | 16 | 16 | | | | 16 | 16 | card acceptor terminal identification | 41 | | 16 | | 16 | | | | |
| 42 | | | | | | | | | | card acceptor identification code | 42 | | 16 | | 16 | | | | |
| 43 | M | | | | M | | | | | card acceptor name/location | 43 | M | | M | | M | | | |
| 45 | | | | | | | | | | track 1 data | 45 | 06 | | 06 | | 06 | | G | |
| | | | | | | | | | | amounts, fees | 46 | 01 | 01 | 01 | 01 | 01 | 01 | D | |
| 49 | M | M | M | M | M | M | M | M | M | currency code, transaction | 49 | M | ME | M | ME | M | | | |
| 50 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | 05 | currency code, reconciliation | 50 | | 05 | | 05 | 05 | 05 | I | |
| 51 | | | | | | | | | | currency code, cardholder billing | 51 | 04 | 04 | 04 | 04 | 04 | | | |
| | | | | | | | | | | authorizing agent institution identification code | 58 | | 20 | 20 | | 20 | | G | |
| | | | | | | | | | | transport data | 59 | | 16 | | 16 | | | G | |
| 66 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | 09 | country code, receiving institution | 66 | | | | | | | | |
| 100 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | 19 | receiving institution identification code | 100 | 19 | 19 | 19 | 19 | 19 | 19 | | |
| 102 | 12 | 12 | 12 | | | 12 | 12 | 12 | | account identification 1 | 102 | | | | | | | | |
| 103 | 12 | 12 | 12 | 12 | | 12 | 12 | 12 | | account identification 2 | 103 | | | | | | | | |