

Australian Standard[®]

Electronic funds transfer—Requirements for interfaces

Part 12.1: Message content—Structure and format



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 - Australian Bankers Association
 - Australian Electrical and Electronic Manufacturers Association
 - Australian Institute of Petroleum
 - Australian Retailers Association
 - Credit Card Industry
 - Reserve Bank of Australia
-

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Australian Standard[®]

Electronic funds transfer—Requirements for interfaces

Part 12.1: Message content—Structure and format

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-005, Financial Transaction Systems.

This Standard incorporates Amendment No. 1 (April 2008). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard is identical with, and has been reproduced from ISO 8583-1:2003, *Financial transaction card originated messages—Interchange message specifications—Part 1: Messages, data elements and code values*.

The objective of this Standard is to provide requirements for a common interface enabling messages to be exchanged between systems adopting a variety of application specifications. It also provides guidelines for the structure, format and content of messages.

This Standard is Part 1 of AS 2805.12, *Electronic funds transfer—Requirements for interfaces—Message content*, which is published in parts as follows:

Part 1: Structure and format (this Standard)

Part 2: Application and registration procedures for Institute Identification Codes (IIC)

Part 3: Maintenance procedures for messages, data elements and code values.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
3166	Codes for the representation of names of countries and their subdivisions	2632	Codes for the representation of names of countries and their subdivisions
4217	Codes for the representation of currencies and funds	3759	Codes for the representation of currencies and funds
4909	Bank cards—Magnetic stripe data content for track 3	3525	Bank cards—Magnetic stripe data content for Track 3
7811	Identification cards—Recording technique	3522	Identification cards—Recording technique
7811-2	Part 2: Magnetic stripe	3522.2	Part 2: Magnetic stripe
7812	Identification cards—Identification of issuers	3523	Identification cards—Identification of issuers
7812-1	Part 1: Numbering system	3523.1	Part 1: Numbering systems

7813	Identification cards—Financial transaction cards	3524	Identification cards—Financial transaction cards
AS ISO 8601	Data elements and interchange formats—Information interchange—Representation of dates and times	AS/NZS 3802	Data elements and interchange formats—Information interchange—Representation of dates and times
ISO 8825	ITU-T Recommendation X.690, Information technology—ASN.1 Encoding rules	AS/NZS 8825	Information technology—ASN.1 encoding rules
8825-1	Part 1: Specification of basic encoding rules (BER), Canonical encoding rules (CER) and Distinguished encoding rules (DER)	8825.1	Part 1: Specification of basic encoding rules, canonical encoding rules and distinguished encoding rules
8825-2	Part 2: Specification of packed encoding rules	8825.2	Part 2: Specification of packed encoding rules

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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 uses a concept called a bit map, whereby each data element is assigned a position indicator in a control field, or bit map. A one in the assigned position indicates the presence of a data element in a specific message. A zero in the assigned position indicates the absence of a data element in a specific message.

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.

In a number of cases, the names of data elements and message classes can become confusing when used in descriptive paragraphs. The word *authorization* is a typical example. It is an activity undertaken by a card issuer, it is the name of a message class where an acquirer requests a card issuer to undertake the activity and it is also a word used in many data element names.

To aid clarity, the following conventions are followed within this International Standard:

- data element names have the first letter capitalized;
- data element names are shown in *italics* except when used in tables or figures;
- message class names are shown capitalized when the context refers to their use in messages or transactions.

ISO 8583:1993 has been revised to be published in three parts. A number of changes have been made to accommodate the latest advances in payment technologies and the opportunity has also been taken to improve the layout and readability. A summary of the most significant changes between ISO 8583:2003 (all parts) and ISO 8583:1993 is provided in Annex F.

AUSTRALIAN STANDARD

Electronic Funds Transfer—Requirements for interfaces

Part 12.1: Message content—Structure and format

1 Scope

This part of ISO 8583 specifies a common interface by which financial transaction card-originated messages can 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 part of ISO 8583.

NOTE With the proliferation of technology available to financial institutions to offer services to customers, a range of tokens (financial transaction cards, digital certificates etc.) now exist for identifying account relationships. In order to maintain clarity, this part of ISO 8583 will continue to refer only to financial transaction cards as the token. However, readers should be aware that the actual token issued by a financial institution may be different.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

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

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

ISO 7372, *Trade data interchange — Trade data elements directory*

ISO 7811-2, *Identification cards — Recording technique — Part 2: Magnetic stripe — Low coercivity*

ISO 7812-1, *Identification cards — Identification of issuers — Part 1: Numbering system*

ISO 7813, *Identification cards — Financial transaction cards*

ISO 7816-6, *Identification cards — Integrated circuit(s) cards with contacts — Part 6: Interindustry data elements*

ISO 8583-2, *Financial transaction card originated messages — Interchange message specifications — Part 2: Application and registration procedures for Institution Identification Codes (IIC)*

ISO 8583-3:—¹⁾, *Financial transaction card originated messages — Interchange message specifications — Part 3: Maintenance procedures for messages, data elements and code values*

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

ISO 8825 (all parts), *Information technology — ASN.1 encoding rules*

ISO 9564-1, *Banking — Personal Identification Number (PIN) management and security — Part 1: Basic principles and requirements for online PIN handling in ATM and POS systems*

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

ISO 13492, *Banking — Key management related data element (retail)*

ISO 18245:—²⁾, *Retail financial services — Merchant category codes*

3 Terms and definitions

For the purposes of this document, the following terms and 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

NOTE The acquirer remains unchanged throughout a transaction.

3.2

address verification

process of comparing data from the point of service (POS) with that held by the card issuer to verify the cardholder's billing address

3.3

advice

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

3.4

aggregation

total amount of a number of transactions where details of the individual transactions that make up the total are not provided or recoverable

3.5

attended transaction

transaction where the acquirer has indicated that the card, cardholder and card acceptor representative are all present at the time of the transaction

3.6

authentication

action of proving that someone or something is genuine

1) To be published. (Revision of ISO 8583-3:1998)

2) To be published.

3.7**authorizing agent**

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

3.8**card acceptor**

party accepting the card and presenting transaction data to an acquirer

3.9**cardholder**

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

3.10**card issuer**

financial institution (or its agent) which issues the financial transaction card to the cardholder

NOTE The card issuer remains unchanged throughout a transaction.

3.11**card issuer back up total**

total amount for all transactions (for an agreed set of parameters) provided when the detail of each transaction has been lost

3.12**credit transaction**

claim for funds by the cardholder for the credit of his account

NOTE At the same time, the transaction provides details of funds acknowledged as payable by the acquirer (and/or the card acceptor) to the card issuer.

3.13**dataset**

group of related sub-elements within a composite data element

NOTE See 5.4.4.1.

3.14**dataset bit map****DBM**

bit map used to identify the presence (denoted by 1) or absence (denoted by 0) of sub-elements within a dataset

NOTE See 5.4.4.4.

3.15**debit transaction**

approval by the cardholder of the debit to his account

NOTE At the same time, the transaction provides a claim of funds made by the acquirer (and/or the card acceptor) against the card issuer.

3.16**electronic purse**

application within an integrated circuit card (ICC)

NOTE The application allows the cardholder to have electronic value stored in the purse.

3.17**fallback**

transaction that is processed using a card reading technology that is not the card issuer's preferred card reading technology

NOTE This might be where a magnetic stripe is used, although the card has an ICC containing the same application as identified on the magnetic stripe, and the POS has an ICC reader or the magnetic stripe read failed and the card details were keyed into the POS.

3.18**file**

collection of *Data record* data elements

3.19**forwarding institution**

institution within a transaction flow that sends a message forward from the originating institution

NOTE See 6.2.5.

3.20**inquiry**

message (from the authorization message class) that requests information

3.21**institution identification code**

unique number assigned to an institution participating in financial card originated message interchange

NOTE See 6.2.5 and 10.2.

3.22**instruction**

message where the sender notifies the receiver of an activity to be taken

NOTE An instruction acknowledgement is not sent unless the receiver specifically requests one.

3.23**instruction acknowledgement**

message where the receiver notifies the sender that one or more instruction messages has been received

NOTE No financial liability is implied in sending the instruction acknowledgement message.

3.24**linked load**

electronic purse load transaction where the account providing the electronic purse is the same as the account providing the funds

NOTE Only one transaction is sent to the institution to both authenticate the purse and to secure the value for the load.

3.25**load transaction**

transaction performed whereby value from the cardholder's source of funds (e.g. the funding account or cash) is transferred to an electronic purse

NOTE In return, the electronic purse card issuer receives payment from the cardholder's funding source.

3.26**maintenance agency****MA**

group responsible for the administrative duties related to the maintenance of this part of ISO 8583, excluding the institution identification code

NOTE See Clause 10.

3.27**message**

set of data elements used to exchange information between institutions (or their agents)

NOTE No communications (header/trailer, protocol, or character code) or security implications are assumed or identified.

3.28**message bit map**

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

NOTE See 5.3.

3.29**message class**

set of messages which supports the specific activities being performed

3.30**message function**

identification of the purpose of a message and the activity involved

3.31**notification**

message where the sender notifies the receiver of an activity taken

NOTE A notification acknowledgement is not sent unless the receiver specifically requests one.

3.32**notification acknowledgement**

message where the receiver notifies the sender that one or more notification messages has been received

NOTE No financial liability implied in sending the notification acknowledgement.

3.33**payment**

movement of funds from a cardholder account to another party

EXAMPLE A utility bill payment.

3.34**point of service****POS**

card acceptor location where the cardholder agrees the transaction takes place

3.35**receiving institution**

institution within a transaction flow that receives a message before it reaches the final destination

NOTE See 6.2.5.

3.36**registration authority**

group responsible for the administrative duties related to the maintenance of institution identification codes

NOTE See Clause 10.

3.37**registration and maintenance management group****RMMG**

group responsible for the allocation of institution identification codes (as specified in ISO 8583-2) and the approval of changes to this part of ISO 8583 (as specified in ISO 8583-3)

NOTE See Clause 10.

3.38**repeat**

resending of a request or advice message for which no response was received within the expected time

3.39**replacement authorization**

authorization used when a previous authorization was approved and a subsequent authorization is required

NOTE This is used when, for example, the *Amount transaction* is now different from the originally approved amount (see 8.2.1).

3.40**representment**

transaction (from the financial presentment message class) originated by an acquirer to partially or wholly recover funds previously charged back to the acquirer by a card issuer

NOTE See 8.4.1.

3.41**request**

message where the sender informs the receiver that a transaction is in progress

NOTE A response is required to complete the activity.

3.42**response**

message where the sender informs the receiver that a request or advice message was received

NOTE The response instructs the receiver on what action to take to complete the original request or advice.

3.43**resubmission**

re-entry of a request message which was previously denied or rejected

NOTE See 8.2.1 and 8.4.1.

3.44**settlement**

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

3.45**settlement institution**

financial institution (or its agent) at which the accounts are held by the parties settling

NOTE This institution, acting on information provided by the parties, transfers the appropriate funds between the accounts.

3.46**supplementary authorization**

authorization used when a previous authorization was approved and one or more subsequent authorizations are required for additional amounts

NOTE See 8.2.1.

3.47**tag-length-value (basic encoding rules)****TLV/BER**

method of encoding data, as specified in ISO 8825 (all parts)

3.48**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

3.49**transaction destination institution**

final institution receiving the request, advice, notification or instruction message in a transaction

NOTE The transaction destination remains unchanged throughout the transaction.

3.50**transaction information document**

any type of transaction information including form sets, sales slips, vouchers, terminal receipts, record of charge, substitute drafts etc.

3.51**transaction originator institution**

institution initiating the request, advice, notification or instruction message in a transaction

NOTE The transaction originator remains unchanged throughout the transaction.

3.52**transfer**

movement of funds by a cardholder from one of its accounts to another of its accounts

NOTE Both accounts are held by the same financial institution.

3.53**truncation**

transactions stopped at some point in the process before they reach the receiver

3.54**unattended transaction**

transaction where the acquirer has indicated that one or other of the card, cardholder or card acceptor representative are not present at the time of the transaction

3.55**unlinked load**

electronic purse load transaction where the account providing the electronic purse is different from the account providing the funds

NOTE There is one transaction to the institution providing the electronic purse to authenticate the purse and another transaction to the institution providing the funds to secure the value for the load.

3.56**unload transaction**

transaction performed whereby value from an electronic purse is transferred to a cardholder's account

3.57**verification**

action of comparing data with a known source

3.58**version**

description of interchange message formats that distinguishes between different arrangements of data elements within message bit maps resulting from revisions of this part of ISO 8583

NOTE This is where the data elements are added, deleted or their meaning, position or format changes or the message flows are modified (see 5.1.2.2).

4 Symbols (and abbreviated terms)

4.1 Representation abbreviations

A large part of this part of ISO 8583 consists of the definition of data elements. Part of the definition is the description of the permissible contents such as numeric only or alphanumeric, etc. These requirements are indicated via abbreviations, which are detailed in Table 1. These symbols and abbreviations are compatible with those specified in ISO 7372.

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 1 — Representation abbreviations

Abbreviation	Definition
..17	Variable length of up to maximum 17 characters. All variable length fields shall in addition contain two, three or four positions at the beginning of the data element to identify the number of positions following to the end of that data element.
3	Fixed length of three characters.
a	Alphabetical characters, A through Z and a through z.
an	Alphabetic and numeric characters.
anp	Alphabetic, numeric and space (pad) characters.
ans	Alphabetic, numeric and special characters.
ansb	Alphabetic, numeric, special characters and binary representation of data.
as	Alphabetic and special characters.
b	Binary representation of data.
CCYY	Century and year, 0000 through 9999 (in accordance with ISO 8601).
DD	Day, 01 through 31.
hh	Hour, 00 through 23.
LL	Length of variable data element that follows, 01 through 99.
LLL	Length of variable data element that follows, 001 through 999.
LLLL	Length of variable data element that follows, 0001 through 9999.
MM	Month, 01 through 12.
mm	Minute, 00 through 59.
n	Numeric digits, 0 through 9.
ns	Numeric and special characters.
p	Pad character (i.e. space).
s	Special characters.
ss	Second, 00 through 59.
VAR	Variable length data element.
xn	Numeric data with a preceding sign of “c” for credit, “d” for debit, e.g. xn 17 in amount, net reconciliation means prefix “c” or “d” and 16 digits of amount.
YY	Year, 00 through 99.
z	Tracks 2 and 3 code set as specified in ISO 4909, ISO 7811-2 and ISO 7813.

4.2 Abbreviated terms

Abbreviations when used within this part of ISO 8583 have the following meanings:

- ATM: automatic teller machine;
- CAD: card acceptor device (also known as a terminal);
- CAT: cardholder activated terminal;
- GMT: greenwich mean time;
- MAC: message authentication code;
- MTI: message type identifier;
- PAN: primary account number;
- PIN: personal identification number;
- RFID: radio frequency input device;
- RMMG: registration and maintenance management group;
- URL: universal resource locator;
- UTC: universal co-ordinated time.

5 Message structure

5.1 Message components

5.1.1 Sequence

Each message identified in this part of ISO 8583 shall be constructed in the following sequence:

- a) message type (see 5.1.2);
- b) one or two message bit maps (see 5.3);
- c) a series of data elements in the order of the message bit map representation (see 5.4).

5.1.2 Message type

5.1.2.1 General

The first component is the message type and is composed of two elements, a version number (see 5.1.2.2) and a message type identifier (see 5.1.2.3). Every message shall begin with a message type.

5.1.2.2 Version number

A version number shall be assigned when sufficient changes have been made in a revision of the International Standard such that it is necessary to know which version was used to construct a message in order to properly process the message (see Table 2). Version numbers shall not be assigned as the result of editorial or code changes. Clause 10 gives the details of the means by which changes to this part of ISO 8583 that do not require a new version number may be requested.

Table 2 — Version identification

Code no.	International Standard no.	Year of publication	Other
0	ISO 8583	1987	—
1	ISO 8583	1993	—
2	ISO 8583	2003	—
3-7	—	—	Reserved for ISO use
8	—	—	Reserved for ISO use
9	—	—	Reserved for ISO use

5.1.2.3 Message type identifier

The message type identifier is a three digit numeric field identifying the message class, message function and transaction originator. See Clause A.12 for the complete list of possible codes and the list of allocated codes. The use of unallocated codes is subject to bilateral agreement.

5.2 Message repeats

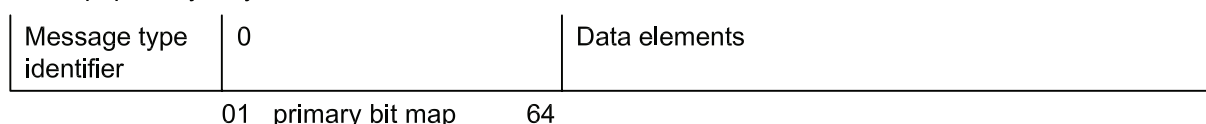
Whenever a repeat message is identified, that repeat message shall be identical to its original message with the exception of the message type identifier and, if necessary, *Date and time transmission* and the *Message authentication code* data elements.

5.3 Message bit maps

The second message component is one or two message 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 message 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 message bit map (bits 65-128). The presence of the secondary message bit map shall be signified by a “1” in bit 01 of the primary message bit map (see Figure 1). Bit map positions for all data elements are defined in this part of ISO 8583 and listed in Table 3.

Bit map, primary only



Bit map, primary and secondary

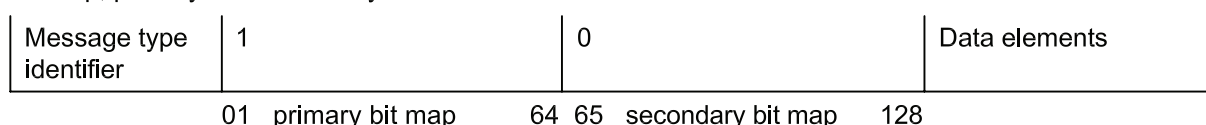


Figure 1 — Message bit maps

5.4 Data elements

5.4.1 Data element types

The third message component is made up of a series of data elements. Messages are constructed using the message bit map as an index of data elements that are present. Some data elements are of fixed length and some are of variable length. The actual length of any given variable length data element shall be provided in its fixed length prefix.

There are three types of data elements:

- a) primitive data element (see 5.4.2);
- b) constructed data element (see 5.4.3);
- c) composite data element (see 5.4.4).

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

5.4.2 Primitive data elements

A primitive data element is a data element where the content has no further part or sub-elements, e.g. *Approval code*.

5.4.3 Constructed data element

A constructed data element is a data element where the content consists of a fixed number of sub-elements, all of which shall be present, e.g. *Amounts original*. If there is no data for a particular sub-element it shall contain the relevant default values, e.g. blank or zeroes etc.

Only the last sub-element may be a variable length sub-element e.g. *Original data element*. In this case, the last sub-element does not have any preceding length attribute. The actual length of the last sub-element is calculated from the overall length of the constructed data element of which it is a part.

In some cases, the structure of a constructed data element allows for a number of repetitions of the fixed structure, e.g. *Amounts additional*. Although the sub-elements of each repetition are fixed, they may not always be sent, e.g. the number of repetitions is optional within the limits set. Where a repetition is sent, it shall contain all the defined sub-elements.

5.4.4 Composite data elements

5.4.4.1 Structure

A composite data element is a data element where the content consists of a large number of sub-elements. Most of these sub-elements fall into natural categories, e.g. purchase card data, auto rental data, airline data etc. In practice, any one transaction is likely to require data from only one, or at most a limited number, of these categories.

In order to identify these categories, the concept of a “dataset” has been defined. All the sub-elements that can be included in a particular composite data element are therefore divided into a number of sets of related data (a dataset), and each dataset is given a “dataset identifier”.

The structure of a dataset is based on the message structure defined in this part of ISO 8583 and consists of a second level of bit map (dataset bit map) which indicates which sub-elements are present in a particular dataset. In addition, provision is made for identifying sub-elements using the TLV (Tag-length-value) method as specified in ISO 8825 (all parts) as an alternative to using the second level bit map.

Each composite data element can therefore contain a variable number of different datasets, and can include both TLV and bit map formats.

To assist processing, each dataset has a two-digit binary length component immediately following the dataset identifier (see 5.4.4.3). Figure 2 shows the structure of a composite data element within a message.

The above definition does not apply to the *Integrated circuit card (ICC) related data* data element as the linking of related sub-elements is accomplished in accordance with the definitions given in ISO 7816-6. The result is that the dataset identifier is replaced by the T element of the TLV, the dataset length by the L element and the sub-elements by the V element. The TLV can be either a constructed data object and/or a series of individual data objects as specified in ISO 7816-6 (see 6.5.5).

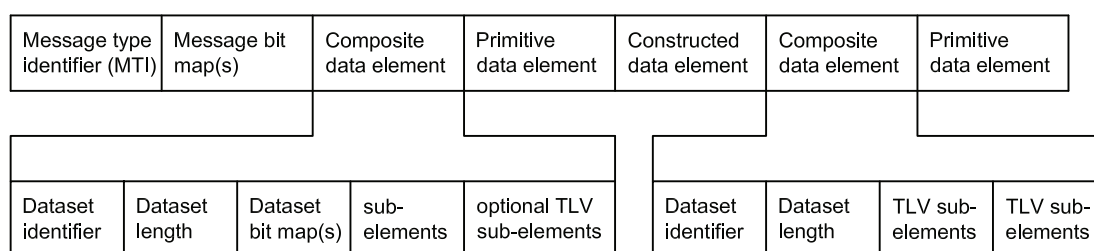


Figure 2 — Structure of a composite data element

5.4.4.2 Dataset identifiers

5.4.4.2.1 General

Each dataset is given a one digit binary identifier, allowing up to 256 possible datasets per composite data element. The dataset identifier is the first component of the dataset. Dataset identifiers can have a value between 00 and FF (hexadecimal).

- The values of 00 and FF are reserved for ISO use.
- The values (01-70) shall only be used for the transmission of TLV sub-elements (see 5.4.4.2.2).
- The values (71-FE) shall only be used with dataset bit maps (see 5.4.4.2.3).

The full range of dataset identifiers (01 to FE) is available for allocation within each composite data element that is defined. Thus, there may be more than one instance of any specific dataset identifier value. Unique identification of a specific dataset requires knowing the dataset identifier and the associated composite data element bit position.

See Clause A.7 for the list of composite data elements and the associated dataset identifier allocations.

5.4.4.2.2 Dataset identifiers 01-70 (TLV format)

These identifiers indicate that all the sub-elements in the dataset are described using TLV encoding. This format allows the transmission of a number of individual otherwise unrelated sub-elements. The format of the composite data element is shown in Figure 3.

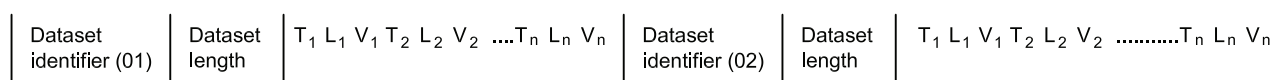


Figure 3 — Dataset identifiers 01-70

5.4.4.2.3 Dataset identifiers 71-FE (bit map format)

These identifiers indicate that all the sub-elements in the dataset are described using a dataset bit map, which is, in turn, followed by the sub-elements, as indicated in the bit map. The format is shown in Figure 4. The pattern can be repeated a variable number of times, e.g. for purchasing card line item detail.

Dataset identifier (71)	Dataset length	Dataset bit map	Sub-elements	Dataset identifier (72)	Dataset length	Dataset bit map	Sub-elements
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Figure 4 — Dataset identifiers 71-FE

5.4.4.2.4 Dataset identifier FF

This identifier is reserved for possible extension to a future two-digit identifier in case more than 255 identifiers per composite data element are required.

5.4.4.3 Dataset length

The dataset length is a two-digit number where each number is made up of eight bits. The total length is determined by treating the two digits as a single binary integer giving a length from 1 to 65 535. This gives the length of the sub-elements and any dataset bit map that follows.

5.4.4.4 Dataset bit maps (DBM)

If the dataset identifier is between 71 and FE, the third dataset component is a dataset bit map (DBM). The bit map indicates the presence or absence of each of the possible sub-elements within the dataset in the same way as the message bit maps indicate the presence or absence of data elements in a message (see Figure 5).

The final bit in each DBM is for TLV sub-elements, to allow rarely used sub-elements to be included.

The initial DBM has a length of 16 bits (2 bytes) and is designed to cope with most dataset requirements. Additional (continuation) DBMs may be added, and have a length of 8 bits (1 byte) each. These bit maps are chained together using the initial bit of each bit map. The length of all DBMs is measured as an integral number of bytes.

The presence of a “1” in the first position of any bit map indicates that another bit map follows. The presence of a “0” in the first position of a bit map indicates that it is the last bit map. This means that bits 01, 17, 25 etc. do not indicate sub-elements, but further bit maps.

Dataset bit map, initial bit map only

Dataset identifier	Length	0	Sub-elements
		01 initial bit map	16

Dataset bit map, initial and continuation bit map

Dataset identifier	Length	1	0	Sub-elements
		01 initial bit map	16 17 continuation bit map	24

Figure 5 — Dataset bit map examples

5.4.4.5 Sub-elements

The final component of the dataset consists of the sub-elements to be transmitted. These sub-elements are concatenated and, for datasets 71-FE, follow the dataset bit map sequence, in the same way as in the messages defined in this part of ISO 8583. If the dataset does not have a bit map (datasets 01-70), the TLV sub-elements can be sent in any order.

6 Data elements

6.1 Data element directory

All data elements and sub-elements identified in this part of ISO 8583 are listed in alphabetical order in Table 3 and in numeric order by message bit map in Annex B.

An X in the column headed “Cons.” indicates a constructed data element. Data elements that are themselves part of a constructed data element are included in Table 3 with the relevant message bit number indicated in the column headed “Cons”.

An X in the column headed “Comp.” indicates a composite data element. Data elements that are themselves part of a composite data element are included in Table 3 with the relevant message bit number and dataset identifier indicated in the column headed “Comp”.

Codes under the control of the ISO 8583 RMMG (see 10.2) are listed in Annex A and referenced in the “notes” column in Table 3. Codes with a fixed number of possible values (e.g. Y or N etc.) are listed directly in the format column in Table 3. If the code is not under the control of the RMMG, for this part of ISO 8583 the organization which maintains the list of allocated values is indicated in the notes column in Table 3.

Table 3 — Data element directory

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Account based digital signature	A digital signature created by the private part of the private/public key pair supplied by a card issuer to a cardholder and linked to the cardholder's account on which the card is issued.	LLVAR	b..90	(see 6.2.1, 6.2.2 and 6.5.1)			34-71
Account identification 1	A series of digits and/or characters used to identify a customer account or relationship, e.g. for the “from” account.	LLVAR	ans..28	(see 6.2.1 and 6.2.6)	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.	LLVAR	ans..28	(see 6.2.1 and 6.2.6)	103		
Account type additional amounts	Code used to describe the accounts affected. Contained in <i>Amounts additional</i> .		an 2	(see 6.4.14 and A.17.2)		54	
Account type code 1	Code which identifies the type of account to be updated. Used in conjunction with the <i>Transaction type code</i> as part of the <i>Processing code</i> .		an 2	(see 6.4.1 and A.17.2)		3	
Account type code 2	Code which identifies the type of account to be updated. Used in conjunction with the <i>Transaction type code</i> as part of the <i>Processing code</i> .		an 2	(see 6.4.1 and A.17.2)		3	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Acquirer number	First six digits of the <i>Acquiring institution identification code</i> .		n 6	(see 6.4.12)		31	
Acquirer reference number	Data supplied by an acquirer to assist in identifying a transaction, e.g. for researching retrievals and chargebacks.		n 23	(see 6.4.12)	31	X	
Acquiring institution identification code	Code identifying the acquirer.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	32		
Action code	A code which defines the action taken or to be taken as well as the reason for taking this action.		n 4	(see 6.3.2 and Clause A.1)	39		
Additional data national	Reserved for national organizations to define data unique to country applications. The use of this data element is under the control of national bodies.	LLLVAR	ans..999	(see 6.2.1)	47		
Additional data private	Reserved for private data. The use of this data element is determined by bilateral agreement.	LLLVAR	ans..999	(see 6.2.1)	48		
Additional identification reference number	Identification number on additional identification document.	LLVAR	ans..30	(see 6.2.1 and 6.5.4)			49-71
Additional identification type	Type of additional identification offered by cardholder.		n 1	(see 6.5.4 and Clause A.2)			49-71
Additional response data	Other data required in a response, e.g. a telephone number, printer capabilities etc.	LLLLVAR	ansb..9999	(see 6.2.1, 6.2.2 and 6.5.3)	44		X
Address verification result code	Code which defines the result from the address verification process		an 1	(see 6.5.4 and Clause A.19)			49-72
Airline amount original invoice	Amount of the original invoice. Used to identify the original amount on a refund transaction.		n 12	(see 6.2.3 and 6.5.6.4)			104-74
Airline amount total fare	The total airline ticket amount.		n 12	(see 6.2.3 and 6.5.6.4)			104-74
Airline amount total fees	The total fees associated with an airline ticket.		n 12	(see 6.2.3 and 6.5.6.4)			104-74
Airline amount total taxes	The total taxes associated with an airline ticket.		n 12	(see 6.2.3 and 6.5.6.4)			104-74
Airline carrier name	Name of airline carrier as defined by ATPCO	LLVAR	an..19	(see 6.2.1, 6.5.6.4 and Bibliography)			104-74
Airline customer reference	Cardholder supplied reference number.	LLVAR	ans..20	(see 6.2.1 and 6.5.6.4)			104-74
Airline date ticket issue	Date on which the airline ticket was issued.	CCYYMMDD	n 8	(see 6.5.6.4)			104-74
Airline invoice number	Invoice number as supplied by airline.		an 6	(see 6.5.6.4)			104-74

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Airline original currency code	Currency code of the original transaction. Used to identify the original currency in a refund transaction (in accordance with ISO 4217).		n 3	(see 6.5.6.4)			104-74
Airline passenger name	Name of airline passenger.	LLVAR	ans..29	(see 6.2.1 and 6.5.6.4)			104-74
Airline plan number	Plan number as supplied by airline.		an 2	(see 6.5.6.4)			104-74
Airline ticket agency name	Name of ticket agency which sold the airline ticket.	LLVAR	an..25	(see 6.2.1 and 6.5.6.4)			104-74
Airline ticket issue address	Address at which the airline ticket was issued.	LLVAR	ans..16	(see 6.2.1 and 6.5.6.4)			104-74
Airline ticket number	Ticket number as supplied by airline.	LLVAR	an..15	(see 6.2.1 and 6.5.6.4)			104-74
Airline travel agency code	Code of travel agency which sold airline ticket as defined by ATPCO.		an 8	(see 6.5.6.4 and Bibliography)			104-74
Amount additional amounts	Amount contained in <i>Amounts additional</i> .		xn 17	(see 6.2.3 and 6.4.14)		54	
Amount cardholder billing	Amount billed to the cardholder in the currency of the cardholder account exclusive of cardholder billing fees.		n 16	(see 6.2.3 and 6.4.4)	6	X	
Amount cardholder billing fee	Fee to be billed to the cardholder by the card issuing institution in the same currency as <i>Amount cardholder billing</i> .		n 12	(see 6.2.3 and 6.4.5)	8	X	
Amount fee	Amount of the fee within the <i>Fee type code</i> . Contained in <i>Amounts fees</i> .		xn 13	(see 6.2.3 and 6.4.13)		46	
Amount fee total	The sum amount of all fees of the fee type specified. Contained in <i>Reconciliation fee amounts credit</i> and <i>Reconciliation fee amounts debit</i> .		n 12	(see 6.2.3 and 6.4.23)		109 110	
Amount net reconciliation	The net value of all gross amounts.		xn 21	(see 6.2.3 and 6.4.22)	97	X	
Amount reconciliation	Funds to be transferred between the acquirer and card issuer equal to the <i>Amount transaction</i> in the currency of reconciliation.		n 16	(see 6.2.3 and 6.4.3)	5	X	
Amount reconciliation fee	Fee to be transferred between the acquirer and card issuer equal to the <i>Amount fee</i> in the currency of reconciliation. Contained in the <i>Amounts fees</i> data element.		xn 13	(see 6.2.3 and 6.4.13)		46	
Amount transaction	Funds requested by the cardholder in the local currency of the acquirer or source location of the transaction, exclusive of <i>Amounts fees</i> .		n 16	(see 6.2.3 and 6.4.2)	4	X	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Amount type additional amounts	Identifies the kind of amount contained in <i>Amounts additional</i> .		an 2	(see 6.2.3, 6.4.14 and Clause A.4)		54	
Amounts additional	Information on up to six amounts and related account data for which specific data elements have not been defined.	LLLVAR	ans..126	(see 6.2.1, 6.2.3 and 6.4.14)	54	X	
Amounts fees	Fees associated with this transaction.	LLLVAR	ans..216	(see 6.2.1, 6.2.3 and 6.4.13)	46	X	
Amounts original	The amount data elements from the original transaction.		n 32	(see 6.2.3 and 6.4.11)	30	X	
Amounts original fees	The original <i>Amounts fees</i> necessary to perform a partial reversal, partial chargeback or partial approval or to replace or supplement a previously authorised transaction.	LLLVAR	ans..216	(see 6.2.1, 6.2.3 and 6.4.16)	66	X	
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	(see 6.4.10)		27	
Authentication code	Used in authentication of a party, e.g. a cardholder. If more than one authentication code is present they shall be sent in the exact order received from the certificate processor.	Tag 80	ansb..50	(see 6.2.1, 6.2.2, 6.2.7, and 6.5.1)			34-72
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 presentment which may follow.		n 3	(see Clause A.5)	57		
Authorizations number	The sum number of all authorization transactions.		n 10	(see 6.4.21)		75	
Authorizations reversal number	The sum number of all reversal transactions processed where the message type identifier in the original data elements indicated an authorization transaction (1xx).		n 10	(see 6.4.21)		75	
Authorizing agent institution identification code	Code identifying the authorizing agent institution.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	58		
Auto amount adjusted	Amount of miscellaneous charges incurred after the vehicle was rented, e.g. extra hours.		n 12	(see 6.2.3 and 6.5.6.5)			104-76
Auto amount adjusted indicator code	Indicates the type of charges provided in <i>Auto amount adjusted</i> .		as 1	(see 6.5.6.5 and Clause A.3)			104-76

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Auto amount vehicle insurance	Amount of vehicle insurance purchased as part of the vehicle rental agreement.		n 12	(see 6.2.3 and 6.5.6.5)			104-76
Auto customer service toll-free phone number	Customer service number that the cardholder may call to resolve questions or disputes.		ans 16	(see 6.5.6.5)			104-76
Auto distance unit of measure	Unit of measure of distance travelled.	K = kilometres M = miles	a 1	(see 6.5.6.5)			104-76
Auto maximum free miles/kilometres	The number of free miles or kilometres allowed to a customer for the duration of the vehicle rental agreement.		n 4	(see 6.5.6.5)			104-76
Auto odometer reading	Reading of total distance travelled by vehicle.		n 8	(see 6.5.6.5)			104-76
Auto program code	Code allocated by the acquirer that identifies special circumstances, e.g. frequent renter or "no show".		ans 2	(see 6.5.6.5)			104-76
Auto rental address	Address from where automobile was rented.	LLVAR	ans..26	(see 6.2.1 and 6.5.6.5)			104-76
Auto rental agreement reference	Reference number on auto rental agreement form.	LLVAR	ans..25	(see 6.2.1 and 6.5.6.5)			104-76
Auto rental city	City in which the automobile was rented.	LLVAR	ans..18	(see 6.2.1 and 6.5.6.5)			104-76
Auto rental class identifier	Classification defined by the acquirer of the vehicle rented, e.g. midsize, luxury.		ans 4	(see 6.5.6.5)			104-76
Auto rental country	Country in which the automobile was rented (in accordance with ISO 3166).		ans 3	(see 6.5.6.5)			104-76
Auto rental date	Date from which auto rental starts.	CCYYMMDD	n 8	(see 6.5.6.5)			104-76
Auto rental distance	Distance travelled during rental period (see <i>Auto distance unit of measure</i>).		n 5	(see 6.5.6.5)			104-76
Auto rental location identifier	Agency code, phone number, or other abbreviation used to identify the location from which the automobile was rented.		ans 10	(see 6.5.6.5)			104-76
Auto rental rate	Rental rate charged for the vehicle.		n 12	(see 6.5.6.5)			104-76
Auto rental rate time period	Indicates the time period to which the auto rental rate applies, e.g. daily, weekly etc.	D = daily W = weekly M = monthly Space = unknown	as 1	(see 6.5.6.5)			104-76
Auto rental state/province	State or province within the country in which the automobile was rented.		ans 3	(see 6.5.6.5)			104-76
Auto rental time	Time from which auto rental period starts.	HHMM	n 4	(see 6.5.6.5)			104-76
Auto renter name	Name of the person making the vehicle rental agreement.	LLVAR	ans..29	(see 6.2.1 and 6.5.6.5)			104-76

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Auto return address	Address to which the automobile was/will be returned.	LLVAR	ans..26	(see 6.2.1 and 6.5.6.5)			104-76
Auto return city	City to which the automobile was/will be returned.	LLVAR	ans..18	(see 6.2.1 and 6.5.6.5)			104-76
Auto return country	Country to which the automobile was/will be returned (in accordance with ISO 3166).		ans 3	(see 6.5.6.5)			104-76
Auto return date	Date on which automobile was/will be returned.	CCYYMMDD	n 8	(see 6.5.6.5)			104-76
Auto return location identifier	Agency code, phone number, or other abbreviation used to identify the location to which the automobile was/will be returned.		ans 10	(see 6.5.6.5)			104-76
Auto return state/province	State or province within the country to which the automobile was/will be returned.		ans 3	(see 6.5.6.5)			104-76
Auto return time	Time by which automobile was/will be returned.	HHMM	n 4	(see 6.5.6.5)			104-76
Auto vehicle insurance indicator	Indicates whether the customer purchased vehicle insurance as part of the vehicle rental agreement.	Y = yes N = No Space = unknown	as 1	(see 6.5.6.5)			104-76
Auto vehicle registration number	Registration number of rented or fleet automobile.		an 17	(see 6.5.6.5)			104-76
Batch/file transfer acknowledgment code	Indicates whether an acknowledgement message is required for a notification or instruction message submitted via batch or file transfer.		an 1	(see 6.4.17 and Clause A.6)		68	
Batch/file transfer control data	The name and number of messages in the current batch or file. Part of batch/file transfer.		ans 40	(see 6.4.18)	69	X	
Batch/file transfer file identification	The unique identifier assigned to each batch or file in the current batch or file transfer.		ans 32	(see 6.4.18)		69	
Batch/file transfer message control	Identifies the message number of the individual message and indicates whether an acknowledgement is required. Used in the management of file and batch transfer.		an 9	(see 6.4.17)	68	X	
Batch/file transfer message count	The number of messages to be sent in the batch or file.		n 8	(see 6.4.18)		69	
Batch/file transfer message sequence number	Unique sequence number assigned to a notification or instruction message that is sent via batch or file transfer.		n 8	(see 6.4.17)		68	
Card acceptor additional address information	Additional information used when card acceptor street address is insufficient.	Tag 81	an..256	(see 6.2.7 and 6.5.2)			43-71

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Card acceptor additional contact information	Additional information used to facilitate contact with the card acceptor, e.g. sales agent name, dispute manager name etc.	LLVAR	ans..30	(see 6.2.1 and 6.5.2)			43-71
Card acceptor certificate serial number	Value assigned to a card acceptor certificate issued by the acquirer's certificate authority.	LLVAR	b..16	(see 6.2.1, 6.2.2 and 6.5.1)			34-72
Card acceptor city	The city of the card acceptor, allocated by the acquirer, sufficient to allow the cardholder to recognize the location from his statement.	LLVAR	ans..50	(see 6.2.1 and 6.5.2)			43-71
Card acceptor country code	The code of the country, allocated by the acquirer, to indicate the country where the card acceptor is located (in accordance with ISO 3166).		a 3	(see 6.5.2)			43-71
Card acceptor customer service phone number	Phone number to be used to contact the card acceptor to resolve questions or disputes related to the transaction.		ans 16	(see 6.5.2)			43-71
Card acceptor display data	Card issuer data to be displayed on the POS for the card acceptor.	LLVAR	ans.. 99	(see 6.2.1 and 6.5.3)			44-71
Card acceptor display data length	Number of characters of data from a card issuer that can be displayed on the POS for the card acceptor.		n 3	(see 6.4.10)		27	
Card acceptor e-mail address	The electronic mail identifier of the card acceptor, sufficient to allow the cardholder to recognize the location from his statement.	LLVAR	ans..99	(see 6.2.1 and 6.5.2)			43-71
Card acceptor identification code	Code identifying the card acceptor.	LLVAR	ans..35	(see 6.2.1)	42		
Card acceptor internet URL	The primary internet universal resource locator (URL) of the card acceptor, sufficient to allow the cardholder to recognize the location from his statement.	LLLVAR	ans..255	(see 6.2.1 and 6.5.2)			43-71
Card acceptor name	The name of the card acceptor as known to the cardholder.	LLVAR	ans..50	(see 6.2.1 and 6.5.2)			43-71
Card acceptor name/location	The name and location of the card acceptor as known to the cardholder.	LLLLVAR	ansb..9999	(see 6.2.1, 6.2.2, 6.2.7 and 6.5.2)	43		X
Card acceptor phone number	Phone number of the card acceptor at the location of the original transaction.		ans 16	(see 6.5.2)			43-71
Card acceptor postal code	Code allocated by postal authority of the card acceptor to identify its physical location.		ans 10	(see 6.5.2)			43-71
Card acceptor receipt data	Card issuer data to be printed on the POS card acceptor receipt.	LLVAR	ans..99	(see 6.2.1 and 6.5.3)			44-71
Card acceptor receipt data length	Number of characters of data from a card issuer that can be printed on a POS receipt for the card acceptor.		n 3	(see 6.4.10)		27	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Card acceptor state province or region code	State, province, or region code allocated by the acquirer to indicate the physical location of the card acceptor.		ans 3	(see 6.5.2)			43-71
Card acceptor street address	The address of the card acceptor, allocated by the acquirer, sufficient to allow the cardholder to recognize the location from his statement.	LLVAR	ans..99	(see 6.2.1 and 6.5.2)			43-71
Card acceptor terminal identification	Unique code identifying a terminal at the card acceptor location.		ans 16		41		
Card capture capability	Indicates if the card can be captured.		a 1	(see 6.4.10)		27	
Card issuer reference data	Data supplied by a card issuer in an authorization response message, financial presentment response message, or in a chargeback transaction that the acquirer may be required to be provided in subsequent transactions.	LLVAR	ans..99	(see 6.2.1)	95		
Card issuer telephone number	Contact telephone number for use by the acquirer and/or card acceptor if the card issuer wishes to make voice contact		ans 16	(see 6.5.3)			44-71
Card reading method used at POS	A series of code values that indicate which of the card reading capabilities of the POS were used for this transaction.		b 4	(see 6.2.2, 6.4.9 and Clause A.16)		22	
Card sequence number	A number distinguishing between separate cards with the same primary account number.		n 3		23		
Card verification data	A number that is only printed on the card which is not included in any other technology e.g. magnetic stripe or ICC.		n 4	(see 6.5.4)			49-71
Cardholder billing address compressed	Numeric and postcode elements only of the cardholder/delivery address		ans 16	(see 6.5.4)			49-71
Cardholder billing postal code	Code allocated by postal authority		ans 10	(see 6.5.4)			49--71
Cardholder billing street address	Street address of cardholder		ans 40	(see 6.5.4)			49-71
Cardholder certificate serial number	Value assigned to a cardholder certificate issued by the card issuer's certificate authority.	LLVAR	b..16	(see 6.2.1, 6.2.2 and 6.5.1)			34-72
Cardholder display data	Card issuer data to be displayed on the POS for the cardholder.	LLVAR	ans..99	(see 6.2.1 and 6.5.3)			44-71
Cardholder display data length	Number of characters of data from a card issuer that can be displayed on the POS for the cardholder.		n 3	(see 6.4.10)		27	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Cardholder receipt data	Card issuer data to be printed on the POS cardholder receipt.	LLVAR	ans..99	(see 6.2.1 and 6.5.3)			44-71
Cardholder receipt data length	Number of characters of data from a card issuer that can be printed on a POS receipt for the cardholder.		n 3	(see 6.4.10)		27	
Cardholder verification method used at POS	A series of code values that indicate the POS capabilities of the POS actually used to identify the cardholder.		b 4	(see 6.2.2, 6.4.9 and Clause A.16)		22	
Conversion rate cardholder billing	The factor used in the conversion from transaction to cardholder billing amount. The <i>Amount transaction</i> is multiplied by <i>Conversion rate cardholder billing</i> to determine <i>Amount cardholder billing</i> .		n 8	(see 6.2.4)	10		
Conversion rate fee	The factor used in the conversion from fee amount to reconciliation fee amount. The <i>Amount fee</i> is multiplied by <i>Conversion rate fee</i> to determine the <i>Amount reconciliation fee</i> . Contained in <i>Amounts fees</i> .		n 8	(see 6.2.4 and 6.4.13)		46	
Conversion rate reconciliation	The factor used in the conversion from transaction to reconciliation amount. The <i>Amount transaction</i> is multiplied by <i>Conversion rate reconciliation</i> to determine the <i>Amount reconciliation</i> .		n 8	(see 6.2.4)	9		
Country code acquiring institution	The code of the country where the acquiring institution is located (in accordance with ISO 3166).		n 3		19		
Country code primary account number (PAN)	The code of the country where the card issuing institution is located (in accordance with ISO 3166).		n 3		20		
Credits amount	The sum amount of <i>Amount transaction</i> in all financial presentment transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a credit (20-29).		n 16	(see 6.4.20)		74	
Credits chargeback amount	The sum amount of <i>Amount transaction</i> in all chargeback transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the chargeback transaction indicated a debit (00-19).		n 16	(see 6.4.20)		74	
Credits chargeback number	The sum number of all chargeback transactions where positions 1-2 of the <i>Processing code</i> in the chargeback transaction indicated a debit (00-19).		n 10	(see 6.4.20)		74	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Credits number	The sum number of all financial presentment transactions where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a credit (20-29).		n 10	(see 6.4.20)		74	
Credits reversal amount	The sum amount of <i>Amount transaction</i> of all reversal transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a debit (00-19).		n 16	(see 6.4.20)		74	
Credits reversal number	The sum number of all reversal transactions where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a debit (00-19).		n 10	(see 6.4.20)		74	
Currency code amount additional amounts	Code defining the currency of the amount contained in <i>Amount additional amounts</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.14)		54	
Currency code amount cardholder billing	Code defining the currency of the amount contained in <i>Amount cardholder billing</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.4)		6	
Currency code amount cardholder billing fee	Code defining the currency of the amount contained in <i>Amount cardholder billing fee</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.5)		8	
Currency code amount fee	Code defining the currency of the amount contained in <i>Amount fee</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.13)		46	
Currency code amount net reconciliation	Code defining the currency of the amount contained in <i>Amount net reconciliation</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.22)		97	
Currency code amount reconciliation	Code defining the currency of the amount contained in <i>Amount reconciliation</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.3)		5	
Currency code amount reconciliation fee	Code defining the currency of the amount contained in <i>Reconciliation fee</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.13)		46	
Currency code amount transaction	Code defining the currency of the amount contained in <i>Amount transaction</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.2)		4	
Currency code original amount fee	Code defining the currency of the amount contained in <i>Original amount fee</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.16)		66	
Currency code original amount reconciliation	Code defining the currency of the amount contained in <i>Original amount reconciliation</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.11)		30	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Currency code original amount reconciliation fee	Code defining the currency of the amount contained in <i>Original amount reconciliation fee</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.16)		66	
Currency code original amount transaction	Code defining the currency of the amount contained in <i>Original amount transaction</i> (in accordance with ISO 4217).		n 3	(see 6.2.3 and 6.4.11)		30	
Currency minor unit amount additional amounts	Currency minor unit of <i>Amount additional amounts</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.14)		54	
Currency minor unit amount cardholder billing	Currency minor unit of <i>Amount cardholder billing</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.4)		6	
Currency minor unit amount cardholder billing fee	Currency minor unit of <i>Amount cardholder billing fee</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.5)		8	
Currency minor unit amount fee	Currency minor unit of <i>Amount fee</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.13)		46	
Currency minor unit amount net reconciliation	Currency minor unit of <i>Amount net reconciliation</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.22)		97	
Currency minor unit amount reconciliation	Currency minor unit of <i>Amount reconciliation</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.3)		5	
Currency minor unit amount reconciliation fee	Currency minor unit of <i>Amount reconciliation fee</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.13)		46	
Currency minor unit amount transaction	Currency minor unit of <i>Amount transaction</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.2)		4	
Currency minor unit original amount fee	Currency minor unit of <i>Original amount fee</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.16)		66	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Currency minor unit original amount reconciliation	Currency minor unit of <i>Original amount reconciliation</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.11)		30	
Currency minor unit original amount reconciliation fee	Currency minor unit of <i>Original amount reconciliation fee</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.16)		66	
Currency minor unit original amount transaction	Currency minor unit of <i>Original amount transaction</i> . Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit.		n 1	(see 6.2.3 and 6.4.11)		30	
Data element in error	Identifies the data element number in error. Contained in <i>Message error indicator</i> .		n 3	(see 6.4.7)		18	
Data record	Other data required to be passed to support an administrative or file action message.	LLLLVAR	ansb..9999	(see 6.2.1 and 6.2.2)	72		
Data sub-element in error	Identifies the part within a constructed data element that is in error. Contained in <i>Message error indicator</i> .		n 2	(see 6.4.7)		18	
Dataset bit or tag in error	Identifies the bit or tag within a dataset identifier that is in error. Contained in <i>Message error indicator</i> .		b 2	(see 6.2.2 and 6.4.7)		18	
Dataset identifier in error	Identifies the dataset identifier within a composite data element that is in error. Contained in <i>Message error indicator</i> .		b 1	(see 6.2.2 and 6.4.7)		18	
Date action	A date for a future action or a specific date such as a birth date.	CCYYMMDD	n 8		73		
Date and time local transaction	The local year, month, day and time the transaction takes place at the card acceptor location in authorization messages and financial presentment messages.	CCYYMMDDh hmmss	n 14	(see 6.4.6)	12	X	
Date and time transmission	Date and time the message initiator sends this message. To be expressed in Co-ordinated Universal Time (UTC) (in accordance with ISO 8601), formerly known as Greenwich Mean Time (GMT).	MMDDh hmmss	n 10	(see 6.3.1)	7		
Date capture	The month and day the acquirer processed the transaction data.	MMDD	n 4		17		
Date conversion	The month and day the conversion rate is effective to convert the transaction amount from the original to reconciliation currency.	MMDD	n 4		16		

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Date effective	The year and month in which the card becomes effective.	CCYYMM	n 6		13		
Date expiration	The year and month after which the card expires.	YYMM	n 4		14		
Date local transaction	The local year, month and day of the transaction.	CCYYMMDD	n 8	(see 6.4.6)		12	
Date reconciliation	The year, month and day for which financial totals are reconciled between the acquirer and the card issuer.	CCYYMMDD	n 8		28		
Date settlement	The year, month and day for which funds shall be transferred between acquirer and card issuer.	CCYYMMDD	n 8		15		
Debits amount	The sum amount of <i>Amount transaction</i> in all financial presentment transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a debit (00-19).		n 16	(see 6.4.20)		74	
Debits chargeback amount	The sum amount of <i>Amount transaction</i> in all chargeback transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the chargeback transaction indicated a credit (20-29).		n 16	(see 6.4.20)		74	
Debits chargeback number	The sum number of all chargeback transactions where positions 1-2 of the <i>Processing code</i> in the chargeback transaction indicated a credit (20-29).		n 10	(see 6.4.20)		74	
Debits number	The sum number of all financial presentment transactions where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a debit (00-19).		n 10	(see 6.4.20)		74	
Debits reversal amount	The sum amount of <i>Amount transaction</i> of all reversal transactions exclusive of any fees where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a credit (20-29).		n 16	(see 6.4.20)		74	
Debits reversal number	The sum number of all reversal transactions where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a credit (20-29).		n 10	(see 6.4.20)		74	
Electronic commerce data	The data needed to support the processing and prove the identity of the requester (usually a cardholder) using public key cryptography and/or digital certificates.	LLLLVAR	b..9999	(see 6.2.1, 6.2.2 and 6.5.1)	34		X

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Error severity code	Indicates whether or not the error condition caused the receiver to reject the message. Contained in <i>Message error indicator</i> .		n 2	(see 6.4.7)		18	
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 6.4.21)		75	
Fee type code	Code indicating the type of fee. Contained in the data elements <i>Amounts fees</i> , <i>Reconciliation fee amounts credit</i> and <i>Reconciliation fee amounts debit</i> .		n 2	(see 6.4.13, 6.4.23 and Clause A.8)		46 109 110	
File name	The actual or abbreviated name of the file being accessed.	LLVAR	ans..99	(see 6.2.1)	101		
File transfer description data	The total length and the number of elementary data records of the file, used in the management of file transfer.		n 18	(see 6.4.19)	70	X	
File transfer elementary data record count	The total number of elementary data records in the file to be transferred.		n 6	(see 6.4.19)		70	
File transfer file size	The total length in bytes of the file to be transferred.		n 6	(see 6.4.19)		70	
File transfer remaining elementary data record count	The remaining number of elementary data records to be transmitted in the current file transfer.		n 6	(see 6.4.19)		70	
Fleet amount bottom line discount	Discount amount on total purchase.		n 12	(see 6.2.3 and 6.5.6.7)			104-78
Fleet driver number/other identification number	The number assigned to the driver by the employer for purposes of tracking fuel purchases.	LLVAR	n..17	(see 6.2.1 and 6.5.6.7)			104-78
Fleet line item value excluding tax	Total line amount excluding tax.		n 12	(see 6.2.3 and 6.5.6.7)			104-78
Fleet line item value including tax	Total line amount including tax.		n 12	(see 6.2.3 and 6.5.6.7)			104-78
Fleet motor fuel oil company brand name	Acquirer's abbreviation for the brand name of the card acceptor's oil company.		n 4	(see 6.5.6.7)			104-78
Fleet motor fuel prompt code	Contains a code read from a card that indicates terminal prompts that occur at the point of service.		n 1	(see 6.5.6.7 and Clause A.13)			104-78
Fleet motor fuel service type code	Type of service received at the acceptor location.		ans 1	(see 6.5.6.7 and Clause A.14)			104-78

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Fleet odometer reading	Reading of total distance travelled by vehicle.		n 8	(see 6.5.6.7)			104-78
Fleet product code	Code which identifies a specific product as supplied by the card acceptor.	LLVAR	an..15	(see 6.2.1 and 6.5.6.7)			104-78
Fleet product quantity	Quantity of goods purchased.	LLVAR	n..12	(see 6.2.1 and 6.5.6.7)			104-78
Fleet quantity minor unit	Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit of <i>Fleet product quantity</i> .		n 1	(see 6.5.6.7)			104-78
Fleet total tax amount	Total amount of tax on the transaction.		n 12	(see 6.2.3 and 6.5.6.7)			104-78
Fleet unit of measure	Unit of measure of quantity purchased as defined by card acceptor.	LLVAR	ans..12	(see 6.2.1 and 6.5.6.7)			104-78
Fleet unit price excluding tax	Price per unit net of tax.		n 12	(see 6.2.1 and 6.5.6.7)			104-78
Fleet unit price including tax	Price per unit inclusive of tax		n 12	(see 6.2.3 and 6.5.6.7)			104-78
Fleet vehicle registration number	Registration number of rented or fleet automobile.		an 17	(see 6.5.6.7)			104-78
Forwarding institution identification code	Code identifying the forwarding institution.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	33		
Free-form description data	Transaction data related to new programs and services, content and format are based on bilateral agreement.	LLLVAR	ans..999	(see 6.2.1 and 6.5.6.2)			104-71
Function code	Code indicating the specific purpose of the message within its message class.		n 3	(see Clause A.9)	24		
ICC scripts data length	Number of characters of data from a card issuer that can be returned to the ICC at the POS.		n 3	(see 6.4.10)		27	
Inquiries number	The sum number of all authorization transactions processed where positions 1-2 of the <i>Processing code</i> in the authorization transaction indicated an inquiry (30-39).		n 10	(see 6.4.21)		75	
Inquiries reversal number	The sum number of all reversal transactions processed where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated an inquiry (30-39).		n 10	(see 6.4.21)		75	
ICC system related data	Contains data related to integrated circuit card systems.	LLLLVAR	b..9999	(see 6.2.1, 6.2.2 and 6.5.5)	55		X

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Invoice alternate tax identifier	The card acceptors tax identification number for the <i>Invoice amount alternate tax</i> .		ans 15	(see 6.5.6.3)			104-72
Invoice amount alternate tax	Amount of the alternate tax on the purchase.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice amount alternate tax indicator	Indicates whether alternate tax amount is included in the total purchase amount.	Y = yes N = no Space = unknown	as 1	(see 6.5.6.3)			104-72
Invoice amount bottom line discount	Discount amount on total purchase.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice amount duty	Duty on the total purchase amount.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice amount freight excluding tax	Amount charged for freight/delivery excluding any tax.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice amount freight including tax	Amount charged for freight/delivery including any tax.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice amount total tax	Total amount of tax on the transaction.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Invoice card acceptor customer reference number	Card acceptors reference number for corporate customer.	LLVAR	an..17	(see 6.2.1 and 6.5.6.3)			104-72
Invoice card acceptor invoice reference number	Reference number on card acceptor invoice.	LLVAR	an..12	(see 6.2.1 and 6.5.6.3)			104-72
Invoice card acceptor order number	Order number allocated by the card acceptor.	LLVAR	an..15	(see 6.2.1 and 6.5.6.3)			104-72
Invoice card acceptor tax reference number	Registered tax reference number of card acceptor.	LLVAR	an..20	(see 6.2.1 and 6.5.6.3)			104-72
Invoice card acceptor type	A code allocated by the acquirer, describing various classifications of business ownership characteristics, e.g. small business.		ans 4	(see 6.5.6.3)			104-72
Invoice cardholder order reference number	Reference number given by cardholder.	LLVAR	an..22	(see 6.2.1 and 6.5.6.3)			104-72
Invoice cardholder's tax reference number	Tax reference number of cardholder's company.	LLVAR	an..13	(see 6.2.1 and 6.5.6.3)			104-72
Invoice cost centre	Cardholder's internal accounting cost centre code.	LLVAR	a..20	(see 6.2.1 and 6.5.6.3)			104-72

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Invoice customer reference	Cardholder supplied reference number.	LLVAR	ans..20	(see 6.2.1 and 6.5.6.3)			104-72
Invoice destination country code	Country of destination for delivery of goods (in accordance with ISO 3166).		an 3	(see 6.5.6.3)			104-72
Invoice destination postal code	Postal code for delivery of goods.	LLVAR	an..10	(see 6.2.1 and 6.5.6.3)			104-72
Invoice destination state/province code	State or province within the country where the purchased goods will be delivered.		ans 3	(see 6.5.6.3)			104-72
Invoice freight tax rate	Rate of tax to be applied to <i>Invoice freight amount excluding tax</i> to calculate the tax on the freight charges.		n 4	(see 6.5.6.3)			104-72
Invoice order date	Date when order was placed.	CCYYMMDD	n 8	(see 6.5.6.3)			104-72
Invoice original invoice number	Invoice number of the original invoice. Used to identify the original invoice on a refund transaction.	LLVAR	an..15	(see 6.2.1 and 6.5.6.3)			104-72
Invoice ship from postal code	Postal code from which goods are to be shipped.	LLVAR	an..10	(see 6.2.1 and 6.5.6.3)			104-72
Invoice tax indicator	Indicator of whether tax is included.	0 = Tax not included 1 = Tax included	n 1	(see 6.5.6.3)			104-72
Invoice value excluding tax	Invoice total, net of tax.		n 12	(see 6.2.3 and 6.5.6.3)			104-72
Julian processing date	Date acquirer processed the original transaction, e.g. first presentment.	YDDD	n 4	(see 6.4.12)		31	
Key management data	Contains data related to key management (in accordance with ISO 13492).	LLLVAR	b..999	(see 6.2.1 and 6.2.2)	96		
Life cycle authentication token	A code calculated using an algorithm against key transaction data elements that are common to both authorization messages and financial presentment messages.		n 4	(see 6.4.8)		21	
Life cycle support indicator	Indicates the point in the transaction life cycle at which <i>Life cycle trace identifier</i> was assigned.		ans 1	(see 6.4.8)		21	
Life cycle trace identifier	Unique transaction identifier.		ans 15	(see 6.4.8)		21	
Life cycle transaction sequence number	Number used with <i>Life cycle trace identifier</i> to uniquely identify when multiple financial presentments are generated from a single authorization transaction.		n 2	(see 6.4.8)		21	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Line item amount discount	Amount of discount per line if unit price is before discount.		n 12	(see 6.2.3 and 6.5.6.3)			104-73
Line item amount tax	Tax amount for the line item.		n 12	(see 6.2.3 and 6.5.6.3)			104-73
Line item commodity code	Code of goods purchased. Defined by national tax authorities.	LLVAR	an..16	(see 6.2.1 and 6.5.6.3)			104-73
Line item dataset sequence number	Identifies the sequence in which multiple datasets with the same dataset identifier should be processed.		b 2	(see 6.2.2 and 6.5.6.3)			104-73
Line item descriptor	Description of item purchased.	LLVAR	an..40	(see 6.2.1 and 6.5.6.3)			104-73
Line item discount indicator	Indicates whether the line item amount is discounted.	Y = yes N = no Space = unknown	as 1	(see 6.5.6.3)			104-73
Line item discount rate	Discount rate for the line item.		ans 5	(see 6.5.6.3)			104-73
Line item product code	Code which identifies a specific product as supplied by the card acceptor.	LLVAR	an..15	(see 6.2.1 and 6.5.6.3)			104-73
Line item product quantity	Quantity of goods purchased.	LLVAR	n..12	(see 6.2.1 and 6.5.6.3)			104-73
Line item quantity minor unit	Indicates the number of places the decimal point shall be moved to the left, starting from the rightmost numeric digit of <i>Line item product quantity</i> .		n 1	(see 6.5.6.3)			104-73
Line item tax rate	Rate of tax to be applied to calculate the tax amount.		n 5	(see 6.5.6.3)			104-73
Line item tax type	Code, defined by the acquirer, identifying the type of tax applied to the line item.		ans 4	(see 6.5.6.3)			104-73
Line item unit of measure	Unit of measure of quantity purchased as defined by card acceptor.	LLVAR	a..12	(see 6.2.1 and 6.5.6.3)			104-73
Line item unit price excluding tax	Price per unit net of tax.	LLVAR	n..12	(see 6.2.1 and 6.5.6.3)			104-73
Line item value debit/credit indicator	Indicates whether the line item value is a debit or a credit.	D = Debit C = Credit Space = unknown	as 1	(see 6.5.6.3)			104-73
Line item value excluding tax	Total line amount excluding tax.		n 12	(see 6.2.3 and 6.5.6.3)			104-73
Line item value including tax	Total line amount including tax.		n 12	(see 6.2.3 and 6.5.6.3)			104-73
Lodging amount bar/mini-bar	Total amount of bar and in-room "mini-bar" items charged to room.		n 12	(see 6.2.3 and 6.5.6.6)			104-77

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Lodging amount billing adjustment	Amount of any additional charges incurred after the cardholder's departure from the lodging facility.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount gift shop	Total amount of gift shop and speciality shop items charged to room.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount laundry/dry cleaning	Total amount of laundry and dry cleaning items charged to room.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount other services	The total amount of miscellaneous items/services charged to the room, not specified elsewhere.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount other services indicator	Indicates the type of charges provided in <i>Lodging amount other services</i> . Values provided by acquirer.		ans 3	(see 6.5.6.6)			104-77
Lodging amount phone charges	Total amount of phone calls charged to room.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount restaurant/room service	Total amount of restaurant and/or room service food charged to room.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount room rate	Daily room charges exclusive of taxes and fees.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging amount room tax	Daily room tax amount.		n 12	(see 6.2.3 and 6.5.6.6)			104-77
Lodging customer service toll-free phone number	Customer service number that the cardholder may call to resolve questions or disputes.		ans 16	(see 6.5.6.6)			104-77
Lodging date arrival	Date on which the cardholder checked into the lodging facility.	CCYYMMDD	n 8	(see 6.5.6.6)			104-77
Lodging date departure	Date on which the cardholder checked out of the lodging facility.	CCYYMMDD	n 8	(see 6.5.6.6)			104-77
Lodging facility phone number	Local phone number of the lodging facility at which the cardholder stayed.		ans 16	(see 6.5.6.6)			104-77
Lodging folio number	Lodging facility's internal invoice or billing identification reference number.		ans 10	(see 6.5.6.6)			104-77
Lodging program code	Code allocated by the acquirer that identifies special circumstances, e.g. frequent renter or "no show".		ans 2	(see 6.5.6.6)			104-77
Luhn check digit	Check sum on the previous 22 digits of <i>Acquirer reference number</i> calculated in accordance with ISO 7812-1.		n 1	(see 6.4.12)		31	
Magnetic stripe track 3 rewrite capability	Indicates if the POS can rewrite Track 3.		a 1	(see 6.4.10.1)		27	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Merchant category code	Code classifying the type of business being done by the card acceptor for this transaction (in accordance with ISO 18245).		n 4		26		
Message authentication code (MAC) field	Used to validate the source and the text of the message between the sender and receiver (in accordance with ISO 9807).		b 4	(see 6.2.2 and 6.3.3)	64 or 128		
Message error code	Code identifying a specific error condition. Contained in <i>Message error indicator</i> .		n 4	(see 6.4.7 and Clause A.10)		18	
Message error indicator	Identifies the location, severity and general description of data element errors in a message.	LLVAR	ansb..140	(see 6.2.1, 6.2.2 and 6.4.7)	18	X	
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 presentments, it identifies why the type of message was sent, e.g. why an advice versus a request. For other messages it identifies states why this action was taken.		n 4	(see Clause A.11)	25		
Number fee total	The count of all fees of the fee type specified. Contained in the <i>Reconciliation fee amounts credit</i> and <i>Reconciliation fee amounts debit</i> data elements.		n 10	(see 6.4.23)		109 110	
Original acquiring institution identification code	The acquiring institution identification code of the original financial presentment. Contained in <i>Original data elements</i> .		n 11	(see 6.4.15)		56	
Original amount fee	The original amount of the fee in a reversal, chargeback or partial approval. Contained in <i>Amounts original fees</i> .		xn 13	(see 6.2.3 and 6.4.16)		66	
Original amount reconciliation	The original amount of the transaction expressed in the reconciliation currency. Contained in <i>Amounts original</i> .		n 16	(see 6.2.3 and 6.4.11)		30	
Original amount reconciliation fee	The original amount of the fee expressed in the reconciliation currency. Contained in <i>Amounts original fees</i> .		xn 13	(see 6.2.3 and 6.4.16)		66	
Original amount transaction	The original amount of the transaction. Contained in <i>Amounts original</i> .		n 16	(see 6.2.3 and 6.4.11)		30	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Original conversion rate fee	The factor used in the conversion from transaction to reconciliation fee amount. The <i>Original amount fee</i> is multiplied by <i>Original conversion rate fee</i> to determine <i>Original amount reconciliation fee</i> . Contained in <i>Amounts original fees</i> .		n 8	(see 6.2.3 and 6.4.16)		66	
Original data elements	The data elements contained in the original message.	LLVAR	n..41	(see 6.2.1 and 6.4.15)	56	X	
Original date and time local transaction	The local date and time of the original transaction. Contained in <i>Original data elements</i> .	CCYYMMDDh hmmss	n 14	(see 6.4.15)		56	
Original fee type code	Code used to indicate the type of fee. Contained in <i>Amounts original</i> .		n 2	(see 6.4.16 and Clause A.8)		66	
Original message type identifier	The message type identifier of the original transaction. Contained in <i>Original data elements</i> .		n 4	(see 6.4.15)		56	
Original system trace audit number	The system trace audit number of the original transaction. Contained in <i>Original data elements</i> .		n 12	(see 6.4.15)		56	
Payee	The third party beneficiary in a Financial Presentment where the <i>Processing code</i> indicates a payment (50-59).		ans 25		98		
Payments number	The sum number of all financial presentment transactions processed where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a payment (50-59).		n 10	(see 6.4.21)		75	
Payments reversal number	The sum number of all reversal transactions processed where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a payment (50-59).		n 10	(see 6.4.21)		75	
PIN data	Used to identify the cardholder at the point of service (in accordance with ISO 9564-1).		b 8	(see 6.2.2)	52		
PIN input length capability	The number of PIN digits that the point of service device can accept.		b 1	(see 6.2.2 and 6.4.10)		27	
POS capability	A series of codes intended to identify the capabilities of the POS.		anb 27	(see 6.2.2, 6.4.10 and Clause A.15)	27	X	
POS data code	A series of codes intended to identify how a transaction completed at the POS.		b 16	(see 6.2.2, 6.4.9 and Clause A.16)	22	X	
POS card reading capability	A series of code values which indicate the card reading capabilities of the POS.		b 4	(see 6.2.2 and 6.4.10)		27	
POS cardholder verification capability	A series of code values that indicate the POS capabilities available to identify the cardholder.		b 4	(see 6.2.2 and 6.4.10)		27	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
POS environment	A series of code values that indicate if the card acceptor were present and if not the type of environment in which the transaction took place.		b 4	(see 6.2.2, 6.4.9 and Clause A.16)		22	
PAN	A series of digits used to identify a customer account or relationship.	LLVAR	n..19	(see 6.2.1 and 6.2.5)	2		
Processing code	Code used to describe the effect of a transaction on the customer account and the accounts affected.		an 6	(see 6.4.1 and Clause A.17)	3	X	
Receiving institution identification code	Code identifying the receiving institution.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	100		
Reconciliation data primary	Number and amount values required to complete the reconciliation of financial totals.		n 156	(see 6.4.20)	74	X	
Reconciliation data secondary	Additional count which may be utilized for reconciliation.		n 90	(see 6.4.21)	75	X	
Reconciliation fee amounts credit	The sum amount of <i>Amount fee</i> in all authorization, financial presentment, reversal and fee collection messages where the <i>Amount fee</i> "x" indicated a credit "C".	LLLVAR	ans..144	(see 6.2.1, 6.2.3 and 6.4.23)	109	X	
Reconciliation fee amounts debit	The sum amount of <i>Amount fee</i> in all authorization, financial presentment, reversal and fee collection messages where the <i>Amount fee</i> "x" indicated a debit "D".	LLLVAR	ans..144	(see 6.2.1, 6.2.3 and 6.4.23)	110	X	
Reconciliation indicator	A value used to allow reconciliation of time periods within a reconciliation date. The value is 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 characteristics	A series of codes that indicate the security characteristics applicable to a transaction.		b 4	(see 6.2.2, 6.4.9 and Clause A.16)		22	
Security related control information	Identifies security management information used in the current transaction or specifies security management information to be used in future transactions (in accordance with ISO 13492).	LLVAR	b..48	(see 6.2.1 and 6.2.2)	53		
Sequence number	Data supplied by acquirer.		n 11	(see 6.4.12)		31	
Service code	An identification of geographic/service availability (in accordance with ISO 7813).		n 3		40		

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Settlement institution identification code	Code identifying the settlement institution or its agent.	LLVAR	an..11	(see 6.2.1)	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 a two-message exchange, e.g. request/repeat and response.		n 12		11		
Time local transaction	The local time of the transaction.	hhmmss	n 6	(see 6.4.6)		12	
Track 1 data	The information encoded on track 1 of the magnetic stripe as specified in ISO 7813, including field separators but excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein.	LLVAR	ans..76	(see 6.2.1)	45		
Track 2 data	The information encoded on track 2 of the magnetic stripe as specified in ISO 7813, excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein.	LLVAR	z..37	(see 6.2.1)	35		
Track 3 data	The information encoded on track 3 of the magnetic stripe as specified in ISO 4909, including field separators, but excluding beginning and ending sentinels and longitudinal redundancy check characters as defined therein.	LLLVAR	z..104	(see 6.2.1)	36		
Transaction destination institution identification code	Code identifying the institution that is the transaction destination.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	93		
Transaction life cycle identification data	A unique identifier used to match transactions throughout their life cycle (for example, authorization to financial presentment, financial presentment to chargeback etc.) It shall contain the same value in all messages throughout a transaction's life cycle.		ans 22	(see 6.4.8)	21	X	
Transaction originator institution identification code	Code identifying the institution that is the transaction originator.	LLVAR	n..11	(see 6.2.1 and 6.2.5)	94		
Transaction specific data	Non financial data captured as part of a transaction.	LLLLVAR	ansb..9999	(see 6.2.1, 6.2.2 and 6.5.6)	104		X
Transaction type code	Code which indicates the type of transaction being undertaken. Used in conjunction with the <i>Account type code</i> as part of the <i>Processing code</i> .		an 2	(see 6.4.1 and Clause A.17.1)		3	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Transfers number	The sum number of all financial presentment transactions processed where positions 1-2 of the <i>Processing code</i> in the financial presentment transaction indicated a transfer (40-49).		n 10	(see 6.4.21)		75	
Transfers reversal number	The sum number of all reversal transactions processed where positions 1-2 of the <i>Processing code</i> in the reversal transaction indicated a transfer (40-49).		n 10	(see 6.4.21)		75	
Transport data	Contains data from the originator of the message that shall be returned unaltered in a response message.	LLVAR	ans..999	(see 6.2.1)	59		
Transstain	A hash value calculated by applying a secure hash algorithm to the XID and card secret (a secret defined value known only to the cardholder and issuer of the cardholder certificate).		b 20	(see 6.2.2 and 6.5.1)			34-72
Trip leg amount departure tax	Tax payable by airline passenger on departure.		n 12	(see 6.2.3 and 6.5.6.4)			104-75
Trip leg amount fare	The trip leg airline ticket amount.		n 12	(see 6.2.3 and 6.5.6.4)			104-75
Trip leg amount fees	The fees associated with each trip leg.		n 12	(see 6.2.3 and 6.5.6.4)			104-75
Trip leg amount taxes	The total taxes associated with each trip leg.		n 12	(see 6.2.3 and 6.5.6.4)			104-75
Trip leg arrival time	Time of arrival for each trip leg.		n 4	(see 6.5.6.4)			104-75
Trip leg arrival time segment code	Indicates whether the arrival time is in the a.m. or the p.m.	A = a.m. P = p.m. space = unknown	as 1	(see 6.5.6.4)			104-75
Trip leg carrier code	Code of airline carrier as defined by ATPCO.		an 2	(see 6.5.6.4 and Bibliography)			104-75
Trip leg class of travel	Class of airline journey as defined by ATPCO.		an 2	(see 6.5.6.4 and Bibliography)			104-75
Trip leg conjunction ticket number	The ticket that contains additional coupons on an itinerary that is more than four trip legs.	LLVAR	an..15	(see 6.2.1 and 6.5.6.4)			104-75
Trip leg coupon number	Identifies the coupon associated with each trip leg.		ans 1	(see 6.5.6.4)			104-75
Trip leg dataset sequence number	Identifies the sequence in which multiple datasets with the same dataset identifier should be processed.		b 2	(see 6.2.2 and 6.5.6.4)			104-75
Trip leg date of travel	Date of departure of airline journey.	CCYYMMDD	n 8	(see 6.5.6.4)			104-75
Trip leg departure airport	Airport from which journey/leg departs as defined by ATPCO.		an 5	(see 6.5.6.4 and Bibliography)			104-75

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Trip leg departure time	Time of departure for each trip leg.		n 4	(see 6.5.6.4)			104-75
Trip leg departure time segment code	Indicates whether the departure time is in the a.m. or p.m.	A = a.m. P = p.m. Space = unknown	as 1	(see 6.5.6.4)			104-75
Trip leg destination code	Code of destination airport as defined by ATPCO.		an 5	(see 6.5.6.4 and Bibliography)			104-75
Trip leg endorsements/restrictions	Agency-added or government required notations, or restrictions such as non-refundable, that are applicable to a trip leg.	LLVAR	ans..20	(see 6.2.1 and 6.5.6)			104-75
Trip leg exchange ticket number	The original airline ticket number replaced by a new ticket number.	LLVAR	an..15	(see 6.2.1 and 6.5.6.4)			104-75
Trip leg fare basis code	Basis for calculation of airline fare as defined by ATPCO.	LLVAR	an..15	(see 6.2.1, 6.5.6.4 and Bibliography)			104-75
Trip leg flight number	Number assigned to each trip leg by the operating or marketing air carrier.		ans 5	(see 6.5.6.4)			104-75
Trip leg number	Number of leg or stage of airline journey of a multi-flight booking.		n 2	(see 6.5.6.4)			104-75
Trip leg stop over code	Code of stop over airport during an airline journey as defined by ATPCO.		an 1	(see 6.5.6.4 and Bibliography)			104-75
User format identifier	Identifier applied by acquirer based on bilateral agreements.		n 1	(see 6.4.12)		31	
Value amount additional amounts	The additional amounts in the indicated currency.		n 12	(see 6.2.3 and 6.4.14)		54	
Value amount cardholder billing	The cardholder billing amount in the indicated currency.		n 12	(see 6.2.3 and 6.4.4)		6	
Value amount cardholder billing fee	The cardholder billing fee amount in the indicated currency.		n 8	(see 6.2.3 and 6.4.5)		8	
Value amount fee	The fee amount in the indicated currency.		n 8	(see 6.2.3 and 6.4.13)		46	
Value amount net reconciliation	The net reconciliation amount in the indicated currency.		xn 17	(see 6.2.3 and 6.4.22)		97	
Value amount reconciliation	The reconciliation amount in the indicated currency.		n 12	(see 6.2.3 and 6.4.3)		5	
Value amount reconciliation fee	The reconciliation fee amount in the indicated currency.		n 8	(see 6.2.3 and 6.4.13)		46	
Value amount transaction	The transaction amount in the indicated currency.		n 12	(see 6.2.3 and 6.4.2)		4	
Value original amount fee	The original fee amount in the indicated currency.		n 8	(see 6.2.3 and 6.4.16)		66	

Table 3 (continued)

Name	Description	Format	Representation	Notes	Bit	Cons.	Comp.
Value original amount reconciliation	The original reconciliation amount in the indicated currency.		n 12	(see 6.2.3 and 6.4.11)		30	
Value original amount reconciliation fee	The original reconciliation fee amount in the indicated currency.		n 8	(see 6.2.3 and 6.4.16)		66	
Value original amount transaction	The original transaction amount in the indicated currency.		n 12	(see 6.2.3 and 6.4.11)		30	
Verification data	Additional data required to support identification of the cardholder	LLLLVAR	ans..9999	(see 6.2.1 and 6.5.4)	49		X
XID	Value assigned to a transaction as a unique transaction identifier.		b 20	(see 6.2.2 and 6.5.1)			34-72

6.2 General requirements for data elements

6.2.1 Variable length data elements

For any variable length data element with a maximum length of less than 100 characters, two additional numeric positions shall prefix the data element and shall give its length. The format shall be LLVAR. For any variable length data element with a maximum length of less than 1 000 characters, three additional numeric positions shall prefix the data element and shall give its length. The format shall be LLLVAR. For any variable length data element with a maximum length of less than 10 000 characters, four additional numeric positions shall prefix the data element and shall give its length. The format shall be LLLLVAR.

None of the definitions of variable length data element in this part of ISO 8583 include the two, three or four numeric positions of length in the representation column in Table 2 or Annex B. All length attributes shall be right justified and zero filled, e.g. primary account number 123456789012 is represented by 12123456789012. The first “12” indicates 12 digits to follow.

6.2.2 Binary data

6.2.2.1 Binary data elements

Binary data elements 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. 8 times 8 bits giving 64 bits of data. In all “b” data elements, blocks of 8 bits are assumed to be left justified with trailing zeroes.

6.2.2.2 Variable length attributes and binary data elements

If the format indicates a numeric variable length attribute in the first two, three or four positions for a binary data element (i.e. LLVAR, LLLVAR or LLLLVAR), the numeric length value contains the number of 8 bit blocks of the binary data element which follows.

Annex C gives guidance on how messages formatted in accordance with this part of ISO 8583 may be transmitted across data networks.

6.2.3 Expression of amounts

The amount is a numeric value, expressed without a decimal separator. Where a minor unit of currency applies, the relevant minor unit data element indicates the number of decimal places in the relevant amount. For example, an amount value of 100 in US currency would have a minor currency unit of 2 (e.g. one US dollar), but an amount of 100 in Italian currency would have a minor unit of currency of 0 (e.g. 100 lire).

The value shall be expressed in the currency of the associated currency code data element. Where there is no associated currency code data element, the currency is that of *Amount transaction*.

A number of amount data elements have an associated sign C for credit and D for debit, such data elements have a representation of "xn" in Table 3, the associated notes and Annex B (see also Table 1). Where such a sign is present, it shall precede the amount. Thus, an amount which is 16 digits long is actually 17 digits with the sign in the leftmost position.

6.2.4 Conversion rates

In conversion rate data elements, 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. If the value of the first digit is 8, a single zero after the decimal point is assumed. If the value of the first digit is 9, two zeroes after the decimal point are assumed.

6.2.5 Identification of institutions and routing

6.2.5.1 General

Card issuing institutions shall be identified by the procedure specified in ISO 7812-1. Institutions that are not card issuers shall be identified by a six-digit code as defined in Clause 10.

A transaction may be sent from an acquirer to a card issuer, from a card issuer to an acquirer or from a transaction originator to a transaction destination. However, in the routing of a transaction between these pairs of institutions, other institutions may need to handle the transaction. The data elements *Forwarding institution identification code* and *Receiving institution identification code* facilitate this routing activity. The *Acquiring institution identification code* and *Primary account number PAN* data elements contain the same data for the life of the transaction. Where the *Transaction originator identification code* and *Transaction destination identification code* are used, they contain the same data for the life of the transaction. The contents of the *Forwarding institution identification code* and *Receiving institution identification code* data elements will change as the transaction is sent between institutions.

Tables 4 to 6 and Figures 6 to 8 below show how the institution identifiers are used when the acquirer and the card issuer cannot communicate directly. Where direct communication is possible, the *Forwarding institution identification code* and *Receiving institution identification code* data elements shall not be used.