SMARTVISTA FRONT END

ISO8583 POS Trickle Feed

EMV compliant

Version 1.83A

26.09.2016, 09:34

CONFIDENTIAL

Change Log

Version	Date	Author	Description of Change
1.7	2001-10-14 2002-02-12	Vasiliy Grigoriev	Revise field 38, 39, 44,46, 49, 62. Added reversal matching, reversal reason codes. Added Trickle Feed Processing. Added EMV specific data Added new messages Issuer Auth Failure/ Issuer Script Result; Offline Decline; Added new tags :Tag '9F28', Tag '9F29'
1.8	2002-05-14	Vasiliy Grigoriev	Revise field 53 in network key change response message. Added new TAG 5F34 in filed 55
1.10	2003-03-25	Vasiliy Grigoriev	Change size of TAG 71,72 Added new TAGs : '86', 'DF6B','9F18', '8A', '9B' in filed 55.
1.11	2003-07-03	Vasiliy Grigoriev	Added new value in DE 22 for Off-line PINs
1.12	2004-06-01	Vasiliy Grigoriev	Added MAC support
1.13	2004-07-01	Vasiliy Grigoriev	Added RRN into Completion Request
1.14	2005-01-20	Alexey Pevgov	Added tag 4F
1.15	2005-03-09	Alexey Pevgov	New value "02" for field 25.
1.16	2005-03-22	Alexey Pevgov	New field 48
1.17	2005-06-16	Alexey Pevgov	Reconciliation Trailer added
1.19	2005-10-04	Alexey Pevgov	F52 turned to variable length
1.20	2005-10-05	Evgeny Kozhin	Added P2P debit transaction
1.21	2005-10-07	Evgeny Kozhin	Changed format for batch upload
1.22	2005-10-10	Alexey Pevgov	Changed descripton of f22
1.24	2005-12-26	Evgeny Kozhin	Added values 07 and 91 for filed 22
1.25	2005-12-27	Alexey Pevgov	*FIX* - added f2 for 0100 balance inquiry request
1.26	2006-03-24	Evgeny Kozhin	Added 800 messages for Master Key change, changed format fld. 53a for giske keys.
1.28	2006-09-29	Evgeny Kozhin	Added f14 for 0100 balance inquiry request Added new 0200/0210 message for loyalty purchase
1.29	2006-12-07	Alexey Grigoriev	Added field MAC into Network Cutover message.
1.30	2007-02-14	Evgeny Kozhin	Removed MAC from 800 messages MAC key change and MAC master key change
1.31	2007-04-02	Evgeny Kozhin	Added available processing codes and account types f3
1.32	2007-05-07	Alexey Grigoriev	Changed Field 48 format from llvar to lllvar
1.33	2007-05-10	Alexey Grigoriev	Added new transaction POS Cash Deposit.
1.34	2007-07-27	Alexey Grigoriev	Added Optional Field 37 (RRN) for Return Request message.
1.35	2007-10-17	Georgy Rashin	Added Optional Field 42 (MERCHANT ID) for 0800 requests
1.36	2007-11-26	Georgy Rashin	Added additional description for Field 5. Correction of examples. Field formats are defined more precisely.
1.37	2008-10-22	Olga Vasilyeva	Added information about Field 64: Primary MAC Data
1.38	2009-03-13	Georgy Rashin	Field 7 GMT format is explicitly specified.

Version	Date	Author	Description of Change
1.39	2009-07-30	Vladimir Dudnikov	Added restriction to Field 12 value in Retrun, Pre-Auth and Completion reversals and Fields 11, 12 in Auto reversals.
1.40	2009-08-05	Adelina Burkhanova	The field list of reversal request/response messages was enlarged with field 55. Tag '9F5B' was added and unused tag '9F6B' was deleted from field 55.
1.41	2009-09-14	Vladimir Dudnikov	Field 2 marked as optional for 0100/0120 messages.
1.42	2009-12-25	Paul Turchin	410 message 49 field is MACing now.
1.43	2010-02-24	D. Petrov	Changed description of Field 24 – added function code: 808 – (Master Key Change) 809 – (Mac Master Key Change). Changed messages format Network MAC Key Change and Network MAC Master Key Change – parameter MAC for all fields set to NO.
1.44	2010-04-07	Vladimir Dudnikov	Added new transaction PIN change transaction.
1.45	2010-05-27	O. Demidov	Described the authorization message flow without link level using
1.46	2010-11-02	Alexey Grigoriev	Removed EMV tags 9F28, 9F29 and Offline Decline transaction.
1.47	2010-11-09	Alexey Grigoriev	TRACK 2 DATA LENGTH could be variable, up to 37 characters.
1.48	2010-11-30	Alexey Grigoriev	Field 55 added for Completion Request/Response Messages. Removed Issuer Auth Failure / Issuer Script Results Messages.
1.49	2010-12-29	Sergey Sasin	Support of POS-payment operations: new messages – Client Debts Inquiry, Check Payment, Utility Payment new tags in field #48 – 003 (Service Id), 004 (Customer external account number), 005 (Customer mobile phone number), 006 (Customer name) new field #63 – list of client's debts
1.50	2011-01-28	Alexey Grigoriev	Added description to Field 46: Amount, fees.
1.51	2011-02-08	Alexey Grigoriev	Added comment for Field 35 in case EMV chip transaction.
1.52	2011-02-11	Sergey Smirnov	Description of Field 46 changed. Added support for issuer fee.
1.53	2011-03-14	Sergey Sasin	Additional tags for 'Vaucher purchase' operation were added
1.54	2011-05-04	Evgeny Kondrashin	Field 52 marked as optional for Pin Change transaction. Add new transaction PIN Change Confirm
1.55	2011-05-11	Sergey Sasin	New transaction – P2P Transfer – was added with corresponding tags
1.56	2011-05-16	Vladimir Dudnikov	Added Funds Transfer transaction. Changed description of field 3 in message formats.
1.57	2011-05-23	Sergey Sasin	New response codes in DE #39 – "901 – Invalid payment parameters", "916 – Debts not found"
1.58	2011-06-07	Vladimir Dudnikov	Fixed usage of field 46 in responses.
1.59	2011-06-20	Sergey Sasin	Additional tags for card-not-present service were added (CVV2/CVC2/CID/CAV values)
1.60	2011-07-04	Vladimir Dudnikov	Changed MAC flag of some fields in PIN Change and PIN Change Confirmation messages.
1.61	2011-07-19	Vladimir Dudnikov	Added field 48 tag 015, changed usage of field 48 tags, changed description of field 48.
1.62	2011-07-29	Vladimir Dudnikov	Added Installment Purchase operation, added tag 016 to field 48.

Version	Date	Author	Description of Change
1.63	2011-07-29	Vladimir Dudnikov	Added comments on field 48 tags format.
1.64	2011-08-03	Vladimir Dudnikov	Added field 48 to 0220 message.
1.65	2011-08-19	Sergey Sasin	New transactions: card checking with account number retrieval on POS, account number checking
1.66	2011-08-30	Sergey Sasin	Reversal process was detailed New transactions: Mini-statement, Account opening, Checkbook request, PIN reissue, Cheque deposit, Service registration, Statement request, Card issue, Service reimbursement, Change account status Modified transactions: account numbers in utility payment, and funds transfer. New parameters for transactions: funds transfer (card data for target card), mini-statement (statement records), change account status (new status), utility payment (payment parameters), bank service requests (informational parameters). Staring with this version, field #54 has new data format
1.67	2011-09-22	Vladimir Dudnikov	Changes matching criteria for manual reversal.
1.68	2011-09-29	Vladimir Dudnikov	Added field 48 tag 27.
1.69	2011-11-02	Sergey Sasin	New 'Amount Type' (01 – ledger balance) was added to field #54.
1.70	2011-11-03	Vladimir Dudnikov	Added field 48 tags 28, 29.
1.71	2011-11-18	Evgeny Kondrashin	Added fields 1, 102, 103, 128 in P2P_TRANSFER messages.
1.72A	2013-05-15	Elizaveta Sheina	Changed DE46 description
1.73A	2014-12-22	Elizaveta Sheina	Added field 48 tag 030 (Original RRN)
1.74A	2015-01-13	Vernik Kirill	Added field 63 tags: 001 (cardholder id) and 002 (contract id) to Check Card Response.
1.75A	2015-03-31	Elizaveta Sheina	Added EMV tag 9F6E
1.76A	2015-04-02	Elizaveta Sheina	Changed message layouts for 220 and 320 MTIs.
1.77A	2015-08-11	Vernik Kirill	Correct specification according to the SVFE Group A.
1.78A	2015-10-13	Elizaveta Sheina	Added new response code (DE 39) value: 941 – Failed currency conversion
1.79A	2015-12-18	Elizaveta Sheina	Changed DE 52 format. Fixed response codes descriptions.
1.80A	2016-03-04	Elizaveta Sheina	Changed DE 55 tags 9F03, 9F34, 9F35 usage description. Added new tag 9F4C.
1.81A	2016-04-01	Vernik Kirill	Precise, that PIN Change Confirm should be a new EMV transaction, containing a script processing results in EMV data.
1.82A	2016-06-17	Alexey Karpov	Change description of EMV tag '9F6E'.
1.83A	2016-06-24	Alexey Karpov	Add optional DE48 Tag 3 to POS Purchase request.

Contents

ISO8583 POS Trickle Feed

Introduction

This document describes of the ISO8583 POS Trickle Feed.

Trickle Feed Processing

Introduction

This document describes the link level requirements for interfacing with the *POS Trickle-Feed Interface* of SmartVista FE.

Trickle-Feed has been introduced to simultaneously reduce telecommunications costs while still maintaining a required level of security against fraud.
Trickle-Feed transactions are those transactions that occurred under a specified floor limit. These transactions are authorized off-line and maintained in the terminal batch area.

Triggering Events

The transactions within the batch are sent to the on-line authorization host when a triggering event occurs. There are three such events that may trigger the batch to be sent:

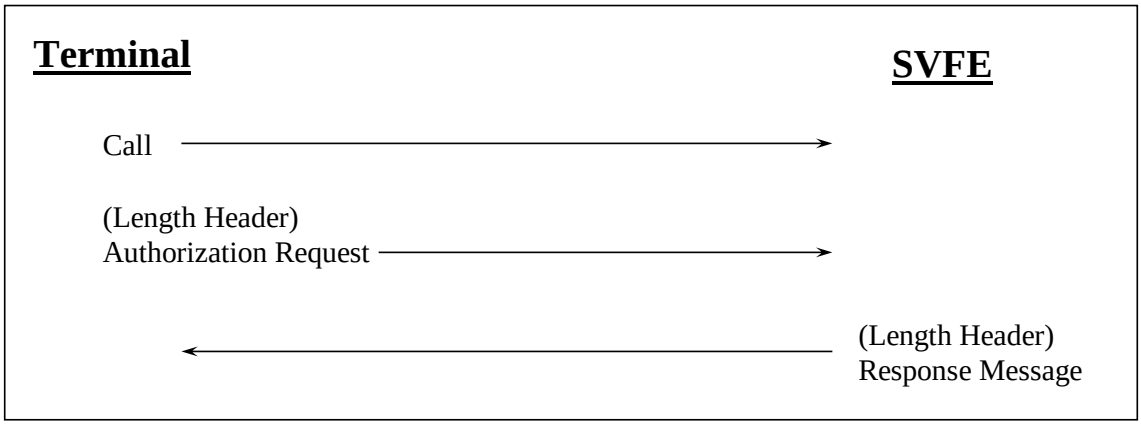
1. A transaction occurs which is above the floor limit.
2. More then *n*-successive transactions occur which are under the floor limit.
3. A settlement transaction occurs or,
4. An on-line transaction is manually initiated by the merchant (i.e., suspect button).

In the first case the trickle-feed transactions are sent immediately after processing the on-line transaction which triggered the sending of the trickle-feed transactions, utilizing the same connection. In all cases, the batch transactions use the same message formats as their on-line counterparts. However, a processing system needs to use a special set of message types (Forced-Post messages) in order to distinguish a trickle-feed transactions from an on-line transaction.

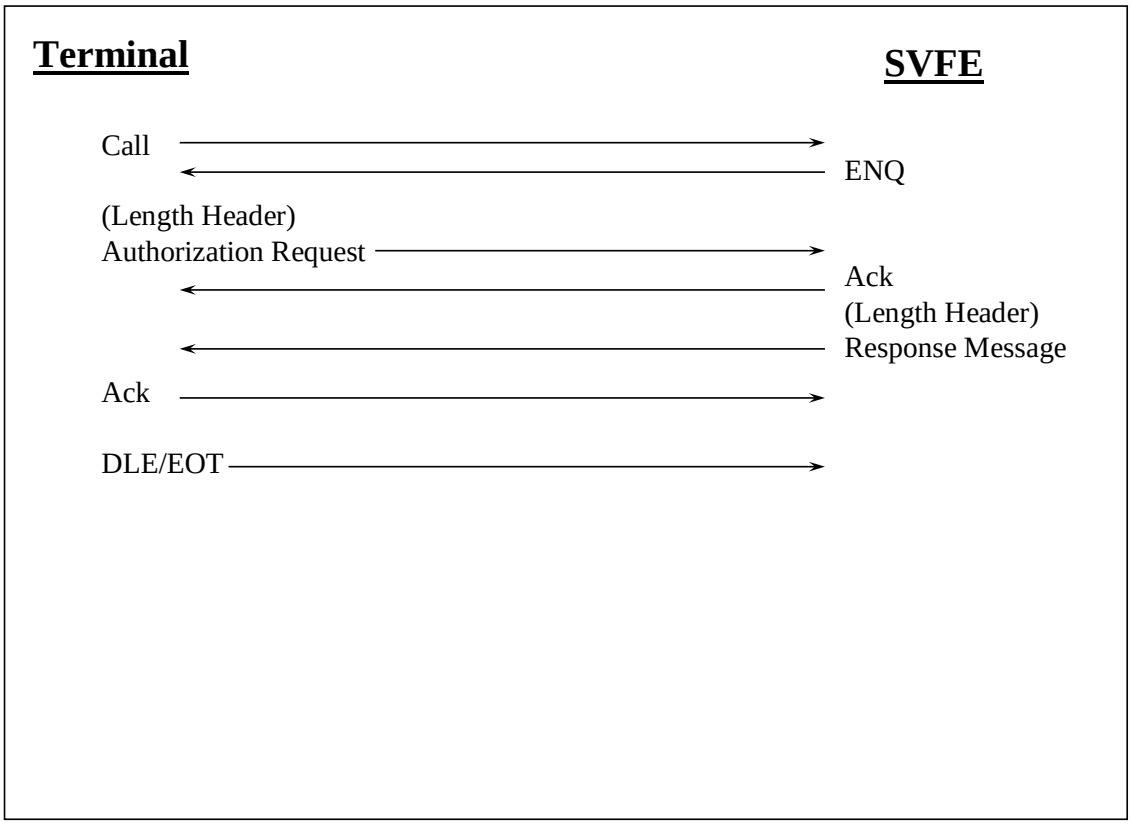
Authorization Message Flow

The authorization message flow may be performed with link level using and without it.

The authorization message flow without link level using is illustrated below. As soon as the call establishment is completed the terminal may send the authorization request message. The host receives this message and begins processing it. Right after being processed by the host, the authorization response message is sent back to the terminal. After that the communications connection is closed.



The authorization message flow with link level using is illustrated below. As soon as the call establishment is completed the authorization host will indicate that it is ready to receive the request by sending an <ENQ>. Once received by the terminal, the authorization request message may be sent. The host acknowledges receipt of this message by sending an <ACK>. Right after being processed by the host, the authorization response message is sent back to the terminal. The terminal must acknowledge receipt of this response by sending an <ACK>. After doing so, the terminal sends a <DLE> <EOT> sequence and closes the communications connection.

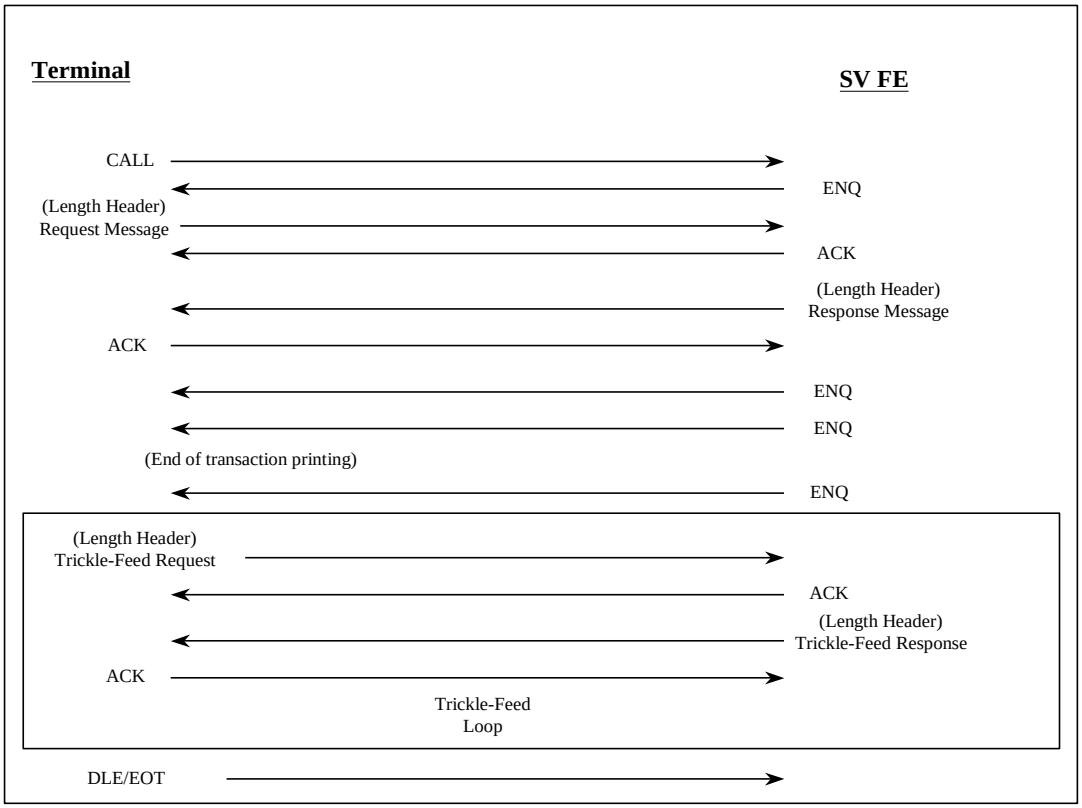


Trickle Feed

Any *Trickle-Feed* transactions present in the terminal may be sent after completion of an on-line transaction. Again, the trickle-feed transactions are those transactions which occurred under the terminal floor limit and have therefore been authorized off-line. The number of trickle-feed transactions that may be sent following a Triggering Event (see Section 0) is terminal dependent and should be implemented as a terminal parameter. The value of this parameter should be greater than or equal to the number of successive off-line transactions that are allowed (also a terminal parameter). This enables all transactions within the batch to be sent on the same session that caused the triggering event

Trickle-Feed Message Flow

The Trickle-Feed Message Flow is similar to that of the on-line Authorization Message flow. As illustrated in Figure 2 the Trickle-Feed Request message is sent immediately after processing the on-line authorization request message. A series of <ENQ>'s may be sent to the terminal to keep the terminal from timing out between the terminal receipt printing and waiting for the first trickle-feed transaction to be sent. The authorization host will acknowledge receipt of the request by sending an <ACK> back to the terminal followed by an empty Trickle-Feed Response message. This sequence may be repeated up to the terminal specified maximum trickle-feed transactions. Upon completion the terminal sends a <DLE> <EOT> sequence and closes the communications connection



Settlement

The Settlement Processing is implemented via a *Settlement Request* message initiated by the terminal. All trickle-feed transactions held by the terminal must be sent prior to terminal settlement. The initiation of the terminal settlement procedure is terminal dependent. Typically, this function may be performed manually by a clerk at the end-of-day, or automatically at some prescheduled time. Once the Settlement Process is successfully processed the merchant should be able to print the detail transaction history for the specific settlement period and then clear the transaction records if necessary. This functionality is terminal dependent

Settlement Message Flow

Terminal sends 0520 message – Acquirer Reconciliation Advice Request. This transaction contains the total transaction amount for the period since last settlement. Host compares this amount to the data stored in it's database. If the check succeeds host sends positive 0530 response and stops the settlement process. If the check does not succeed host sends negative 0530 response. Then terminal starts batch upload, sending 0320 batch upload messages according to all financial transactions during the day passed. Host responds with 0330 messages. After the upload terminal sends 0520 settlement trailer and host responds with the positive 0530 message.

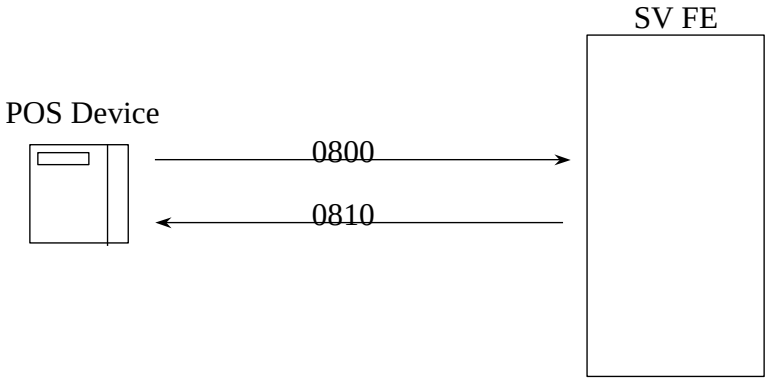
Terminal Requirements

The terminal operations required to support the trickle-feed as described herein are dependent on the specific POS hardware vendor selected for implementation. In particular, this relates to procedures involving end-user transactions, managerial functions, maintenance functions, and any available utilities provided by the vendor.

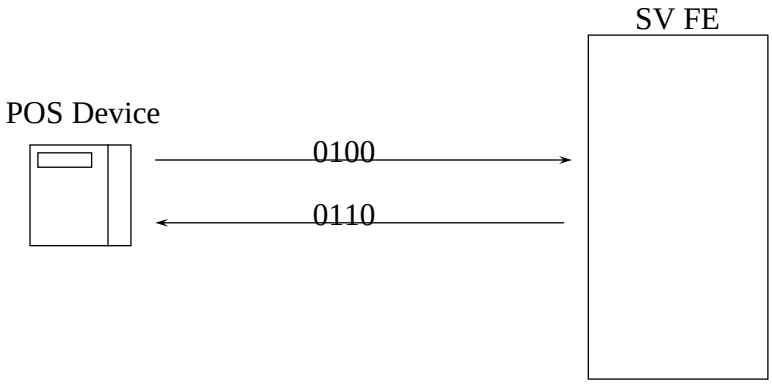
POS ISO8583 Transactions flows

The figures below illustrate the various message flows for each type of transactions supported under the POS ISO8583 interface.

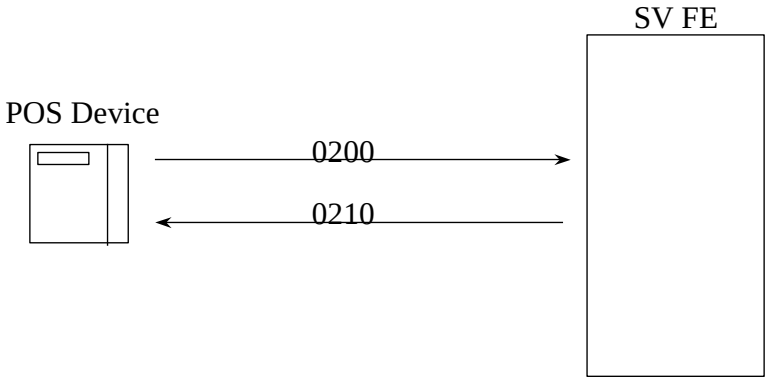
Network Management Request (Log-On, Log-Off, Echo-Test), Network or MAC Key Change.



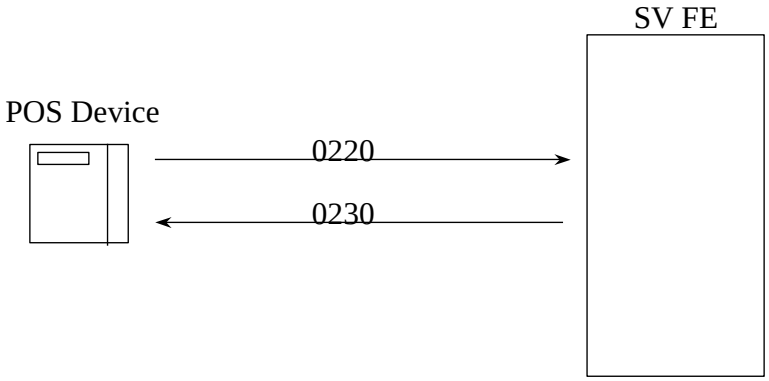
Balance Inquiry Request, Check Card,



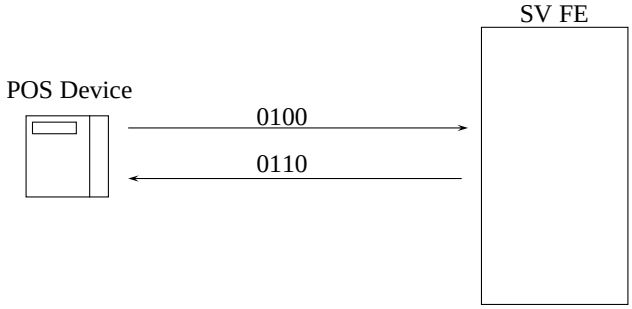
Purchase, Purchase with Cashback, Cash Advance Request, Return Request, POS Cash Deposit, Utility Payment,



Purchase, Purchase with Cashback, Cash Advance, Return Request, POS Cash Deposit – Trickle Feed

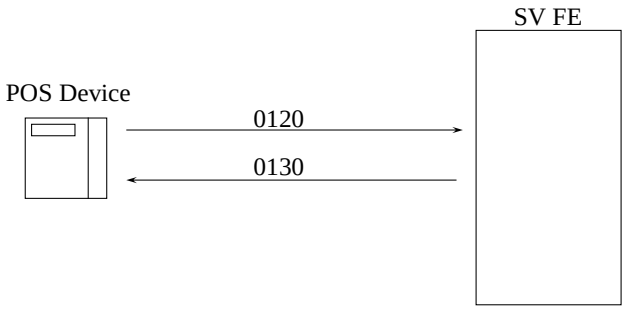


PIN Change

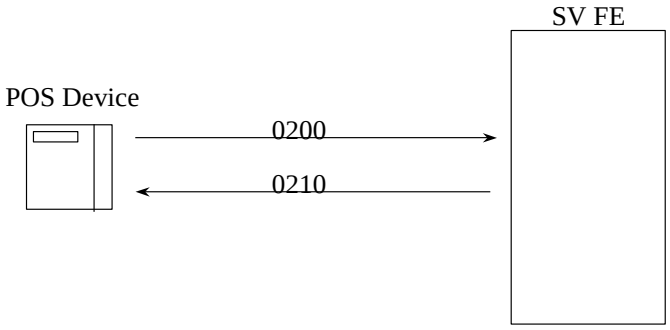


PIN Change Confirm

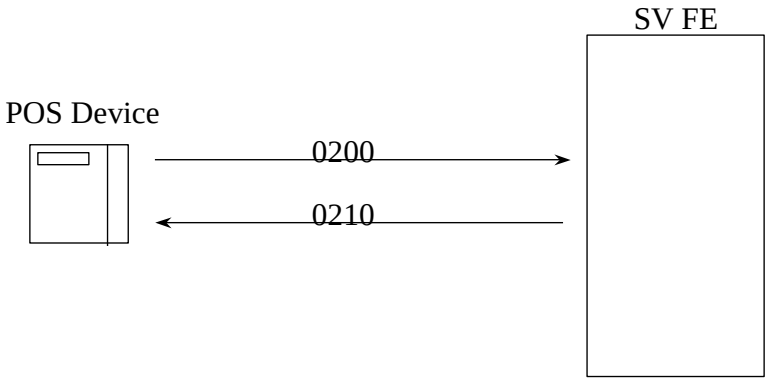
For EMV cards it should be new EMV transaction, comparing to PIN Change transaction.



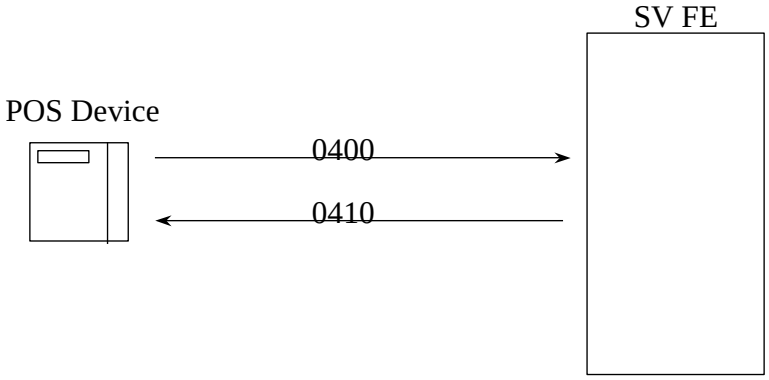
Pre-Authorization Request



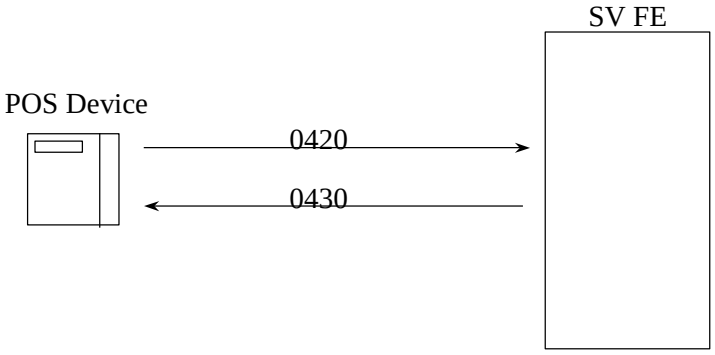
Pre-Authorization Completion Request



Reversal, Void Request

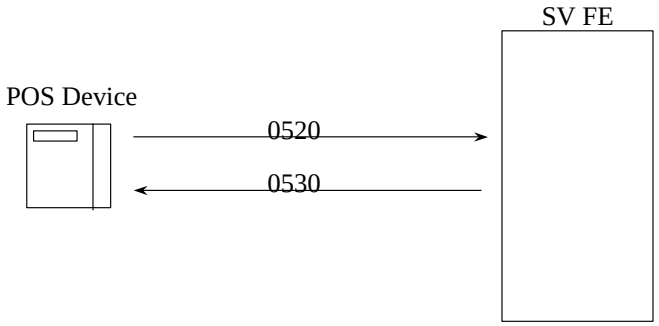


Reversal, Void Request – Trickle Feed



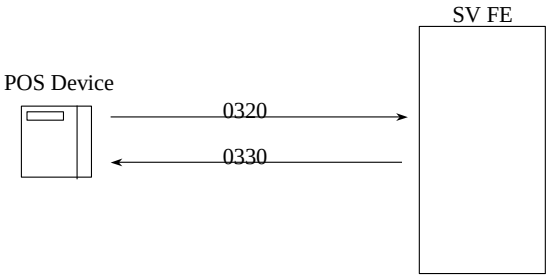
Settlement Request

A settlement transaction provides financial totals between one acquirer and the SmartVista FE server.



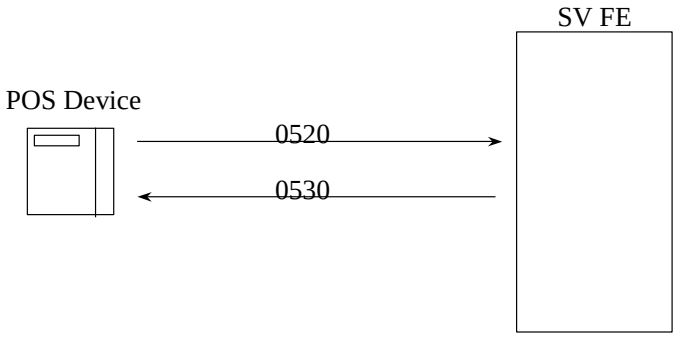
Batch Upload

A series of the Batch Uploads provides full data of the transactions during the acquirer working day, including EMV card transactions. This is the transaction set used to perform a batch up load. This occurs when the terminal an host are out of balance.



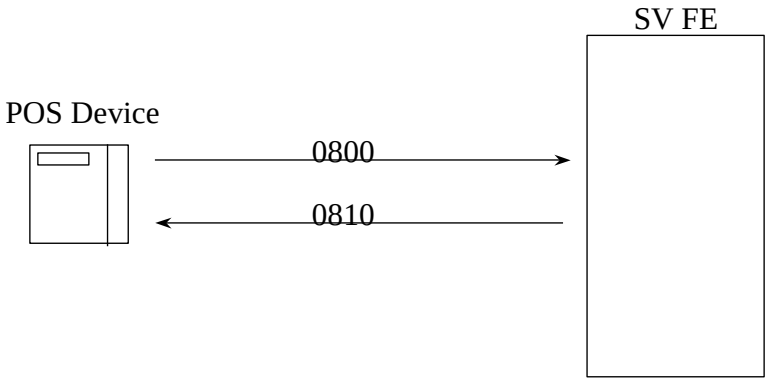
Settlement Trailer

If the host requests the terminal to upload its batch, the terminal sends the settlement trailer following the upload.



Network Management Cutover

A network cutover will reset the financial totals between the acquirer, which initiated the message, and the SmartVista FE server.

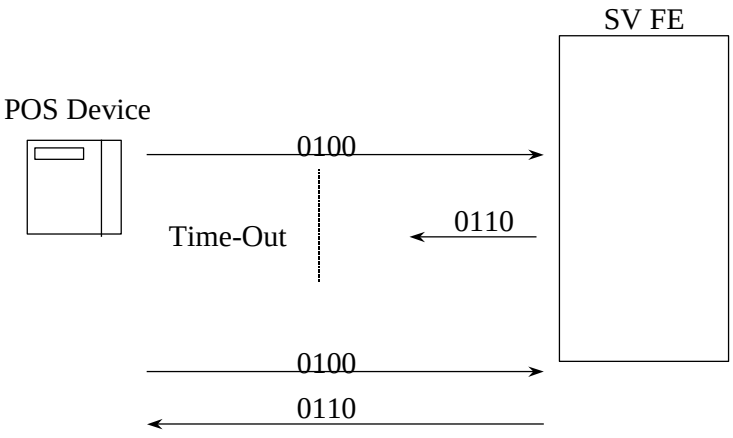


Time-out Conditions

When a time-out conditions arises the terminal is responsible for handling the time-out condition as illustrated below.

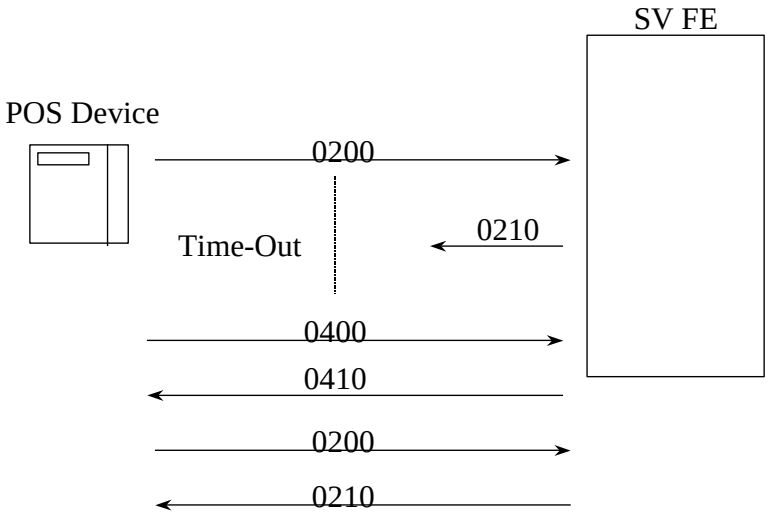
Non-Financial Transactions, i.e., 0100/0110

For non-financial transactions the terminal may simply re-send the request for processing.



Financial Transactions, i.e., 0200/0210

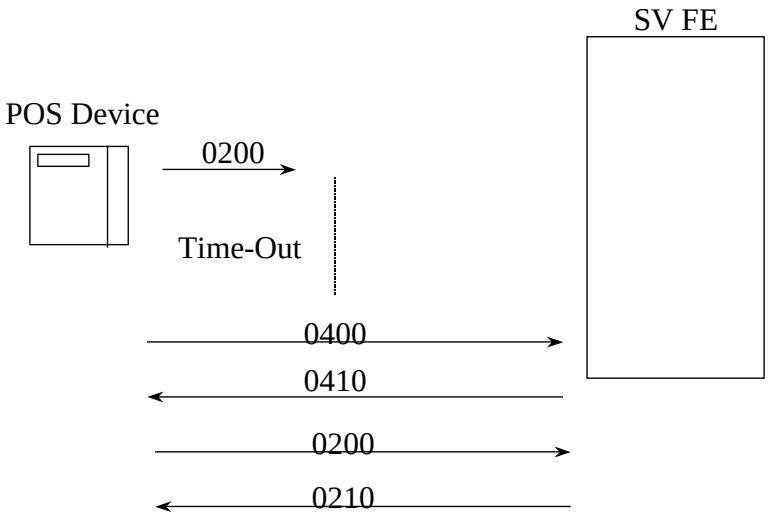
For a financial transaction the terminal must send a reversal prior to re-sending the message. This is to ensure that the original request will not impact the customers balance since the switch may have received the original request.



Financial Transactions II, i.e., 0200/0210

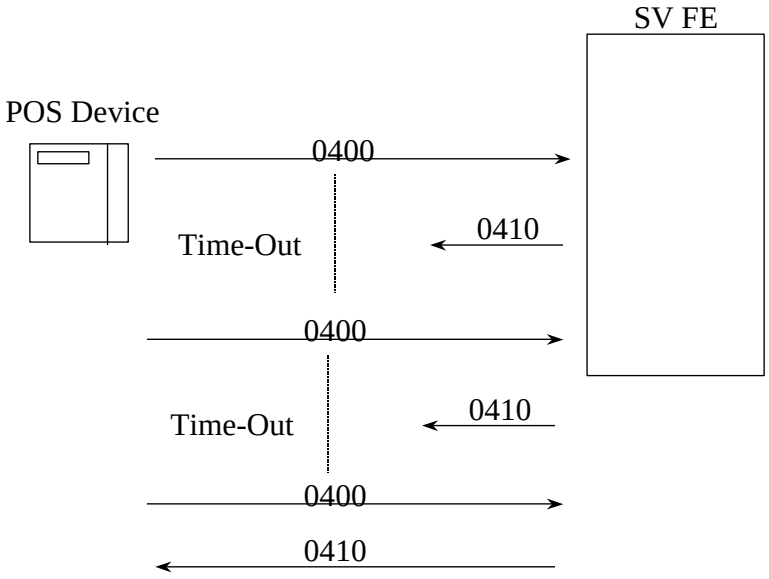
For a financial transaction that does not make it to the SmartVIstaFE Server, the terminal will follow the same procedure as the preceding example, except the response code will be set to 914

in the following 0410 which signifies that the original transaction was never received.

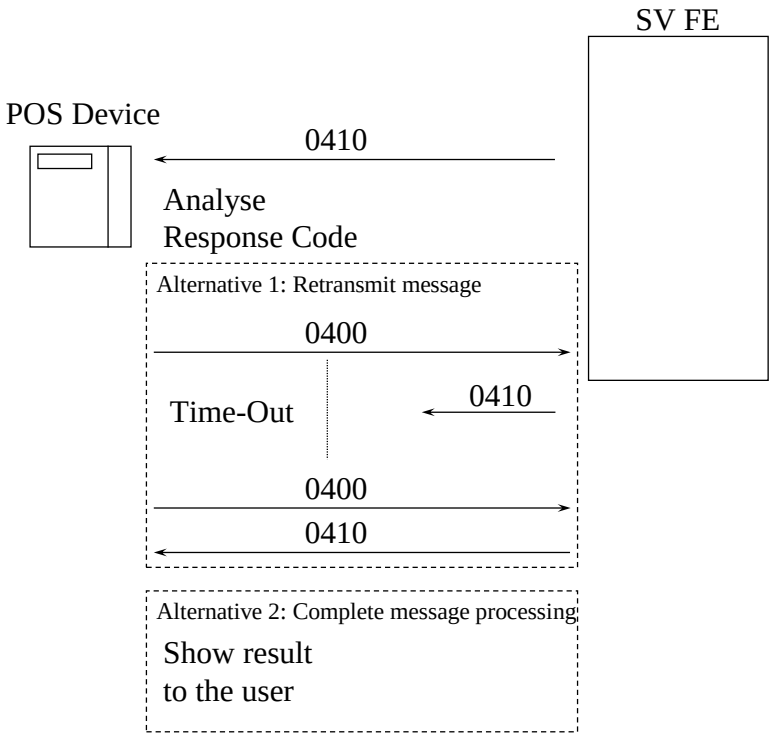


Reversals

When processing a reversal request the terminal must continue to send reversals until arrival of corresponding response from the host system.



After receiving response message POS should analyse Response Code field, and, as a result, there are two alternatives possible:



Alternative 1 – Retransmit previous 0400 message without any changes. This case should be applied when Response Code shows that SVFE didn't receive the message correctly, and no reversal action was done.

Response Codes for Alternative 1 (see Field 39 – Response Code also):

REASON CODE	DESCRIPTION
005	System Error
904	The message received was not within standards
907	Issuer inoperative
909	System malfunction
910	Issuer inoperative
912	Time out waiting for response
923	Request in progress

Alternative 2 – Complete processing of previous 0400 message. This case should be applied when Response Code shows that SVFE can't process the message due to some errors or operation is not possible at all. In this case, POS should stop retransmit the message, show operation's result to the user or automatically compile fixed message and send it to the host system (if possible/applicable).

Response Codes for Alternative 2 (see Field 39 – Response Code also): all other messages excluded from Alternative 1.

Supported Message Formats

Network Management: Merchant Log-on Request (0800)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0800	MESS. TYPE ID	
-	2220010000800000	BITMAP	
3	900000	PROCESSING CODE	
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss
11	000001	SYSTEMS TRACE AUDIT NUM.	
24	801	FUNCTION CODE	
41	00010001	TERMINAL ID	
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported

Done

Network Management: Merchant Log-on Response (0810)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0810	MESS. TYPE ID	
-	222000000A800000	BITMAP	
3	900000	PROCESSING CODE	SAME AS IN 0800
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800
37	000001007050	RETRIEVAL REFERENCE NUMBER	
39	000	RESPONSE CODE	
41	00010001	TERMINAL ID	SAME AS IN 0800

Done

Network Management: Merchant Log-off Request (0800)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0800	MESS. TYPE ID	
-	2220010000800000	BITMAP	
3	920000	PROCESSING CODE	
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss
11	000001	SYSTEMS TRACE AUDIT NUM.	
24	802	FUNCTION CODE	
41	00010001	TERMINAL ID	
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported

Done

Network Management: Merchant Log-off Response (0810)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0810	MESS. TYPE ID	
-	222000000A800000	BITMAP	
3	920000	PROCESSING CODE	SAME AS IN 0800
7	0706102042	DATE & TIME, TRANSMISSION	
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800
37	000001007050	RETRIEVAL REFERENCE NUMBER	
39	000	RESPONSE CODE	
41	00010001	TERMINAL ID	SAME AS IN 0800

Done

Network Management Request (0800) (Echo Test)

Done

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0800	MESS. TYPE ID	
-	2220010000800000	BITMAP	
3	990000	PROCESSING CODE	
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss
11	000001	SYSTEMS TRACE AUDIT NUM.	
24	831	FUNCTION CODE	
41	00010001	TERMINAL ID	
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported

Network Management Response (0810) (Echo Test)

Done

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS
-	0800	MESS. TYPE ID	
-	222000000A800000	BITMAP	
3	990000	PROCESSING CODE	SAME AS IN 0800
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800
37	000001007050	RETRIEVAL REFERENCE NUMBER	
39	000	RESPONSE CODE	
41	00010001	TERMINAL ID	SAME AS IN 0800

Network Key Change Request (0800)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	2220010000800000	BITMAP		N
3	990000	PROCESSING CODE		Y
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEMS TRACE AUDIT NUM.		Y
24	811	FUNCTION CODE		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported	Y
64	3E.45.B5.66.7F.2A.FF.B3	PRIMARY MAC DATA		N

Network Key Change Response (0810)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	222000000A800800	BITMAP		N
3	990000	PROCESSING CODE	SAME AS IN 0800	Y
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0800	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
53a	16	COMMUNICATION KEY LENGTH	08 – for single length of communication key 16 – for double length of communication key 20 – for giske key length 120	
53b	3E.45.B5.66.7F.2A.FF.B3	COMMUNICATION KEY		Y
64	00.01.02.03.04.05.06.07	PRIMARY MAC DATA		N

Network MAC Key Change Request (0800)

Done

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	2220010000800000	BITMAP		N
3	990000	PROCESSING CODE		N
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	N
11	000001	SYSTEMS TRACE AUDIT NUM.		N
24	815	FUNCTION CODE	MAC Key change request	N
41	00010001	TERMINAL ID		N
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported	N

Network MAC Key Change Response (0810)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	222000000A800800	BITMAP		N
3	990000	PROCESSING CODE	SAME AS IN 0800	N
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	N
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800	N
37	000001007050	RETRIEVAL REFERENCE NUMBER		N
39	000	RESPONSE CODE		N
41	00010001	TERMINAL ID	SAME AS IN 0800	N
53a	16	MAC KEY LENGTH	08 – for single length of MAC key 16 – for double length of MAC key 20 – for giske key length 120	N
53b	3E.45.B5.66.7F.2A.FF.B3	MAC KEY		N

Network Cutover Request (0800)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	2220010000800000	BITMAP		N
3	990000	PROCESSING CODE		Y
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEMS TRACE AUDIT NUM.		Y
24	821	FUNCTION CODE		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID	Field is optional but it should be present if uniqueness of TERMINAL ID is not supported	Y

64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Network Cutover Response (0810)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0800	MESS. TYPE ID		N
-	222000000A800000	BITMAP		N
3	990000	PROCESSING CODE	SAME AS IN 0800	Y
7	0706102034	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEMS TRACE AUDIT NUM.	SAME AS IN 0800	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0800	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Balance Inquiry Request (0100)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0100	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
2a	19	PAN LENGTH	Optional	
….b	54233900074112640	PRIMARY ACCOUNT NUMBER	Optional	
3	31x000	PROCESSING CODE	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000000	AMOUNT, TRANSACTION	Zeroes	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	YYMMDD	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	100	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE	For multi-currency balance request	Y
52	08.34.56.F4.3B.6E.D2.77.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Balance Inquiry Response (0110)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0110	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	5423390007411264012	PAN		Y
3	31x000	PROCESSING CODE	SAME AS IN 0100	Y
4	000000000100	TRANSACTION AMOUNT	1.00	Y

7	0706102042	DATE & TIME, TRANSMISSION		Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0100	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0100	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0100	Y
48	001024 KOMUC (%): 0.00 0140011 014001M	ADDITIONAL DATA, PRIVATE	Tag 001, fee percent data Tag 014 (Verification value response code), if needed	Y
49	810	CURRENCY CODE	Currency of amount in field 4.	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Check Card Request (0100)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0100	MESS. TYPE ID		N
-	3230058020C09000	PRIMARY BITMAP		N
2a	19	PAN LENGTH		Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER		Y
3	370000	PROCESSING CODE		Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	YYMMDD	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	100	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH	(ALWAYS 37 CHARS.)	Y
b	54233900074112640=991233000123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
52	08.34.56.F4.3B.6E.D2.77.8B	PIN BLOCK (ENCRYPTED)	OPTIONAL FIELD, FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Check Card Response (0110)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0110	MESS. TYPE ID		N
-	F23000000E808000	PRIMARY BITMAP		N
2a	19	PAN LENGTH		Y
b	5423390007411264012	PAN		Y
3	370000	PROCESSING CODE	SAME AS IN 0100	Y
7	0706102042	DATE & TIME, TRANSMISSION		Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0100	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0100	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y

39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0100	Y
48	001024 KOMUC (%): 0.00	ADDITIONAL DATA, PRIVATE	Tag 001, fee percent data	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
63	038001020123456789012345 67890002006123456	Private Data	Tags 001 and 002	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	7230058020C19000	BITMAP		N
2a	19	PAN LENGTH	Only in the case of manual entry (if card not present)	Y
b	5423390007411264012	PAN		Y
3	00x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021 or 010	POS ENTRY MODE		Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH	Only in the case of card swipe (if card present)	Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
48	003004432101300611 999 0150011	ADDITIONAL DATA, PRIVATE	Tag 003 Service ID optional Tag 013 (Card verification value), if needed Tag 015, optional Tag 030 optional	Y
49	810	CURRENCY CODE		Y
52	08.34.56.77.9B.23.F4.F5.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E818000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	00x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE		Y

		NUMBER		
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D0 0000000840	AMOUNTS,FEES	Only if fees were processed	Y
48	0140011 014001M	ADDITIONAL DATA, PRIVATE	Tag 014 (Verification value response code), if needed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Utility Payment Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	B230058020C19201	BITMAP		N
1	0000000004000001	SECONDARY BITMAP	Conditional Present in the case of field 102 usage	N
3	50x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
48	00300254 00400846211470 00501174951234567	ADDITIONAL DATA, PRIVATE	Tag 003 (Service Id) Tag 004 (Customer external account number) Tag 005 (Customer mobile phone number) Tag 030 optional Tags 090-099 (Payment specific data)	Y
49	810	CURRENCY CODE		Y
52	08.34.56.77.9B.23.F4.F5.8B	PIN BLOCK (ENCRYPTED)	Conditional FROM PIN PAD Present in the case of PIN transaction	Y
55	b 255	EMV DATA	Conditional Present in the case of EMV transaction	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA	Conditional Present if secondary bitmap is not used, see description	N

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC

Utility Payment Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	E23000000E858201	BITMAP		N
1	0000000004000001	SECONDARY BITMAP	Conditional Present in the case of field 102 usage	N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	50x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	Conditional Present only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D00000000061000000D00000000840	AMOUNTS,FEES	Only if fee was processed	Y
48	006010JOHN SMITH	ADDITIONAL DATA, PRIVATE	Tag 006 (Customer name), optional	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA	Conditional Present if secondary bitmap is not used, see description	N

Cash Advance Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	01x000	PROCESSING CODE (CASH ADVANCE)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233000123410000	TRACK 2 DATA		Y

41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
46	00840D0000000061000000D0 0000000840	AMOUNTS,FEES	Only if fee was processed	Y
49	810	CURRENCY CODE		Y
52	08.34.65.FF.3D.12.F6.F4.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Cash Advance Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	01x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D0 0000000840	AMOUNTS,FEES	Only if fee was processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	93x000	PROCESSING CODE (FINANCIAL ADVICE)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEMS TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
48	01300611 999 0150011	ADDITIONAL DATA, PRIVATE	Tag 013 (Card verification value), if needed	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
			Tag 015, optional	
49	810	CURRENCY CODE		Y
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	93x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D0 0000000840	AMOUNTS,FEES	Only if fee was processed	Y
48	014001M	ADDITIONAL DATA, PRIVATE	Tag 014 (Verification value response code), if needed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Completion Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	94x000	PROCESSING CODE (FINANCIAL ADVICE)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	Required to match RRN from Pre-Authorization request	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Completion Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	7230000006808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	94x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D00000000840	AMOUNTS,FEES	Only if fee was processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase With Cashback Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09400	BITMAP		N
3	09x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233000123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
54a	012	ADDITIONAL AMT. LENGTH		Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase With Cashback Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808400	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	09x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0200	Y
12	980706102034	DATE &TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D00000000840	AMOUNTS,FEES	Only if fee was processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
54a	012	ADDITIONAL AMT. LENGTH	SAME AS IN 0200	Y
54b	000000000100	ADDITIONAL AMT.	CASHBACK AMOUNT	Y
55	b 255	EMV DATA		Y
62	Call Issuer	CUSTOMER DEFINED RESPONSE	*Only for AmEx decline transaction	N
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Return – Refund Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	20x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	OPTIONAL FIELD	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Return – Refund Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	20x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0200	Y
12	980706102034	DATE &TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000D00000000840	AMOUNTS,FEES	Only if fees were processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

POS Cash Deposit Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	21x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233000123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

POS Cash Deposit Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	21x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0200	Y
12	980706102034	DATE &TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000 D00000000840	AMOUNTS,FEES	Only if fees were processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase, Cash Advance, Purchase with Cashback, Return, POS Cash Deposit – Trickle Feed Request (0220)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0220	MESS. TYPE ID		N
-	*	BITMAP	* See matching 0200 for bitmap	N
3	yyx000	PROCESSING CODE (FINANCIAL TRANSACTION)	yy = appropriate code for transaction x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
2a	19	PAN LENGTH	Must be present if DE 35 is absent	Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER	Must be present if DE 35 is absent	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	Must be present if DE 35 is absent	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH	Might not be present if DE 2 and DE14 is present	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
38	000000	APPROVAL NUMBER	• Only if approved For AmEx transaction represent manual entry authorization id response	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
48	ans 999	ADDITIONAL DATA, PRIVATE	Tags could be present according to appropriate 0200 message	
49	810	CURRENCY CODE		Y
52	08.34.56.7F.5F.23.F4.F3.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
54a	012	ADDITIONAL AMT. LENGTH	* if necessary	Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase, Cash Advance, Purchase with Cashback, Return, POS Cash Deposit – Trickle Feed Response (0230)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0230	MESS. TYPE ID		N
-	*	BITMAP	* See matching 0210 for bitmap.	N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	yyx000	PROCESSING CODE	SAME AS IN 0220	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0220	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0220	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0220	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0220	Y
46	00840D0000000061000000D0 0000000840	AMOUNTS,FEES	Only if fees were processed	Y
49	810	CURRENCY CODE	SAME AS IN 0220	Y
54a	012	ADDITIONAL AMT. LENGTH	*if necessary	Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

PIN Change Request (0100)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0100	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
2a	19	PAN LENGTH	Optional	Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER	Optional	Y
3	790000	PROCESSING CODE		Y
4	000000000000	AMOUNT, TRANSACTION	Zeroes	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	YYMMDD	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	100	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
48	30.30.32.30.30.38.34.56.F4.3B. 6E.D2.77.8B	ADDITIONAL DATA, PRIVATE	Tag 002 – New PIN data	Y
52	08.34.56.F4.3B.6E.D2.77.8B	PIN BLOCK (ENCRYPTED) OLD PIN DATA	Optional FROM PIN PAD. Present only when old PIN key has been entered.	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

PIN Change Response (0110)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0110	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	5423390007411264012	PAN		Y
3	790000	PROCESSING CODE	SAME AS IN 0100	Y
4	000000000000	TRANSACTION AMOUNT		Y
7	0706102042	DATE & TIME, TRANSMISSION		Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0100	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0100	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	Conditional Present only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0100	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

PIN Change Confirm Request (0120)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0120	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH	Optional	Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER	Optional	Y
3	790000	PROCESSING CODE		Y
4	000000000000	AMOUNT, TRANSACTION	Zeroes	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	YYMMDD	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	100	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=99123 3000123410000	TRACK 2 DATA		Y
37	000001007050	RETREIVAL REFERENCE NUMBER	Required to match RRN from PIN Change Request	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
55	b 255	EMV DATA	Should contain pin change script processing result in CVR	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

PIN Change Confirm Respons (0130)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0110	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	5423390007411264012	PAN		Y
3	790000	PROCESSING CODE	SAME AS IN 0120	Y
4	000000000000	TRANSACTION AMOUNT		Y
7	0706102042	DATE & TIME, TRANSMISSION		Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0120	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0120	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0120	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	00x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233 000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Purchase Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	00x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETREIVAL REFERENCE NUMBER	SAME AS IN 0400/0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Cash Advance Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	01x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233 000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Cash Advance Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	01x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	TRANSACTION DATE & TIME	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0400/0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Return Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	20x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss SAME AS 0200	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912 33000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Return Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	00x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETRIEVAL REFERENCE	SAME AS 0400/0200	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
		NUMBER		
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

POS Cash Deposit Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	21x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233 000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

POS Cash Deposit Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	21x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0400/0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	93x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss SAME AS 0200	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912 33000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	93x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETREIVAL REFERENCE NUMBER	SAME AS IN 0400/0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Completion Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058028C08000	BITMAP		N
3	94x000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM		Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss SAME AS 0200	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912 33000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0200	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
55	b 255	EMV DATA	Tags 95, 9F1E, 9F10, 9F36, 9F5B	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Pre-Authorization Completion Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	94x000	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETREIVAL REFERENCE NUMBER	SAME AS IN 0400/0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
55	b 255	EMV DATA	Tag 9F36	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Reversal – Trickle Feed Request (0420)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0420	MESS. TYPE ID		N
-	*	BITMAP	* Bitmap of the reversed 0220	N
3	yyx000	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS 0220	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912 33000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0220	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
54a	012	ADDITIONAL AMT. LENGTH	*if necessary	Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Reversal - Trickle Feed Response (0430)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0430	MESS. TYPE ID		N
-	*	BITMAP	* See matching 0230 BITMAP	N
2a	19	PAN LENGTH		Y
b	5423390007411264 0123	PAN		Y
3	yyx000	PROCESSING CODE	SAME AS IN 0420	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0420	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.	SAME AS IN 0420	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0420	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS 0420/0220	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0420	Y
49	810	CURRENCY CODE	SAME AS IN 0420	Y
54a	012	ADDITIONAL ATM. LENGTH	*if necessary	Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Acquirer Reconciliation Advice (0520)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0520	MESS. TYPE ID		N
-	0822010000C00000	BITMAP		N
5	C000000500000	Amount, Settlement		Y
11	000001	Systems Trace Audit Number		Y
15	981002	Date, Settlement		Y
24	504	FUNCTION CODE		Y
41	00009202	Card Acceptor Terminal ID		Y
42	000002222222222	Merchant ID		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Acquirer Reconciliation Advice Response(0530)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0530	MESS. TYPE ID		N
-	082200040E900000	BITMAP		N
5	C000000500000	Amount, Settlement		Y
11	000001	Systems Trace Audit Number	SAME AS 0520	Y
15	981002	Date, Settlement	SAME AS 0520	Y
30	000000400000	Amount, Original Settlement	*	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	001000	Approval Code	* Only if approved	Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
39	000	Action Code		Y
41	00000010	Card Acceptor Terminal ID	SAME AS 0520	Y
44	INVALID	Additional Response Data	Only for AmEx terminal	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

* Mandatory if the reconciliation is not in balance; contains the value calculated by the institution sending the reconciliation advice response.

Acquirer Reconciliation Trailer (0520)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0520	MESS. TYPE ID		N
-	0822010000C00000	BITMAP		N
3	910000	PROCESSING CODE		Y
11	000001	Systems Trace Audit Number		Y
15	981002	Date, Settlement		Y
24	504	FUNCTION CODE		Y
41	00009202	Card Acceptor Terminal ID		Y
42	000002222222222	Merchant ID		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Acquirer Reconciliation Trailer Response (0530)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0530	MESS. TYPE ID		N
-	082200040E900000	BITMAP		N
3	910000	PROCESSING CODE		Y
11	000001	Systems Trace Audit Number	SAME AS 0520	Y
15	981002	Date, Settlement	SAME AS 0520	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
39	000	Action Code		Y
41	00009202	Card Acceptor Terminal ID	SAME AS 0520	Y
44	INVALID	Additional Response Data	Only for AmEx terminal	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Batch Upload (0320)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0320	MESS. TYPE ID		N
-		BITMAP		N
2a	19	PAN LENGTH		Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER		Y
3	xxyyzz	PROCESSING CODE	The same as in original transaction	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	Must present if no fld35	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
b	54233900074112640=99123 3000123410000	TRACK 2 DATA		Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	From original 200 transaction	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
52	08.34.56.77.9B.23.F4.F5.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
54a	012	ADDITIONAL AMT. LENGTH	* if necessary	Y
54b	000000000100	ADDITIONAL AMOUNT	CASHBACK AMOUNT	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Batch Upload Response (0330)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0330	MESS. TYPE ID		N
-		BITMAP		N
2a	19	PAN LENGTH		Y
….b	54233900074112640	PRIMARY ACCOUNT NUMBER		Y
3	xxyy00	PROCESSING CODE	The same as in original transaction	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Loyalty Purchase Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	3230058020C09000	BITMAP		N
3	176000	PROCESSING CODE (FINANCIAL TRANSACTION)		Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=9912330 00123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	999	CURRENCY CODE	Bonus currency	Y
52	08.34.56.77.9B.23.F4.F5.8B	PIN BLOCK (ENCRYPTED)	FROM PIN PAD	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Loyalty Purchase Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	176000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D00000000610000 00D00000000840	AMOUNTS,FEES	Only if fees were processed	Y
49	999	CURRENCY CODE	SAME AS IN 0200	Y
55	b 255	EMV DATA		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Manual Reversals V. Automatic Reversals

In the transaction flows section, there was a case described when a financial transaction response does not reach back to the acquirer. (Please see Financial Transactions, under Time-out Conditions.) For this specific reason, when SmartVista FE receives the following reversal, the automatic reversal, it cannot use the retrieval reference number set in the 0210 response as the index to refer to the original 0200 financial request as in the manual reversals. For this case, SmartVista FE will use field 11, the system trace audit number, as the alternative index to find the original financial transactions. The following message formats are an example of a automatic reversal. Please note in the 0410 response, SmartVista FE will re-send field 37 set with the RRN of the original financial request.

Automatic Reversal Request (0400)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0400	MESS. TYPE ID		N
-	3230058020C08000	BITMAP		N
3	xxxxxx	PROCESSING CODE (FINANCIAL TRANSACTION)	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss SAME AS IN 0200	Y
22	021	POS ENTRY MODE	CARD SWIPE W/PIN	Y
24	400	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
35a	37	TRACK 2 DATA LENGTH		Y
b	54233900074112640=991233 000123410000	TRACK 2 DATA		Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Automatic Reversal Response (0410)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0410	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	xxxxxx	PROCESSING CODE	SAME AS IN 0400	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0400	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM	SAME AS IN 0400	Y
12	980706102034	DATE & TIME, LOCAL	SAME AS IN 0400	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER	SAME AS IN 0200	Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0400	Y
49	810	CURRENCY CODE	SAME AS IN 0400	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Manual Entry Transactions

Transactions, where the card information, such as the hpan and the expiration date, are punched in by hand on the numeric keypad instead of being swiped through the magnetic card reader, are called manual transactions. These transactions not only differ by the way the information is inputted into the device, but by the message itself. The following is an example of a manual message format. Field 22 contains the value of 016, which signifies that the transaction is manual. Also field 35 is no longer used, instead replaced by field 2 and field 14, which are the card hpan and expiration date respectively. Please note that field 52 is also not used.

Manual Purchase Request (0200)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0200	MESS. TYPE ID		N
-	7234058000C08000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	00x000	PROCESSING CODE (FINANCIAL TRANSACTION)	x = 0 – Default-unspecified 1 – Savings account 2 – Checking account 3 – Credit account 6 – Loyalty account 7 – Offline Wallet account	Y
4	000000000100	TRANSACTION AMOUNT	(UP TO 9,999,999,999.99)	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE NO.		Y
12	980706102034	DATE & TIME, LOCAL TXN	YYMMDDhhmmss	Y
14	991231	EXPIRATION DATE	YYMMDD	Y
22	016	POS ENTRY MODE	MANUAL	Y
24	200	FUNCTION CODE		Y
25	00 or 02	POS CONDITION CODE	NORMAL PRESENTMENT	Y
41	00010001	TERMINAL ID		Y
42	123456789012345	MERCHANT ID		Y
49	810	CURRENCY CODE		Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Manual Purchase Response (0210)

BIT NO.	SAMPLE DATA	DATA ELEMENT NAME	COMMENTS/ REMARKS	MAC
-	0210	MESS. TYPE ID		N
-	723000000E808000	BITMAP		N
2a	19	PAN LENGTH		Y
b	54233900074112640123	PAN		Y
3	00x000	PROCESSING CODE	SAME AS IN 0200	Y
4	000000000100	TRANSACTION AMOUNT	SAME AS IN 0200	Y
7	0706102042	DATE & TIME, TRANSMISSION	MMDDhhmmss	Y
11	000001	SYSTEM TRACE AUDIT NUM.	SAME AS IN 0200	Y
12	980706102034	DATE & TIME, LOCAL TXN	SAME AS IN 0200	Y
37	000001007050	RETRIEVAL REFERENCE NUMBER		Y
38	000000	APPROVAL NUMBER	* Only if approved	Y
39	000	RESPONSE CODE		Y
41	00010001	TERMINAL ID	SAME AS IN 0200	Y
46	00840D0000000061000000 D00000000840	AMOUNTS,FEES	Only if fee was processed	Y
49	810	CURRENCY CODE	SAME AS IN 0200	Y
64	01.02.03.04.05.06.07.08	PRIMARY MAC DATA		N

Message Matching

Message Matching Data Fields

Following set of fields takes part in message matching:

1. Message Type;
2. Field 3. Processing Code;
3. Field 11. Systems Trace Audit Number;
4. Field 12. Date & Time, Local Transaction;
5. Field 35. Track2;
6. Field 37. Retrieval Reference Number;
7. Field 49. Currency Code, Transaction.

Search of original requests for reversals

For auto reversals (field 37 not available): key fields in matching reversal with original request are STAN (field 11), Primary Account Number (from Track2 data, field 35), Local date/time (field 12), Transaction type (field 3).

For manual reversals (field 37 available): key field in matching reversal with original request are RRN (field 37) and Primary Account Number (from Track2 data, field 35), Transaction type (field 3).

Search of original Pre-Authorization for Completion

Key fields in matching repeat with original Pre-Authorization request are Message Type (0200), RRN (field 37), Primary Account Number (from Track2 data, field 35), Transaction type (field 3), Transaction Currency (field 49).

Search of original transaction for loyalty purchases

Key fields in matching repeat with original Pre-Authorization request are Message Type (0200), RRN (field 37 of original transaction and field 48 tag 030 of subsequent transaction), Primary Account Number (from Track2 data, field 35), Transaction type (field 3).

Field Descriptions:

Notations

Text written in *italics* is quoted from the ISO 8583 specifications manual, Second edition 1993-12-15.

The following abbreviations are used throughout these formats:

FORMAT	*DESCRIPTION*
Bit-Map	*8 bytes (64 bits) in binary format. Each bit signifies the presence (1) or the absence (0) in the message of the data element associated with that particular bit*
a	*alphabetical characters, A through Z and a through z*
n	*numeric digits, 0 through 9. It should be present in ASCII format.*
P	*pad character, space*
s	*special characters*
an	*alphabetic and numeric characters*
as	*alphabetic and special characters*
ns	*numeric and special characters*
anp	*alphabetic, numeric and space(pad) characters*
ans	*alphabetic, numeric and special characters*
MM	*Month, 01 through 12*
DD	*Day, 01 through 31*
YY	*Year, 00 through 99*
hh	*Hour, 00 through 23*
mm	*Minute, 00 through 59*
ss	*Second, 00 through 59*
LL	*length of variable data element that follows, 01 through 99. It should be present in ASCII format.*
LLL	*length of variable data element that follows, 001 through 999. It should be present in ASCII format.*
VAR	*variable length data element*
3	*fixed length of three characters*
.. 17	*variable length up to maximum 17 characters. All variable length fields shall in addition contain two or three positions at the beginning of the data element to identify the number of positions following to the end of that data element*
x	*Sign of amount. It takes values "C" or "D". It should always be associated with a numeric amount data element, i.e., x+n 16 in amount, net reconciliation means prefix "C" or "D" and 16 digits of amount, net reconciliation*
b	*binary representation of data*
z	*Tracks 2 and 3 code set as defined in ISO 4909 and ISO 7813*

Field 1: Secondary Bit-Map

Format

Bit-Map

Description

This field is a bit map indicating the presence or absence of fields in the secondary portion of the message, bits 65-128. This field should only be present if there is at least one field from the secondary range in the message.

Field 2: Primary Account Number

Format

llvar n.. 19

Description

This field contains the cardholder's card number.

This field is also used along with Field 11 (system trace audit number) to match a response message with its original message.

Field 3: Processing Code

Format

n 6

Description

The processing code is a series of three two-byte codes. The first two bytes (bytes 1 and 2) indicate the type of transaction.

See the following table for valid values.

TWO-BYTE CODE	TRANSACTION DESCRIPTION
00	Purchase
01	Cash Advance
09	Purchase with cash disbursement
17	Loyalty Purchase
20	Return or Refund
21	Cash Deposit
31	Balance Inquiry
37	Check Card
50	Utility Payment
79	PIN Change
90	Merchant Log-On
91	Settlement Trailer
92	Merchant Log-Off
93	Pre-authorization
94	Pre-authorization Completion
99	Network Management

The second and third two bytes (bytes 3 and 4, and bytes 5 and 6) indicate the account 1 and account 2 type, respectively .

See the following table for valid values.

TWO-BYTE CODE	ACCOUNT DESCRIPTION
00	Default-unspecified
10	Savings account
20	Checking account 1
21	Checking account 2
21	Checking account 3
30	Credit account
60	Loyalty account
91	Loyalty account 1
92	Loyalty account 2

Field 4: Amount, Transaction

Format

n 12

Description

Funds requested by the cardholder in the local currency of the acquirer or source location of the transaction, exclusive of amounts, fees.

In the 0100 balance inquiry request, this field will contain zeroes. In the 0110 balance inquiry response, this field will contain the account balance.

Field 5: Amount, Settlement

Format

x + n 12

Description

Funds to be transferred between the acquirer and card issuer equal to the amount transaction in the currency of reconciliation.

First part of this field (x) contains letter that defines the sign of reconciliation amount.

Second part of this field (n12) contains the value of settlement amount. This value should be counted by means of following rules.

- All operations including reversals should be taken into consideration.
- If operation debits cardholder account (e.g. purchase) than amount of the operation should be added to overall settlement amount.
- If operation credits cardholder account (e.g. return) than amount of the operation should be subtracted from overall settlement amount.
- Debit operation reversals must be treated as credit operations.
- Credit operation reversals must be treated as debit operations.

Field 7: Date and Time, Transmission

Format

n 10
MMDDhhmmss

Description

Date and time this message was sent by the message initiator. To be expressed in Coordinated Universal Time (UTC); formerly known as Greenwich Mean Time (GMT).

Field 11: Systems Trace Audit Number

Format

n 6

Description

A number assigned by a transaction originator to assist in identifying a transaction uniquely. The trace number remains unchanged for all messages within the transaction.

This field is also used along with Field 2 (Pan) to match a response message with its original message.

Field 12: Time, Local Transaction

Format

n 12
YYMMDDhhmmss

Description

The local year, month, day, and time the transaction takes place at the card acceptor location in authorization and financial messages.

In file action, reversal, chargeback, reconciliation, administrative, fee collection and network management transactions, it is the year, month day and time set by the initiator of the first message in the transaction.

Field 14: Date, Expiration

Format

n 6
YYMMDD

Description

The year, month and day that the card will become expired.

Field 15: Date, Settlement

Format

n 6
YYMMDD

Description

The year, month and day funds will be transferred between acquirer, and card issuer or any intermediate network facility.

Field 22: Point of Service Data Code

Format

n 3

Description

A series of codes intended to identify terminal capability, terminal environment and presentation security data. It shall be used to indicate specific conditions that are (or were) present at the time a transaction took place at the point of service and/or when the transaction has been initiated.

See the following table for valid values.

POINT OF SERVICE DATA CODE, positions 1 and 2	CARD DATA INPUT MODE
01 or 06	Manual
02	Magnetic stripe read
05	Integrated circuit card read; CVV data reliable
07	Proximity transaction originated using ICC data rules
08	Magnetic stripe even though it is ICC capable
91	Proximity transaction originated using magnetic stripe data rules; CVV check is possible

POINT OF SERVICE DATA CODE, position 3	CARDHOLDER AUTHENTICATION METHOD
0	Not authenticated
1	PIN
~~2 or 6~~	~~Signature Based~~
9	Terminal accept Off-line PINs (for EMV cards)

Field 24: Function Code

Format

n 3

Description

Code indicating the specific purpose of the message within its message class.

See the following table for valid values.

FUNCTION CODE	DESCRIPTION	MESSAGE TYPE
100	Original Authorization request / advice	0100
200	Original financial request / advice	0200, 0220
400	Reversal, transaction did not complete as approved	0400, 0420
504	Request for reconciliation totals	0520
801	Sign-on	0800
802	Sign-off	0800
811	Key Change	0800
815	Mac Key Change	0800
821	Cutover	0800
831	Echo Test	0800

Field 25: Point of Service Condition Code

Format

n 2

Description

A code that describes the condition under which the transaction takes place at the point of service.

Currently Smartvista supports values listed below:

00 – attendant terminal

02 – unattendant terminal

Field 30: Amount, Original

Format

x + n 12

Description

The amount of the original transaction.

If the settlement amount is different for acquirer and issuer, the response message (0530) will contain the original settlement amount sent by acquirer in this field and the issuer's amount in the settlement amount field.

Field 35: Track 2 Data

Format

llvar z.. 37

Description

The information encoded on track 2 of the magnetic stripe. For EMV chip transactions this field must contain the Track 2 data from chip image, not the magnetic stripe.

Field 37: Retrieval Reference Number

Format

anp 12

Description

A reference supplied by the system retaining the original source information and used to assist in locating that information or a copy thereof.

For Return-Refund Request Message this field may contain reference to original transaction.

Field 38: Approval Code

Format

anp 6

Description

Code Assigned by authorizing institution indicating approval

Field 39: Response Code

Format

n 3

Description

A code which defines the action taken or to be taken as well as the reason for taking the action.

See the following table for valid values.

REASON CODE	CAPTURE CARD	DESCRIPTION
000	No	Successful transaction
001	No	Approve with ID . If transaction was Success , but MCC these is in next list 6010, 4829, 6051, 7995, 7511 – then reason code changes on 001
003	No	Successful transaction
005	No	System Error
020	No	Successful transaction; used to indicate a negative balance in Field 4 on a Balance Inquiry
095	No	Reconcile Error
100	No	Do not honor transaction
101	No	Expired Card
103	No	Call Issuer
104	No	Card is restricted
105	No	Call security
106	No	Excessive pin failures
107	No	Call Issuer
109	No	Invalid merchant ID
110	No	Cannot process amount
111	No	Invalid account – retry
116	No	Insufficient funds – retry
117	No	Incorrect Pin
118	No	Forced post, no account on file
119	No	Transaction not permitted by law
120	No	Not permitted
121	No	Account limit exceeded
123	No	Card limit exceeded
125	No	Bad Card
126	No	Pin processing error
200	Yes	Invalid card
201	Yes	Card expired
202	Yes	Invalid card
203	Yes	Call security
204	Yes	Account restricted
206	Yes	Invalid Pin
208	Yes	Lost Card
209	Yes	Stolen Card
901	No	Invalid payment parameters
902	No	Invalid transaction – retry
903	No	Transaction needs to be entered again
904	No	The message received was not within standards
905	No	Issuing institution is unknown
907	No	Issuer inoperative
909	No	System malfunction
910	No	Issuer inoperative
911	No	SmartVista FE has no knowledge of any attempt to either authorize or deny the transaction.
912	No	Time out waiting for response
913	No	Duplicate transaction received
914	No	Could not find the original transaction
915	No	Amount being reversed is greater than original, or no amount being reversed.
920	No	Pin processing error
923	No	Request in progress
940	No	Pick up card, special condition
941	No	Failed currency conversion

Field 41: Card Acceptor Terminal Identification

Format

ans 8

Description

Unique code identifying a terminal at the card acceptor location.

Field 42: Merchant Identification

Format

an 15

Description

Code identifying the merchant which defines the point of transaction in both local and interchange environments.

Field 44: Additional Response Data

Format

llvar ans 99

Description

Other data required in response.

This field is used to return a message which will be displayed by the terminal.

Field 46: Amount, fees.

Format

lllvar ans 999

Field can contain up to six sets, each set has the following format : n2+n3+x+n8+n8+x+n8+n3.

Description

The data element consists of up to six sets of values. Each set of values shall consist of six data elements in fixed length format totaling 34 characters. Set can represent: 1) acquirer fee, 2) issuer fee. Such sets can be present or missed, but can not be repeated (i.e. 2 or more issuer fee sets should not appear in the field).
Common format of a set:

a) fee type code, n2
b) currency code, fee, n3
c) amount, fee, x+n8
d) conversion rate, fee, n8
e) amount, reconciliation fee, x+n8
f) currency code, n3

Filling of acquirer fee:

a) 00 (means acquirer fee)
b) Currency of the transaction
c) Value of the fee
d) Valid value for requests: 00000000, valid value for responses: 61000000
e) In requests the subfield should be filled with zeroes. In responses should be filled with fee amount, calculated with currency and terminal exponent settings.
f) Should be filled with zeroes in requests and be filled with the same value as b) option in responses

Filling of issuer fee:

a) 01 (means issuer fee)
b) issuer fee currency
c) fee amount
d, e, f) should be filled with zeroes

Field 48: Additional Data – Private

Format

lllvar ans 999, tag data format: 3 bytes for each tag name + 3 bytes for each tag length + tag data

Although this data element is ans, some tags deviate from ans and contain binary data. Please refer to descriptions of each tag.

Description

This field is used for sending additional information from terminal in requests and to terminal in responses. The information is sent in various tags.

Table of currently supported tags:

Name	Format	Description
001	ans ..255	Fee percent in the following format: " KOMUC (%): <fee percent>"
002	b 8	New PIN data
003	ans ..8	Service Id
004	ans ..99	Customer external account number
005	ans ..32	Customer mobile phone number
006-012	ans ..8	Reserved
013	ans ..6	Card verification value for card-not-present service – CVV2 (Visa)/CVC2 (MasterCard)/CID (American Express, Discover)/CAV (JCB) . Data format: XYZZZZ – if card verification value is present, 0 – if card verification value is absent (X = 0)

	Byte	Description
X	1	Presence Indicator: 0 – value not provided, 1 – value is present, 2 – value is on the card but is illegible, 9 – no value on card.
Y	2	Response Type: 0 – only the normal response code in field #39 should be returned, 1 – the normal response code in field #39 and result code in field #48/tag #013 should be returned.
ZZZZ	3-6	CVV2/CVC2/CID/CAV Value:

<table>
<tr><td></td><td></td><td><table><tr><td></td><td></td><td>Up to 4-digit verification value on the back of the card, right-justified and filled with blanks.</td></tr></table></td></tr>
<tr><td>014</td><td>ans 1</td><td>Card verification value result code for card-not-present service:
<table><tr><th>Value</th><th>Description</th></tr><tr><td>M</td><td>Match: indicates that issuer was able to verify the card verification value provided by the merchant</td></tr><tr><td>N</td><td>Not match: indicates that issuer was not able to verify the card verification value provided by the merchant</td></tr><tr><td>P</td><td>Not processed: indicates that issuer was unable to verify the card verification value provided by the merchant because their verification system was not functioning or not all the information needed to verify was included in the request</td></tr><tr><td>S</td><td>Should be on the card: indicates that issuer was unable to perform verification, and notify the merchant that the card should contain a verification value</td></tr><tr><td>U</td><td>Indicates that the issuer is not certified and/or has not provided encryption keys</td></tr></table></td></tr>
<tr><td>030</td><td>anp 12</td><td>Original RRN</td></tr>
</table>

Field 49: Currency Code, Transaction

Format

n 3

Description

The local currency of the acquirer or source location of the transaction.

Field 52: Personal Identification Data

Format

b 8

Description

Used to identify the cardholder at the point of service. For devices with a Pin Pad connected, this field should contain the PIN information to be verified. If the transaction is not associated with a PIN, this field should not be present.

Field 53: Security Related Control Information

Format

llvar b .. 16

Description

Field 54: Amounts, Additional

Format

lllvar an ..120

Description

Information on up to six amounts and related account data. For instance, this field can contain the cash back amount for a purchase with cash back transaction.

Record format for additional amount:

Bytes	Format	Description
0-1	n 2	Account Type One of the following values: 00 – Not specified; 10 – Savings; 20 – Checking; 30 – Credit; 60 – Loyalty;
2-3	n 2	Amount Type One of the following values: 01 – ledger balance; 02 – available balance; 40 – cash back.
4-6	n 3	Currency Code
7	a 1	One of the following values: 'C' – Credit (when 'Amount' value >= 0); 'D' – Debit (when 'Amount' value < 0).
8-19	n 12	Amount

Field 55: EMV Data

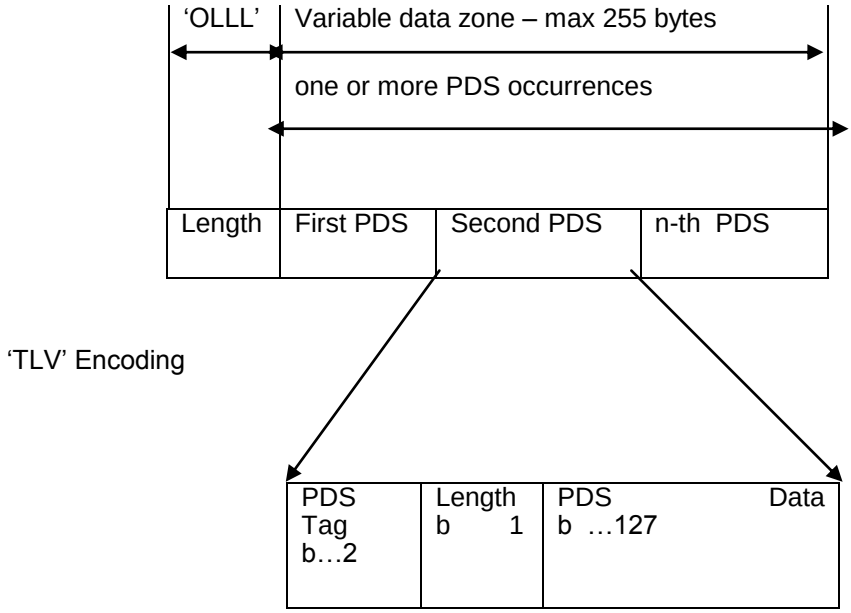
Format

LLLVAR b … 255

Description

The ICC System Related Data field contains the information required by the acquirer to complete an EMV compliant debit or credit transaction with an issuer.

Examples of these transactions include MCPA and Visa Smart Credit/Debit. This field is present in authorization message (100 and 200). The data is taken from a chip card presented by a cardholder at the POS device or from the device itself.
ICC System Related Data is used to transport chip-specific data over a network. It is used for Chip Full Grade transactions whether the ICC data is EMV compliant and in e-commerce transactions where the ICC data may be EMV compliant or issuer specific.



Each PDS within DE 055 consists of three sub-fields:

1. PDS Tag: Contains the tag identifying the EMV data object transported in this PDS (e.g. PDS '9F26' corresponds to the EMV tag '9F26'). The PDS Tag consists of either one or two bytes, represented as hexadecimal. The second byte is provided only if the continuation indicator in the first byte is set. Refer to the EMV 98 Specifications for the structure and definition of the EMV tags and definition of the continuation indicator.
2. PDS Length: Specifies the length (in bytes) of the PDS data, expressed as a binary number in the range 1 to 127.
3. PDS Value: Contains the actual data from the corresponding EMV data object, as identified by the PDS Tag.

PDS's can appear in any order in DE 055. SmartVista will therefore scan the full length of DE055 to ensure that all PDS's are captured during message processing.

Field/PDS	Attribute	Bytes	Values
Length Attribute	n 3	2	OLLL – BCD length of data to follow, maximum 255 bytes.
Tag '5F2A' – Mandatory	b 16	2	Transaction Currency Code – Tag '5F2A' – Taken from terminal initialization table or chip card.
Tag '5F34' – Conditional	n 2	1	Application Primary Account Number (PAN) Sequence Number. This field is present if it was present in the chip card.
Tag 71'-Optional (Response)	b Var	..256	Issuer Script Template 1 – Tag 71' – (Response Message) –Scripts from the issuer sent to the terminal for delivery to the ICC.
Tag 72' – Optional (Response)	b Var	..256	Issuer Script Template 2 – Tag 72' – (Response Msg) – Scripts from the issuer sent to the terminal for delivery to the ICC.
Tag '82' – Mandatory	b 16	2	Application Interchange Profile – Tag '82' – Specifies the application functions that is supported by the card. The terminal attempts to execute only those functions that the ICC supports.

Field/PDS	Attribute	Bytes	Values
Tag ‘84’ – Optional	b Var	..16	Application Identifier (AID) / Dedicated File (DF) Name – Tag ‘84’ – Taken from the application (application specific data)
Tag ‘86’ – Optional	B Var	…261	Contains a command for transmission to the ICC
Tag ‘8A’ – Optional	an 2	2	Response Code. Indicates the disposition of he transaction received from terminal or from Issuer for online authorizations.
Tag ‘91’-Optional (Response)	b Var	16	Issuer Authentication Data – Tag ‘91’ – (Response Message) –Sent by the issuer if on-line issuer authentication is required.
Tag ‘95’ – Mandatory	b 40	5	Terminal Verification Result (TVR) – Tag ‘95’ – Status of the different functions as seen by the terminal during the processing of a transaction.
Tag ‘9A’ – Mandatory	n 6	3	Transaction Date – Tag ‘9A’ – Formatted as ‘YYMMDD’. Taken from terminal clock.
Tag ‘9B’ – Optional	b 16	2	Transaction Status Information. Indicates the functions performed in a transaction
Tag ‘9C’ – Mandatory	n 2	1	Transaction Type – Tag ‘9C’ – Taken from the transaction data
Tag ‘9F02’ – Mandatory	n 12	6	Transaction Amount – Tag ‘9F02’ – Taken from transaction data
Tag ‘9F03’ – Mandatory for cashback and if ‘9F03’ was provided by terminal. Mandatory for MIR cards transactions. Optional in other cases.	n 12	6	Amount Other-Tag ‘9F03’ – A secondary amount associated with the transaction representing a cashback amount
Tag ‘9F09’ – Optional	b 16	2	Terminal Application Version Number – Tag ‘9F09’ – Taken from the application (application specific data)
Tag ‘9F10’ – Mandatory if provided	b Var	..32	Issuer Application Data (IAD) –Tag ‘9F10’ – Retrieved from the card
Tag ‘9F18’ – Optional	b	4	Identification of the Issuer Script
Tag ‘9F1A’ – Mandatory	n 3	2	Terminal Country Code – Tag ‘9F1A’ – Taken from terminal initialization table or chip card.
Tag ‘9F1E’- Optional	an 8	8	Interface Device (IFD) Serial Number-Tag ‘9F1E’ – Unique and permanent serial number assigned to the Interface Device by the manufacturer.
Tag ‘9F26’ – Mandatory	b 64	8	Application Cryptogram (AC) – Tag ‘9F26’ – Used to approve offline transactions
Tag ‘9F27’ – Mandatory	b 8	1	Cryptogram Information Data – Tag ‘9F27’ – Used to approve offline transactions

Field/PDS	Attribute	Bytes	Values
Tag ‘9F33’ – Optional	b 40	3	Terminal Capabilities – Tag ‘9F33’ – Specifies the capabilities of the terminal
Tag ‘9F34’ – Mandatory for MIR cards transactions. Optional in other cases.	b 18	3	CVM Results – Tag ‘9F34’ – Result of the last cardholder verification method
Tag ‘9F35’ – Mandatory for MIR cards transactions. Optional in other cases.	N 2	1	Terminal Type – Tag ‘9F35’ – Specifies the type of terminal
Tag ‘9F36’ – Mandatory	b 16	2	Application Transaction Counter (ATC) – Tag ‘9F36’ – from the card
Tag ‘9F37’ – Mandatory	b 32	4	Unpredictable Number-Tag ‘9F37’ – Value to provide variability and uniqueness to the generation of the application cryptogram.
Tag ‘9F41’- Optional	n ..8	4	Transaction Sequence Counter-Tag ‘9F41’ – Counter maintained by the terminal that is incremented by one for each transaction
Tag ‘9F4C’ – Mandatory for MIR cards transactions. Optional in other cases.	b var	2-8	ICC Dynamic Number. Time-variant number generated by the ICC, to be captured by the terminal
Tag ‘9F53’ – Optional	an 1	1	Transaction Category Code / Merchant Category Code – Tag ‘9F53’ – Usually provided by the acquirer
Tag ‘9F5B’ – Optional	b var	..21	Issuer Script Results – Tag ‘9F5B’ – Result of script processing Byte 1 – length Byte 2 bits 1-4 – script processing results bits 5-8 – script sequence number Bytes 3-6 – script identifier Bytes 7-21 – reserved for future use
Tag ‘4F’ – Optional	b var	5-16	Identifies the application
Tag ‘9F6E’ – Optional	b 16	4 OR 5-32	Form Factor Indicator, Exact length depends on EMV implementation of IPS (VISA or MasterCard etc)

Field 62: Customer Defined Response

Format

lllvar ans 999

Description

For AmEx transaction represented to cardholder message text of reason decline (CALL_ISSUER)

Field 63: PrivateData

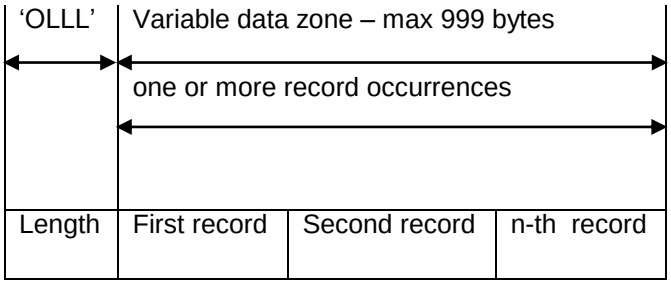
Format

lllvar ans 999, tag data format: 3 bytes for each tag name + 3 bytes for each tag length + tag data

Description

For responses this field is used for sending information about client debts.

Field format:



Record format:

Record Tag	Record length	Record data
b…2	b…1	ans …44

Each record can be simple or complex tag. In the case of complex record 'Record data' contains internal tags, each one of them can be simple or complex record.

Table of currently supported tags:

Tag	Presence	Format	Description
001	M	Simple, n 20	Cardholder Id
002	M	Simple, n 6	Contract Id

Field 64: Primary MAC Data

Format

b 8

Description

Message authentication code field

The Primary Message Authentication Code data field carries the message authentication code (MAC) for the message. These fields are included in the message only when MACing mechanism is enabled for both POS device and Host system. This code is generated by ANSI X9.19 Method. Fields at MAC are filled in according type of message formats represented at chapter "Supported Message Formats" (look at column "MAC").