



EXTERNAL INTERFACE SPECIFICATIONS AUTHORIZATION RECORD FORMAT

EIS 1080

VERSION 14.8
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Chapter 2

Related documentation

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2.1 Applicable documents

This document describes the request and response record formats for Second Generation Point Of Sale (POS) authorization devices using TSYS Acquiring Solutions' authorization services. The following documents provide additional definition and background information. Please refer to the related documents listed for applicable information.

2.2 Related TSYS Acquiring Solutions documents

Related TSYS Acquiring Solutions documents are listed in [Table 2.1](#).

Table 2.1 Related TSYS Acquiring Solutions documents

Reference number	Name	Revision / generation	Related topic
EIS 1051	External Interface Specification	v3.2	Authorization Link Level Protocol
EIS 1052	External Interface Specification	v3.3	Data Capture Link Level Protocol
EIS 1081	External Interface Specification	v7.5.1	Data Capture Record Formats
EIS 1053	External Interface Specification	v1.0	Authorization Direct Connect Protocol

2.3 Document revisions

Table 2.2 Version 14.8 document revisions

Chapter	Section	Action	Data
Message formats	4.2.15	Update	Updated Section 4.2.15 MasterCard universal cardholder authentication field (G3v019) with correct usage
	4.2.32	Update	Updated section name with correct field name Payment transaction type identifier (G3v036) previously Payment transaction identifier (G3v036)
	4.2.33	Update	Updated section name with correct field name Real time substantiation indicator (G3v037) previously Real time substantiation (G3v037)
	4.2.44	Update	Updated length 9 in Table 4.91
	4.2.47	Update	Updated Section 4.2.47 EMS service request/response (G3v051)
	4.2.56	Update	Updated definition in Section 4.2.56 MasterCard PayPass mobile (G3v060)
	4.2.63	Update	Updated definition in Section 4.2.63 Authorization indicator (G3v067)
	4.2.64	Update	Updated definition in Section 4.2.64 Fraud enhanced data (G3v068)

Chapter	Section	Action	Data
Field definitions	5.24	Update	Updated definition in Section 5.24 Authorization indicator
	5.42	Update	Updated definition in Section 5.42 Card product code
	5.52	Update	Updated Section 5.52 Cardholder verification method
	5.71	Add	Added new MasterCard ranges in Table 5.31
	5.77	Update	Updated Section 5.77 Electronic commerce security level indicator
	5.149	Update	Updated definition in Section 5.149 Payment transaction type identifier
	5.150	Update	Updated definition in Section 5.150 PayPass mobile device type and added information in Table 5.51
	5.151	Update	Updated definition in Section 5.151 PayPass mobile domain server
	5.155	Update	Updated definition in Section 5.155 Real time substantiation indicator
	5.159	Update	Update definition in Section 5.159 Registered user last profile date change
	5.207	Update	Updated definition in Section 5.207 Transportation mode indicator
	5.209	Update	Updated definition in Section 5.209 UCAF authentication data
	5.210	Update	Updated definition in Section 5.210 UCAF collection indicator

Table 2.3 Version 14.7 document revisions

Chapter	Section	Action	Data
Message formats	4.2.13	Add	Added definition to Section 4.2.13 Secure e-Commerce transaction (G3v017) updated Table 4.29 and Table 4.30
	4.2.22	Update	Updated section name from Product participation group(G3v026) to Partial authorization indicator (G3v026)
	4.2.66	Add	Added new Section 4.2.66 Payment Specific Data (G3v070)
	4.2.67	Add	Added new Section 4.2.67 POS Environment Indicator (G3v071)
	4.2.68	Add	Added new Section 4.2.68 Electronic Commerce Security Level Information (G3v072)

Chapter	Section	Action	Data
Field definitions	5.9.2	Add	Added a note about Discover merchant initiated transactions in Section 5.9.2 Additional amount - amount type and new value of 43 added in Table 5.5
	5.56	Add	Added a new value U in Table 5.27
	5.74	Update	Updated the device type for code A in Table 5.32
	5.77	Add	Added new section Section 5.77 Electronic commerce security level indicator
	5.135	Add	Added information in Section 5.135 Message reason code removed the message reason code table
	5.137	Add	Added Amex SafeKey to Indicator 5 in Table A5.46
	5.138	Remove	Removed Network ID 002 in Table 5.47
	5.143	Add	Added new Section 5.143 PAN reference identifier
	5.144	Update	Updated Section 5.144 Partial authorization indicator previously named Product participation group
	5.145	Add	Added new Section 5.145 Payment account reference
	5.150	Add	Added value A in Table 5.57
	5.162	Add	Added value D3 in Table 5.72
	5.167	Add	Added Discover merchant initiated transactions in Section 5.168 Reversal request/adjustment response code
	5.168	Update	Updated value 17 in Section 5.168 Reversal request/adjustment response code

Chapter	Section	Action	Data
	5.199	Add	Added MasterCard Authorization Chargeback Protection in Section 5.199 Transaction amount
	5.210	Update	Updated Table 5.81
Control and character sets	6.2	Update	Updated Table 6.1
	6.3	Update	Updated Table 6.2

Table 2.4 Version 14.6 document revisions

Chapter	Section	Action	Data
Field definitions	5.74	Add	Adding Code A - TSYS Secure EPayments (TSEP) in Table 5.32
	5.138	Add	Added the Network ID of 0777 and 1001 in Table 5.47
	5.210	Update	Updated Section 5.210 UCAF collection indicator and value 0 in Table 5.81

Table 2.5 Version 14.5 document revisions

Chapter	Section	Action	Data
Field definitions	5.51.3	Update	Updated Table 5.24 by adding Visa and Discover only
	5.152.6	Update	Updated value X in Table 5.58
Appendix A		Remove	Removed Tags 9F0D, 9F0E and 9F0F in Table A2

Table 2.6 Version 14.4 document revisions

Chapter	Section	Action	Data
Message formats	4.2.9	Add	Added definition to Section 4.2.9 Chip condition code (G3v011)
	4.2.16	Update	Updated definition in Section 4.2.16 Developer information (G3v020) and changed Version ID to Application ID in Table 4.35
	4.2.23	Update	Updated definition for Section 4.2.23 POS data code (G3v027)
	4.2.24	Add	Added definition to Section 4.2.24 American Express additional data (G3v028)

Chapter	Section	Action	Data
Field definitions	5.18	Update	Updated Version ID to Application ID
	5.150	Update	Updated Section 5.150 PayPass mobile device type
	5.152.1	Add	Added sub-heading Section 5.152.1 Subfield 1 - Terminal card data input capability and updated values 0, 1, 2 and H in Table 5.53
	5.152.2	Add	Added sub-heading Section 5.152.2 Subfield 2 - Terminal cardholder authentication capability and updated value 9 in Table 5.54
	5.152.3	Add	Added sub-heading Section 5.152.3 Subfield 3 - Terminal card-capture capability and updated value 9 in Table 5.55
	5.152.4	Add	Added sub-heading Section 5.152.4 Subfield 4 - Terminal operating environment and updated values 0 and 9 in Table 5.56
	5.152.5	Add	Added sub-heading Section 5.152.5 Subfield 5 - Cardholder present data and updated value 8 in Table 5.57
	5.152.6	Add	Added sub-heading Section 5.152.6 Subfield 6 - Card present data
	5.152.7	Add	Added sub-heading Section 5.152.7 Subfield 7 - Card data input mode and updated values 0 and 1 in Table 5.59
	5.152.8	Add	Added sub-heading Section 5.152.8 Subfield 8 - Cardholder authentication method and updated value 9 in Table 5.60
	5.152.9	Add	Added sub-heading Section 5.152.9 Subfield 9 - Cardholder authentication entity and updated value 9 in Table 5.61
	5.152.10	Add	Added sub-heading Section 5.152.10 Subfield 10 - Card data output capability and updated value 0 in Table 5.62

Chapter	Section	Action	Data
	5.152.11	Add	Added sub-heading Section 5.152.11 Subfield 11 - Terminal data output capability and updated value 0 Table 5.63
	5.152.12	Add	Added sub-heading Section 5.152.12 Subfield 12 - PIN capture capability and updated value 1 Table 5.64

Table 2.7 Version 14.3 document revisions

Chapter	Section	Action	Data
Field definitions	5.137	Update	Updated definition for values 5 and 6 in Table 5.46

Table 2.8 Version 14.2 document revisions

Chapter	Section	Action	Data
Field definitions	5.71	Add	Added length of 19 to the Visa and MasterCard in Table 5.31
Message format examples		Removed	Removed PINless debit bill payment - request and PINless debit authorization reversal- request

Table 2.9 Version 14.1 document revisions

Chapter	Section	Action	Data
Field definitions	5.150	Update	Updated value X in Table 5.53 Updated values X and Y and added value Z in Table 5.152.7

Table 2.10 Version 14.0 document revisions

Chapter	Section	Action	Data
Message formats	4.2.65	Add	Added new G3v09 for Lane ID Section 4.2.65 Lane ID (G3v069) NOTE The Lane ID will not be effective until April 2016.
Field definitions	5.110	Add	Added new Section 5.110 Lane ID NOTE The Lane ID will not be effective until April 2016.

Table 2.11 Version 13.8 document revisions

Chapter	Section	Action	Data
Message formats	4.2.65	Add	Added new G3v09 for Lane ID Section 4.2.65 Lane ID (G3v069)
Field definitions	5.110	Add	Added new Section 5.110 Lane ID

Table 2.12 Version 13.7 document revisions

Chapter	Section	Action	Data
Message formats	4.2.27	Update	Updated Reserved length and format in Table 4.58

Table 2.13 Version 13.6 document revisions

Chapter	Section	Action	Data
Field definitions	5.24	Update	Updated definition in Section 5.24 Authorization indicator

Table 2.14 Version 13.5 document revisions

Chapter	Section	Action	Data
Field definitions	5.137	Update	Updated Table 5.46

Table 2.15 Version 13.4 document revisions

Chapter	Section	Action	Data
Message formats	4.2.13	Update	Updated Table 4.29
	4.2.27	Update	Updated Section 4.2.27 Digital entity identifier (G3v031)
	4.2.58	Update	Updated Section 4.2.58 Card brand tokenization (G3v062)
	4.2.59	Update	Updated Table 4.120
	4.2.63	Add	Added new Section 4.2.63 Authorization indicator (G3v067)
	4.2.64	Add	Added new Section 4.2.64 Fraud enhanced data (G3v068)

Chapter	Section	Action	Data
Field definitions	5.24	Add	Added new Section 5.24 Authorization indicator
	5.40	Update	Updated Section 5.40 Card brand token requestor ID
	5.75	Add	Added new Section 5.75 Digital entity identifier
	5.112	Add	Added new Section 5.112 Local transaction date
	5.123	Add	Added new Section 5.123 Merchant city
	5.124	Add	Added new Section 5.124 Merchant country code
	5.125	Add	Added new Section 5.125 Merchant region code
	5.126	Update	Updated Section 5.126 Merchant DBA name
	5.137	Update	Updated Table 5.67
	5.148	Add	Added new Section 5.148 Payment service provider name
	5.158	Add	Added new Section 5.158 Registered user indicator
	5.195	Update	Updated Section 5.195 Token Cryptogram Block A
	5.196	Update	Updated Section 5.196 Token Cryptogram Block B
	5.210	Add	Added value 7 in Table 5.81
	5.212.1	Update	Updated Section 5.212.1 Discover usage
Appendix A	8.4	Add	Added Section 8.4 MasterCard

Table 2.16 Version 13.3 document revisions

Chapter	Section	Action	Data
Field definitions	5.1	Update	Updated Note in Section 5.1 Account data source code
	5.51	Update	Updated description in Section 5.51 Cardholder identification data
	5.150	Update	Updated description in Section 5.150 PayPass mobile device type
Control and character sets	6.8	Update	Updated Section 6.8 Conversion of binary to ASCII characters
Message format examples	7.1.1.16	Update	Updated Byte 1 Content in Table 7.16
	7.1.2.4	Add	Added fields in Table 7.23
	7.1.2.5	Add	Added fields in Table 7.24
	7.1.2.6	Add	Added fields in Table 7.25
	7.1.2.7	Add	Added fields in Table 7.26
	7.1.2.9	Add	Added fields in Table 7.28
	7.1.2.11	Add	Added fields in Table 7.30
Appendix A	8.3	Update	Updated Section 8.3 Discover/PayPal

Table 2.17 Version 13.2 document revisions

Chapter	Section	Action	Data
Related documentation	2.2	Add	Added reference document in Table 2.1
Field definitions	5.137	Update	Updated Table 5.51
	5.138	Remove	Removed Alaska Option from Section 5.138 Network ID
Appendix B		Add	Added description information to value S1 in Section Card product codes

Table 2.18 Version 13.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.59	Remove	Removed Merchant City from Table 4.120

Table 2.20 Version 12.4 document revisions

Chapter	Section	Action	Data
Message formats	4.2.13	Update	Updated Table 4.29
	4.2.58	Update	Updated Section 4.2.58 Card brand tokenization (G3v062)
	4.2.59	Add	Added Table 4.122 and Table 4.123
Field definitions	5.35	Update	Updated Section 5.35 Card brand token action indicator
	5.40	Update	Updated Section 5.40 Card brand token requestor ID
	5.51.4	Update	Updated Section 5.51.4 Address verification data
	5.118	Add	Updated Section 5.51.4 Address verification data
	5.150	Add	Added Section 5.118 MasterCard wallet identifier
	5.209	Update	Added new values in Table 5.152.5
	5.210	Add	Updated Section 5.209 UCAF authentication data Added new values in Table 5.81
Message format examples	7.1.1.14	Update	Updated field 64 in Table 7.14

Table 2.21 Version 12.3 document revisions

Chapter	Section	Action	Data
Message formats	4.2.59	Update	Updated Section 4.2.59 Amex card acceptor name/location (G3v063)
Field definitions	5.123	Update	Updated Section 5.123 Merchant city

Table 2.22 Version 12.2 document revisions

Chapter	Section	Action	Data
Message formats	4.1.1	Update	Updated Section 4.1.1 Using Encryption and Tokens
	4.2.13	Update	Updated Section 4.2.13 Secure e-Commerce transaction (G3v017)
	4.2.25	Update	Updated Table 4.54
	4.2.26	Update	Updated Section 4.2.26 Amex merchant name/location data (G3v030)
	4.2.49	Add	Updated Section 4.2.49 TSYS token request/response (G3v053)
	4.2.55	Add	Updated Section 4.2.55 MasterCard mapping service (G3v059)
	4.2.58	Add	Added Section 4.2.58 Card brand tokenization (G3v062)
	4.2.59	Add	Added Section 4.2.59 Amex card acceptor name/location (G3v063)

Chapter	Section	Action	Data
Field definitions	5.14	Update	Updated Section 5.14 Alternate account ID 1
	5.33	Add	Added Section 5.33 Card brand token
	5.34	Add	Added Section 5.34 Card brand token
	5.35	Add	Added Section 5.34 Card brand token account range status
	5.36	Add	Added Section 5.35 Card brand token action indicator
	5.37	Add	Added Section 5.36 Card brand token
	5.38	Add	Added Section 5.36 Card brand token assurance level
	5.39	Add	Added Section 5.37 Card brand token expiration date
	5.40	Add	Added Section 5.38 Card brand token
	5.40	Add	Added Section 5.38 Card brand token PAN last 4 digits
	5.88.2	Update	Added Section 5.39 Card brand token replacement PAN expiration date
	5.88.6	Update	Added Section 5.40 Card brand token
	5.88.7	Update	Added Section 5.40 Card brand token requestor ID
	5.115	Update	Added Section 5.41 Card brand token status
	5.123	Add	Updated Section 5.88.2 Cardholder billing address
	5.127	Add	Updated Section 5.88.6 Cardholder billing first name
	5.128	Add	Updated Section 5.88.6 Cardholder billing first name
	5.130	Add	Updated Section 5.88.7 Cardholder billing last name
	5.131	Add	Updated Section 5.88.7 Cardholder billing last name
	5.133	Add	Updated Section 5.115 Mapped PAN indicator
	5.150	Add	Added Section 5.123 Merchant city
	5.164	Update	Added Section 5.127 Merchant email
	5.177	Update	Added Section 5.128 Merchant ID code
	5.195	Add	Added Section 5.128 Merchant ID code
	5.196	Add	Added Section 5.130 Merchant phone
	5.201	Update	Added Section 5.131 Merchant postal code

Chapter	Section	Action	Data
			Added Section 5.133 Merchant street address Added values in Table 5.152.6 Updated Table 5.70 Updated Table 5.75 Added Section 5.195 Token Cryptogram Block A Added Section 5.196 Token Cryptogram Block B Updated Table 5.78
Message format examples	7.1.1.10	Update	Updated Table 7.10
	7.1.2.2	Update	Updated Table 7.21
Appendix A	8.2	Add	Added new value in Section 8.2 American Express

Table 2.23 Version 12.1 document revisions

Chapter	Section	Action	Data
Field definitions	5.51	Update	Updated Table 5.23
Message format examples	7.1.2.1	Update	Updated Table 7.20
	7.1.2.4	Update	Updated Table 7.23
	7.1.2.5	Update	Updated Table 7.24
	7.5.2	Update	Updated Table 7.62
	7.5.5	Update	Updated Table 7.65

Table 2.24 Version 12.0 document revisions

Chapter	Section	Action	Data
Message formats	4.2.24	Update	Updated heading in Section 4.2.24 American Express additional data (G3v028)
	4.2.25	Update	
	4.2.44	Update	Updated Section 4.2.25 Extended AVS data (G3v029) and Table 4.54
	4.2.57	Add	Updated Section 4.2.44 Cardholder verification results (G3v048) Added Section 4.2.57 Spend qualified indicator (G3v061)
Field definitions	5.15	Update	Updated Section 5.15 American Express additional data
	5.15.1	Update	
	5.15.3	Add	Updated Section 5.15.1 AMEX card not present internet telephone data (ITD)
	5.16	Update	
	5.51.4	Update	Added Section 5.15.3 Card present Goods Sold Data
	5.59	Update	Updated Section 5.16 Amex merchant name/location data
	5.88.6	Update	
	5.88.7	Update	Updated Section 5.51.4 Address verification data
	5.147	Update	Updated Section 5.59 City code
	5.177	Add	Updated Section 5.88.6 Cardholder billing first name
	5.200	Update	
	5.209	Update	Updated Section 5.88.7 Cardholder billing last name
	5.210	Update	Updated Table 5.50
			Added Section 5.177 Spend qualified indicator
			Updated Table 5.78
			Updated Section 5.209 UCAF authentication data
			Updated Table 5.81
Message format examples		Remove	Removed the section on gift card

Table 2.26 Version 11.3 document revisions

Chapter	Section	Action	Data
Message formats	4.2.23	Update	Updated Section 4.2.23 POS data code (G3v027)
	4.2.30	Update	Updated Section 4.2.30 Card product code (G3v034)
	4.2.53	Update	Updated Table 4.108
	4.2.54	Add	Updated Section 4.2.54 Alternate account ID 1 (G3v058)
	4.2.55	Add	Added Section 4.2.55 MasterCard mapping service (G3v059)
	4.2.56	Add	Added Section 4.2.56 MasterCard PayPass mobile (G3v060)

Chapter	Section	Action	Data
Field definitions	5.1	Update	Updated Table 5.1
	5.10	Update	Updated Section 5.10 Additional response data
	5.22	Update	Updated Section 5.22 Approval code
	5.33	Update	Updated Section 5.33 Card brand token
	5.44	Update	
	5.71	Update	Updated Table 5.21
	5.75	Add	Updated Table 5.31
	5.95	Update	Added Section 5.75 Digital entity identifier
	5.114	Add	Updated Table 5.39
	5.115	Add	
	5.116	Add	Added Section 5.114 Mapped Card Expiration Date
	5.137	Add	Added Section 5.115 Mapped PAN indicator
	5.150	Update	
	5.144	Update	Added Section 5.116 Mapped product code
	5.153	Update	Added Section 5.137 MOTO/e-Commerce indicator
	5.168	Update	
	5.201	Update	Updated Section 5.150 PayPass mobile device type
	5.204	Update	Updated Table 5.49
	5.213	Update	Updated Section 5.153 POS environment indicator
			Updated Section 5.168 Reversal request/adjustment response code
			Updated Table 5.78
			Updated Section 5.204 Transaction identifier
			Updated Section 5.213 Verification code (CVV2, CVC2, CID)

Chapter	Section	Action	Data
Message format examples	7.1.1.6	Update	Updated Section 7.1.1.6 AFD completion advice request (Visa, MasterCard, PayPal and Discover)
	7.1.1.7	Update	
	7.1.2.9	Update	Updated Section 7.1.1.7 AFD completion advice response (Visa, MasterCard, PayPal and Discover) Updated Section 7.1.2.9 Direct debit - request
Appendix A	8.3	Update	Updated Section 8.3 Discover/PayPal
Appendix B		Add	Added Appendix B

Table 2.27 Version 11.2 document revisions

Chapter	Section	Action	Data
Message formats	4.2.23	Update	Updated Section 4.2.23 POS data code (G3v027)
	4.2.51	Update	Updated Section 4.2.51 Integrated Chip Card (ICC) EMV TLV Format (G3v055)
Field definitions	5.135	Update	Updated Section 5.135 Message reason code
	5.150	Update	Updated Section 5.150 PayPass mobile device type
Appendix A		Add	Added information to Appendix A

Table 2.28 Version 11.1 document revisions

Chapter	Section	Action	Data
Field definitions	5.25	Update	Updated link in Section 5.25 Authorization request cryptogram (ARQC)
	5.26	Update	
	5.135	Update	Updated link in Section 5.26 Authorization response cryptogram (ARPC) Updated Section 5.135 Message reason code

Table 2.29 Version 11.0 document revisions

Chapter	Section	Action	Data
Message formats	4.2.53	Add	Added Section 4.2.53 Additional response data (G3v057)
	4.2.54	Add	Added Section 4.2.54 Alternate account ID 1 (G3v058)
Field definitions	5.10	Add	Added Section 5.10 Additional response data
	5.14	Add	Added Section 5.14 Alternate account ID 1
	5.22	Add	
	5.33	Add	Added values to Table 5.12
	5.95	Add	Added value to Table 4.16
	5.135	Update	Added values to Table 5.39
	5.162	Update	Updated Section 5.135 Message reason code
	5.168	Update	Updated Table 5.72
	5.203	Update	Updated Section 5.168 Reversal request/adjustment response code
	5.206	Add	Updated Section 5.203 Transaction fee amount
			Added values to Table 5.79

Chapter	Section	Action	Data
Message format examples	7.1	Add	Added values to Table 7.1
	7.1.1.6	Update	Updated heading name in Section 7.1.1.6 AFD completion advice request (Visa, MasterCard, PayPal and Discover) and added values to Table 7.6
	7.1.1.7	Update	
	7.1.1.12 and 6.1.1.13	Update	Updated heading name in Section 7.1.1.7 AFD completion advice response (Visa, MasterCard, PayPal and Discover) and added values to Table 7.7
	7.1.2.9 and 6.1.2.10	Update	
	7.2	Add	Updated information in Section 7.1.1.12 Credit integrated chip card (ICC - EMV format) - request (G3v055) and Section 6.1.1.13 Updated information in Section 7.1.2.9 Direct debit - request and Section 6.1.2.10 Added values to Table 7.37

Table 2.30 Version 10.4 document revisions

Chapter	Section	Action	Data
Message formats	4.2.24	Update	Updated Table 4.52
	4.2.38	Update	Updated Table 4.80 and Table 4.81 title caption
	4.2.41	Update	Updated Table 4.86 and Table 4.87 title caption
	4.2.51	Update	Updated Section 4.2.51 Integrated Chip Card (ICC) EMV TLV Format (G3v055)
	4.2.52	Add	Added new Section 4.2.52 Message reason code (G3v056)

Chapter	Section	Action	Data
Field definitions	5.1	Update	Updated Table 5.1
	5.50	Update	Updated Table 5.22
	5.51	Update	Updated Section 5.51 Cardholder identification data
	5.74	Update	Updated Table 5.32
	5.135	Add	Added new Section 5.135 Message reason code
	5.150	Update	Updated Table 5.152.6 and Table 5.152.7
Message format examples	7.1.1.16	Update	Updated Table 7.16
	7.1.1.17	Update	Updated Table 7.17
Appendix A		Update	Updated Table B.

Table 2.31 Version 10.3 document revisions

Chapter	Section	Action	Data
Field definitions	5.33	Update	Updated Section 5.33 Card brand token
	5.71.3 - 5.71.6	Update	Updated Section 5.71.3 Manually entered data - Section 5.71.6 Encrypted manually entered data
	5.213	Update	Updated Section 5.213 Verification code (CVV2, CVC2, CID)

Table 2.32 Version 10.2 document revisions

Chapter	Section	Action	Data
Message formats	4.2.23	Update	Updated Section 4.2.23 POS data code (G3v027)
	4.2.26	Update	Updated Table 4.56
	4.2.51	Add	Added Section 4.2.51 Integrated Chip Card (ICC) EMV TLV Format (G3v055)
	4.103	Add	Added Section 4.103 Response message - Transit program response (version 054)

Chapter	Section	Action	Data
Field definitions	5.15.1	Update	Updated Table 5.8
	5.16	Update	Updated Section 5.16 Amex merchant name/location data
	5.22	Update	Updated Section 5.22 Approval code
	5.33	Update	Updated Section 5.33 Card brand token
	5.67	Update	Updated Section 5.67 Cryptogram information data
	5.86	Update	Updated Section 5.67 Cryptogram information data
	5.95	Update	Updated Table 5.38
	5.117.2	Update	Updated Table 5.39
	5.150	Update	Updated Table 5.45
	5.193	Add	Updated Section 5.150 PayPass mobile device type
	5.195	Update	Updated Section 5.150 PayPass mobile device type
			Added new Section 5.193 TLV data
			Updated Table 5.77
Message format examples	7.1.1.10	Update	Updated Table 7.10
	6.1.1.14	Add	Added Section 6.1.1.14
	7.1.1.13	Add	Added Section 7.1.1.15 Credit contactless using EMV data rules authorization - response
	7.2.2.1	Update	Updated Table 7.43
	7.3	Update	Updated Table 7.43
	7.5.1	Update	Updated Table 7.44
	7.5.2	Update	Updated Table 7.61
	7.5.3	Update	Updated Table 7.62
	7.5.7	Update	Updated Table 7.63
	7.5.8	Add	Updated Table 7.67
			Added Section 7.5.8 Tokenized PINless debit bill payment - request

Table 2.33 Version 10.1.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.9	Update	Updated Section 4.2.9 Chip condition code (G3v011)
	4.2.23	Add	Added new line in Section 4.2.23 POS data code (G3v027)
	4.2.41	Update	Updated Table 4.86
Field definitions	5.1	Update	Updated Table 5.1
	5.50	Update	Updated Table 5.22
	5.58	Update	Updated Section 5.58 Chip condition code
	5.150	Update	Updated Section 5.150 PayPass mobile device type
Message format examples	7.1.1.12	Update	Updated Table 6.12
	6.1.1.13	Update	Updated Table 6.13
	6.1.1.14 - 7.1.1.17	Add	Added Section 6.1.1.14 - Section 7.1.1.17 Retail/restaurant - Chip Card Fallback- response
	7.1.2.9	Update	Updated Table 7.24
	6.1.2.10	Update	Updated Table 7.25

Table 2.34 Version 10.1 document revisions

Chapter	Section	Action	Data
Message formats	4.1	Add	Added rows to Table 4.1
	4.1.1	Add	Added paragraph to the end of Section 4.1.1 Using Encryption and Tokens
	4.2.4	Add	Added response code in comments column to Table 4.12
	4.2.35	Update	Updated Table 4.74
	4.2.48	Update	Updated Section 4.2.48 Voltage encryption transmission block (G3v052) and Table 4.98

Chapter	Section	Action	Data
Field definitions	5.16	Add	Added new Section 5.16 Amex merchant name/location data
	5.61	Add	
	5.71	Add	Added row to Table 5.30
	5.157	Add	Added new paragraph to Section 5.201 Transaction code
	5.162	Add	Added new rows to Table 5.67
	5.201	Add	Added new codes to Table 5.72
			Added new column to Table 5.78
Message format examples	7.4.2	Update	Updated Table 7.58
	7.5.7	Add	Added new Section 7.5.7 Tokenized bill pay

Table 2.35 Version 10.0 document revisions

Chapter	Section	Action	Data
Message formats	4.1.1	Updated	Updated Section 4.1.1 Using Encryption and Tokens
	4.2.48	Update	
	4.2.49	Update	Updated Table 4.98
	4.2.50	Add	Updated Table 4.101 Added Section 4.2.50 Transit program (G3v054)

Chapter	Section	Action	Data
Field definitions	5.27	Add	Added sentence to Section 5.27 Authorization response text
	5.57	Add	
	5.74	Add	Added table to Section 5.57 Check acceptance data
	5.95	Add	Added new code and updated Table 5.32
	5.144	Update	Added new value to Table 5.39
	5.168	Update	Updated Table 5.49
	5.193	Update	Updated sentence in Section 5.168 Reversal request/adjustment response code
	5.201	Update	
	5.206	Add	Updated Section 5.193 TLV data
	5.207	Add	Updated Table 5.78
	5.213	Update	Added Section 5.206 Transit transaction type indicator
Message format examples			Added Section 5.207 Transportation mode indicator
			Updated Table 5.84
	7.1.1.6	Update	Updated the name for Section 7.1.1.6 AFD completion advice request (Visa, MasterCard, PayPal and Discover)
	7.1.1.7	Update	and updated Table 7.6
	7.1.2.1	Update	Updated the name of Section 7.1.1.7 AFD completion advice response (Visa, MasterCard, PayPal and Discover)
	7.5.2	Updated	and updated Table 7.7
	7.5.4	Update	Updated Table 7.20
	7.5.5	Update	Updated Table 7.62
	7.5.6	Update	Updated Table 7.64
			Updated the name of Section 7.5.5 Debit non-confirmation with token request - request
			and updated Table 7.65
			Updated Table 7.66

Table 2.36 Version 9.2.1 document revisions

Chapter	Section	Action	Data
Message formats	4.1	Add	Added information in Table 4.1
	4.1.1	Add	Added Section 4.1.1 Using Encryption and Tokens
	4.2.48	Add	Added Section 4.2.48 Voltage encryption transmission block (G3v052)
	4.2.49	Add	Added Section 4.2.49 TSYS token request/response (G3v053)
Field definitions	5.85	Add	Added Section 5.85 Encryption Transmission Block (ETB)
	5.86	Add	Added Section 5.86 Encryption type
	5.95	Add	Added values in Table 5.95
	5.157	Add	Added rows in Table 5.67
	5.162	Add	Added and updated rows in Table 5.72
	5.193	Add	Added Section 5.193 TLV data
	5.201	Add	Added row in Table 5.78
Message format examples	7.5	Add	Added Section 7.5 Encryption and token examples
	7.5.1 - 7.5.6	Add	Added Section 7.5.1 Encrypted credit - Section 7.5.6 Debit card/EBT with token request-response

Table 2.37 Version 9.2 document revisions

Chapter	Section	Action	Data
Message formats	4.2.4	Update	Updated the title for Table 4.11
	4.2.47	Add	Added new Section 4.2.47 EMS service request/response (G3v051)

Chapter	Section	Action	Data
Field definitions	5.33	Update	Updated Table 4.16
	5.79	Add	Added new Section 5.79 EMS additional information
	5.80	Add	Added new Section 5.80 EMS results code
	5.81	Add	Added new Section 5.81 EMS risk score
	5.82	Add	Added new Section 5.82 EMS risk score reason code
	5.83	Add	Added new Section 5.82 EMS risk score reason code
	5.84	Add	Added new Section 5.83 EMS scoring response indicator
	5.88	Add	Added new Section 5.84 EMS service request indicator
	5.162	Update	Added new value to Table 5.39
	5.165	Add	Updated Table 5.72
	5.168	Add	Added Section 5.165.4 Response code
			Added new reason code value in Section 5.168 Reversal request/adjustment response code
Message format examples	7.1.1.12	Update	Updated Table 6.12
	7.3	Add	Added Section 7.3 Check examples

Table 2.38 Version 9.1 document revisions

Chapter	Section	Action	Data
Field definitions	5.199	Update	Updated paragraph in Section 5.199 Transaction amount
	5.201	Update	Updated Table 5.78

Table 2.39 Version 9.0 document revisions

Chapter	Section	Action	Data
Message formats	4.2.18	Update	Updated Table 4.40

Chapter	Section	Action	Data
Field definitions	5.9	Update	Updated Section 5.9 Additional amount
	5.9.5	Add	Added Section 5.9.5 Additional amount
	5.71	Update	Updated Section 5.71 Customer data field
	5.134	Add	Added paragraph to Section 5.134 Merchant Verification Value (MVV)
	5.144	Add	Added information in Table 5.49
	5.161	Update	Updated description in Table 5.70 and the Note under Table 4.56
	5.163	Add	Updated Section 5.163 Retrieval reference number
	5.199	Add	Added paragraph to Section 5.199 Transaction amount
	5.204	Add	Added paragraph to Section 5.204 Transaction identifier

Table 2.40 Version 8.9 document revisions

Chapter	Section	Action	Data
Message formats	4.2.28	Add	Added new values in Table 4.61
	4.2.36	Add	Added new value in Table 4.77
Response code	5.138	Add	Added new values to Table 5.47
	5.162	Update	Updated value in Table 5.163
	5.169	Update	Updated description in Section 5.169 Secondary amount
Message format examples	7.1.3.5	Update	Updated Table 7.36

Table 2.41 Version 8.8 document revisions

Chapter	Section	Action	Data
Field definitions	5.9.2	Add	Added value to Table 5.5
	5.22	Add	Added new values to Table 5.14
	5.162	Add	Added new value to Table 5.163
Message format examples	7.1.1.19	Add	Added new Section 7.1.1.19 Cash advance - request
	7.1.2.2	Add	
	7.1.2.2	Update	Added new Section 7.1.2.2 Debit authorization reversal - request
	7.1.2.4	Update	Updated Table 7.21
	7.1.2.5	Update	Updated Table 7.23
	7.1.2.6	Update	Updated Table 7.24
	7.1.2.7	Add	Updated Table 7.25
	7.1.2.9	Update	Added new Section 7.1.2.7 Electronic benefits transfer (EBT) non-confirmation - request
	7.1.2.10	Update	
	6.1.3.1	Update	Updated Table 6.30
	6.1.3.2	Add	Updated Section 7.1.2.10 Direct debit - confirmation message
	7.1.3.5	Update	Updated Table 6.32
			Added new Section 6.1.3.2
			Updated Table 7.36

Table 2.42 Version 8.7 document revisions

Chapter	Section	Action	Data
Field definitions	5.166.1	Add	Added information from Section 5.166.1 System trace audit number .
Message format examples	7.1.1.6	Remove	Removed Systems Audit Number and the Field Separator row from Table 7.6 .
	7.1.1.7	Remove	Removed Systems Audit Number and the Field Separator row from Table 7.7 .

Table 2.43 Version 8.6 document revisions

Chapter	Section	Action	Data
Message formats	4		Reorganized Chapter 3 .
	4.2.29	Update Add	Updated heading of Section 4.2.29 Reversal request/adjustment response code (G3v033)
	4.2.42	Update	Added new length to Table 4.62
	4.2.45	Add	Updated Table 4.88 and Table 4.89
	4.2.46	Add	Added new Section 4.2.45 Gen 2 terminal authentication (G3v049) Added new Section 4.2.46 Association timestamp (G3v50)
Field definitions	5	Update	Updated cross reference links to chapter 3 Updated sections 5.1 , 5.22 , 5.23 , 5.52 , 5.112 , 5.113 , 5.163 , 5.165 , 5.165.1 , 5.165.2 , 5.165.3 , 5.165.5 , 5.166 , 5.166.1 , 5.168 , 5.199 and 5.204
	5.93	Add	Added new Section 5.93 Gateway ID
	5.94.1	Add	Added new Section 5.94.1 Authentication code
	5.94.2	Add	Added new Section 5.94.2 Authentication factor 1
	5.94.3	Add	Added new Section 5.94.3 Authentication factor 2
	5.94.4	Add	Added new Section 5.94.4 GenKey
	5.95	Add	
	5.162	Add	Added new groups to Table 5.39
	5.201	Add	Added comment to Section 5.162 Response code and added transaction codes to Table 5.163 Added new transaction codes in Table 5.78

Chapter	Section	Action	Data
Message format examples	7		Reorganized Chapter 6
	7.1.1.6	Add	Added new Section 7.1.1.6 AFD completion advice request (Visa, MasterCard, PayPal and Discover)
	6.1.1.7	Add	
	7.4	Add	Added new Section 6.1.1.7
	7.4.1	Add	Added new Section 7.4 Gen2 Terminal Authentication
	7.4.2	Add	
	7.4.3	Add	Added new Section 7.4.1 Authentication request
	7.4.4	Add	Added new Section 7.4.2 Authentication response
			Added new Section 7.4.3 Deactivation request
			Added new Section 7.4.4 Deactivation response

Table 2.44 Version 8.5 document revisions

Chapter	Section	Action	Data
Message formats	3.2	Add	Added Group 3 version 47 and Group 3 version 48
	3.3	Add	Added Table 3.93
Field definitions	4.16	Add	Added new Section 4.16
	4.21	Add	Added new Table 4.14
	4.70	Add	Added values to Table 4.28
	4.103	Add	Added value to Table 4.44
Message format examples	6.7	Update	Updated content in Table 6.7
	6.36	Add	Added information in Table 6.39
Appendix A		Update	Updated Table A8.2

Table 2.45 Version 8.4.1 document revisions

Chapter	Section	Action	Data
Message formats	4.4	Update	Updated Table 4.86

Chapter	Section	Action	Data
Field definitions	5.165	Update	Updated section 5.165 with an ATM transaction supporting statement
	5.166	Update	Updated section 5.166 with an ATM transaction supporting statement
	5.201	Add	Added two new transaction codes to Table 5.78
Message format examples	7.1.1.4	Update	Updated section 7.1.1.4
	7.1.3.2	Update	Updated section 7.1.3.2
	7.1.3.3	Update	Updated section 7.1.3.3
	7.1.3.4	Update	Updated section 7.1.3.4
	7.1.3.5	Add	Added new section 7.1.3.5
	7.3.6	Update	Updated Table 6.12
	7.3.6	Update	Updated Table 6.29

Table 2.46 Version 8.4 document revisions

Chapter	Section	Action	Data
Field definitions	5.71	Update	Updated the Discover Network in Table 5.31

Table 2.47 Version 8.3 document revision

Chapter	Section	Action	Data
Field definitions	5.172	Update	Updated the Description in Section 5.172 Settlement amount

Table 2.48 Version 8.2 document revisions

Chapter	Section	Action	Data
POS Check is no longer supported effective 4/17/09. All references to POS Check have been removed from the spec.			
All references to Diners have been removed from the spec.			

Chapter	Section	Action	Data
Message formats	3.2.21	Update	Updated the format for the IFD Serial Number in Table 4.86
		Add	Added two new rows in Table 4.86
Field definitions	5.71	Add	Added card ranges to Discover Network Card type in Table 5.31
	5.74	Add	Added two new values in Table 5.32
	5.137	Update	Updated the description for value 5 in Table 5.46
	5.155	Add	Added new value in Table 5.65
	5.189	Add	Added new field definition Section 5.189
	5.200	Update	Updated the Transaction Type description for 9C in Table 5.78
Message format examples	7.3.6	Update	Updated the format for the IFD Serial Number in Table 6.12
		Add	Added two new rows in Table 6.12
	7.3.6	Update	Updated the format for the IFD Serial Number in Table 6.29
		Add	Added two new rows in Table 6.29

Table 2.49 Version 8.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.38	Add	Added Table 4.80
	4.2.40	Add	Added Table 4.84
	3.2.21	Add	Added Table 4.86
	4.2.42	Add	Added Table 4.88
		Add	Added Table 3.89
		Add	Added Table 3.90
		Add	Added Table 3.91

Chapter	Section	Action	Data
Field definitions	5.2	Add	Added new Section 5.2 Account type (from)
	5.3	Add	Added new Section 5.3 Account type (to)
	5.19	Add	Added new Section 5.19 Application interchange profile
		Add	Added new Section
	5.44	Add	Added new Section 5.44 Card type
	5.64	Add	Added new Section 5.64 Cryptogram amount
	5.65	Add	Added new Section 5.65 Cryptogram cashback amount
	5.66	Add	Added new Section 5.66 Cryptogram currency code
	5.67	Add	Added new Section 5.67 Cryptogram information data
	5.68	Add	Added new Section 5.68 Cryptogram transaction type
	5.74	Add	Added code to Table 5.32
	5.95	Add	Added new value in Table 5.39
	5.100	Add	Added new Section 5.100 IFD serial number
	5.105	Add	Added new Section 5.105 Issuer application data
	5.108	Add	Added new Section 5.108 Issuer script results
	5.138	Add	Added new Section 5.138 Network ID
	5.170	Add	Added new Section 5.170 Secondary PIN block
	5.186	Add	Added new Section 5.186 Terminal country code
	5.188	Add	Added new Section 5.188 Terminal transaction date
	5.190	Add	Added new Section 5.190 Terminal type
	5.200	Add	
	5.201	Add	
	5.215	Add	

Chapter	Section	Action	Data
			Added new Section 5.200 Transaction category code Added new codes in Table 5.78 Added new Data Element in Section 5.215 Visa contactless
Message format examples	7.1.1.4	Add	Added new Section 7.1.1.4 Auto rental - request
	7.1.3.2	Add	Added new Section 7.1.3.2 ATM balance inquiry - request
	7.1.3.3	Add	Added new Section 7.1.3.3 ATM deposit - request
	7.1.3.4	Add	Added new Section 7.1.3.4 ATM account transfer - request
	7.3.6	Add	Added new Section 7.1.3.4 ATM account transfer - request
	7.3.6	Add	Added Table 6.12
	7.3.6	Add	Added Table 6.12
	6.3.12	Add	Added Table 7.3.6
			Added Table 6.29
			Added Table 6.30

Table 2.50 Version 8.0 document revisions

Chapter	Section	Action	Data
Field definitions	5.22	Add	Added values to Table 4.11 & Table 5.12
	5.33	Add	Added values to Table 4.16
	5.74	Add	Added codes to Table 5.32

Table 2.51 Version 7.7.2 document revisions

Chapter	Section	Action	Data
Message formats	4.2.33	Update	Updated Real time substantiation indicator (G3v037)
Field definitions	5.117.2	Add	Added value to Table 5.45
	5.147	Add	Added value to Table 5.50
Message format examples		Update	Updated Table 7.43

Table 2.52 Version 7.7.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.37	Update	Updated Table 4.78
	4.2.39	Add	Added Table 4.82
		Update	Updated Table 3.84
		Update	Updated Table 3.86
		Update	Updated Table 3.87
		Add	Added Table 3.88
Field definitions	5.95	Add	Added values to Table 5.39
	5.138	Add	Added new definition Network ID
	5.201	Add	Added value to Table 5.78
Message format examples		Add	Added new message format Table 7.43

Table 2.53 Version 7.7 document revisions

Chapter	Section	Action	Data
Message formats		Update	Updated Section Group 3 version 29 examples
	4.2.33	Update	Updated Table 4.70
	4.2.35	Add	Added Table 4.74 , Table 4.76 , Table 4.78 and Table 4.80
	4.2.52	Update	Updated Table 4.106
		Add	Added Table 3.84 , Table 3.85 , Table 3.86 and Table 3.87

Chapter	Section	Action	Data
Field definitions	5.15.1	Update	Updated Section 5.15.1 AMEX card not present internet telephone data (TTD)
	5.22	Add	Added to Table 5.12 added note
	5.33	Update	Updated Table 4.16
	5.51	Add	Added note
	5.51.3	Update	Updated DUK/PT key with thirty-two byte cardholder ID and Table 5.24
	5.51.4	Add	Added to Section 5.51.4 Address verification data
	5.52	Add	Added new definition Cardholder verification method
	5.71.1	Update	Updated Section 5.71.1 Track one data
	5.71.2	Update	Updated Section 5.71.2 Track two data
	5.104	Add	Updated Section 5.71.2 Track two data
	5.117.2	Add	Added new definition ISA charge indicator
	5.140	Add	Added new value to Table 5.45
	5.164	Update	Added new definition NTIA UPC/SKU data
	5.215	Add	Updated Table 5.73
			Added new definition Visa contactless
Message format examples	6.3.6	Update	Updated Table 6.24
	6.1.4	Update	Updated Table 6.32
	7.2.1.6	Update	Updated Table 7.42
	6.6.1	Update	Updated Table 6.27
	6.3.10	Update	Updated Table 6.28
Appendix A		Add	Added Appendix A

Table 2.54 Version 7.6.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.34	Add	Added Table 4.72
	3.3	Add	Added Table 3.81 , Table 3.82 and Table 3.83
Field definitions	5.22	Remove	Removed Domestic JCB from table identifier
	5.51.4	Remove	Removed Domestic JCB
	5.76	Add	Added new section Electro magnetic signature
	5.95	Add	Added value to Table 5.39
	5.201	Remove	Removed Domestic JCB from transaction code 58
	5.212	Remove	Removed Domestic JCB

Table 2.55 Version 7.6 document revisions

Chapter	Section	Action	Data
Message formats	3.3	Update	Updated Table 4.5
	4.2.26	Update	Updated section to break out version 31, 32, 33, and 34
POS Check service		Update	Updated the Industry Type content
		Update	Updated description

All revisions supporting version 7.5.3 are marked with change bars.

Table 2.56 Version 7.5.3 document revisions

Chapter	Section	Action	Data
Field definitions	5.204	Update	Updated definition

Table 2.57 Version 7.5.2 document revisions

Chapter	Section	Action	Data
Message formats	3.79	Add	Added Table 3.79, Card-level results response (version 034)
	4.66	Add	Added Table 4.66, Request message - Promotional code (version 035)
	4.42	Update	Updated Table 4.42, Request message - Visa and MasterCard healthcare data (version 023)
	4.2.20	Add	Added MasterCard advice code (G3v024)
	3.67	Update	Updated Table 3.67, Additional amounts participant (version 022)
	3.80	Add	Added Table 3.80, Response Promotional Code (version 035)
		Add	Added MasterCard or Discover free form (version 023) description
Field definitions	5.153	Add	Added new field - POS environment indicator
	5.97.1	Update	Updated definition - MasterCard and Discover free form
	5.97.2	Update	Updated definition - Healthcare
	5.95	Add	Added new values to Table 5.39, Group III version number
	5.22	Add	Added Table 5.13, Approval source values in the first position of the approval code for Discover/PayPal transactions
	5.71	Update	Updated Table 5.31, Customer data field
	5.212	Update	Updated definition - Discover usage and Non-Discover usage

Table 2.58 Version 7.5.1 document revisions

Chapter	Section	Action	Data
Message formats	3.79	Add	Added to Table 3.79, Card-level results response (version 034)
Field definitions	5.33	Add	Added new line to description - Card brand token

All revisions supporting versions 7.5 are marked with change bars.

Table 2.59 Version 7.5 document revisions

Chapter	Section	Action	Data
Message formats		Update	Updated description of Table 4.42, Request message - Visa and MasterCard healthcare data (version 023)
Message formats	3.3	Update	Updated description of Table 3.68, Visa and MasterCard Healthcare (version 023)
Field definitions	5.22	Update	Updated the description of Table 4.11 and added Table 5.12 Updated the value of D - Visa Signature Preferred
Field definitions	5.97	Update	Changed the field name and updated the description
Field definitions	5.137	Update	Added two new values to Table 5.46, MOTO/e-Commerce indicator

Table 2.60 Version 7.4.2 document revisions

Chapter	Section	Action	Data
Message format examples	6.3.10	Update	Updated Table 6.28, Debit non-confirmation - request

Table 2.61 Version 7.4.1 document revisions

Chapter	Section	Action	Data
Message formats	4.2.27	Add	Added new request table: Table 4.64, Request message - Card product code (version 034)
Message formats	3.3	Add	Added new response table: Table 3.79, Card-level results response (version 034)
Field definitions	5.33	Add	Added new section - Card brand token
Field definitions	5.95	Update	Updated Table 5.39, Group III version number with value 034 - Card-level results
Field definitions	5.156	Update	Change stored value in Table 5.66, RIID values
Field definitions	5.165.1	Update	Update description
Field definitions	5.165.2	Update	Update description
Field definitions	5.165.3	Update	Update description
Field definitions	5.165.5	Update	Update description
Field definitions	5.166.1	Update	Update description

Chapter	Section	Action	Data
Field definitions	5.166.2	Update	Update description
Message format examples	6.21	Add	Added Table 6.28 , Debit non-confirmation - request

Table 2.62 Version 7.4 document revisions

Chapter	Section	Action	Data
Message formats	4.4	Update	Update Table 4.5 , Request message - Authorization fields comprising Group 1
Message formats	4.2.27	Add	Added new section - Digital entity identifier (G3v031) includes Table 4.58 , Table 4.60 and Table 4.62
Message formats	3.3	Add	Added new response tables: Table 3.76 , Table 3.77 and Table 3.78
Field definitions	5.5	Add	Added new section - Acquirer transaction currency code
Field definitions	5.6	Add	Added new section - Actual amount, cardholder billing
Field definitions	5.7	Add	Added new section - Actual amount, settlement
Field definitions	5.8	Add	Added new section - Actual amount, transaction
Field definitions	5.11	Update	Added two columns, “Domestic” and “International” and deleted “Error Ineligible” authorization response message from Table 5.7 , Address verification result code
Field definitions	5.14	Add	Added new section - Alternate account ID 1
Field definitions	5.15	Add	Added new section - Agent identification result
Field definitions	5.46	Add	Added new section - Cardholder billing amount
Field definitions	5.48	Add	Added new section - Cardholder billing currency code
Field definitions	5.47	Add	Added new section - Cardholder billing conversion rate
Field definitions	5.62	Add	Added new section - Conversion date
Field definitions	5.70	Update	Updated description text
Field definitions	5.95	Update	Updated Table 5.39 , Group III version number with three new values
Field definitions	5.137	Update	Deleted line in table

Chapter	Section	Action	Data
Field definitions	5.168	Add	Added new section - Reversal request/adjustment response code
Field definitions	5.173	Add	Added new section - Settlement conversion rate
Field definitions	5.174	Add	Added new section - Settlement currency code
Field definitions	5.201	Update	Updated Table 5.78 , Transaction code with one new value; changed transaction types to “Reserved for future use.”
Field definitions	5.204	Update	Added note to description.
Message format examples	6.3.3	Update	Updated Table 6.21 , Direct debit - request
Message format examples	6.1.4	Update	Deleted “G-Clear Text PIN” line; Changed length of “Operator/Clerk ID” to 0 or 8.
Message format examples	6.1.3.3	Add	Added new section - Gift card - response
Message format examples	6.1.6	Delete	Deleted “P-Preferred Customer” line.
Message format examples	6.6.1	Update	Updated note and table.

Table 2.63 Version 7.3.2 document revisions

Chapter	Section	Action	Data
All	All	Update	Updated language to reflect Vital Processing Services name change to TSYS Acquiring Solutions
Field definitions	Table 5.163	Add	Added “Serv Not Allowed” authorization response message, response code 59.
Field definitions	Table 5.163	Correction	Deleted duplicate entries for response codes R0 and R1.
Message format examples	Table 6.2 Table 7.39 Table 7.40 Table 6.25 Table 7.37 Table 7.38 Table 7.5	Update	Updated cross references for Address Verification Data field description to section 5.51.4 .

Chapter 3

Overview

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3.1 Introduction

This document describes the request and response record formats for Second Generation Point Of Sale (POS) authorization devices using TSYS Acquiring Solutions' authorization services. This document defines only the record format structures message.

WARNING: Direct debit and EBT card transactions utilize a third communication packet.

[Figure 3.1](#) represents an authorization request transmitted to TSYS Acquiring Solutions using public communication services with a subsequent authorization response returned by TSYS Acquiring Solutions. Note that Direct Debit and EBT card transactions utilize a third communication packet.

3.2 Authorization request and response

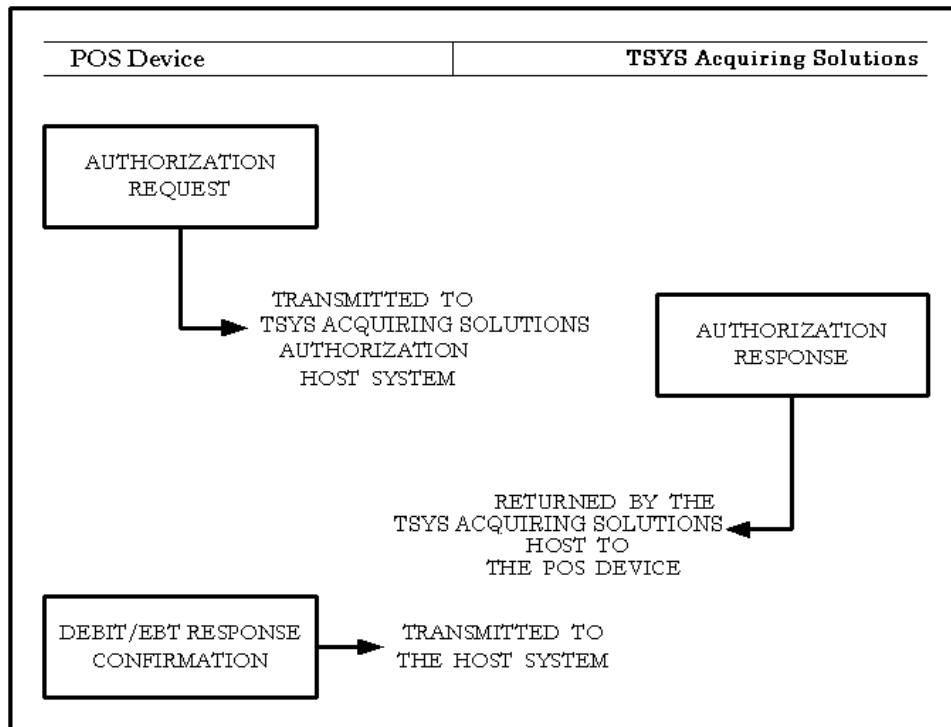


Figure 3.1 Authorization request and response

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Chapter 4

Message formats

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4.1 Introduction

The following illustrations provide examples of how the authorization message format components are structured. All authorization request and response messages are framed beginning with a Start-of-Text character and terminated with End-of-Text and Longitudinal Redundancy Check (LRC) characters. Authorization request and response message data elements are separated into functional data groupings. TSYS Acquiring Solutions currently defines and supports three separate data groupings for both authorization request and response messages:

Group I + III request fields represent base data elements which must be supplied in every authorization request. The TSYS Acquiring Solutions host always responds with a corresponding set of Group I+III response fields.

Group II + III fields are directly associated with performing Direct Debit transactions. To perform a Debit Card transaction, Group II data elements must be combined and concatenated with Base Group I and III. When Groups I, II, and III are supplied in the authorization request, the host responds with a corresponding set of Group I, II, and III response fields.

Additional Group III definitions are utilized to augment Base Group I and I + II with additional miscellaneous information as needed for authorization. Multiple group definitions exist for Group III. The formatting of any Group III representation is defined by an embedded version number ([5.95](#)).

Single or multiple Group III segments could be supplied within any given authorization request message. The presence of multiple Group III segments is designated by the insertion of a Group Separator <GS> character ([5.96](#)) between each group section.

Whenever one or more Group III request segments are supplied with Group I specifically, the host responds with Group I and corresponding Group III response segment(s). Group II cannot be supplied without Group I + III data. The presence of two or more groups is designated by the letter supplied in the Record Format field ([5.157](#)). [Table 4.1](#) provides a summary of the Record Format designation for each allowable grouping.

Table 4.1 Group and record format designations

Request record	Response record	Group designation
D	E	Credit Card/Addendum Data (Groups I + III)
W	E	Encrypted Credit Card / Addendum Data (Groups I + III)
Y	E	Tokenized Credit Card / Addendum Data (Groups I + III)

Request record	Response record	Group designation
T	U	Debit Cards or Electronic Benefits Transfer-EBT (Groups I + II + III)
X	U	Encrypted Debit Cards or Electronic Benefits Transfer - EBT (Groups I + II + III)
Z	U	Tokenized Debit Cards or Electronic Benefits Transfer - EBT (Groups I + II + III)
V	N/A	Debit Cards or EBT Confirmation Record

NOTE With the addition of encryption [4.2.48](#) or tokens [4.2.49](#), Gen2 Terminal Authentication is required.

[Table 4.2](#) through [Table 4.3](#) outline the request and response message components.

[Table 4.5](#) through [Table 4.107](#) lists valid constituent fields for all Group 1, Group 2 and Group 3 Authorization request and response messages.

Table 4.2 Authorization request record format components

Authorization Request Record format components
Start-of-text <STX>
Base Group I + III (Required)
Addendum Group II (Required for Direct Debit/EBT)
Addendum Group III (Additional Information)
Group Separator (Present only if multiple Group III addendum fields are submitted)
Addendum Group III (Additional Information)
Termination Character <ETX>
Longitudinal Redundancy Check <LRC>

Table 4.3 Authorization response record format components

Authorization Response Record format components
Start-of-text <STX>
Base Group I + III (Always Returned)
Addendum Group II (Returned for Direct Debit/EBT)
Addendum Group III (Additional Information)
Group Separator (Present only if multiple Group III addendum fields are submitted)
Addendum Group III (Additional Information)
Termination Character <ETX>

Authorization Response Record format components

Longitudinal Redundancy Check <LRC>

NOTE: Summary of Groupings: Credit Card transactions require the use of record formats D and E. These records must include the Base Group I, and at a minimum, Base Group III Version Number 000. Direct Debit and EBT transactions require the use of record formats T, U, and V. These records must include the Base Group I, Base Group II, and at a minimum, Base Group III Version Number 000.

Table 4.4 Debit/EBT confirmation record

Group	Length	Format	Reference	Content	Comments
0	1	A/N	5.157	Record Format	
	1	NUM	5.21	Application Type	
	1	A/N	5.136	Message Delimiter	
	6	NUM	5.4	Acquirer Bank Identification Number (BIN)	
	8	A/N	5.98	Host Message Identifier	
	6	NUM	5.179	System Trace Audit Number	

4.1.1 Using Encryption and Tokens

Security features include the use of encryption and tokens. Encryption allows the transaction to hold encrypted data which ensures transmission security. Tokens can be requested in a transaction and returned with a response. The use of tokens does not enhance transmission security but it allows a receiver to store unique card-type data that then reduces PCI Audit Scope for the merchant. Gen 2 Terminal Authentication (G3V049) is required in order to use either security feature.

Encryption

When including encrypted data in the Customer Data Field ([5.71](#)), this needs to be identified in the Record Format ([5.157](#)). For Credit transactions, use Record Format 'W'. For Debit transactions, use Record Format 'X'. Group III Version 052 ([4.2.48](#)) will be required to include the Encryption Type and Encryption Transmission Block so that the data may be decrypted. Refer to details later in this document.

Tokens

Tokenization is offered in two varieties: TSYS Tokenization and Card Brand Tokenization. They are addressed in different sections. Please refer to Group III Version 053 ([4.2.49](#)) for a description of TSYS Tokenization. Please refer to Group III Version 062 ([4.2.58](#)) for a description of Card Brand Tokenization.

NOTE Card Brand Tokenization is an optional feature just like TSYS Tokenization. The merchant should feel free to make a decision on which solution is the best for the line of business.

4.2 Authorization request/response message formats and constituent fields

4.2.1 Authorization message constituent fields (G1)

NOTE: This table includes all the fields valid in a Gen 2 authorization message and does not represent a specific message type. Examples of specific messaging requirements are included in [Chapter 6](#).

Table 4.5 Request message - Authorization fields comprising Group 1

Group	Length	Format	Reference	Content
I	1	A/N	5.157	Record Format
	1	NUM	5.21	Application Type
	1	A/N	5.136	Message Delimiter
	6	NUM	5.4	Acquirer BIN
	12	NUM	5.129	Merchant Number
	4	NUM	5.177	Store Number
	4	NUM	5.187	Terminal Number
	1	A/N	5.74	Device Code
	1	A/N	5.101	Industry Code
	3	NUM	5.70	Currency Code
	3	NUM	5.63	Country Code
	9	A/N	5.59	City Code
	2	NUM	5.110	Language Indicator
	3	NUM	5.192	Time Zone Differential
	4	NUM	5.121	Merchant Category Code
	1	A/N	5.161	Requested ACI
	4	NUM	5.205	Transaction Sequence Number
	2	A/N	5.201	Transaction Code
	1	A/N	5.50	Cardholder Identification Code
	1	A/N	5.1	Account Data Source
	1 - 79	A/N	5.71	Customer Data Field
	1	ASCII	5.90	Field Separator
	0, 128	A/N	5.51	Cardholder Identification Data
	1	ASCII	5.90	Field Separator
	0, 6	NUM	5.156	Receiving Institution ID
	1	ASCII	5.90	Field Separator

Group	Length	Format	Reference	Content
	1 - 12	NUM	5.199	Transaction Amount
	1	ASCII	5.90	Field Separator
	0-12	NUM	5.169	Secondary Amount
	1	ASCII	5.90	Field Separator
	0, 4	A/N	5.117	Market Specific Data
	1	ASCII	5.90	Field Separator
	0, 40	A/N	5.32	Card Acceptor Data
	1	ASCII	5.90	Field Separator
	15	A/N	5.167	Reversal and Incremental Transaction ID
	1	ASCII	5.90	Field Separator
	0, 30	A/N	5.165	Reversal and Cancel Data I
	1	ASCII	5.90	Field Separator

Table 4.6 Response message - Authorization fields comprising Group 1

Group	Length	Format	Reference	Content	Comments
I	1	A/N	5.157	Record Format	
	1	NUM	5.21	Application Type	
	1	A/N	5.136	Message Delimiter	
	1	A/N	5.164	Returned ACI	
	4	NUM	5.177	Store Number	
	4	NUM	5.187	Terminal Number	
	1	A/N	5.28	Authorization Source Code	
	4	NUM	5.205	Transaction Sequence Number	
	2	A/N	5.162	Response Code	
	6	A/N	5.22	Approval Code	
	6	NUM	5.112	Local Transaction Date	MMDDYY
	6	NUM	5.113	Local Transaction Time	HHMMSS
	16	A/N	5.27	Authorization Response Text	
	1	A/N	5.11	AVS Result Code	
	12	A/N	5.163	Retrieval Reference Number	
	1	A/N	5.117	Mkt. Specific Data Identifier	
	0, 15	A/N	5.204	Transaction Identifier	
	1	ASCII	5.90	Field Separator	<FS>
	0, 4	A/N	5.212	Validation Code	
	1	ASCII	5.90	Field Separator	<FS>

4.2.2 Debit or EBT additional fields in authorization message (G2)

Table 4.7 Request message - Debit card or electronic benefits transfer (EBT) authorization fields comprising Group 2

Group	Length	Format	Reference	Content	Comments
II	0, 7	A/N	5.166	Reversal and Cancel Data II	
	1	ASCII	5.90	Field Separator	<FS>
	1-30	A/N	5.176	Sharing Group	
	1	ASCII	5.90	Field Separator	<FS>
	0, 9	NUM	5.118	Merchant ABA Number	
	0, 4	A/N	5.132	Merchant Settlement Agent No.	
	1	ASCII	5.90	Field Separator	<FS>
	6	NUM	5.12	Agent Bank Number	
	6	NUM	5.13	Agent Chain Number	
	3	NUM	5.31	Batch Number	
	1	A/N	5.158	Reimbursement Attribute	
	0, 12	A/N	5.142	Original Purchase Data	
	1	ASCII	5.90	Field Separator	<FS>

Table 4.8 Response message - Debit card or electronic benefits transfer (EBT) authorization fields comprising Group 2

Debit Cards/EBT					
Group	Length	Format	Reference	Content	Comments
II	6	A/N	5.4	Acquirer BIN	
	8	A/N	5.98	Host Message Identifier	
	6	NUM	5.179	System Trace Audit Number	
	1	A/N	5.139	Network ID Code	
	4	NUM	5.175	Settlement Date	MMDD
	1	ASCII	5.90	*Field Separator	<FS>

* Not present for previous 'B' format response message

4.2.3 No addendum data (G3v000)

Table 4.9 Request message - No addendum data (version 000)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	000

Table 4.10 Response message - No addendum data (version 000)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	000

4.2.4 Commercial card (G3v001)

Table 4.11 Request message - Commercial card request indicator (Visa and MasterCard only, version 001)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	001
	4	A/N	5.60	Commercial Card Request Indicator	!010
	1	ASCII	5.96	Group Separator	<GS>

Table 4.12 Response message - Commercial card response indicator (version 001)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	001
	0-1	A/N	5.61	Commercial Card Response Indicator	B,R,I,S,D,0
	1	ASCII	5.96	Group Separator	<GS>

4.2.5 Card verification code 2 (G3v007)

Table 4.13 Request message - Card verification code 2 (CVV2, version 007)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	007
	6	A/N	5.213	Verification Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.14 Response message - Card verification code 2 (CVV2, version 007)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	007
	0-1	A/N	5.214	Verification Code Result Code	
	1	ASCII	5.96	Group Separator	<GS>

4.2.6 Fleet fueling card (G3v008)

Table 4.15 Request message - Fleet fueling card (version 008)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	008
	0, 17	A/N	5.99	Identification Number	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.16 Response message - Fleet fueling card (version 008)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	008
	1	ASCII	5.96	Group Separator	<GS>

4.2.7 Set e-Commerce (G3v009)

Table 4.17 Request message- Set e-Commerce (version 009)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	009
	0, 32	A/N	5.49	Cardholder Certificate Serial Number	
	1	ASCII	5.90	Field Separator	<FS>
	1-32	A/N	5.122	Merchant Certificate Serial Number	
	1	ASCII	5.90	Field Separator	<FS>
	40	A/N	5.217	XID	
	40	A/N	5.208	Transtain	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.18 Response message- Set e-Commerce (version 009)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	009
	1	ASCII	5.96	Group Separator	<GS>

4.2.8 RESERVED - CCPS (G3v010)

Table 4.19 Request message - CCPS (version 010, reserved for future use)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	010
	3	NUM	5.43	Card Sequence Number	
	6	A/N	5.185	Terminal Capability Profile	
	10	A/N	5.191	Terminal Verification Results	
	8	A/N	5.211	Unpredictable Number	
	0, 8	NUM	5.103	Interface Device Serial Number	
	1	ASCII	5.90	Field Separator	<FS>
	2	A/N	5.72	Derivation Key Index	
	2	A/N	5.69	Cryptogram Version Number	
	8	A/N	5.45	Card Verification Results	
	0, 16	A/N	5.106	Issuer Discretionary Data	
	1	ASCII	5.90	Field Separator	<FS>
	16	A/N	5.23	Authorization Request Cryptogram	
	4	A/N	5.20	Application Transaction Counter	
	4	A/N	5.19	Application Interchange Profile	
	6	NUM	5.202	Transaction Date	YYMMDD
	1	ASCII	5.96	Group Separator	<GS>

Table 4.20 Response message - CCPS (version 010, reserved for future use)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	010
	16	A/N	5.26	Authorization Response Cryptogram	
	1	ASCII	5.90	Field Separator	<FS>
	0,512	A/N	5.107	Issuer Script	
	1	ASCII	5.96	Group Separator	<GS>

4.2.9 Chip condition code (G3v011)

Group 3 Version 11 must be sent when the Account Data Source Code value is equal to "Z" (see Table 4.21 for record format and version number).

Table 4.21 Request message - Chip condition code (version 011)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	011
	1	A/N	5.58	Chip Condition Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.22 Response message - Chip condition code (version 011)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	011
	1	ASCII	5.96	Group Separator	<GS>

4.2.10 Electronic Benefits Transfer (G3v013)

Table 4.23 Request message - Electronic Benefits Transfer (EBT) (version 013)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	013
	0, 7	A/N	5.89	FCS ID	
	1	ASCII	5.90	Field Separator	<FS>
	0, 15	A/N	5.77	Electronic Voucher Serial Number	
	1	ASCII	5.90	Field Separator	<FS>
	0, 6	A/N	5.216	Voucher Approval Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.24 Response message - Electronic Benefits Transfer (EBT) (version 013)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	013
	0,12	NUM	5.29	Available Balance	
	1	ASCII	5.96	Group Separator	<GS>

4.2.11 MOTO/ e-Commerce (G3v014)

Table 4.25 Request message - MOTO/e-Commerce (version 014)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	014
	1	A/N	5.137	MOTO/e-Commerce Indicator	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.26 Response - MOTO/e-Commerce (version 014)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	014
	1	ASCII	5.96	Group Separator	<GS>

4.2.12 Service development indicator (G3v015)

Table 4.27 Request message - Service development indicator (version 015)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	015
	1	NUM	5.171	Service Development Indicator	6,5,7
	1	ASCII	5.96	Group Separator	<GS>

Table 4.28 Response message - Service development indicator (version 015)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	015
	1	ASCII	5.96	Group Separator	<GS>

4.2.13 Secure e-Commerce transaction (G3v017)

CAVV/XID: This group is used in secure e-Commerce transactions such as Visa 3-D Secure, Amex SafeKey, or Discover ProtectBuy. For these Cardholder Authentication Verification Value (CAVV) transactions, the group will contain the Transaction ID (XID) and the CAVV values. Secure e-Commerce transactions require the use of a valid e-Commerce Indicator value in G3v014.

Amex Tokenization: This group is also used in Amex Tokenization. For this usage, the group will contain the Token Data Block B and Token Data Block A. Block A is required and Block B is included only if the Token cryptogram is longer than 20 bytes.

Table 4.29 Request message - Secure e-Commerce transaction (version 017)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	017
	0, 40	A/N	5.217 or 5.196	XID or Token Cryptogram Block B	
	40	A/N	5.55 or 5.195	CAVV or Token Cryptogram Block A	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.30 Response message - Secure e-Commerce transaction (version 017)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	017
	0, 1	A/N	5.56	CAVV Results Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.14 Existing debt indicator (G3v018)

Table 4.31 Request message - Existing debt indicator (version 018)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	018
	1	NUM	5.87	Existing Debt Indicator	9
	1	ASCII	5.96	Group Separator	<GS>

Table 4.32 Response message - Existing debt indicator (version 018)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	018
	1	ASCII	5.96	Group Separator	<GS>

4.2.15 MasterCard universal cardholder authentication field (G3v019)

Table 4.33 Request message - MasterCard universal cardholder authentication field (MasterCard credit transactions only, version 019)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	019
	1	NUM	5.210	UCAF Collection Indicator	
	0-32	A/N and Special	5.209	UCAF Authentication Data	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.34 Response message - MasterCard universal cardholder authentication field (MasterCard transactions only, version 019)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	019
	1	ASCII	5.96	Group Separator	<GS>

4.2.16 Developer information (G3v020)

Effective March 1, 2016, Group 3 Version 20 is mandatory for all format D, T, W, X, Y and Z transactions.

Table 4.35 Request message - Developer information (version 020)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	020
	6	A/N	5.73	Developer ID (TSYS Acquiring Solutions assigned)	
	4	A/N	5.215	Application ID (TSYS Acquiring Solutions assigned)	
	1	ASCII	5.90	Field Separator	<FS>
	0, 10	A/N		Gateway ID	This data is optional
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.36 Response message - Developer tracking ID (version 020)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	020
	1	ASCII	5.96	Group Separator	<GS>

4.2.17 Merchant verification value (G3v021)

Table 4.37 Request message - Merchant verification value (version 021)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	021
	10	A/N	5.134	Merchant Verification Value	0-9, A-F only
	1	ASCII	5.96	Group Separator	<GS>

Table 4.38 Response message - Merchant verification value (version 021)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	021
	1	ASCII	5.96	Group Separator	<GS>

4.2.18 Additional amounts (G3v022)

Group 3 Version 22 for Additional Amounts can support on the request either no additional amounts or four field separated additional amounts. If the transaction does not require additional amounts in the request but requires additional amounts in the response, the POS device should send only the 022 version number. If the transaction does require additional amounts in the request, the POS device should send the 022 version number plus the field separated additional amounts. The POS device should send the field separators for all four additional amounts even if some of the amount data fields are not used. All five subfields for an amount must be present for the amount to be valid.

Table 4.39 Request message - Additional amounts participant (no request amounts, version 022)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	022
	1	ASCII	5.96	Group Separator	<GS>

Table 4.40 Request message - Additional amounts participant (with request amounts, version 022)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	022
	2	NUM	5.9.1	First Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.2	First Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.9.3	First Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ALPHA	5.9.4	First Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	12	N	5.9.5	First Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.1	Second Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.2	Second Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 3	NUM	5.9.3	Second Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 1	ALPHA	5.9.4	Second Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 12	N	5.9.5	Second Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.1	Third Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.2	Third Additional Amount Amount Type	

Group	Length	Format	Reference	Content	Comments
	1	ASCII	5.90	Field Separator	<FS>
	0 or 3	NUM	5.9.3	Third Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 1	ALPHA	5.9.4	Third Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 12	N	5.9.5	Third Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.1	Fourth Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.9.2	Fourth Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 3	NUM	5.9.3	Fourth Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 1	ALPHA	5.9.4	Fourth Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 12	N	5.9.5	Fourth Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.41 Response message - Additional amounts participant (version 022)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	022
	2	NUM	5.9.1	First Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.2	First Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.9.3	First Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	A/N	5.9.4	First Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	12	N	5.9	First Additional Amount	

Group	Length	Format	Reference	Content	Comments
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.1	Second Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.2	Second Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.9.3	Second Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	A/N	5.9.4	Second Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	12	N	5.9	Second Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.1	Third Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.2	Third Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.9.3	Third Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	A/N	5.9.4	Third Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>
	12	NUM	5.9	Third Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.1	Fourth Additional Amount Account Type	
	1	ASCII	5.90	Field Separator	<FS>
	2	NUM	5.9.2	Fourth Additional Amount Amount Type	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.9.3	Fourth Additional Amount Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	A/N	5.9.4	Fourth Additional Amount Sign	
	1	ASCII	5.90	Field Separator	<FS>

Group	Length	Format	Reference	Content	Comments
	12	NUM	5.9	Fourth Additional Amount	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Example: A clinic with two health providers (192387322 and 192782222) wishes to confirm eligibility for two services, 1A and V4. The following string would be submitted in group 3 version 023.

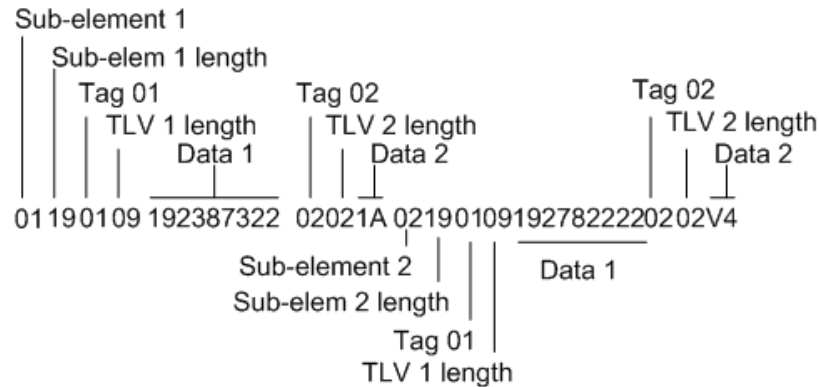


Figure 4.1 Group 3 version 023example

Table 4.43 Response message - Visa and MasterCard healthcare data (version 023)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	023
III	0-199*	ANS	5.97	Healthcare, MasterCard or Discover Member Defined Data	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

= free form length is 0-99

4.2.20 MasterCard advice code (G3v024)

For MasterCard and Discover values unrelated to health care. May contain free form data.

Table 4.44 Request message - Merchant Advice Code (MAC) (version 024)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	024
	1	ASCII	5.96	Group Separator	<GS>

Table 4.45 Response message - Merchant Advice Code (MAC) (version 024)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	024
	2	A/N	5.120	Merchant Advice Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.21 Transaction fee amount (G3v025)

Table 4.46 Request message - Transaction fee amount (version 025)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	025
	0 or 9	A/N	5.203	Transaction Fee Amount	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.47 Response message - Transaction fee amount (version 025)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	025
	1	ASCII	5.96	Group Separator	<GS>

4.2.22 Partial authorization indicator (G3v026)

Table 4.48 Request message - Partial authorization indicator (version 026)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	026
	1 to 10	ALPHA	5.144	Partial Authorization Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.49 Response message - Partial authorization indicator (version 026)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	026
	1	ASCII	5.96	Group Separator	<GS>

4.2.23 POS data code (G3v027)

Group 3 Version 27 is mandatory for all card present transactions effective March 1, 2016.

Table 4.50 Request message - POS data code (version 027)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	027
	12	A/N	5.150	POS Data Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.51 Response message - POS data code (version 027)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	027

Group	Length	Format	Reference	Content	Comments
	1	ASCII	5.96	Group Separator	<GS>

4.2.24 American Express additional data (G3v028)

Group 3 Version 28 is optionally used specifically for American Express transactions, to hold additional data. Please see [Section 5.15](#) for more information.

Table 4.52 Request message - Amex additional data (version 028)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	028
	16-287	ANS	5.15	Amex Additional Data	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.53 Response message - Amex additional data (version 028)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	028
	1	ASCII	5.96	Group Separator	<GS>

4.2.25 Extended AVS data (G3v029)

For American Express transactions, Group 3 Version 29 should be sent on all American Express transactions that contain Address Verification Data. For American Express, extended AVS Data in G3V29 takes priority over AVS Data sent in the Cardholder Identification Data field. If Extended AVS Data is sent in G3V29, AVS Data should not be sent in the Cardholder Identification Data field. If Extended AVS Data is sent in G3V29 and AVS Data is sent in the Cardholder Identification Data field, the AVS Data in the Cardholder Identification Data field will not be used. If this Group is used, there must at least be data in the Cardholder Billing Postal Code field or the transaction will be rejected.

For Discover transactions, this structure is used for the Enhanced Address Verification Service, for Cardholder First and Last Names only. The postal code and first five characters of the street address should still be sent in Cardholder identification data as usual. For Discover transactions, the Cardholder Billing Postal Code is not required.

NOTE The POS Device should send an empty Group 3 Version 48 whenever Group 3 Version 29 data is sent. This is to receive the response.

Table 4.54 Request message - Extended AVS data, (version 029)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	029
	5-9	A/N	5.88.1	Cardholder Billing Postal Code	
	1	ASCII	5.90	Field Separator	<FS>

Group	Length	Format	Reference	Content	Comments
	0-20	ANS	5.88.2	Cardholder Billing (Street) Address	
	1	ASCII	5.90	Field Separator	<FS>
	0	ALPHA	5.88.3	Cardholder Billing City (future use)	
	1	ASCII	5.90	Field Separator	<FS>
	0	A/N	5.88.4	Cardholder Billing State/Province (future use)	
	1	ASCII	5.90	Field Separator	<FS>
	0	NUM	5.88.5	Cardholder Billing Country Code (future use)	
	1	ASCII	5.90	Field Separator	<FS>
	0-35	ANS	5.88.6	Cardholder Billing First Name (Amex) Cardholder First Name (Discover)	Value is truncated at 15 characters for Amex transactions
	1	ASCII	5.90	Field Separator	<FS>
	0-35	ANS	5.88.7	Cardholder Billing Last Name (Amex) Cardholder Last Name (Discover)	Value is truncated at 30 characters for Amex transactions
	1	ASCII	5.90	Field Separator	<FS>
	0-10	NUM	5.88.8	Cardholder Billing Phone Number	
	1	ASCII	5.90	Field Separator	<FS>
	0-9	A/N	5.88.9	Ship-to Postal Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-50	A/N	5.88.10	Ship-to Address	
	1	ASCII	5.90	Field Separator	<FS>
	0	ALPHA	5.88.11	Ship-to City (future use)	
	1	ASCII	5.90	Field Separator	<FS>
	0	A/N	5.88.12	Ship-to State/Province (future use)	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 3	NUM	5.88.13	Ship-to Country Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-15	ALPHA	5.88.14	Ship-to First Name	

Group	Length	Format	Reference	Content	Comments
	1	ASCII	5.90	Field Separator	<FS>
	0-30	ALPHA	5.88.15	Ship-to Last Name	
	1	ASCII	5.90	Field Separator	<FS>
	0-10	NUM	5.88.16	Ship-to Phone Number	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.55 Response message - Extended AVS data, (version 029)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	029
	1	ASCII	5.96	Group Separator	<GS>

Group 3 version 29 examples

Example for US postal code only:

```
54321<fs><fs><fs><fs><fs><fs><fs><fs>
<fs><fs><fs><fs><fs><fs><fs><fs>
```

Example for Canadian postal code only:

```
1A2B3C<fs><fs><fs><fs><fs><fs><fs><fs>
<fs><fs><fs><fs><fs><fs><fs><fs>
```

Example for billing address only:

```
54321<fs>123~FRONT STREET<fs><fs><fs><fs><fs><fs><fs><fs>
<fs><fs><fs><fs><fs><fs><fs><fs>
```

Example for billing address, name and phone number:

```
54321<fs>123~FRONT STREET<fs><fs><fs><fs>JOHN<fs>SMITH<fs>
3213214321<fs><fs><fs><fs><fs><fs><fs><fs>
```

Example for billing address, name, phone number and all ship-to data:

```
54321<fs>123~FRONT~STREET<fs><fs><fs><fs>JOHN<fs>SMITH<fs>
3213214321<fs>12345<fs>321~BACK~ROAD<fs><fs><fs>840<fs>
LISA<fs>JONES<fs>1231231234<fs>
```

4.2.26 Amex merchant name/location data (G3v030)

This version is obsolete effective 10/17/2014. Group 3 Version 063 should be used instead.

Table 4.56 Request message - Amex merchant name/location data (version 030)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	030

Group	Length	Format	Reference	Content	Comments
	15-99	ANS	5.16	Amex Merchant Name/Location Data/Telephone Number/Email Address	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.57 Response message - Amex merchant name/location data (version 030)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	030
	1	ASCII	5.96	Group Separator	<GS>

4.2.27 Digital entity identifier (G3v031)

Gen2 Group 3, Version 31 "Digital Entity Identifier" identifies the digital entity from which the authorization message originated.

Table 4.58 Request message - Digital entity identifier (version 031)

Group	Length	Format	Reference	Content	Comments
III	Digital Entity Identifier (Version 031)				
	3	NUM	5.95	Group III Version Number	031
	5	A/N	5.75	Digital Entity Identifier	
	0, 12	NUM		Reserved	The point of sale does not need to send this field. This subfield is reserved for internal use only.
	1	ASCII	5.96	Group Separator	<GS>

Table 4.59 Response message - Digital Entity Identifier (version 031)

Group	Length	Format	Reference	Content	Comments
III	Digital Entity Identifier (Version 031)				
	3	NUM	5.95	Group III Version Number	031
	1	ASCII	5.96	Group Separator	<GS>

Refer to section [6.8, Conversion of binary to ASCII characters](#) for instructions on converting the six byte binary Agent Identification Result to 12 ASCII characters.

4.2.28 Currency conversion data (G3v032)

Gen2 Group 3 Version 32 "Currency Conversion Data" supports Currency Conversion data.

Table 4.60 Request Message - Currency conversion data request (version 032)

Group	Length	Format	Reference	Content	Comments
III	Currency Conversion Data (Version 032)				
	3	NUM	5.95	Group III Version Number	032
	1	ASCII	5.96	Group Separator	<GS>

Table 4.61 Response Message - Currency conversion data response (version 032)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	032
	0-12	NUM	5.46	Cardholder Billing Amount	
	1	ASCII	5.90	Field Separator	<FS>
	0-8	NUM	5.173	Settlement Conversion Rate	
	1	ASCII	5.90	Field Separator	<FS>
	0-8	NUM	5.47	Cardholder Billing Conversion Rate	
	1	ASCII	5.90	Field Separator	<FS>
	0-4	NUM	5.62	Conversion Date	
	1	ASCII	5.90	Field Separator	<FS>
	0-3	NUM	5.5	Acquirer Transaction Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-3	NUM	5.174	Settlement Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-3	NUM	5.48	Cardholder Billing Currency Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-12	NUM	5.8	Actual Amount, Transaction	
	1	ASCII	5.90	Field Separator	<FS>
	0-12	NUM		Reserved	
	1	ASCII	5.90	Field Separator	<FS>
	0-12	NUM		Reserved	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.29 Reversal request/adjustment response code (G3v033)

“Reversal Request Code” supports MasterCard reversals. Group 3 version 33 is allowed only for MasterCard transactions. "Adjustment Response Code" supports MasterCard AFD credit advice message.

Table 4.62 Request message - Reversal request code request (version 033)

Group	Length	Format	Reference	Content	Comments
III	Reversal Request/ Adjustment Response Code (Version 033)				
	3	NUM	5.95	Group III Version Number	033
	2	NUM	5.168	Reversal Request Code/ Adjustment Response Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.63 Response message - Reversal request code request (version 033)

Group	Length	Format	Reference	Content	Comments
III	Reversal Request Code (Version 033)				
	3	NUM	5.95	Group III Version Number	033
	1	ASCII	5.96	Group Separator	<GS>

4.2.30 Card product code (G3v034)

“Card product code” support Visa transactions.

Table 4.64 Request message - Card product code (version 034)

Group	Length	Format	Reference	Content	Comments
III	Card Product Code (Version 034)				
	3	NUM	5.95	Group III Version Number	034
	1	ASCII	5.96	Group Separator	<GS>

Table 4.65 Response message - Card product code (version 034)

Group	Length	Format	Reference	Content	Comments
III	Card Product Code (Version 034)				
	3	NUM	5.95	Group III Version Number	034
	0 or 2	A/N	5.42	Card Product Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.31 Promotional code (G3v035)

Table 4.66 Request message - Promotional code (version 035)

Group	Length	Format	Reference	Content	Comments
III	Request Promotional Code				
	3	NUM	5.95	Group III Version Number	035

Group	Length	Format	Reference	Content	Comments
	0-50	A/N	5.153	Promotion Codes	Card specific format
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.67 Response message - Promotional code (version 035)

Group	Length	Format	Reference	Content	Comments
III	Request Promotional Code				
	3	NUM	5.95	Group III Version Number	035
	0-50	A/N	5.153	Promotion Codes	Card specific format
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.32 Payment transaction type identifier (G3v036)

Table 4.68 Request message - Payment transaction type identifier (version 036)

Group	Length	Format	Reference	Content	Comments
III	Payment Transaction Type Identifier				
	3	NUM	5.95	Group III Version Number	036
	3	A/N	5.149	Payment Transaction Type Identifier	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.69 Response message - Payment transaction identifier (version 036)

Group	Length	Format	Reference	Content	Comments
III	Payment Transaction Type Identifier				
	3	NUM	5.95	Group III Version Number	036
	1	ASCII	5.96	Group Separator	<GS>

4.2.33 Real time substantiation indicator (G3v037)

Table 4.70 Request message - Real time substantiation indicator (version 037)

Group	Length	Format	Reference	Content	Comments
III	Real Time Substantiation Indicator				
	3	NUM	5.95	Group III Version Number	037
	1	NUM	5.155	Real Time Substantiation Indicator	
	1	ASCII	5.96	Group Separator	<GS>

Version 037 is only valid for MasterCard.

Table 4.71 Response message - Real time substantiation indicator (version 037)

Group	Length	Format	Reference	Content	Comments
III	Real Time Substantiation Indicator				
	3	NUM	5.95	Group III Version Number	037
	1	ASCII	5.96	Group Separator	<GS>

4.2.34 Electro-magnetic signature (G3v038)

Table 4.72 Request message - Electro magnetic signature (version 038)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	038
	128	ASCII HEX	5.76	Electro Magnetic Signature	Magnetic Stripe Card Data - pass through only
	1	ASCII	5.96	Group Separator	<GS>

Table 4.73 Response message - Electro magnetic signature (version 038)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	038
	1	ASCII	5.96	Group Separator	<GS>

4.2.35 Cardholder verification method (G3v039)

Table 4.74 Request message - Cardholder verification method (version 039)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	039
	1	A/N	5.52	Cardholder Verification Method	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.75 Response message - Cardholder verification method (version 039)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	039
	1	ASCII	5.96	Group Separator	<GS>

4.2.36 Visa ISA charge indicator (G3v040)

Table 4.76 Request message - Visa ISA charge indicator (version 040)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	040
	1	ASCII	5.96	Group Separator	<GS>

Table 4.77 Response message - Visa ISA charge indicator (version 040)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	040
	0-1	ASCII	5.104	ISA Charge Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.37 NTIA UPC/SKU data (G3v041)

Table 4.78 Request message - NTIA UPC/SKU data (version 041)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	041
	1-34	ANS	5.140	UPC/SKU	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.79 Response message - NTIA UPC/SKU data (version 041)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	041
	1	ASCII	5.96	Group Separator	<GS>

4.2.38 RESERVED Visa contactless (G3v042)

Table 4.80 Request message - Visa contactless (version 042) Reserved, no new development using this version 042 after 10/15/2012

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	042
	0, 12	NUM	5.64	Cryptogram Amount	
	1	ASCII	5.90	Field Separator	<FS>
	0, 16	AN	5.215	Application Cryptogram	
	1	ASCII	5.90	Field Separator	<FS>
	0, 4	AN	5.20	Transaction Application Counter	
	1	ASCII	5.90	Field Separator	<FS>
	0, 2-64	AN	5.215	Customer Exclusive Data	
	1	ASCII	5.90	Field Separator	<FS>
	0, 2-8	AN	5.215	Form Factor	
	1	ASCII	5.90	Field Separator	<FS>
	0, 2-64	AN	5.105	Issuer Application Data	
	1	ASCII	5.90	Field Separator	<FS>

Group	Length	Format	Reference	Content	Comments
	0, 8	AN	5.211	Unpredictable Number	
	1	ASCII	5.90	Field Separator	<FS>
	0-3	NUM	5.43	Card Sequence Number	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.81 Response message - Visa Contactless (version 042) Reserved, no new development using this version 042 after 10/15/2012

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	042
	1	ASCII	5.96	Group Separator	<GS>

4.2.39 Network ID (G3v043)

Table 4.82 Request message - Network ID (version 043)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	043
	4	NUM	5.138	Network ID	Must not be "0000"
	1	ASCII	5.96	Group Separator	<GS>

Table 4.83 Response message - Network ID (version 043)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	043
	1	ASCII	5.96	Group Separator	<GS>

4.2.40 Automated teller machines (G3v044)

Table 4.84 Request message - Automated Teller Machine (ATM) (version 044)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	044
	0 or 2	NUM	5.2	Account Type (from)	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 2	NUM	5.3	Account Type (to)	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.85 Response message - Automated Teller Machine (ATM) (version 044)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	044
	1	ASCII	5.96	Group Separator	<GS>

4.2.41 RESERVED Integrated Chip Card (G3v045)

Table 4.86 Request message - Integrated Chip Card (ICC) EMV format (version 045) Reserved, no new development using this version 045 after 10/15/2012

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	045
	12	NUM	5.64	Cryptogram Amount	Tag 9F02
	1	ASCII	5.90	Field Separator	<FS>
	0,16	AN	5.23	Authorization Request Cryptogram (ARQC)	Tag 9F26
	1	ASCII	5.90	Field Separator	<FS>
	4	AN	5.20	Transaction Application Counter	Tag 9F36
	1	ASCII	5.90	Field Separator	<FS>
	0-64	AN	5.215	Customer Exclusive Data	Visa USA only. Tag 9F7C
	1	ASCII	5.90	Field Separator	<FS>
	0-10	AN	5.215	Form Factor	Tag 9F6E
	1	ASCII	5.90	Field Separator	<FS>
	8	AN	5.211	Unpredictable Number	Tag 9F37
	1	ASCII	5.90	Field Separator	<FS>
	0-3	NUM	5.43	Card Sequence Number	Send up to 3 decimal digits. Tag 5F34
	1	ASCII	5.90	Field Separator	<FS>
	0,2	NUM	5.67	Cryptogram Information Data	Tag 9F27
	1	ASCII	5.90	Field Separator	<FS>
	0-64	AN	5.105	Issuer Application Data	Tag 9F10
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.186	Terminal Country Code	Tag 9F1A
	1	ASCII	5.90	Field Separator	<FS>
	0,8	ASCII	5.100	IFD Serial Number	Tag 9F1E
	1	ASCII	5.90	Field Separator	<FS>
	0,6	AN	5.185	Terminal Capability Profile	Tag 9F33
	1	ASCII	5.90	Field Separator	<FS>
	0-40	AN	5.108	Issuer Script Results	Tag 9F5B
	1	ASCII	5.90	Field Separator	<FS>
	0,4	NUM	5.19	Application Interchange Profile	Tag 82
	1	ASCII	5.90	Field Separator	<FS>

Group	Length	Format	Reference	Content	Comments
	0,10	NUM	5.191	Terminal Verification Results	Tag 95
	1	ASCII	5.90	Field Separator	<FS>
	0,2	NUM	5.68	Cryptogram Transaction Type	Tag 9C
	1	ASCII	5.90	Field Separator	<FS>
	6	NUM	5.189	Terminal Transaction Time	Tag 9F21
	1	ASCII	5.90	Field Separator	<FS>
	6	NUM	5.187	Terminal Transaction Date	YYMMDD. Tag 9A
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.66	Cryptogram Currency Code	Tag 5F2A
	1	ASCII	5.90	Field Separator	<FS>
	0,12	NUM	5.65	Cryptogram Cashback Amount	Required when cryptogram amount includes cashback amount. Tag 9F03
	1	ASCII	5.90	Field Separator	<FS>
	0,6	AN		Cardholder Verification Method Results	Tag 9F34
	1	ASCII	5.90	Field Separator	<FS>
	0,2	AN	5.190	Terminal Type	Tag 9F35
	1	ASCII	5.90	Field Separator	<FS>
	0,1	AN	5.200	Transaction Category Code	MC usage only. Tag 9F53
	1	ASCII	5.90	Field Separator	<FS>
	0,16	AN	5.170	Secondary PIN Block	Visa usage only. Tag C0. Only used when terminal is changing Encrypted PIN to be loaded into card.
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.87 Response message - Integrated Chip Card (ICC) EMV format (version 045) Reserved, no new development using this version 045 after 10/15/2012

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	045
	0-510	AN	5.107	Issuer Script	Can repeat up to 10 times
	1	ASCII	5.90	Field Separator	<FS>
	0-510	AN	5.26	Authorization Response Cryptogram (ARPC)	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.42 Card type response group (G3v046)

Table 4.88 Request message - Card Type Response group (version 46)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	046
	1	ASCII	5.96	Group Separator	<GS>

Table 4.89 Response message - Card Type Response group (version 46)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	046
	1-20	ANS	5.44	Card Type	If POS sends G3V46 in the request the host will respond with card type.
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.43 RESERVED TSYS internal use only (G3v047)

This request response group is reserved for TSYS usage only.

4.2.44 Cardholder verification results (G3v048)

Group 3 Version 48 Cardholder Verification Results carries Amex verification response codes for cardholder identification data from other data elements in the authorization request.

Group 3 Version 48 also carries Discover Cardholder Full Name Result Code.

To receive the Cardholder Verification Results, the POS Device should send an empty Group 3 Version 48. For Amex transactions, email (G3v028) and/or phone (G3v029) must also be sent. For Discover transactions, cardholder name (G3v029) must be sent.

Table 4.90 Request message - cardholder verification results (version 48)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	048
	1	ASCII	5.96	Group Separator	<GS>

Table 4.91 Response message - cardholder verification results (version 48)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	048
	9	AN	5.54	Cardholder verification results	Can be used for Amex or Discover
	1	ASCII	5.96	Group Separator	<GS>

4.2.45 Gen 2 terminal authentication (G3v049)

Gen2 Group 3 Version 49 is used by POS devices that perform authentication with the transaction processing host.

Table 4.92 Request message - Gen 2 terminal authentication (version 49)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	049
	0 or 24	ASCII	5.94.4	GenKey	ASCII Representation of HEX, <ul style="list-style-type: none"> • 0 length on Authentication request • 24 length on Deactivation and Authorization request
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.93 Response message - Gen 2 terminal authentication (version 49)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	049
	0 or 24	ASCII	5.94.4	GenKey	ASCII Representation of HEX, <ul style="list-style-type: none"> • 24 length on Authentication response • 0 length on Deactivation and Authorization response
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.46 Association timestamp (G3v50)

The Association timestamp version supports a specific date/time and other data elements provided by the association for message matching. Currently only valid on MasterCard AFD credit advice messages.

Table 4.94 Request message - Association timestamp (version 50)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	050
	1	ASCII	5.96	Group Separator	<GS>

Table 4.95 Response message - Association timestamp (version 50)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	050
	0, 10	NUM	5.23	Association Timestamp	mmdddhmmss
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.47 EMS service request/response (G3v051)

This MasterCard only field is used by participating Card Not Present merchants to request and receive results on a predictive risk score by the Expert Monitoring System (EMS) that may assist in determining if a CNP transaction is fraudulent. It is valid for MasterCard Authorization Request/0100 transactions only.

Table 4.96 Request message - EMS service (version 051)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	051
	1	NUM	5.84	EMS Service Request Indicator	MasterCard usage only
	1	ASCII	5.96	Group Separator	<GS>

Table 4.97 Response message - EMS service (version 051)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	051
	2	NUM	5.83	EMS Scoring Response Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.80	EMS Results Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.79	EMS Additional Information	
	1	ASCII	5.90	Field Separator	<FS>
	0, 3	NUM	5.81	EMS Risk Score	
	1	ASCII	5.90	Field Separator	<FS>
	0, 2	ANS	5.82	Risk score reason code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.48 Voltage encryption transmission block (G3v052)

Group 3 Version 52 is used by POS devices that encrypt card data.

NOTE Group 3 Version 049 - Gen2 Terminal Authentication is required in order to use Encryption.

Table 4.98 Request message - Encrypted data

Group	Length	Format	Reference	Content	Comments
III	5	NUM	5.95	Group III Version Number	052
	1	A/N	5.86	Encryption Type	
	250-300	A/N, "+", "/", "="	5.85	Encryption Transmission Block (ETB)	Base-64 encoded
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.99 Response message - Encrypted data

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	052
	1	ASCII	5.96	Group Separator	<GS>

4.2.49 TSYS token request/response (G3v053)

NOTE This group is for TSYS Tokenization only. To use Card Brand Tokenization, please refer to Group 3, version 062.

Presence of Group 3 Version 53 with any Transaction Code ([5.201](#)) indicates the POS Device is requesting a TSYS token. The token is delivered in the response.

NOTE Group 3 Version 049 - Gen2 Terminal Authentication is required in order to use TSYS Tokens.

TSYS Tokens

When requesting a token, Group III Version 053 ([4.2.49](#)) is required and the token will be sent in the response. Use of Transaction Code '5T' will send a token in the response message without performing any card verification. Use of G3V053 with any other Transaction Code ([4.163](#)) performs the usual card verification or authorization request as specified. Refer to details later in this document.

TSYS Purchase with a Token

In general, a purchase with a token is used for processing recurring payments for existing debt or repeat business. The token must have been requested previously with a valid PAN. When using a token in place of the PAN, use Record Format 'Y' for credit transactions and Record Format 'Z' for debit transactions. This functionality is not available for card present scenarios. For these types of authorization requests, the source of the customer data entered must be 'manually keyed', the Cardholder ID Code must indicate the transaction is CNP including e-Commerce and Full Address Verification Data (CID = 'N'). The token should be passed in the Customer Data Field. Please refer to [Section 6.5](#) for an example. The transaction codes acceptable for use in a token purchase are indicated as such in [Table 4.73](#). Record Format 'Y' and 'Z' transactions should never contain a request for token ([TSYS token request/response \(G3v053\)](#)). This type of transaction would be rejected.

Table 4.100 Request message - Token request

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	053
	1	ASCII	5.96	Group Separator	<GS>

Table 4.101 Response message - Token request

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	053

2	AN	5.195	Token Status	Status of token retrieval
1	ASCII	5.90	Field Separator	<FS>
0, 13-19	A/N	5.193	Token	Format-preserved token with last 4 digits preserved.
1	ASCII	5.90	Field Separator	<FS>
1	ASCII	5.96	Group Separator	<GS>

4.2.50 Transit program (G3v054)

Table 4.102 Request message - Transit program request (version 054)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	054
	2	NUM	5.206	Transit Transaction Type Indicator	Valid value
	2	NUM	5.207	Transportation Mode Indicator	Valid value
	1	ASCII	5.96	Group Separator	<GS>

Table 4.103 Response message - Transit program response (version 054)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	054
	1	ASCII	5.96	Group Separator	<GS>

4.2.51 Integrated Chip Card (ICC) EMV TLV Format (G3v055)

All data in Group 3 Version 55 must be expressed as hexadecimal characters A-F and 0-9.

Table 4.104 Request message - Integrated Chip Card (ICC) EMV TLV format (version 055)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	055
	6-255	Hex	5.193	Refer to Appendix A	TLV data, 2 characters per byte
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

The following list of EMV tags are mandatory and must be sent on any transaction that contains group 3 version 55. If either or both of these tags are missing the transaction will be rejected.

Tag	Tag name	Description
DF79	Kernal Version Number	The version number of the kernel used to process the chip data in the transaction. (variable 1 - 32)
DF78	Device Serial Number	The manufacturer's unique serial number of the device that interacts with the chip card. (variable 1 - 20)

Table 4.105 Response message - Integrated Chip Card (ICC) EMV TLV format (version 055)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	055
	6-255	ASCII Hex		Typically includes one or more issuer scripts (tag 71 or 72) and issuer authentication data (tag 91)	TLV data, 2 characters per byte
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.52 Message reason code (G3v056)

NOTE Group 3 Version 056 - Message Reason Code is required on all ICC chip card reversals.

Table 4.106 Request message - Message reason code

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	056
	4	NUM	5.135	Message Reason Code	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.107 Response message - Message reason code

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	056
	1	ASCII	5.96	Group Separator	<GS>

4.2.53 Additional response data (G3v057)

Table 4.108 Request message - Additional response data

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	057
	0-25	A/N/S	5.10	Additional Response Data	Additional data for Discover/PayPal AFD messages
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.109 Response message - Additional response data

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	057
	0-25	A/N/S	5.10	Additional Response Data	Additional data for Discover/PayPal AFD messages
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.54 Alternate account ID 1 (G3v058)

It is recommended that Group 3, version 58 be accompanied by Group 3, version 59 for MasterCard transactions.

Table 4.110 Request message - Alternate account ID 1 (G3v058)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	058
	1	ASCII	5.96	Group Separator	<GS>

Table 4.111 Response message - Alternate account ID 1 (G3v058)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	058
	1-28	NUM	5.14	Alternate Account ID 1	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.55 MasterCard mapping service (G3v059)

It is recommended that Group 3, version 59 be accompanied by Group 3, version 58 for MasterCard transit transactions.

Table 4.112 Request message-MasterCard mapping service

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	059
	1	ASCII	5.96	Group Separator	<GS>

Table 4.113 Response message-MasterCard mapping service

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	059
	1	A/N	5.115	Mapped PAN Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	4	NUM	5.118	Mapped Card Expiration Date	
	1	ASCII	5.90	Field Separator	<FS>
	3	A/N	5.116	Mapped Product Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.57 Spend qualified indicator (G3v061)

This group should be sent on all Visa transactions.

Table 4.116 Request message - spend qualified indicator

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	061
	1	ASCII	5.96	Group Separator	<GS>

Table 4.117 Response message - spend qualified indicator

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	061
	0, 1	A/N	5.177	Spend Qualified Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.58 Card brand tokenization (G3v062)

NOTE This group is for Card Brand Tokenization only. To use TSYS Tokenization, please refer to Group 3, version 053.

This group may be sent on Visa, MasterCard, American Express, or Discover token purchase transactions. This is recommended if the merchant uses or pays for card brand tokenization. This group can be included if the merchant expects to see any of the data in the response fields.

For card brand tokenization, the Token is a surrogate value for a PAN that is consistent with ISO 8583 message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check. Tokens are generated within a BIN range that has been designated as a token BIN range. Please refer to Section [4.1.1](#) for a high-level description of the use of this feature.

There are three separate cases that apply: Token Request, Token Maintenance, and Token Purchase. They are described in the following sections. In the tables that follow, the applicable fields are listed for each case. If the Card Brand offers the case, there will be a column that shows which fields are mandatory, conditional, or optional for each applicable card brand. The following abbreviations apply.

Abbreviation	Full Description
M	Mandatory - For a request, the field is required. For a response, the field will be present.
C	Conditional - For a request, the field will be required in some situations. For a response, the field may be present. Consult the field description for complete details.
O	Optional - The field may or may not be present. Consult the field description for complete details.
MC	MasterCard
V	Visa
AX	American Express
D	Discover

Card Brand Token Request

This scenario is used to request a token. MasterCard is the only card brand offering this use case at this time. For this scenario, use Transaction Code **5D**. In the request, enter the *desired* Assurance Level. In the response will be the *assigned* Assurance Level.

Card Brand Token Request- Request

ID	Field Name	MC
5.40	Card Brand Token Requestor ID	M
5.36	Card Brand Token Assurance Level	O

Card Brand Token Request-Response

ID	Field Name	MC
5.36	Card Brand Token Assurance Level	C
5.33	Card Brand Token	C
5.37	Card Brand Token Expiration Date	C

Card Brand Token Status Inquiry and Maintenance

This scenario is used for requesting the status of a token and maintaining a token. MasterCard is the only card brand offering this scenario at this time. For this scenario, use Transaction Code **5D**. In the request, enter the *desired* Assurance Level. In the response will be the *assigned* Assurance Level. The Assurance Level should be sent back if requested.

Card Brand Token Maintenance- Request

ID	Field Name	MC
5.40	Card Brand Token Requestor ID	M
5.36	Card Brand Token Assurance Level	O
5.35	Card Brand Token Action Indicator	M
5.39	Card Brand Token Replacement PAN Expiration Date	C

Card Brand Token Maintenance-Response

ID	Field Name	MC
5.36	Card Brand Token Assurance Level	C
5.33	Card Brand Token	C
5.37	Card Brand Token Expiration Date	C
5.40	Card Brand Token Status	C

This scenario is used to authorize a transaction using a card brand Token instead of a PAN. MasterCard, Visa or Discover are the only card brands offering this use case at this time.

Recurring purchase, Card on File, Contactless, Application Initiated (Digital Wallet), and Partial Shipment transactions that use a card brand token must be clearly identified. Please refer POS Data Code in to Group 3 Version 27 (subfields 5, 6, & 7) for more information.

ID	Field Name	MC	V	D	AX
5.40	Card Brand Token Requestor ID	C	C	N/A	C*

Card Brand Token Purchase-Response

ID	Field Name	MC	V	D	AX
5.36	Card Brand Token Assurance Level	O	C	M	N/A
5.38	Card Brand Token PAN Last 4 Digits	C	C	M	M
5.34	Card Brand Token Account Range Status	N/A	C	N/A	N/A

NOTE Transit merchants will see additional information in Group 3, Version 58 and 59 for MasterCard transactions in this scenario.

Table 4.118 Request message- card brand tokenization

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	062
	0, 11	NUM	5.40	Card Brand Token Requestor ID	
	1	ASCII	5.90	Field Separator	<FS>
	0, 2	A/N	5.36	Card Brand Token Assurance Level	
	1	ASCII	5.90	Field Separator	<FS>
	0, 1	A/N	5.35	Card Brand Token Action Indicator	
	1	ASCII	5.90	Field Separator	<FS>

Group	Length	Format	Reference	Content	Comments
	0, 4	NUM	5.39	Card Brand Token Replacement PAN Expiration	MMYY
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.119 Response message - card brand tokenization

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	062
	0, 2	A/N	5.36	Card Brand Token Assurance Level	
	1	ASCII	5.90	Field Separator	<FS>
Group	Length	Format	Reference	Content	Comments
	0, 4	NUM	5.38	Card Brand Token PAN Last 4 Digits	
	1	ASCII	5.90	Field Separator	<FS>
	0,1	A/N	5.34	Card Brand Token Account Range Status	
	1	ASCII	5.90	Field Separator	<FS>
	0, 13-19	NUM	5.33	Card Brand Token	
	1	ASCII	5.90	Field Separator	<FS>
	0, 4	NUM	5.37	Card Brand Token Expiration Date	MMYY
	1	ASCII	5.90	Field Separator	<FS>
	0, 1	A/N	5.40	Card Brand Token Status	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.59 Amex card acceptor name/location (G3v063)

This version is used in lieu of G3v030.

This data is required for the following:

- Oil Company Industry, including Customer Activated Terminal (CAT) transactions where more than one Service Establishment Number is used for each physical location. Only the Merchant ID Code and Postal Code Fields are required.
- Payment Service Providers (Aggregators) and OptBlue participants. All Fields are required.

It is recommended that this data be populated by all merchants in every American Express authorization request.

Table 4.120 Request message - Amex card acceptor name/location

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	063
	1-20	NUM	5.128	Merchant ID Code	
	1	ASCII	5.90	Field Separator	<FS>
	0-30	A/N	5.126	Merchant DBA Name	
	1	ASCII	5.90	Field Separator	<FS>
	0-20	A/N	5.133	Merchant Street Address	
	1	ASCII	5.90	Field Separator	<FS>
	0, 10	A/N	5.130	Merchant Phone	
	1	ASCII	5.90	Field Separator	<FS>
	0-20	ANS	5.127	Merchant Email	
	1	ASCII	5.90	Field Separator	<FS>
	5-10	ANS	5.131	Merchant Postal Code	
	1	ASCII	5.90	Field Separator	<FS>
	13	ASCII	5.123	Merchant City	
	1	ASCII	5.90	Field Separator	<FS>
	3	ASCII	5.125	Merchant Region Code	
	1	ASCII	5.90	Field Separator	<FS>
	3	ASCII	5.124	Merchant Country Code	
	1	ASCII	5.90	Field Separator	<FS>
	1-20	ASCII	5.148	Payment Service Provider Name	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.121 Response message - Amex card acceptor name/location

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	063
	1	ASCII	5.96	Group Separator	<GS>

4.2.60 MasterCard Wallet Identifier (G3v064)

Table 4.122 Request message - MasterCard wallet identifier

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	064
	3	AN	5.118	MasterCard Wallet Identifier	3 char fixed length
	1	ASCII	5.96	Group Separator	<GS>

Table 4.123 Response message - MasterCard wallet identifier

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	064
	1	ASCII	5.96	Group Separator	<GS>

4.2.61 ISO Identifier (G3v065)

This group must be provided on all MasterCard transactions where the merchant has a relationship with an ISO.

Table 4.124 Request message - ISO identifier

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	065
	11	NUM	5.101	ISO Identifier	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.125 Response message - ISO identifier

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	065
	1	ASCII	5.96	Group Separator	<GS>

4.2.62 Payment Facilitator (G3v066)

This group must be provided on all MasterCard transactions where the merchant has a relationship with a Payment Facilitator. If G3v066 is present in the message, all fields must be present and populated (cannot be all spaces). Otherwise, the transaction will be rejected.

Table 4.126 Request message - payment facilitator

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	066
	11	NUM	5.143	Payment Facilitator Identifier	
	1	ASCII	5.90	Field Separator	<FS>
	3-25	AN	5.147	Payment Facilitator Name*Sub-Merchant Name	
	1	ASCII	5.90	Field Separator	<FS>
	15	NUM	5.181	Sub-Merchant Identifier	
	1	ASCII	5.90	Field Separator	<FS>
	1-13	AN	5.179	Sub-Merchant City	
	1	ASCII	5.90	Field Separator	<FS>
	2	AN	5.183	Sub-Merchant State/Province Code	
	1	ASCII	5.90	Field Separator	<FS>
	3	NUM	5.180	Sub-Merchant Country Code	
	1	ASCII	5.90	Field Separator	<FS>
	5-9	AN	5.182	Sub-Merchant Postal Code	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.127 Response message - payment facilitator

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	066
	1	ASCII	5.96	Group Separator	<GS>

4.2.63 Authorization indicator (G3v067)

This MasterCard only group must be included on all MasterCard Authorization Request/0100, Authorization Advice/0120, and Reversal Request/0400 transactions.

Table 4.128 Request message - Authorization indicator (version 067)

Group	Length	Format	Reference	Content	Comments
III	Authorization Indicator				
	3	NUM	5.95	Group III Version Number	067
	1	NUM	5.24	Authorization Indicator	
	1	ASCII	5.96	Group Separator	<GS>

Version 067 is only valid for MasterCard

Table 4.129 Response message - Authorization indicator (version 067)

Group	Length	Format	Reference	Content	Comments
III	Authorization Indicator				
	3	NUM	5.95	Group III Version Number	067
	1	ASCII	5.96	Group Separator	<GS>

4.2.64 Fraud enhanced data (G3v068)

This Discover only group indicates whether the cardholder is a registered user on a merchant's website. Merchants must populate these values in Discover Authorization Request/0100 messages for e-Commerce transactions. It may also be populated in some cases for merchants that cannot properly report e-commerce transactions.

Table 4.130 Request message - Fraud enhanced data (version 068)

Group	Length	Format	Reference	Content	Comments
III	Fraud Enhanced Data				
	3	NUM	5.95	Group III Version Number	068
	1	NUM	5.158	Registered User Indicator	
	1	ASCII	5.90	Field Separator	<FS>
	8	NUM	5.159	Registered User Last Profile Date Change	Format: DDMMYY YY
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Version 068 is only valid for Discover

Table 4.131 Response message - Fraud enhanced data (version 068)

Group	Length	Format	Reference	Content	Comments
III	Fraud Enhanced Data				
	3	NUM	5.95	Group III Version Number	068
	1	ASCII	5.96	Group Separator	<GS>

4.2.65 Lane ID (G3v069)

Table 4.132 Request message - Lane ID (version 069)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	069
	8	NUM	5.110	Lane ID	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.133 Response message - Lane ID (version 069)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	069
	1	ASCII	5.96	Group Separator	<GS>

4.2.66 Payment Specific Data (G3v070)

Table 4.134 Request message - Payment Specific Data (version 070)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	070
	0-35	A/N	5.145	Payment Account Reference	
	1	ASCII	5.90	Field Separator	<FS>
	0-35	A/N	5.143	PAN Reference Identifier	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.135 Response message - Payment Specific Data (version 070)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	070
	0-35	A/N	5.145	Payment Account Reference	
	1	ASCII	5.90	Field Separator	<FS>
	0-35	A/N	5.143	PAN Reference Identifier	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.67 POS Environment Indicator (G3v071)

Table 4.136 Request message - POS Environment Indicator (version 071)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	070
	1	A/N	5.153	POS Environment Indicator	
	1	ASCII	5.96	Group Separator	<GS>

Table 4.137 Response message - POS Environment Indicator (version 071)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	071
	1	ASCII	5.96	Group Separator	<GS>

4.2.68 Electronic Commerce Security Level Information (G3v072)

Table 4.138 Request message - Electronic Commerce Security Level Information (version 072)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	072
	1	ASCII	5.96	Group Separator	<GS>

Table 4.139 Response message - Electronic Commerce Security Level Information (version 072)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	072
	0, 3	A/N	5.77	Electronic Commerce Security level Indicator	

	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.2.69 Gift card information (G3v200)

Table 4.140 Request message - Gift card information - request (version 200)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	200
	0-8	NUM	5.141	Operator / Clerk ID	
	1	ASCII	5.90	Field Separator	<FS>
	1	A/N	5.30	Bar Code Format	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

Table 4.141 Response message - Gift card information - request (version 200)

Group	Length	Format	Reference	Content	Comments
III	3	NUM	5.95	Group III Version Number	200
	0 or 12	NUM	5.29	Available Balance	
	1	ASCII	5.90	Field Separator	<FS>
	0 or 12	NUM	5.17	Amount Actually Used From Card	
	1	ASCII	5.90	Field Separator	<FS>
	1	ASCII	5.96	Group Separator	<GS>

4.3.5 Automated fueling

Transactions occurring at customer activated automated fueling systems need only perform a \$1.00 pre-authorization before fueling. The authorization code obtained is then valid for up to a \$50.00 dispersal of fuel. Fueling amounts in excess of \$50.00 should occur as “over-the-counter” transactions where the card can be physically presented. Please note that transactions occurring at an automated fuel dispenser must currently be settled separately from those occurring over-the-counter. Refer to [7.1.1.5](#) for a representation of the required authorization request format for automated fueling systems. Transactions occurring over-the-counter should utilize the general authorization format indicated in [7.1.1.1](#).

4.3.6 Direct debit

These transactions require the Track Two image of the card’s magnetic stripe and an encrypted cardholder Personal Identification Number (PIN). Refer to [7.1.2](#) for a representation of the required request format.

4.3.7 Electronic Benefits Transfer (EBT)

These transactions require either the Track Two image of the card’s magnetic stripe or a manually entered account number, an encrypted cardholder PIN, and an FCS ID for Food Stamp and Cash Benefit Purchases or the Serial Number of a Food Stamps Electronic Voucher. Please refer to [7.1.2](#) for a representation of the required request format.

Please note that the aforementioned conditions are subject to change.

4.3.8 Health care benefits

Healthcare/Transit Auto-Substantiation Transaction

If merchants do not support Partial Authorizations and the amount requested exceeds the available balance on the benefit account, the transaction will be declined.

Chapter 5

Field definitions

.....

This section describes the individual fields contained in the authorization request and response formats.

5.1 Account data source code

This field contains a one-character code identifying the source of the customer data entered in field 4.1 (see [Table 4.5](#) for record format and version number).

Table 5.1 Account data source code

Code	Description
A	Bar code/Payment code read
D	Full magnetic stripe read and transmit, Track two
G	Chip Card Read Data (CCPS)
H	Full magnetic stripe read and transmit, Track one
P	Manually keyed, Chip Card read capable terminal
Q	Proximity payment device using track data rules (transmit only Track two to Sierra)
R	Proximity payment device using EMV-Chip data rules
S	Full magnetic stripe read (Track two only), Chip Card capable terminal
T	Manually keyed, Track two capable
X	Manually keyed, Track one capable
@	Manually keyed, terminal has no card reading capability
E-F, I-O	Reserved for Asia/Pacific Region
W	Chip Card transaction processed as magnetic stripe due to the terminal application not having any EMV applications in common with the chip card.
Z	Chip Card transaction processed as magnetic stripe from a chip capable terminal, due to card or terminal failure
U-V, Y, 1-9	Reserved for future use

NOTES: For Authorization Reversal transactions and AFD Completion advice transactions, this field must contain a value indicating the transaction was manually keyed.

If a dual Track reading terminal is being used, the correct value of D or H for the magnetic stripe data must be transmitted.

When data is manually keyed at a dual Track reading terminal, transmit either a T or an X.

5.2 Account type (from)

A two digit code identifying the account type affected by this transaction. For domestic account transfers, the account from which an account transfer is made.

Table 5.2 Account type (from)

Value	Description
00	Not Applicable
10	Savings Account
20	Checking Account
30	Credit Card Account
40	Universal

5.3 Account type (to)

For domestic account transfers, a two digit code identifying the account type to which an account transfer is made.

Table 5.3 Account type (to)

Value	Description
00	Not Applicable
10	Savings Account
20	Checking Account
30	Credit Card Account
40	Universal

Value	Description
40	Universal
60	Stored Value Account
96	Cash Benefits Account (for use by Electronic Benefits Transfer transactions only)
98	Food Stamps Account (for use by Electronic Benefits Transfer transactions only)

5.9.2 Additional amount - amount type

Table 5.5 Additional amount - amount type

Value	Description
01	Deposit account: Ledger balance Credit card account: Open to buy
02	Deposit account: Available balance Credit card account: Credit limit
05	Amex Prepaid Card available amount remaining (Amex only)
4S	Amount Healthcare (Visa authorization request only)
4T	Amount Transit (Visa authorization request only)
3S	Amount Co-payment
57	Original Amount
10	Partial authorized amount
4U	Amount Prescription/Rx (Visa and MC authorization requests)
4V	Amount Vision/Optical (Visa authorization request only)
4W	Amount clinic/other qualified medical (Visa authorization request only)
4X	Amount Dental (Visa authorization request only)
80	Amount cash over- Discover only
81	Original Amount Cash Over- Discover Only
43	Total cumulative authorized amount for series of incremental authorization transactions (Discover only)

NOTE A Discover Merchant Initiated Transactions [MIT] is any transaction that relates to a previous consumer-initiated transaction that originated from a digital wallet. The Additional amount - amount type field will contain the original transaction amount [value 57] for the following types of merchant initiated transactions: partial shipment, recurring, and reauthorization of full amount

5.9.3 Additional amount - currency code

This field contains a three-character numeric Currency Code identifying the currency for the returned additional amount.

5.9.4 Additional amount - sign

Table 5.6 Additional amount - sign

Value	Description
C	Positive balance
D	Negative balance

5.9.5 Additional amount

The 12-character numeric amount, left justified and zero filled.

5.10 Additional response data

This field contains additional data from a Discover/PayPal AFD authorization response message that must be used in a Discover/PayPal AFD completion advice message.

Example:

Original Discover/PayPal AFD authorization message

- Request: G3v057 is required, but contains no data
- Response: G3v057 is populated with data required for an AFD completion advice transaction

Advice Transaction

- Request: Echo back G3v057 data from the original authorization response
- Response: G3v057 is empty

Sub-field	Description
1	Response Source/Reason Code
2	Address Verification Result Code
3	Reserved
4	Reserved

Sub-field	Description
5	CVV Results Code (requests and responses)
6	Reserved
7	Reserved
8	Card Authentication Results Code
9	Reserved
10	CVV2 Results Code
11	Reserved
12	Check Settlement Code (CAVV)
13	CAVV Results
14	Merchant Advice Code (MasterCard)

5.11 Address verification result code

This one-character field contains the Address Verification Result Code. An Address Verification Result Code can provide additional information concerning the authentication of a particular transaction for which cardholder Address Verification was requested. An Address Verification result code of “0” is returned in the response message when no address verification has been requested. The value returned should be stored and submitted as part of the data capture settlement record.

Table 5.7 Address verification result code

Address Verification Result Code	Authorization Response Message	Response Definition	Code Applies to	
			Domestic	International
0	Approved	Address verification was not requested	X	X
A	Address Match	Address match only	X	X
B	Address Match	Street Address match for international transaction Postal Code not verified because of incompatible formats (Acquirer sent both street address and Postal Code)	X	X
C	Serv Unavailable	Street address and Postal Code not verified for international transaction because of incompatible formats (Acquirer sent both street and Postal Code)	X	X
D	Exact Match	Street Address match for international transaction		X

Address Verification Result Code	Authorization Response Message	Response Definition	Code Applies to	
			Domestic	International
6	Cardholder name incorrect, address and ZIP match	AMEX only	N/A	N/A
7	Cardholder name incorrect, address match	AMEX only	N/A	N/A
8	Cardholder, all do not match	AMEX only	N/A	N/A

5.12 Agent bank number

This six-character numeric contains an agent number assigned by the signing member or processor (see [Table 4.7](#) for record format and version number). The number identifies an institution which signs merchants as an agent of a member. The member uses this number to identify the agent within TSYS Acquiring Solutions' system.

This field should be configured as a parameter.

5.13 Agent chain number

This six-character numeric field contains a merchant chain identification number assigned by the signing member or processor (see [Table 4.7](#) for record format and version number). The member uses this number to identify the merchant chain within the TSYS Acquiring Solutions' system. This field should be configured as a parameter.

5.14 Alternate account ID 1

This field contains alternate account number information.

For MasterCard transit transactions, this field will contain the Primary Account Number (PAN).

5.15 American Express additional data

This field is optionally used specifically for American Express transactions, to hold additional data. Only one of these formats can be used at a time.

- The ITD format has a minimum length of 74 bytes and a maximum of 265.
- The APD format has a minimum of 151 bytes and a maximum of 290.
- The Card Present - Goods Sold format has a specific length of 16 bytes.

5.15.1 AMEX card not present internet telephone data (ITD)

This format can be used for Merchants in mail-, telephone- and internet-order industries that submit Card Not Present - Internet Telephone Data (ITD). For merchants using this format, ITD subfields may contain source data, including the Cardmember's web and email addresses, host computer name, HTTP browser, product SKU (Stock Keeping Unit) inventory reference number, shipping method and country to which product will be shipped

Table 5.8 Card not present (mail, telephone, and internet order) ITD format

Byte	Length	Format	Field Description	Content
1-2	2	A/N	PRIMARY ID	Primary ID (Card Type Code) is constant literal “AX” (American Express).
3-5	3	A/N	SECONDARY ID	Secondary ID (Data Type Code). Valid IDs include: ITD = Card Not Present Data
6-8	3	A/N	CUSTOMER EMAIL ID (CE ID)	Customer EMail ID is constant “CE~” (Customer EMail). Note: ~ = character space.
9-10	2	NUM	VARIABLE LENGTH INDICATOR (CE VLI)	CE VLI indicates length of CUSTOMER EMAIL variable data (not including CE ID or VLI).
11-34	1-60	A/N & special characters	CUSTOMER EMAIL Note: Example is 24 bytes.	Customer’s e-mail address. Example: CFFROST@EMAILADDRESS.COM
35-37	3	A/N	CUSTOMER HOSTNAME ID (CH ID)	Customer HostName ID is constant “CH~” (Customer HostName). Note: ~ = character space.
38-39	2	NUM	VARIABLE LENGTH INDICATOR (CH VLI)	CH VLI indicates length of CUSTOMER HOSTNAME variable data (not including CH ID or VLI).
40-53	1-60	A/N & special characters	CUSTOMER HOSTNAME Note: Example is 14 bytes.	Name of the server that the customer is connected to. Example: PHX.QW.AOL.COM
54-56	3	A/N	HTTP BROWSER TYPE ID (HBT ID)	HTTP Browser Type ID is constant “HBT” (HTTP Browser Type).
57-58	2	NUM	VARIABLE LENGTH INDICATOR (HBT VLI)	HBT VLI indicates length of HTTP BROWSER TYPE variable data (not including HBT ID or VLI).

Byte	Length	Format	Field Description	Content
59-104	1-60	A/N & special characters	HTTP BROWSER TYPE Note: Example is 46 bytes.	Customer's HTTP browser type. Example: MOZILLA/4.0~(COMPATIBLE;~MSIE~5.0;~WINDOWS~95) Note: ~ = character space.
105-107	3	A/N	SHIP TO COUNTRY ID (STC ID)	Ship To Country ID is constant "STC" (Ship To Country).
108-109	2	NUM	VARIABLE LENGTH INDICATOR (STC VLI) Note: Constant value "03".	STC VLI indicates length of SHIP TO COUNTRY variable data. Must be "03".
110-112	3	A/N	SHIP TO COUNTRY Note: Use three-byte, numeric country code.	Three-byte, numeric country code. Example for USA: 840
113-115	3	A/N	SHIPPING METHOD ID (SM ID)	Shipping Method ID is constant "SM~" (Shipping Method). Note: ~ = character space.
116-117	2	NUM	VARIABLE LENGTH INDICATOR (SM VLI) Note: Constant value "02".	SM VLI indicates length of SHIPPING METHOD variable data (not including SM ID or VLI). Must be "02".
118-119	2	A/N	SHIPPING METHOD	Two-byte, shipment-type code: 01 = Same Day 02 = Overnight / Next Day 03 = Priority, 2-3 days 04 = Ground, 4 or more days 05 = Electronic Delivery 06 = Ship to Store 07-ZZ = Reserved for future use
120-122	3	A/N	MERCHANT PRODUCT SKU ID (MPS ID)	Merchant Product SKU ID is constant "MPS" (Merchant Product SKU).
123-124	2	NUM	VARIABLE LENGTH INDICATOR (MPS VLI)	MPS VLI indicates length of MERCHANT PRODUCT SKU variable data (not including MPS ID or VLI).
125-132	1-15	A/N	MERCHANT PRODUCT SKU Note: Example is 8 bytes.	Unique SKU (Stock Keeping Unit) inventory reference number of product associated with this authorization request. For multiple items, enter the SKU for the single, most expensive item. Example: TKDC315U
133-147	15	A/N & special characters	CUSTOMER IP	Customer's Internet IP address. Format: nnn.nnn.nnn.nnn Example: 127.142.005.056

5.15.2 AMEX Airline Passenger Data (APD)

APD format is for merchants that are in the airline industry. These merchants will pass APD format data which include the information listed in [Table 5.9](#).

Table 5.9 Airline Passenger Data (APD) format

Byte	Length	Format	Field Description	Content
1-2	2	A/N	PRIMARY ID	Primary ID (Card Type Code) is constant literal “AX” (American Express).
3-5	3	A/N	SECONDARY ID	Secondary ID (Data Type Code). Valid IDs include: APD = Airline Passenger Data
6-13	8	NUM	DEPARTURE DATE	Departure Date (format CCYYMMDD). Example: 20030101
14-16	3	A/N	AIRLINE PASSENGER NAME ID (APN ID)	Airline Passenger Name ID is constant literal “APN” (Airline Passenger Name).
17-18	2	NUM	VARIABLE LENGTH INDICATOR (APN VLI)	APN VLI indicates length of Airline PASSENGER NAME variable data (not including APN ID or VLI).
19-41	23-40	A/N	PASSENGERNAME Note: Example is 23 bytes.	Passenger Name in format: SURNAME~ FIRSTNAME~MIDDLEINITIAL ~ TITLE Use character space as sub-element separator. Variable data must be 23-bytes minimum, space filled as necessary, 40-bytes maximum. Truncate at 40 bytes, if necessary. Example: FROST~JANE~M~MRS~~~~~ ~~ Note: ~ = character space.
42-44	3	A/N	CARDMEMBER NAME ID (CN ID)	Cardmember Name ID is constant literal “CN~” (Cardmember Name). Note: ~ = character space.
45-46	2	NUM	VARIABLE LENGTH INDICATOR (CN VLI)	CN VLI indicates length of CARDMEMBER NAME variable data (not including CN ID or VLI).

Byte	Length	Format	Field Description	Content
47-69	23-40	A/N	CARDMEMBER NAME Note: Example is 23 bytes.	Cardmember Name in format: SURNAME~ FIRSTNAME~MIDDLEINITIAL ~ TITLE Use character space as sub-element separator. Variable data must be 23- bytes minimum, space filled as necessary, 40-bytes maximum. Truncate at 40 bytes, if necessary. Example: FROST~CHARLES~F~MR~~~ ~~ Note: ~ = character space.
70-74	5	A/N & special characters	ORIGIN (Origin Airport)	First segment travel origination Airport. Note: Five-byte code sequence allows for anticipated expansion of present, three-character Airport Code. If necessary, left justify codes and character space fill each code sequence to five bytes. Example: ABC~~ Note: ~ = character space.
75-79	5	A/N & special characters	DEST (First Segment Travel Destination Airport)	Destination Airport for first travel segment of trip; not necessarily the final destination. For example, if passenger flies from STL to MIA with layover at JFK, Destination Airport for first segment is JFK. Note: Five-byte code sequence allows for anticipated expansion of present, three-character Airport Code. If necessary, left justify codes and character space fill each code sequence to five bytes. Example: XYZ~~ Note: ~ = character space.
80-82	3	A/N	ROUTING ID (RTG ID)	Routing ID is constant literal "RTG" (Routing).
83-84	2	NUM	VARIABLE LENGTH INDICATOR (RTG VLI)	RTG VLI indicates combined length of NUMBER OF CITIES and ROUTING CITIES variable data (not including RTG ID or VLI).
85-86	2	NUM	NUMBER OF CITIES	Number of Airports or Cities on ticket (10 max).

Byte	Length	Format	Field Description	Content
87-145	11-59	A/N	ROUTING CITIES Note: Example is 59 bytes.	Routing Airport or City Codes for each leg on ticket (including ORIGIN and DEST) in five-byte segments with virgule (/) separator. Example: ABC~~~/DEF~~~/GHI~~~/JKL~~~/MNO~~~/PQR~~~/STU~~~/VWX~~~/YZA~~~/XYZ~~~
146-148	3	A/N	AIRLINE CARRIERS ID (ALC ID)	Airline Carriers ID is constant literal "ALC" (Airline Carrier).
149-150	2	NUM	VARIABLE LENGTH INDICATOR (ALC VLI)	ALC VLI indicates combined length of NUMBER OF AIRLINE CARRIERS and AIRLINE CARRIERS variable data (not including ALC ID or VLI).
151-152	2	NUM	NUMBER OF AIRLINE CARRIERS	Number of Airline Carriers entered in AIRLINE CARRIERS subfield (9 max). Example: 09
153-205	5-53	A/N	AIRLINE CARRIERS Note: Example is 53 bytes.	Airline Carrier Code for each leg on ticket (including ORIGIN and DEST) in five-byte segments with virgule (/) separator. Example: AB~~~/XY~~~/BC~~~/CD~~~/DE~~~/DE~~~/CD~~~/BC~~~/AB~~~ Note: Each leg must have Airline Carrier Code entry, even if multiple (or all) legs are on the same Airline.
206-229	24	A/N	FARE BASIS	Primary and secondary discount codes indicate class of service and fare level associated with ticket. Truncate at 24 bytes, if necessary. Example: ABC123DEF456GHI789JKL012
230-232	3	NUM	NUMBER OF PASSENGERS	Number of passengers in party. Example: 001
233	1	A/N & special characters	E-TICKET INDICATOR	Indicates if ticket is electronic. E = E-Ticket ~ = Other ticket types (non-electronic ticket) Note: ~ = Character space
234-236	3	A/N	RESERVATION CODE ID (RES ID)	Reservation Code ID is the constant literal "RES" (Reservation Code).

Card Present - Goods Sold Example

The example below corresponds to the Goods Sold Format Table on the preceding pages, and illustrates a data field entry for Goods Sold merchants that submit Card Present Gift Card data.

1	2	3	4	5
12345678901234567890123456789012345678901234567890				
AXCPD01GS~041000				

In the example above, tilde (~) characters represent character spaces.

5.16 Amex merchant name/location data

This field supports oil company cardholder activated terminal (CAT) and aggregator merchant location data for AMEX transactions only. Details are shown here.

For Oil Company CATs the name/location data will have the format:

S#sssssssss\\ppppp~~~~\\

S# is a field use indicator.

sssssssss is a variable length (12 bytes max), merchant assigned Station Location Code.

\\ is 3 delimiters

ppppp~~~~ is the postal code, left justified space filled to 10 characters.

\\ is 2 delimiters.

~ indicates a blank space character.

For Aggregators, the name/location data/Telephone Number/Email Address will have the format:

S#vvvvvvvvv\1234~abcdef\cccccccc\ppppp~~~~\bbbbbbbbbb\abc@123

S# is a field use indicator.

vvvvvvvvv is a variable length (16 bytes max), merchant assigned Seller/Vendor Code.

\ is a delimiter.

123~abcdef is the variable length (20 bytes max) seller/vendor street address.

\ is a delimiter.

cccccccc is the variable length (13 bytes max) seller/vendor city.

5.20 Application transaction counter (ATC)

This field contains a counter maintained by the application resident in the integrated chip card and is used to identify each transaction conducted by the chip card (see [Table 4.19](#) for record format and version number). This is a four-character field supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of Binary to ASCII data.

5.21 Application type

The TSYS Acquiring Solutions authorization system supports a number of communication interface applications (see [Table 4.5](#), [Table 4.4](#) for record formats and version numbers). These applications include:

- Single Transaction: a half-duplex, single-threaded interface option where only one authorization is performed per host connection.
- Multi-Transaction: a half-duplex, single-threaded interface option where multiple authorizations can be performed per host connection.
- Interleaved: A full-duplex multi-threaded interface option where multiple transactions are performed per host connection.

Refer to the EIS 1051 (Authorization Link Level Protocol) specification for additional information on these communication applications.

Table 5.11 Application type

Application	Description
0	Single authorization per connection (“Single-Trans.”)
2	Multiple authorizations per connection, single-threaded (“Multi- Trans.”)
4	Multiple authorizations per connection, full-duplex (“Interleaved”)
1, 3, 5, and 6	Reserved for TSYS Acquiring Solutions Central Data Capture (CDC)
9	Reserved
7, 8, A-Z	Reserved for future use

5.22 Approval code

This six-character field contains an authorization code when a transaction has been approved (see [Table 4.23](#), [Table 4.6](#) for record formats and version numbers). If the Response Code ([Response code](#)) returned indicates that the transaction is not approved, then the contents of the field should be ignored. The approval code must be stored and submitted in the settlement data capture record.

The last position of the Approval Code will contain the Card Product Value for MasterCard, and Discover only.

Effective October 12, 2012, the Card Product Value in the sixth position of the approval code will no longer be supported by Visa.

For Discover approved transactions on prepaid cards, the approval code will contain the available balance on the prepaid card.

MasterCard supports card product identification at the card-level for U.S. Consumers Credit products.

Table 5.12 Card product values in sixth position of approval code for MasterCard transactions

Value	Account Type	Description
B	MasterCard Enhanced Value Platform	Enhanced (Consumer) Account qualifies for MasterCard Enhanced Value Platform only
C	Core Value Small Business (MCB, MEB, and MPC)	Account qualifies for MasterCard Core Value Small Business
D	Core Value Small Business (MCB, MEB, and MPC) and Product Graduation	Account qualifies for MasterCard Core Value Small Business and MasterCard Product Graduation
E	Business World (MWB)	Account qualifies for MasterCard Small Business
F	Business World (MWB) and Product Graduation	Account qualifies for MasterCard Small Business and MasterCard Product Graduation
G	Business World Elite (MAB)	Account qualifies for MasterCard Small Business
H	Business World Elite (MAB) and Product Graduation	Account qualifies for MasterCard Small Business and MasterCard Product Graduation
J	N/A	Account qualifies for MasterCard Small Business
K	N/A	Account qualifies for MasterCard Small Business and MasterCard Product Graduation

Value	Account Type	Description
M	MasterCard Enhanced Value Platform and MasterCard Product Graduation	Account qualifies for MasterCard Enhanced Value Platform and MasterCard Product Graduation
P	MasterCard Product Graduation Only	Account qualifies for MasterCard Product Graduation Only
S	MasterCard High Value	Account qualifies for MasterCard High Value
T	MasterCard Product Graduation/ MasterCard High Value	Account qualifies for MasterCard Product Graduation and MasterCard High Value
Z	N/A	MasterCard provided default value indicating that the specific cardholder account found in DE 2 (Primary Account Number [PAN]) of the transaction does not participate in Account Level Management processing for MasterCard Enhanced Value Platform or MasterCard Product Graduation.

Table 5.13 Approval source values in the first position of the approval code for Discover/PayPal transactions

Value	Description
0	Full Positive Authorization
1	Forced Authorization
2	Client
3	Reserved
4	Discover/PayPal Network System
5	Discover/PayPal Network System
6	Discover/PayPal Network System
7	Discover/PayPal Network System
C	Client

Table 5.14 Card product value in the sixth position of the approval code for Discover/PayPal transactions

Value	Card Product	Description
C	Consumer Credit	Core Card
R	Consumer Credit	Rewards Card
P	Consumer Credit	Premium Card

5.27 Authorization response text

This field contains a 16-character response or display text message (see [Table 4.6](#) for record format and version number). This message can be used by the terminal to display the authorization result. The display text must not be used to determine the nature of a response message. TSYS Acquiring Solutions translates the responses according to the Language Indicator submitted in the authorization request message. [Table 5.163](#) provides the (U.S.) English message summary.

In the case of Check Guarantee response message, the text message can originate from the service provider and not TSYS Acquiring Solutions. Since TSYS Acquiring Solutions does not control the response text in this instance, it is imperative that the POS system evaluate the response code and not the response text to determine the nature of a response message. Refer to the check service provider for explanation of proprietary error responses. If no error response text is received by TSYS Acquiring Solutions from the check service provider, "ERROR xx" is returned to the terminal.

For a Product Eligibility response message, the text message will contain "Card Type" and the two character Visa code or the four character MasterCard code.

5.28 Authorization source code

This field contains a one-character code indicating the source of the authorization code (see [Table 4.6](#) for record format and version number). The received code must be stored and resubmitted in the data capture settlement record.

Table 5.16 Authorization source code

Code	Description
1	STIP (Stand-In Processing): time-out response
2	STIP: amount below issuer limit
3	STIP: issuer in Suppress Inquiry mode
4	Direct Connect Issuer Generated Response (MasterCard, American Express), or STIP: issuer unavailable
5	Issuer Generated Response
6	Off line approval, POS device generated
7	Acquirer approval: BASE I unavailable
8	Acquirer approval of a referral
9	Use for non-authorized transactions; such as credit card credits
D	Referral: authorization code manually keyed
E	Off line approval: authorization code manually keyed
F	CAFIS Interface Off Line Post-Auth (currently in use by Japan Acquirer Services, JAS)
G	Issuer Approval, Post-Auth

Sub-field	Byte	Format	Sub-field name	Section
SS	39-40	A/N	Merchant State/Province	5.32.3

5.32.1 Merchant name

This 25-character sub-field contains the merchant name provided by the signing member or processor. The name provided must correspond to the name printed on the customer receipt. The name must be left-justified and space-filled. The first character position cannot be a space. This field must contain the same data used in the data capture batch.

For preferred customer/passenger transport transactions, characters 1-12 of this field should contain the shortened name, left-justified and space-filled to 12. Characters 13-25 of this field should contain the ticket number, left-justified and space-filled to 25.

This field should be configured as a parameter.

5.32.2 Merchant city

This 13-character sub-field contains the merchant location/city name provided by the signing member or processor. The name provided must correspond to the location/city name printed on the customer receipt. The name is left-justified and space-filled. The first character position cannot be a space. This field must contain the same data used in the data capture batch.

For Direct Marketing merchants and preferred customer/passenger transport transactions, this field should contain a customer service phone number in XXX-XXXXXXX format. The dash is required. This field can also be used for e-mail or a URL.

This field should be configured as a parameter.

5.32.3 Merchant state/province

This two-character sub-field contains the merchant State/Province Code provided by the signing member or processor. This field must contain the same data used in the data capture batch. Alpha characters must be supplied in upper case form.

This field should be configured as a parameter.

5.33 Card brand token

This field contains the card brand Token issued by the Token Service Provider. The Token is a surrogate value for a PAN that is consistent with ISO 8583 message requirements and is a 13 to 19-digit numeric value that passes basic validation rules of an account number, including the LUHN check.

5.34 Card brand token account range status

This field contains a one-character value that indicates the Visa regulatory status of the actual card number for which the token represents. Valid values are shown below.

Table 5.18 Account status

Code	Description
space	Blank/no value
R	Regulated
N	Non-Regulated

5.35 Card brand token action indicator

This field indicates the action to be taken on the token provided in the Customer Data Field (5.71).

When using an Action Indicator value of '4', the Replacement PAN Expiration Date ([5.39](#)) is mandatory.

Use of the ‘Suspend Token’ Action Indicator is a temporary action that can be reversed with the ‘Resume Token’ Action Indicator. Use of the ‘Deactivate Token’ Action Indicator is a permanent action that cannot be reversed.

Table 5.19 Token action indicator

Code	Description
0	Inquiry of the Token Status
1	Suspend Token
2	Deactivate Token
3	Resume Token
4	Update PAN Expiration Date

5.36 Card brand token assurance level

Defined by the token service provider, this Visa or MasterCard value indicates the assigned confidence level of the token-to-PAN/cardholder binding.

5.37 Card brand token expiration date

This field contains the expiration date of the card brand Token issued by the Token Service Provider. The value may or may not be identical to the PAN it represents.

5.38 Card brand token PAN last 4 digits

This field contains 4 characters that represent the last 4 digits of the actual cardholder PAN. This can be used to print on the paper receipt for cardholder reference.

5.39 Card brand token replacement PAN expiration date

This is the expiration date that is replacing the number that is embossed, encoded, or both on the card that represents the cardholder's primary account number. Format is YYMM.

5.40 Card brand token requestor ID

This field contains eleven digits that uniquely identify the pairing of token requestor with the token domain. It is assigned by the token service provider and is unique within the token vault. If present, it should be included in the authorization request.

The Card Brand Token Requestor ID must be included in a reversal message if it was present in the original transaction.

Refer to the EMVCo Payment Tokenization Specification - Technical Framework specification for additional information.

5.41 Card brand token status

This field contains the status of the token.

Table 5.20 Token status valid values

Code	Description
1	Active token
2	Suspended token
3	Deactivated token
4	Expired token

5.42 Card product code

This field contains a two-character code created by Visa during the authorization process.

This field is conditional in the response record. It will only be returned if the values are non-zero. (see [Appendix B](#) Card product code table)

5.43 Card sequence number

This three-character numeric field contains a counter maintained and supplied by the integrated chip card (see [Table 4.19](#) for record format and version number). This field identifies the card when multiple chip cards are associated with a single account number. See EMV specifications for additional details. If the chip card does not contain a Card Sequence Number, then this field must be defaulted to “000.”

5.48 Cardholder billing currency code

This field defines the currency of the cardholder billing amount and the cardholder billing fee amount. This field is provided whenever the cardholder billing amount is present.

5.49 Cardholder certificate serial number

This zero to 32-character field was used to submit a SET cardholder certificate issued by the Issuer's certificate authority (see [Table 4.17](#) for record format and version number).

5.50 Cardholder identification code

This one-character field contains a code that specifies the method used to verify the identity the cardholder (see [Table 4.5](#) for record format and version number). The values can be used in conjunction with AVS and Recurring and Installment Requested ACI Indicators.

Table 5.22 Cardholder identification code

ID Code	Identification Method
A	Personal Identification Number - 23-character static key (non-USA)
B	PIN at Automated Dispensing Machine - 32-character static key
C	Self-Service Limited Amount Terminal (No ID method available)
D	Self-Service Terminal (No ID method available)
E	Customer Activated Automated Fuel Dispenser (No ID method available)
F	PIN Authentication by ICC (Offline PIN authentication for debit and credit chip card transactions) If F is sent then Cardholder Identification Data does not need to be sent in the transaction
G	Clear Text PIN (Offline PIN authentication for debit and credit chip card transactions)
J	PIN at Automated Dispensing Machine 32-character DUK/PT
K	Personal Identification Number 32-character DUK/PT (Online PIN authentication for debit and credit transactions)
M	Card Present: Unable to read Mag stripe, sending Address Verification Data
N	Card Not Present: Includes e-Commerce and Full Address Verification Data
P	No CVM Required (only valid on EMV contact and EMV mode contactless transactions)
R	Reserved internal use only
S	Personal Identification Number - 32-character static key

ID Code	Identification Method
T	Reserved internal use only
Z	Cardholder Signature - Terminal has a PIN pad
@	Cardholder Signature - No PIN pad available
1-8	Reserved internal use only
0,9, H, I, L, O, Q, U-Y	Reserved for future use

5.51 Cardholder identification data

This field is 0, 23, 29, 32, 42, or 128-characters in length. The Cardholder ID code specified in section 4.25 indicates the type and format of data to be contained in this field.

NOTE This field should not be included in manually generated reversal messages or when the Cardholder Identification method is F.

Table 5.23 Cardholder identification data

Length	Description	Value(s) from Table 5.22
0	Signature ID used, No PIN Pad present	@
0-29	Signature ID used, no PIN pad present, AVS data may be optionally provided	@
0-29	Signature ID used on a terminal with a PIN pad, AVS data may be optionally provided	Z
0-29		C, D, E
1 - 128	Signature ID used, No PIN Pad present Additional check acceptance data sent for check authorization request	@
0	Signature ID used on a terminal with a PIN pad	Z
1 - 128	Signature ID used, PIN pad present Additional check acceptance data sent for check authorization request	Z
0	No ID method used	C, D, E
23	A PIN was entered on a STATIC key PIN pad	A
32	A PIN was entered on a STATIC key PIN pad	B or S
32, 42	A PIN was entered on a DUK/PT key PIN pad	J or K
1 - 29	Address verification was requested (Retail/Unable to read Magnetic Stripe)	M
1 - 29	Address verification was requested	N

5.51.1 Static key with twenty-three byte cardholder ID

The 32-character static key technology is NOT supported.

5.51.2 Static key with thirty-two byte cardholder ID

NOTE: The 32-character static key technology is NOT supported.

5.51.3 DUK/PT key with thirty-two byte cardholder ID

When a PIN is entered on a PIN pad supporting DUK/PT (Derived Unique Key/Per Transaction) methodology, the terminal forwards the following characters as provided by the PIN pad. TSYS Acquiring Solutions-certified PIN Pads use the first 32 characters. Other PIN pads may use the additional 10 characters.

aaaaaaaaaaaaakkkkkkssssssss[ssssssss]

Where:

aaaaaaaaaaaaaa *Expanded Encrypted PIN Block Data*

The encrypted PIN block format consists of 64 bits of data

kkkkkk *Key Set Identifier (KSID)*

Is represented by a unique, Visa assigned, six-character numeric Bank Identification Number.

For TSYS Acquiring Solutions-certified PIN Pads the KSID characters can have the following values:

Character one

Either “4” or “5”

Character two

“A” (TSYS Acquiring Solutions)

“B” (Third Party Injection)

“C” (Travel Money)

“D” (TSYS Acquiring Solutions)

“E” (TSYS Acquiring Solutions)

“F” (TSYS Acquiring Solutions)

Character three

“0” through “9” or “A” through “F”

Character four

“0” through “9” or “A” through “F”

Character five
“0” through “9” or “A” through “F”

Character six
 “0” through “9” or “A” through “F”

xxxxxxxxxxxx[xxxxxxxxxx] *Expanded TRSM ID (PIN Pad Serial Number)*
 & *Expanded Transaction Counter*

Table 5.24 Expanded TRSM ID & expanded transaction counter

KSID	TRSM Length	Formation of TRSM ID & Expanded Transaction Counter
TSYS Acquiring Solutions KSID (4A0000-5FFFFFF)	10 characters	The PIN pad serial number is stored as five hex digits minus one bit for a total of 19 bits of data. The transaction counter is stored as five hex digits plus one bit for a total of 21 bits of data. These two fields concatenated together contain 40 bits.
Example of other clients KSID	20 characters	Expanded TRSM ID and Expanded Transaction Counter (Visa and Discover only)

5.51.4 Address verification data

Address verification is allowed in two instances to assist in authentication of the cardholder.

- When the card is not physically present.
- In a Retail environment that is capable of reading a magnetic stripe, but the stripe is unreadable.
- AVS data should not be sent in manually generated reversal messages.

Address verification is currently supported for Visa, MasterCard, American Express, and Discover cards. If address verification is requested on an American Express transaction, Group 3 Version 29 should be used. Group 3 Version 29 should also be used as a supplement for Discover Address Verification Service Enhancement.

When address verification is requested, the Account Data Source field ([Account data source code](#)) must indicate that the transaction was manually entered. When address verification is requested, this field contains the mailing address and ZIP Code of the cardholder's monthly statement. This field cannot exceed 29 characters in length, and the format for this field is:

<street address><apt no.><Space><Zip Code>
or
<post office box number><Space><Zip Code>

If any of the address fields are not available or not applicable, they can be omitted. If available, the last five or nine digits, without embedded spaces, should be the ZIP Code. If the ZIP Code is sent along with an address, the zip code must always be preceded by a <Space>. In the address, numbers are not spelled out. “First Street” becomes “1ST Street,” “Second” becomes “2ND,” and so on.

There must be a <Space> between consecutive data elements that are only numeric.

For example:

1234 56th Street 40404 is equivalent to: 1234 56Street 40404

1391 ELM STREET 40404 is equivalent to: 1391ELMSTREET 40404

P.O. BOX 24356 55555 is not equivalent to: P.O.BOX2435655555

NOTE When AVS is requested on card present, unreadable magnetic stripe transactions, only the ZIP Code is required. In this case, no <Space> is required before the ZIP Code.

On Card Not Present, ZIP code only validation requests, the postal code may be sent with the appropriate space or without for Canadian and UK postal codes.

Examples:

Canadian postal code ANA NAN or ANANAN (no space)

UK Postal code AN NAA or ANNAA (no space)

UK Postal code AANN NAA or AANNNAA (no space)

UK Postal code AAN NAA or AANNAA (no space)

UK Postal code AANN NAA or AANNNAA (no space)

UK Postal code ANA NAA or ANANAA (no space)

UK Postal code AANA NAA or AANANAA (no space)

NOTE Terminals using Device Code ‘Q’ can receive a valid Address Verification Result Code with any authorization response code.

5.52 Cardholder verification method

This one character field is used by MasterCard in auth advice request/0120, reversal request/0400, and reversal advice/ 0420 transactions. Valid values are shown here. Please refer to G3v039 ([4.2.35](#)).

Value	Description
P	Online PIN Verification

Code	Description
K	Unknown
P	Not processed
M	First Name and Last Name match
F	First Name Matches, Last Name does not match
L	First Name does not match, Last Name matches
N	Nothing matches
W	No data from Issuer/Authorization system
U	Retry, system unable to process

5.55 CAVV (Card Authentication Verification Value)

This 40-character field contains a data value generated by the issuer Access Control Server (ACS) to enable cardholder validation for 3-D Secure transactions (see [Table 4.29](#) for record format and version number). This field contains a 40-character ASCII representation of a 20-character numeric binary field. Refer to [6.8](#) for instructions on performing the necessary binary to ASCII data conversion.

5.56 CAVV results code

The CAVV Results Code indicates whether the authentication value submitted by the merchant can be validated by the Card Brand or the issuer (see [Table 4.29](#) for record format and version number).

Table 5.27 CAVV results code

Code	Description
Blank or not present	CAVV not validated
0	CAVV not validated because erroneous data was submitted
1	CAVV failed validation
2	CAVV passed validation
3	CAVV validation could not be performed; Issuer attempt incomplete
4	CAVV validation could not be performed; Issuer system error
5	Reserved for future use
6	Reserved for future use
7	CAVV attempt - failed validation - issuer available (US issued card/non-US acquirer)

State	Equifax		TeleCheck	
Illinois	53	IL	45	IL
Indiana	54	IN	46	IN
Iowa	56	IA	49	IW
Kansas	57	KS	57	KS
Kentucky	58	KY	59	KY
Louisiana	59	LA	52	LA
Maine	60	ME	56	LO
Maryland	61	MD	79	RY
Massachusetts	62	MA	87	RY
Michigan	63	MI	40	GZ
Minnesota	64	MN	64	MI
Mississippi	65	MS	77	SS
Missouri	67	MO	66	MO

State	Equifax		TeleCheck	
Rhode Island	79	RI		RI
South Carolina	80	SC	75	SC
South Dakota	81	SD	73	SD
Tennessee	82	TN	86	TN
Texas	83	TX	89	TX
Utah	84	UT	88	UT
Vermont	85	VT	83	VE
Virginia	86	VA	82	VA
Washington	87	WA	92	WA
West Virginia	88	WV	98	WV
Wisconsin	89	WI	94	WI
Wyoming	90	WY	99	WY

Province	Equifax		TeleCheck	
Alberta	28	AB	21	AB
British Columbia	29	BC	54	BC
Manitoba	30	MB	61	MB
New Brunswick	31	NB	61	NB
Newfoundland	32	NF	31	NF

Province	Equifax		TeleCheck	
NW Territories	33	NT	37	NW
Nova Scotia	34	NS	41	NS
Prince Edward Is.	36	PE	81	PE
Saskatchewan	38	SK	58	SK
Yukon Territory	39	YT	91	YU

5.58 Chip condition code

This one-character field provides information about magnetic stripe read transactions using chip capable cards at chip capable POS devices.

Table 5.29 Chip condition code

Value	Description
0	Service code does not begin with a two or six or fill for subsequent positions that are present.
1	Service code begins with two or six; last CCPS read at the chip capable terminal was successful, or was not a chip transaction, or unknown.
2	Service code begins with two or six; last transaction at the chip capable terminal was unsuccessful chip read.

When a response indicator has been received indicating that the approved card is a Business, Corporate, or Purchasing Card, the POS device should prompt for addendum data elements as needed for settlement. Please refer to EIS 1081 Specifications for data capture record format requirements.

5.62 Conversion date

This is the month and day that the conversion rate is effective to convert the transaction amount from the original currency into the settlement and cardholder billing currency.

5.63 Country code

This field contains a three-character numeric assigned by the signing member or processor to identify the merchant's location country (see [Table 4.5](#) for record format and version number). For the United States, use "840."

This field should be configured as a parameter.

5.64 Cryptogram amount

This fixed length, 12-character numeric field is carried in EMV transactions and contains the transaction amount used by the chip when calculating the cryptogram. It must contain numeric right-justified data with leading zeros. If the transaction is a purchase with cashback transaction, this field contains the purchase amount plus the cashback amount. If this is a cashback transaction, the message must also contain the Cryptogram Cashback Amount field.

5.65 Cryptogram cashback amount

This fixed length, 12-character numeric field might be carried in EMV transactions and contains the cashback amount that the chip uses when calculating the cryptogram. If the transaction does not include cashback, this field can either not be sent or be sent zero filled.

5.66 Cryptogram currency code

This fixed length, 3-character numeric field is carried in EMV transactions and contains the currency code used by the chip when calculating the cryptogram. A leading zero is required to pad the first unused half-byte of this field. The zero is filler and is not part of the code.

5.67 Cryptogram information data

This fixed length, 2-character numeric field carries a series of bit switches that indicate the following: type of cryptogram generated; a limited set of status codes that provide information about why the stated cryptogram was generated; and actions that the EMV chip card instructs the terminal to perform.

Card type	Range	Length
Discover Network	360000-369999	14
	300000-305999	16
	309500-309599	
	380000-399999	
	601100-601103	16,19
	601105-601199	
	622126-622925	
	624000-626999	
	628200-628899	
	644000-659999	
JCB Card	352800-358999	16

Please refer to [Section 4.1.1](#) for information on how this field may change if encryption is used in the transaction

5.71.1 Track one data

This is a variable length field with a maximum data length of 76 characters.

The Track One data read from the cardholder's card is checked for parity and LRC errors and then converted from the six-bit characters encoded on the card to seven bit characters as defined in ANSI X3.4. The character set definitions are provided in [6.1](#) for reference. As part of the conversion, the terminal must remove the framing characters (start sentinel, end sentinel, and LRC characters). The separators must be converted to either an ASCII “^” (HEX 5E) or ASCII <US> (HEX 1F) characters. The entire UNALTERED Track (excluding framing characters) must be provided in the authorization request and debit pre-authorization messages or an error condition results. It must not be included in responses, completions or reversals.

For American Express cards, any spaces in the card account number field of Track One must be removed before the application executes a Mod-10 check of the card account number. However, any spaces in the card account number field should be present when the application transmits the Track One data to the host for authorization. In other words, the card account number field of Track One should be sent to the authorization host unmodified.

5.71.2 Track two data

This is a variable length field with a maximum data length of 37-characters.

The Track Two data read from the cardholder's card is checked for Parity and LRC errors and then converted from the four-bit characters encoded on the card to seven bit characters as defined in ANSI X3.4. The character set definitions are provided in [6.1](#) for reference. As part of the conversion, the terminal must remove the start sentinel, end sentinel, and LRC characters. The separators must be converted to either an ASCII “=” (HEX 3D) or ASCII “D” (HEX 44) characters. The entire UNALTERED Track (excluding framing characters) must be provided in the authorization request and debit pre-authorization messages or an error message is generated. It must not be included in responses, completions or reversals.

5.71.6 Encrypted manually entered data

The customer credit card data can be key entered when the card magnetic stripe cannot be read, the card is not physically present, or when a card reader is not available. Debit cards cannot be manually entered. A manual entry is allowed for Electronic Benefits Transfer. For manually entered data, there will be three data items present and a field separator ([5.90](#)) will show between each item. This data noted as encrypted is done so with Voltage encryption.

- Manually entered encrypted account number

This is a variable length field consisting of 13-19 alphanumeric characters and contains manually entered information to be validated. For credit card transactions, this field contains the encrypted cardholder account number that is encrypted with Voltage encryption.

- Manually entered expiration date

This 4-character numeric field contains the card expiration date in the form MMY (month-month-year-year). This data is not encrypted.

- Manually entered encrypted verification code

When the verification code (CVV2, CVC2, CID) is Voltage encrypted, the 3 or 4-digit code is transformed into a 7-digit number. When decrypted, it will be used in authenticating the physical presence of the credit card.

5.72 Derivation key index

This two-character field contains a code reflecting a value extracted from the integrated chip card that is used to identify the Issuer's unique derivation key (see [Table 4.19](#) for record format and version number). This field is supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of binary to ASCII data.

5.73 Developer ID

The Developer ID provides a unique value to identify transactions originated by the Developer (see [Table 4.35](#) for record format and version number). This number is provided by TSYS Acquiring Solutions during certification.

5.74 Device code

This one-character field is used to identify the device type of the merchant submitting the authorization request (see [Table 4.5](#) for record format and version number). [Table 5.32](#) provides a summary of the currently defined codes. This field should be configured as a parameter.

Table 5.32 Device code

Code	Device type
O	Unknown or Unsure
A	TSYS Secur-ePayment (TSEP)
B	Automated Teller Machine (ATM)
C	P.C.
D	Dial Terminal
E	Electronic Cash Register
G	Mobile Payment Acceptance
H	TSYS Hosted Payment
I	In-store Promotion
J	Multi Payment Acceptance
M	Main Frame
P	POS-port
Q	Reserved for Third-Party Developers
R	POS Port
S	POS-partner
T	Counter Payment Acceptance
W	Web Payment Acceptance
X	EMV Mode Contact and/or Contactless terminal (Must be used on all EMV mode chip card transactions)
Z	Suppress PS2000/Merit response fields

5.75 Digital entity identifier

A unique identifier that is assigned by Visa at the time of authorization that identifies transactions that originate from Visa Checkout.

5.76 Electro magnetic signature

This field contains the digital value of the magnetic signature from the card if it is captured when the card is swiped. This data will not be returned in the response, and it must not be stored after authorization. This must not be submitted in contactless or chip transactions. (see [Table 4.72](#) for record format and version number).

5.77 Electronic commerce security level indicator

The Electronic Commerce Security Level Indicator, for MasterCard Credit transactions only, contains the electronic commerce indicators representing the security level and cardholder authentication associated with the transaction. This is currently a response-only value and will be present, when requested, for all MasterCard SecureCode electronic commerce transactions.

MasterCard's processing rules allow merchants to gain a liability shift and interchange benefit if they submit their electronic commerce transactions for cardholder authentication. Effective November 8, 2016, if merchants do not pass the appropriate authentication detail in UCAF Authentication Data (G3v019), demonstrating they actually authenticated or attempted to authenticate the cardholder, MasterCard will downgrade the Authorization Request/0100 and send it to the Issuer. The correct values will be returned in the response message in G3v072, whether downgraded or not. It is critical to have the proper indicators during settlement

MasterCard will also reject clearing/settlement records if the indicators do not match the authorization indicators. This field will contain the correct values needed for settlement, whether the transaction was downgraded or not.

This field is not supported for MasterCard Full Financial/0200 (Debit) transactions.

Table 5.33 Valid values for electronic commerce security level indicator

Position	Title	Description
1 and 2	Security Protocol / Cardholder Authentication	Valid values: 21 - Channel encryption; cardholder certificate not used (preferred value for MasterCard SecureCode) 22 - MasterPass-generated transaction 24 - Digital Secure Remote Payment transaction 91 - No security protocol; cardholder certificate not used

5.79 EMS additional information

This field indicates if the merchant's acquirer is enrolled for EMS and if the service was provided.

Table 5.34 EMS additional information

Value	Description
N	Not qualified for EMS scoring
(blank)	No value present

5.80 EMS results code

This field indicates the results of the EMS scoring performed by MasterCard.

Table 5.35 EMS results code

Value	Description
C	EMS scoring was successful
I	Invalid request, transaction does not qualify for EMS scoring due to: <ul style="list-style-type: none">• Transaction is card present, or• Card was issued outside of valid issuing region
U	Scoring was not successfully performed

5.81 EMS risk score

This field contains the risk score provided by the MasterCard EMS service. Score values range from 001 through 999 where 001 indicates the least likely fraudulent transaction and 999 indicates the most likely fraudulent transaction.

5.82 EMS risk score reason code

This field indicates the key factors that influenced the EMS score. Only the reason code value is provided. (Participating merchants may contact their acquirer for a list of reason codes.)

5.83 EMS scoring response indicator

This field indicates whether EMS scored the transaction. If the transaction was not scored by EMS, no response is received.

Table 5.36 EMS scoring response indicator

Value	Description
90	EMS scoring was performed

5.84 EMS service request indicator

This field indicates whether the merchant is requesting the transaction be scored by MasterCard.

Table 5.37 EMS service request indicator

Value	Description
0	No action required
1	Transaction to be scored

5.85 Encryption Transmission Block (ETB)

This is the Encryption Transmission Block (ETB) TSYS uses to decrypt encrypted data. See [4.1.1](#) for record format and version number. The ETB must be Base-64 encoded before transmission to TSYS Acquiring Solutions.

5.86 Encryption type

This describes the type of encryption used in the transaction. The following provides a listing of encryption types accepted.

Table 5.38 Encryption type

Value	Description
V	Voltage TEP2 Encryption

5.87 Existing debt indicator

A value of nine indicates a payment on an existing debt transaction (see [Table 4.31](#) for record format and version number).

5.88 Extended AVS data

5.88.1 Cardholder billing postal code

This is the nine-character, cardholder billing postal code (see [Table 4.54](#) for record format and version number). For addresses in the USA, this is a numeric 5+4 ZIP; or a five-digit ZIP, left justified and character space filled to nine characters.

For international addresses, the postal code may vary in length and contain alpha characters. International postal codes must be padded with character spaces to nine characters. Alpha characters must be upper case.

5.88.2 Cardholder billing address

This is the first 20 characters of the cardholder billing address (including the unit, apartment, flat, or suite number), left justified and character space filled, if necessary. Alpha characters must be upper case (see [Table 4.54](#) for record format and version number). Leading or trailing zeros and/or virgules (/) are not permitted. Other special characters are allowed.

5.88.3 Cardholder billing city

Reserved for future use (see [Table 4.54](#) for record format and version number).

5.88.4 Cardholder billing state/province

Reserved for future use (see [Table 4.54](#) for record format and version number).

5.88.5 Cardholder billing country code

Reserved for future use (see [Table 4.54](#) for record format and version number).

5.88.6 Cardholder billing first name

This is the 35-character, cardholder first name (as it appears on the card), left justified and character space filled, if necessary (see [Table 4.54](#) for record format and version number). For American Express transactions, this field should be a maximum of 15 characters.

Alpha characters must be upper case. Leading or trailing zeros and/or virgules (/) are not permitted. If a cardholder first and last name are not entered, this subfield must be character space filled. Other special characters are allowed

5.88.7 Cardholder billing last name

This is the 35-character, cardholder last name (as it appears on the card), left justified and character space filled, if necessary (see [Table 4.54](#) for record format and version number). For American Express transactions, this field should be a maximum of 30 characters.

Alpha characters must be upper case. Leading or trailing zeros and/or virgules (/) are not permitted. Other special characters are allowed. If a cardholder first and last name are not entered, this subfield must be character space filled.

5.88.16 Ship-to phone number

This is the 10-digit, ship-to phone number (see [Table 4.54](#) for record format and version number). Leading or trailing zeros and/or virgules (/) are not permitted.
Format is XXXXXXXXXX

5.89 FCS ID

This zero or seven-character field contains the Food and Consumer Identifier (see [Table 4.23](#) for record format and version number). The FCS ID identifies the Merchant as being certified and approved to accept Food Stamps.

NOTE: Cash benefits transactions do not use the Electronic Voucher Serial Number, FCS ID, and Voucher Approval Code fields; food stamp transactions must use the FCS ID. Electronic voucher transactions require Electronic Voucher Serial Number, FCS ID, and Voucher Approval Code fields.

5.90 Field separator

TSYS Acquiring Solutions utilizes a field separator to define the presence of a variable-length field. A field separator <FS> is defined as a Hex 1C or Decimal 28-character.

5.91 Filler (spaces)

This field is defined as containing spaces.

5.92 Filler (zeros)

This field is defined as containing zeros.

5.93 Gateway ID

The Gateway ID provides a unique value to identify a Gateway or Aggregator. This number is provided by TSYS Acquiring Solutions during the certification process.

5.94 Gen2 terminal authentication

5.94.1 Authentication code

An alphanumeric code provided to the POS user for input when authenticating a POS device during the POS device authentication process.

5.94.2 Authentication factor 1

Authentication factor 1 (AF1) is the merchant's 5 digit US zip code or 6 character postal code.

Value	Description
025	Transaction Fee Amount
026	Product Participation Group
027	POS Data Code
028	AMEX ITD/APD Data
029	Extended AVS data
030	AMEX merchant name/location data
031	Agent Identification Service
032	Currency Conversion Data
033	Reversal Request Code
034	Card Product Code
035	Promotion Code
036	Payment Transaction Identifier
037	Real Time Substantiation
038	Electro Magnetic Signature
039	Cardholder Verification Method
040	Visa ISA Charge Indicator
041	NTLA UPC/SKU Data
042	Visa Contactless
043	Network ID
044	Automated Teller Machine (ATM)
045	Integrated Chip Card EMV
046	Card Type Response group
047	TSYS Internal Use Only
048	Amex Cardholder Verification Results
049	Gen 2 Terminal Authentication
050	Association Timestamp
051	MasterCard EMS Fraud Scoring
052	Voltage Encryption Transmission Block (ETB)
053	Token Request/Response
054	Transit Program
055	Integrated Chip Card EMV TLV
056	Message Reason Code
057	Additional Response Data (Discover /PayPal Only)
058	Alternate Account ID 1
059	MasterCard PayPass Mapping Service

5.98 Host message identifier

This eight-character field contains a unique host message identifier assigned by the authorizing system and returned in debit card response messages (see [Table 4.7](#), [Table 4.8](#) for record formats and version numbers). This field is reserved for future use and will most likely contain spaces. This value must be recorded and submitted in the debit confirmation record.

5.99 Identification number

This 17-character field contains either a Driver ID, Vehicle ID, or other Identification number to be used in the authorization of a Visa Fleet Fueling Card. Visa cards issued in the range 448460 - 448699 contain instructions for customized prompts in the last position of the magnetic stripe (before the end sentinel character) (see [Table 4.15](#) for record format and version number). Prompting should occur as defined in [Table 5.40](#).

Table 5.40 Fleet fueling prompting criteria

Value	Description
1	ID Number and Odometer Reading
2	Vehicle Number
3	Driver ID and Odometer Reading
4	Odometer Reading
5	No Prompting
6	ID Number
0, 7-9	Reserved

5.100 IFD serial number

This fixed length, 8 character (EBCDIC) field is carried in EMV transactions and contains a unique identification number of the terminal assigned by the manufacturer. It is used to track devices regardless of their location.

5.101 Independent Sales Organization (ISO) identifier

This 11-digit field, assigned by MasterCard, is assigned during registration via MasterCard Connect for a Service Provider designated as an “Independent Sales Organization”. This value must be provided on all MasterCard transactions where the merchant has a relationship with an ISO, and should be right justified with leading zeroes. For example, if the Identifier is ‘123456’, the value would be ‘00000123456’.

5.102 Industry code

This one-character field is used to identify the industry type of the merchant submitting the authorization request. [Table 5.41](#) provides a summary of the currently defined codes. This field should be configured as a parameter (see [Table 4.5](#) for record format and version number).

Table 5.41 Industry code

Code	Industry Type
0	Unknown or Unsure
A	Auto Rental
B	Bank/Financial Institution
D	Direct Marketing
F	Food/Restaurant
G	Grocery Store/Supermarket
H	Hotel
L	Limited Amount Terminal
O	Oil Company/Automated Fueling System
P	Passenger Transport
R	Retail

5.103 Interface device serial number

This optional eight-character numeric field contains the serial number of the peripheral interface device that reads chip cards or allows for entry of a customer PIN (see [Table 4.19](#) for record format and version number).

5.104 ISA charge indicator

The Visa International Service Assessment (ISA) charge is payable by the U.S. acquirers. The new Acquirer ISA applies to single currency and multicurrency transactions that are submitted by acquirers in the U.S. region. The merchant must be in the U.S. and the issuer country is non US. (See [Table 4.76](#) for record format and version number).

C	Single currency ISA assessed
S	Multicurrency ISA assessed

5.105 Issuer application data

This field content is defined by the issuer and contains the entire IAD to be transmitted in online messages for use by the issuer in online processing. This field can be up to 64 characters in length and is required if it is present on the chip card.

5.106 Issuer discretionary data

This field is passed to the terminal from the integrated chip card in the Issuer Discretionary Data (see [Table 4.19](#) for record format and version number). This field can be zero or 16-characters in length. This field is supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of binary to ASCII data.

5.107 Issuer script

This field is used by an issuer to send dynamic changes to the chip card without reissuing the card (see [Table 4.20](#) for record format and version number). This field is variable length with a maximum allowable length of 512 bytes. This field is supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of binary to ASCII data.

5.108 Issuer script results

This variable length, 1 byte binary + up to 40 hexadecimal digit, maximum 21 byte field is carried in EMV transactions. During online processing, the issuer has the option to send commands to the card in the authorization response. These commands instruct the card to update the card parameters. The card records the success or failure of the updates in the Issuer Script Results field. The field contains a length indicator followed by 5 bytes to indicate the results of script processing.

5.109 Key Set Identifier (KSID)

The Key Set Identifier (KSID) is a unique six-character bank identification code used in processing direct debit transactions. The KSID is supplied to the POS device by a properly injected and certified TSYS Acquiring Solutions PIN Pad.

5.110 Lane ID

This field uniquely identifies a terminal at the card acceptor location of acquiring institutions or merchant POS systems. The Terminal ID may be printed on all POS transactions where the terminal is capable of generating customer receipts. This is an eight digit numeric field.

NOTE This field is currently used for MasterCard but can be sent for any card brand.

5.111 Language indicator

This field contains a two-character numeric language indicator (see [Table 4.5](#) for record format and version number). This value designates the language to be used in formatting the authorization response text message. This field could changed from transaction to transaction. [Table 5.42](#) provides a summary of the languages currently supported.

Table 5.42 Language indicator

Indicator	Language
00	English
01	Spanish
02	Portuguese
03	Reserved for Irish
04	Reserved for French
05	Reserved for German
06	Reserved for Italian
07	Reserved for Dutch

5.112 Local transaction date

This six-character numeric field contains a Local Transaction Date (MMDDYY) calculated by the authorization center using the time zone differential (see [Table 4.6](#) for record format and version number). This field can be used as the transaction date printed on the receipt and as input for the data capture settlement record. For authorization Reversals and AFD Completion Advices, use the Transaction Date of the original purchase.

5.113 Local transaction time

This six-character numeric field contains the Local Transaction Time returned by the authorizing system (HHMMSS). For direct debit, the transaction time should be printed on the receipt. The Settlement Time should be recorded and submitted in the transaction data capture settlement record. For authorization Reversals and AFD Completion Advices, use the Transaction Time of the original purchase (see [Table 4.6](#) for record format and version number).

5.114 Mapped Card Expiration Date

This conditional four-character field identifies the expiration date of the mapped card and comes in the Group 3, version 59 response message. The characters represent MMY (two-digit month and two-digit year). When used, this field will likely be combined with the Alternate Account ID 1 value in Group3, version 58.

5.115 Mapped PAN indicator

This conditional one-character field maps to MasterCard Account Number Indicator and indicates the type of mapping account used and comes in the Group 3, version 59 response message for the MasterCard mapping service. When used, this field will be combined with the Alternate Account ID 1 value in Group 3, version 58.

5.116 Mapped product code

This conditional three-character field represents the product code for the mapped account used and comes in the Group 3, version 59 response message for the MasterCard PayPass mapping service. When used, this field will likely be combined with the Alternate Account ID 1 field found in Group 3, Version 58.

5.117 Market specific data identifier

The following sub-fields contain market specific data for hotel and auto rental transactions (see [Table 4.5](#) for record format and version number). The market specific data sub-fields need not be supplied for incremental authorization or authorization reversal transactions. The format of this four-character field is: "PIDD."

NOTE: If the Market specific data identifier sub-field ([Section 5.117.2](#)) is a space do not use this field.

[Table 5.43](#) provides a summary of the four-character market specific data field.

Table 5.43 Market specific data identifier

Sub-field	Byte	Format	Sub-field name	Selection
P	1	A/N	Prestigious Indicator	5.117.1
I	2	A/N	Market Specific Data Identifier	5.117.2
DD	3-4	NUM	Stay or Rental Duration	5.117.3

5.117.1 Prestigious property indicator

This indicator is used by participants in Visa's Prestigious Lodging Program. [Table 5.44](#) provides a summary of the Prestigious Property Indicators. A transaction amount of \$1 should be entered in the request if the merchant wishes the transaction to participate in the Visa Prestigious Property Program.

When this sub-field is supplied in an incremental transaction, it must contain the value submitted in the original authorization transaction.

Auto rental and non-participating properties should put a "space" in this sub-field.

Table 5.44 Prestigious property indicator

Value	Description
<SPACE>	Auto Rental or Non-Participating Property

5.118 MasterCard wallet identifier

This is a MasterCard value that is generated by the MasterPass online platform. This value is passed to the merchant at the time of consumer checkout for ecommerce transactions, and is included in the authorization request transaction.

5.119 Merchant ABA number

This field is zero or nine-character numeric in length and identifies the merchant to a direct debit switch (see [Table 4.7](#) for record format and version number). This field must be supplied for all direct debit request transactions except for the Interlink Debit Cancel (Transaction Code 95). This number is provided by the signing member or processor.

This field should be configured as a parameter.

5.120 Merchant advice code

This field contains the Merchant Advice Code returned by MasterCard MIP (see [Table 4.45](#) for record format and version number).

01 = New account information
02 = Try again later
03 = Do not try again for recurring payment transaction
21 = Recurring payment cancellation

5.121 Merchant category code

This four-character numeric field contains a number assigned by the signing member or processor to identify a merchant industry classification (see [Table 4.5](#) for record format and version number). This value is similar to the Standard Industry Code (SIC). This field should be configured as a parameter.

5.122 Merchant certificate serial number

This one to 32-character field contains a value assigned to a SET merchant certificate issued by the Acquirer's certificate authority (see [Table 4.17](#) for record format and version number).

5.123 Merchant city

This field contains the city of the Merchant. It is required for Amex transactions that originate from an Aggregator, Payment Service Provider, or Facilitator. The value should be spelled out completely and truncated, if necessary, rather than abbreviated.

5.131 Merchant postal code

This field contains the postal code of the seller/vendor referenced in Merchant ID Code (5.128). The value should be uppercase, left justified, and character-space filled. This field is required for Aggregator Merchants and Oil Co. CATs.

5.132 Merchant settlement agent number

This zero or four-character field identifies the merchant settling agent (see Table 4.7 for record format and version number). This number is provided by the signing member or processor.

This field should be configured as a parameter.

5.133 Merchant street address

This field contains the first 20 characters of the street address of the seller/vendor referenced in Merchant ID Code (5.128). The value should be left-justified and include spaces if applicable. The value should be truncated, if necessary, rather than abbreviated. This field is required for Aggregator Merchants. It should not be included for Oil Co. CATs

5.134 Merchant Verification Value (MVV)

This is a 10-character fixed-length field (see Table 4.37 for record format and version number). Merchant Verification Value (MVV) is used by Visa to determine a merchant's eligibility to participate in a Select Merchant Fee (SMF) program. The characters in the field can only be zero through nine and A-F.

The MVV is required in all debit financial request messages and their reversals; and optional in credit card authorization requests and reversals.

5.135 Message reason code

This field is required in all 0400 chip card reversal messages and in all 0420 reversal messages. It is not used in responses. If no message reason code is required, then this field and its group three version must be omitted.

This field is required in AFD advice messages. Use Reason Code 2104, Acquirer Authorization Advice.

Visa Merchant Initiated Transactions

The Message Reason Code field will be used to identify Merchant Initiated Transactions [MIT] for Visa. A MIT is any transaction that relates to the previous consumer-initiated transaction but is conducted without the consumer being present, and without any cardholder validation performed.

Message Reason Code		
Adjustments	2001	Transaction voided by customer
	2002	Wrong Amount
	2003	Partial Return
	2007	Debit or Credit adjustment - no previous transaction NOTE This message reason is valid only through Networks 2 (Visa) and 3 (Interlink)
	2009	Debit or Credit adjustment - for previous transaction NOTE Adjustments with this reason code must also include Field 90 - Original transaction information
	2104	Acquirer Authorization Advice
	2140	Account Funding transaction - debit or credit adjustment
EBT	5201	EBT voucher
Visa Merchant Initiated Transactions	3900	Incremental Authorization
	3901	Resubmission
	3902	Delayed Charges
	3903	Reauthorization
	3904	No Show

5.136 Message delimiter

The message delimiter separates the record format and application type designators from the body of the message (see [Table 4.5](#), [Table 4.4](#), [Table 4.6](#) for record formats and version numbers). The message delimiter is defined as a “.” (Hex 2E or Decimal 46-character).

5.137 MOTO/e-Commerce indicator

This field contains a one-character transaction indicator identifying the type of transaction being authorized (see [Table 4.25](#) for record format and version number).

Table 5.46 MOTO/e-Commerce indicator

Indicator	Description
SPACE	Not a Mail/Telephone Order Transaction
1	One Time Occurrence of a Mail/Telephone Order Transaction
2	Recurring Mail/Telephone Order Transaction
3	Installment Payment of a Mail/Telephone Order Transaction
4	Unknown Classification

Indicator	Description
5	This is used for fully authenticated CAVV Verification transactions for Visa 3-D Secure, MasterCard Online Checkout Service, Amex SafeKey and Discover Protect Buy.
6	This is used for non-authenticated security transactions at a 3-D Secure-capable merchant. The merchant attempted to authenticate the cardholder using 3-D Secure.
7	Non-authenticated Security Transaction, such as a Channel - Encrypted Transaction (for example, SSL, DES, or RSA)
8	Non-secure e-Commerce Transaction
A	In-App Authentication (Discover and MasterCard usage only)
R	First recurring SecureCode Phone Order transaction
T	Single nonrecurring SecureCode Phone Order transaction

0017	L	Pulse
0018	Y	NYCE
0019	H	PULSE
0020	E	Accel
0023	P	NETS
0024	C	CU24
0027	F	NYCE
0028	7	ITS Shazam
0029	K	EBT
0030	T	EBT ATM
0040	A	Amex ATM
0041	D	Discover ATM
0042	1	AFFN ATM
0777	5	Visa Check Card II
1001	!	ATH/Evertec

5.139 Network identification code

This one-character field contains the identification code of the network on which the transaction was authorized. The Network ID must be printed on the receipt. Reference [Table 5.47](#) for a listing of available Network ID codes.

It is important to note that a value of “V” or “5” in this field returned in the response indicates that the transaction was processed as a credit card purchase transaction (Transaction Code 54) even though it was originally submitted as a debit transaction. When these values (“V” or “5”) are returned, the transaction must be processed and settled as a credit card (non-debit) transaction. Please note that this does not apply to “R3” type transactions.

5.140 NTIA UPC/SKU data

This variable length field is used for UPC/SKU data used in conjunction National Telecommunications and Information Administration (NTIA) issued coupons. These coupons are used for the purchase of a digital-to-analog converter box.

Code	Description
Discover only (merchandise & cash over)	
A	Merchandise can be partially approved Cash Over can be partially approved
B	Merchandise can be partially approved Cash Over must be fully approved or declined
C	Merchandise must be fully approved or declined Cash Over can be partially approved (only if merchandise fully approved)
D	Merchandise must be fully approved or declined Cash Over must be fully approved (if merchandise is approved) or declined
Visa only (estimated amount)	
E	Estimated Amount
F	Estimated Amount (partial approval supported)

5.145 Payment account reference

The Payment Account Reference [PAR] is a value assigned by the issuer and is associated directly with the cardholder's account. The PAR is considered a non-financial value that cannot be used to initiate a financial transaction.

This value is valid for Visa and Discover.

5.146 Payment facilitator identifier

This 11-digit value, assigned by MasterCard, is assigned during registration via MasterCard Connect for the Service Provider designated as a "Payment Facilitator". This value must be present on all MasterCard transactions that originate from a Payment Facilitator, and should be right justified with leading zeroes. For example, if the Identifier is '123456', the value would be '00000123456'.

5.147 Payment facilitator name*sub-merchant name

This 25-character field is a concatenation of two fields separated by an asterisk (*). The Payment Facilitator Name is three characters in length and is followed by the asterisk. The remainder of the field consists of the Sub-Merchant name. This field is required on all MasterCard transactions that originate from a Payment Facilitator.

5.148 Payment service provider name

This is the name of the Payment Service Provider, Aggregator, or Facilitator. This field is required for Amex transactions that originate from an Aggregator, Payment Service Provider, or Facilitator.

It must contain no spaces. For example, if the aggregator name is 'Monster PSP', the value sent should be 'MonsterPSP'.

5.149 Payment transaction type identifier

This MasterCard field indicates the type of Funding/Payment Transaction taking place. It can be used for the following message types.

- Auth Request/0100
- Response/0110
- Auth Advice/0120
- Reversal Request/0400
- Response/0410
- Reversal Advice/0420

It should be set only for transactions with Transaction Code ([5.201](#)) set to '5G'. Please refer to G3v036 ([4.2.32](#)).

Table 5.50 Payment transaction identifier

Code	Description
C01	Person to person
C02	MasterCard Rebate
C03	rePower Load Value
C04	Gaming Repay
C05	Other payment transaction
C06	Payment Credit Card Balance with Cash or Check

5.150 PayPass mobile device type

This two-character, MasterCard only field is required for PayPass (contactless) transactions. It identifies the type of PayPass device used by the cardholder to initiate the transaction. This is applicable in Authorization Request/0100, Authorization Advice/0120, and Reversal Request/0400 MTIs.

This field is also known as Form Factor. Where practicable, the new codes with values 20-33 must be used.

Table 5.51 Mobile device type

Device type value	Device description	Example
00	Card (default)	

Device type value	Device description	Example
01	Mobile Network Operator (MNO) controlled removable secure element (SIM or UICC) personalized for use with a mobile phone or smartphone	
02	Key Fob	
03	Watch using a contactless chip or a fixed (non-removable) secure element not controlled by the MNO	
04	Mobile Tag	
05	Wristband	
06	Mobile Phone Case or Sleeve	
07	Mobile Phone or Smartphone with a fixed (non-removable) secure element controlled by the MNO (such as CDMA)	
08	Removable secure element not controlled by the MNO, for example, memory card personalized for use with a mobile phone or smartphone	
09	Mobile Phone or Smartphone with a fixed (non-removable) secure element not controlled by the MNO	
10	MNO controlled removable secure element (SIM or UICC) personalized for use with a tablet or e-book	
11	Tablet or E-Book with a fixed (non-removable) secure element controlled by the MNO	
12	Removable secure element not controlled by the MNO (such as memory card personalized for use with a tablet or e-book)	
13	Tablet or E-Book with fixed (non-removable) secure element not controlled by the MNO	
14	Mobile Phone or Smartphone with a payment application running in a host processor	

Device type value	Device description	Example
15	Tablet or E-Book with a payment application running in a host processor	
16	Mobile Phone or Smartphone with a payment application running in the TEE of a host processor	
17	Tablet or E-Book with a payment application running in the TEE of a host processor	
18	Watch with a payment application running in the TEE of a host processor	
19	Watch with a payment application running in a host processor	
20	Card	
21	Phone	Mobile phone
22	Tablet/e-reader	Tablet computer or e-reader
23	Watch/Wristband	Watch or wristband, including a fitness band, smart strap, disposable band, watch add-on, and security/ID band
24	Sticker	
25	PC	PC or laptop
26	Device Peripheral	Mobile phone case or sleeve
27	Tag	Key fob or mobile tag
28	Jewelry	Ring, bracelet, necklace, and cuff links
29	Fashion Accessory	Handbag, bag charm, and glasses
30	Garment	Dress
31	Domestic Appliance	Refrigerator, washing machine
32	Vehicle	Vehicle, including vehicle attached devices
33	Media/Gaming Device	Media or gaming device, including a set top box, media player, and television
34-99	These values reserved for future form factors. Any value in this range may occur within form factors and transaction data without prior notice.	

5.151 PayPass mobile domain server

This MasterCard only field indicates the Service Manager or program initiator of the MasterCard Mobile Remote Payments Program. It is applicable in Auth Request/0100 and Auth Advice/0120 MTIs.

Table 5.52 PayPass mobile domain server

Domain value	Domain server
0	No domain
1	Issuer domain
2	Acquirer domain

5.152 POS data code

The POS data code is a fixed string of 12 characters, representing Subfields 1 through 12, that indicate the condition, or state, of the POS device at the time of the transaction (see [Table 4.50](#) for record format and version number).

The information in the POS data code takes precedence over the values in the Account Data Source (ADSC) and the Cardholder Identification Code (CID) fields. Information in the POS data code should accurately indicate the condition of the POS device at the time of transaction. Even though the POS data code has precedence over the ADSC and CID fields, the ADSC and CID fields still need to be populated to match the condition of the transaction as closely as possible.

Group 3 Version 27 is mandatory for all transactions.

The fields come in two types, static or dynamic.

Static Fields:

Static fields have the same value for every transaction. They do not typically change once the software and hardware are considered together in the environment in which they are deployed.

Example:

In Subfield 1 (Terminal Card Data Input Capability), say a terminal, its software, and the environment in which it is deployed have the value set at 2 - Magnetic stripe reader capability. For most cardholders, the magnetic stripe will work just fine. However, for a scenario where a cardholder's magnetic stripe is damaged and it will not swipe properly, the merchant has to enter it manually. This does not change the capability of the terminal, software, and environment.

Dynamic Values:

Dynamic fields can change based on the transaction scenario.

Example:

In Subfield 5 (Cardholder Present Data), for one transaction, the cardholder may be present (value 0), and for the next, the transaction is initiated by phone (value 3).

The definitions of subfields 1 through 12 and the allowed values are provided in the following subparagraphs.

5.152.1 Subfield 1 - Terminal card data input capability

This subfield indicates the highest-level capability of the device and its software used to originate this transaction. The value is static depending on the card data input capabilities in the environment in which it is deployed.

Table 5.53 Subfield 1: Terminal data - card data input capability

Value	Description
0	Unspecified, data not available (INVALID-Internal Use Only)
1	Manual; no terminal; Voice auth/ARU only
2	Magnetic stripe reader capability only
3	Bar code/ Payment code
4	Optical character reader (OCR) capability, [MC]
5	Integrated circuit card (ICC) capability
6	Key entry only capability
A	PAN auto-entry via contactless magnetic stripe
B	Magnetic stripe reader and key entry capability
C	Magnetic stripe reader, ICC, and key entry capability
D	Magnetic stripe reader and ICC capability
E	ICC and key entry capability
H	ICC Reader and Contactless Capability; Magnetic stripe & manual entry implied
M	PAN auto-entry via contactless chip
V	Other capability, [MC]
X	Reserved for private use

5.152.2 Subfield 2 - Terminal cardholder authentication capability

This subfield indicates the highest-level capability of the device and its software used to verify the Cardholder's identity at this terminal. The value is static depending on the terminal cardholder-authentication capabilities in the environment in which it is deployed.

Table 5.54 Subfield 2: terminal data - cardholder authentication capability

Value	Description
0	No electronic authentication capability
1	PIN entry capability
2	Electronic signature analysis capability
5	Electronic authentication capability is inoperative
6	Other
9	Unspecified, data not available (INVALID - Internal Use Only)

5.152.3 Subfield 3 - Terminal card-capture capability

This subfield indicates if the terminal is capable of pulling the card into the device while the transaction is taking place. The value is static depending on the terminal card-capture capabilities in the environment in which it is deployed.

Table 5.55 Subfield 3: terminal data - card capture capability

Value	Description
0	No capture capability
1	Card capture capability
9	Unspecified, data not available (INVALID - Internal Use Only)

5.152.4 Subfield 4 - Terminal operating environment

This subfield indicates the terminal's location and indicates whether it is attended by the card acceptor. The value is static depending on the terminal's operating capabilities in the environment in which it is deployed

Table 5.56 Subfield 4: terminal operating environment

Value	Description
0	No terminal used; Voice auth/ARU only
1	On card acceptor premises; attended terminal
2	On card acceptor premises; unattended terminal
3	Off card acceptor premises; attended
4	Off card acceptor premises; unattended
5	On cardholder premises; unattended
6	Off cardholder premises; unattended
9	Unspecified, data not available (INVALID - Internal Use Only)

Table 5.58 Subfield 6: card present data

Value	Description
0	Card not present
1	Card present
W	Transponder, [AX]
X	Contactless Transactions, including AMEX Expresspay
Z	Digital Wallet [AX]

5.152.7 Subfield 7 - Card data input mode

This subfield indicates the method used to capture information from the card. The value is dynamic based on the input mode at the time of the transaction.

Table 5.59 Subfield 7: card data - input mode

Value	Description
0	Unspecified, data not available (INVALID - Internal Use Only)
1	Manual input; no terminal; Voice auth/ARU only
2	Magnetic stripe reader input
3	Bar code/Payment code
6	Key entered input
A	PAN auto-entry via contactless magnetic stripe
B	Magnetic stripe reader input; track data captured and passed unaltered
C	Online Chip
F	Offline Chip
M	PAN auto-entry via contactless Chip Card (EMV Mode)
N	Track data read and sent unaltered, chip capable terminal, chip data could not be read
P	Empty candidate list fallback
R	PAN Entry via electronic commerce, including remote chip
S	Electronic commerce, no security, channel encrypted, or SET without cardholder certificate, [MC]
V	Manually entered with keyed CID, [AX, JCB Canada]
W	Swiped transaction with keyed CID, [AX, JCB Canada]
X	Reserved for private use

5.152.10 Subfield 10 - Card data output capability

This subfield indicates the ability of the terminal and software to update or change the card. The value is static depending on the terminal and software capabilities in the environment in which it is deployed.

Table 5.62 Subfield 10: card data output capability

Value	Description
0	Unspecified, data not available (INVALID - Internal Use Only)
1	None
2	Magnetic stripe write
3	ICC
S	Other

5.152.11 Subfield 11 - Terminal data output capability

This subfield indicates the ability of the terminal and/or software to print and/or display messages. This value is static depending on the terminal and/or software capabilities in the environment in which it is deployed.

Table 5.63 Subfield 11: terminal data output capability

Value	Description
0	Unspecified, data not available (INVALID - Internal Use Only)
1	None
2	Printing capability only
3	Display capability only
4	Printing and display capability

5.152.12 Subfield 12 - PIN capture capability

This subfield indicates the length of the PIN that the terminal is capable of capturing. The value is static depending on the capability of the terminal in the environment in which it is deployed.

Table 5.64 Subfield 12: PIN capture capability

Value	Description
0	No PIN capture capability
1	Unspecified, data not available (INVALID - Internal Use Only)
2	Reserved
3	Reserved
4	PIN capture capability four characters maximum
5	PIN capture capability five characters maximum
6	PIN capture capability six characters maximum
7	PIN capture capability seven characters maximum
8	PIN capture capability eight characters maximum
9	PIN capture capability nine characters maximum
A	PIN capture capability 10 characters maximum
B	PIN capture capability 11 characters maximum
C	PIN capture capability 12 characters maximum

5.153 POS environment indicator

The POS Environment Indicator provides additional information about the transaction.

Format	Description	Definition
C	Card on File	This value identifies transactions where the cardholder's payment credentials are being placed on file for the first time
I	Installment Payment	This value indicates the transaction is an installment payment
R	Recurring Payment	This value indicates that the cardholder and merchant have agreed to periodic billing for goods and services, such as utility bill or magazine subscription

5.154 Promotional code

The Discover/PayPal Network may establish promotional relationships with merchants. This field indicates the promotion to be used by the merchant for rewarding the cardholder at the point of service. The value sent in the authorization request will be echoed back in the authorization response.

5.155 Real time substantiation indicator

This one character MasterCard only field is used to indicate whether the merchant terminal verified the purchased items against an Inventory Information Approval System (IIAS). Please refer to G3v037 ([4.2.33](#)). This field is used for Authorization Request/0100 and Authorization Advice/0120 transactions only.

Table 5.65 Real time substantiation

Value	Description
0	Merchant terminal did not verify the purchased items against an IIAS
1	Merchant terminal verified the purchased items against an IIAS
2	Merchant claims exemption from IIAS based on the 90 percent rule

5.156 Receiving Institution Identification (RIID)

This field is used to contain a secondary network routing identifier (see [Table 4.5](#) for record format and version number). When performing a Check Authorization transaction, this field is always populated with the corresponding six-character numeric value of the desired service provider. This field can also be utilized for Private Label (Private Issue Card) transactions - particularly when the issuers account range conflicts with one assigned to a major issuer. The field should be configured as a parameter.

Table 5.66 RIID values

Services Currently Supported	RIID
ICS/CBS/NPC	810000
TeleCheck	861400
Certegy/Equifax East	894400
Certegy/Equifax West	894300
Scan	813500
Fifth Third Gift Card	444500

5.157 Record format

This one-character field identifies the message format with the TSYS Acquiring Solutions system (see [Table 4.5](#), [Table 4.4](#), [Table 4.6](#) for record formats and version numbers). The second-generation authorization format is specified by placing one of the defined values in the record format field. [Table 5.67](#) provides a brief summary of the current formats.

5.160 Reimbursement attribute

This one-character field contains the reimbursement attribute assigned by the signing member or processor (see [Table 4.7](#) for record format and version number). This field designates the Reimbursement Fee applicable to a transaction. The following values are valid for debit and EBT.

Table 5.69 Reimbursement attribute

Value	Description
0	EBT, Non-debit, or Non-INTERLINK Debit
W	Pre-existing Qualified INTERLINK Super Market Merchant
X	Pre-existing Qualified INTERLINK Retail Merchant
Y	Qualified INTERLINK Super Market Merchant
Z	Standard INTERLINK Retail Merchant

5.161 Requested Authorization Characteristics Indicator (ACI)

This one-character field contains the Requested ACI used to identify an authorization request as potentially qualifying for CPS (Custom Payment Services) and MasterCard Merit programs (see [Table 4.5](#) for record format and version number). If a merchant chooses not to participate in CPS, the Requested ACI value should default to an “N.” [Table 5.70](#) and [Table 5.71](#) provide a summary of the codes currently supported by both Visa and MasterCard.

Table 5.70 Requested Authorization Characteristics Indicator (ACI)

Value	Description
N	Device is not CPS capable
Y	Device is CPS capable
P	CPS Capable - Manually Keyed Hotel/Lodging transaction or Preferred Customer Authorization Request for Hotel, Auto Rental, and Passenger Transport Industries.
I	CPS Capable - Incremental Authorization Request
R	Recurring Payment. No AVS required

NOTE: This field is not valid for Visa Account Funding Transactions.

Table 5.71 MasterCard requested authorization characteristics indicator

Value	Description
N	Device is not Merit capable
Y	Device is Merit capable
P	MasterCard TIPS (Travel Industries Premiere Service)

52	No Check Account	No checking account
53	No Save Account	No savings account
54	Expired Card	Expired card
55	Wrong PIN	Incorrect PIN
57	Serv not allowed	Transaction not permitted-Card
58	Serv not allowed	Transaction not permitted-Terminal
59	Serv not allowed	Transaction not permitted-Merchant
Response code	Authorization response message	Response definition
61	Declined	Exceeds withdrawal limit
62	Declined	Invalid service code, restricted
63	Sec Violation	Security violation
65	Declined	Activity limit exceeded
75	PIN Exceeded	PIN tried exceeded
76	Unsolicited Reversal	Unable to locate, no match
77	No Action Taken	Inconsistent data, reversed, or repeat
78	No Account	No account
79	Already Reversed	Already reversed at switch
80	No Impact	No Financial impact (used in reversal responses to declined originals).
81	Encryption Error	Cryptographic error
82	Incorrect CVV	CVV data is not correct
83	Cannot Verify PIN	Cannot verify PIN
85	Card OK	No reason to decline
86	Cannot Verify PIN	Cannot verify PIN
91	No Reply	Issuer or switch is unavailable
92	Invalid Routing	Destination not found
93	Decline	Violation, cannot complete
94	Duplicate Trans	Unable to locate, no match
96	System Error	System malfunction
A1	Activated	POS device authentication successful
A2	Not Activated	POS device authentication not successful
A3	Deactivated	POS device deactivation successful
B1	SRCHG Not Allowed	Surcharge amount not permitted on debit cards or EBT food stamps
B2	SRCHG Not Allowed	Surcharge amount not supported by debit network issuer
CV	Failure CV	Card Type Verification Error
D3	3D - Secure Cryptogram Failure	Transaction failure due to missing or invalid 3D-Secure cryptogram
E1	ENCR NOT CONFIGD	Encryption is not configured
E2	TERM NOT AUTHENT	Terminal is not authenticated
E3	DECRYPT FAILURE	Data could not be decrypted
EA	Acct Length Err	Verification error
EB	Check Digit Err	Verification error

EC	CID Format Error	Verification error
HV	Failure HV	Hierarchy Verification Error
K0	TOKEN RESPONSE	Token request was processed
K1	TOKEN NOT CONFIG	Tokenization is not configured
K2	TERM NOT AUTHENT	Terminal is not authenticated
K3	TOKEN FAILURE	Data could not be de-tokenized
N3	Cashback Not Avl	Cash back service not available
N4	Decline	Exceeds issuer withdrawal limit
N7	CCV2 Mismatch	CVV2 Value supplied is invalid
R0	Stop recurring	Customer requested stop of specific recurring payment

POS system should extract whatever value is returned in this field and submit it in the data capture settlement record. The POS system should not interpret any relationship between this field and the presence of data in either the Transaction Identifier or Validation Code fields.

Table 5.73 Returned Authorization Characteristics Indicator (ACI)

Value	Description
A	CPS qualified
B	Tokenized e-commerce with mobile device
E	CPS qualified and Card Acceptor Data was supplied in the authorization request
F	CPS qualified for Visa Account Funding Transactions
I	CPS qualified incremental authorization request
J	Card Not Present, Recurring Bill Payment
C	CPS qualified for a self-service automated fuel dispense
K	CPS qualified and included an address verification request in the authorization request (Unable to read magnetic stripe)
M	Meets national payment service requirements with no address verification: Direct Marketing
N	Not CPS qualified
P	CPS qualified and accepted for Preferred Customer qualification or 3D Secure validation failure for T&E transaction
R	Recurring or Installment Payments
S	CPS attempted for Preferred e-Commerce (3D Secure)
T	Transaction cannot participate in CPS
U	CPS qualified for Preferred e-Commerce (3D Secure)
V	CPS qualified and included an address verification request in the authorization request
W	CPS qualified for Basic e-Commerce (Non-3D Secure)
<SPACE>	If “Y” sent and transaction not qualified (VAS downgrade)

5.165 Reversal and cancel data I

The following sub-fields are required when performing an ATM or Debit Non-Confirm Authorization request, or when performing an Authorization Reversal request, a Debit Reversal/Cancel request, or a AFD Completion Advice message (see [Table 4.5](#) for record format and version number). For all other transaction types, this field should be submitted without data.

5.165.1 Approval code

This field contains the six-character fixed approval code returned in the original authorization response record. This is the authorization code for the completed AFD transaction, or the transaction to be either partially or completely reversed. For a debit non-confirm purchase or ATM authorization transactions, the approval code will be space filled.

5.165.2 Local transaction date

This field contains a six-character numeric value reflecting the local transaction date (in MMDDYY format) returned in the original authorization response record for the AFD sale or the transaction to be canceled or reversed. For a debit non-confirm purchase or ATM authorization transactions, this field will contain the local transaction date.

5.165.3 Local transaction time

This field contains the local transaction time of the original authorization request for the AFD sale or the transaction to be either partially or fully reversed. The Local Transaction Time must be submitted in HHMMSS format. For a debit non-confirm purchase or ATM authorization transactions, this field will contain the local transaction time.

5.165.4 Response code

Response code 34, must be sent in an authorization reversal request to indicate when a merchant has decided not to complete an approved MasterCard Card Not Present transaction because of high fraud-risk.

5.165.5 Retrieval reference number

In AFD Completion Advice messages and reversal transactions, this field must contain the 12-character numeric Retrieval Reference Number returned in the original authorization response. For debit non-confirm purchase or ATM authorization transactions, this field contains two parts. The first four characters are a yddd date (Julian date) format. The last eight characters are a numeric transaction identification number.

5.166 Reversal and cancel data II

The following sub-fields are required when requesting any of the following Authorization Transaction Codes: A3, A4, B1, B2, B3, B4, C1, C3, C4 and 5C (see [Table 4.7](#) for record format and version number).

This field does not contain data for any other transaction types.

5.166.1 System trace audit number

This field must contain the six-character numeric System Trace Audit Number returned in the confirmation data field of the debit authorization response record for the transaction to be canceled or reversed. For a debit non-confirm purchase transaction, this number uniquely identifies a cardholder transaction. The trace number remains unchanged for all messages throughout the life cycle of the transaction. For example, the same trace number is used in an authorization request and response and in a subsequent reversal request and response message.

5.166.2 Network identification code

When returned in a debit authorization response message, this value designates the debit network through which the request was processed.

When performing an Authorization Reversal, this field must contain the one-character Network Identification Code returned in the confirmation data field of the authorization response record for the item to be canceled or reversed. For a debit non-confirm or ATM authorization transactions, the network identification code field will be space-filled.

5.167 Reversal and incremental transaction ID

When performing either an Incremental Authorization or Authorization Reversal request, this 15-character field must contain the Transaction Identifier returned in the original authorization response record (see [Table 4.5](#) for record format and version number). For all other transaction types, this field should be submitted without data.

Discover Merchant Initiated Transactions [MIT]

A Discover MIT is any transaction that relates to a previous consumer-initiated transaction that originated from a digital wallet. This field will contain the original transaction identifier for the following types of merchant initiated transactions: partial shipment, recurring, and reauthorization of full amount.

5.168 Reversal request/adjustment response code

This code can be present in the reversal request for MasterCard transactions to signify the reason for the reversal.

Value	Description
17	Valid for MasterCard <u>Non-Debit</u> Reversal Requests Only. This value is used in a reversal message to indicate that the cardholder cancelled the transaction after an authorization request was sent.
32	Partial reversal
34	Card not present Suspect Fraud

For Visa, MasterCard, PayPal and Discover AFD completion advice messages, this field will contain the Response Code value of the original AFD preauthorization message response.

5.169 Secondary amount

This is a variable length field from zero to 12-character numeric in length (see [Table 4.5](#) for record format and version number). This field contains a secondary transaction amount related to the transaction type and industry indicated. The transaction amount is to be presented with an implied decimal point. For example, \$.01 could be represented as 1, 01, or 001. The

In industries where cash back is permitted on purchase transactions, this field could contain a cash back amount.

5.170 Secondary PIN block

5.171 Service development indicator

Table 5.74 Service development indicator

Value	Description
5	Transponder Indicator - transactions from participating merchants use radio frequency transponder to exchange information with the terminal (supports both Visa and American Express transponder programs).
6	Relationship Participant Indicator - indicates merchant's participation in the Visa Relationship Manager Service.
7	Deferred Billing Indicator - notifies issuer that transaction being submitted bills the cardholder for merchandise that was received within the past 90 days.

5.172 Settlement amount

•
•
•
• 211
•
•

5.173 Settlement conversion rate

This is the factor used in the conversion from transaction to settlement amount. The transaction amount is multiplied by the value in this field to determine the settlement amount. The leftmost digit must be in the range 0-7 and denotes the number of positions that the decimal point will be moved from the right. For example, a value of “69972522,” the conversion rate is 9.972522.

5.174 Settlement currency code

This field defines the currency of the settlement amount and the settlement fee amount. This field is provided whenever the settlement amount is present.

5.175 Settlement date

This four-character numeric field contains the transaction settlement date returned by the TSYS Acquiring Solutions authorization system and is submitted in MMDD format (see [Table 4.8](#) for record format and version number).

5.176 Sharing group

This one to 30-character field contains a listing of direct debit and EBT networks that a POS device can access (see [Table 4.7](#) for record format and version number). This field is provided by the signing member or processor. The values must correspond to one of the Visa assigned direct debit network types. This data is part of the TSYS Acquiring Solutions direct debit data. This field should be configured as a parameter. [Table 5.47](#) shows the currently supported Sharing Groups.

It is important to note that a value of “V” or “5” in this field returned in the response indicates that the transaction was processed as a credit card purchase transaction (Transaction Code 54) even though it was originally submitted as a debit transaction. When these values (“V” or “5”) are returned, the transaction must be processed and settled as a credit card (non-debit) transaction. Please note that this does not apply to “R3” type transactions.

5.177 Spend qualified indicator

This value is optionally sent by Visa in an authorization response message. The merchant's interchange rate may be determined by the value of the Spend Qualified Indicator. Valid values are shown below in Table 4.70. (see [Table 4.117](#) for record format and version number).

Table 5.75 Spend qualified indicator valid values

Code	Description
B	Base spend assessment threshold has been met.
N	Spend qualification threshold has not been met.
Q	Spend qualification threshold has been met.

5.185 Terminal capability profile

This six-character field contains a code indicating the card data being supplied and security capabilities of the terminal (see [Table 4.19](#) for record format and version number). This field is supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of binary to ASCII data.

5.186 Terminal country code

This fixed length, 3-character, 2 byte numeric field is carried in EMV transactions and identifies the country where the merchant terminal is located. A leading zero is required to pad the first unused half-byte of this field. The zero is filler and is not part of the code.

5.187 Terminal number

This four-character numeric field contains a number assigned by the signing member, processor, or merchant to identify a unique terminal within a merchant location (see [Table 4.5](#), [Table 4.6](#) for record formats and version numbers). Because the terminal number submitted in the authorization request is echoed back to the terminal in the authorization response, this field can additionally be used in controller-based environments to assist in the matching and routing of authorization request and response messages at the point of concentration.

This field should be configured as a parameter.

5.188 Terminal transaction date

This fixed length, 6-character numeric field is carried in EMV transactions and contains the local date at the terminal on which the transaction was authorized. This field is used in the calculation of the cryptogram. The format is YYMMDD, where:

YY = 00-99

MM = 01-12

DD = 01-31

5.189 Terminal transaction time

This fixed length, 6 character numeric field is carried in EMV transactions and contains the local time at the terminal on which the transaction was authorized. This field is used in the calculation of the cryptogram. The format is hhmmss, where:

hh = 00-23

mm = 00-59

ss = 00-59

Byte	Length	Format	Contents
			For Byte #1 - 0, 1, 6, and 7
			0 <= Time Zone Region <= 12
			For Byte #1 - 2 to 5
			0 <= Time Zone Region <= 48

5.193 TLV data

This variable length field is composed solely of hexadecimal characters (0-9, A-F or a-f). Each pair of characters represents one byte of information. The string of characters represents a series of TLV data that represent the information passed between the card and the terminal. Each datum has a one or two byte (two or four characters) tag, a one byte (two characters) length, and a one or more byte (two or more characters) value or payload. The length byte always represents the number of bytes following the length byte in the TLV datum.

5.194 Token

This is the Token received from the TSYS Host when a request for token (G3v053) is sent. The token is formatted as a card number, with the last 4 digits preserved. Other characters in the number will be letters rather than numbers.

The token will be sent without card verification with Transaction Code 5T ([5.201](#)).

With other Transaction Codes, the token is sent and the usual transaction request is also processed ([5.162](#)).

5.195 Token Cryptogram Block A

This 40-character field contains a cryptogram generated from chip data via a mobile application process to enable cardholder validation on American Express 'in-app' purchases with an account token. This field format is a 40-character ASCII representation of Hex to transmit the 20-byte binary cryptogram. Refer to [6.8](#) for instructions on performing the necessary binary to ASCII data conversion.

The cryptogram will be submitted to American Express as received by TSYS. The sub-fields in Token Cryptogram Block A comprise several EMV defined data tags submitted in a fixed format. The ordering of the data elements in the cryptogram are included below for reference only. Block B is optionally present when Block A is used.

Token Data Block A (20 bytes Binary)			
Amount, Other	6 bytes	Binary, Numeric	Secondary amount associated with a chip transaction. Currently expected to be zeros. EMV Tag = "9F03"

Token Data Block B (20 bytes Binary)			
Application PAN Sequence Number	1 bytes	Binary, Numeric	Application PAN Sequence Number associated with a chip transaction EMV Tag = "5F34"
Terminal Country Code	2 bytes	Binary, Numeric	ISO country code Example "124" (Canada) is entered as "01 24" in 2-byte BCD format EMV Tag = "9F1A"
Terminal Verification Results (TVR)	5 bytes	Binary, Hexadecimal	Status of various functions. EMV Tag = "95"
Transaction Type	1 bytes	Binary, Numeric	Indicates the type of financial transaction. EMV Tag = "9C"
Unpredictable Number	1 bytes	Binary, Hexadecimal	Value to provide variability and uniqueness to the generation of a cryptogram. EMV Tag = "9F37"

5.197 Token status

This value indicates the status of retrieval of the token. In some cases, the transaction may still be processed even though the request for token was not successful. Values can be as indicated below.

Table 5.77 Token status

Value	Description
0	Token retrieval was successful and is included
1	Terminal not configured to receive a token
2	Terminal was not authenticated
3	System failure

5.198 Total authorized amount

When performing an Authorization Reversal transaction, this field is to contain the total sum of all amounts authorized for this transaction (including any and all incremental authorizations). The Total Authorized Amount is submitted in the Transaction Amount field ([Section 5.199](#)).

If the transaction request is made using a TSYS token rather than an account number, the 'Token Purchase' column below specifies whether the transaction code can be used with Record Format 'Y' or 'Z'. Please refer to [Section 4.1.1](#) for more details. This applies to TSYS Tokens only and not Card Brand Tokens.

Table 5.78 Transaction code

Transaction code	Repeat code	Transaction type	Comments	Token purchase
54	64	Purchase	Standard Authorization Request	N
59	69	Online Authorization Reversal	Used to reverse a completed credit authorization prior to batch settlement.	Y
5A	6A	Store and Forward Authorization Reversal	Same as code “59,” except the reversal is being submitted after batch settlement occurred	Y
5B	6B	Bill Payment Transaction	By Credit Card	Y
5C		Credit Advice	Advice message for an AFD final sale amount (Visa and MasterCard only)	Y
5D		Token Request	This indicates a request for a card brand Token or Token maintenance. Group III, Version 062 is needed.	N
5G	6G	Credit Account Funding Transaction (Visa), Credit Payment Transaction (MC)	Credit card used for payment of account to account transactions	N
5H	6H	Card-not-present Credit Account Funding Transaction (Visa), Credit Payment Transaction (MC)	Card-not-present credit payment of account to account transactions	Y
5J	6J	Card-present Credit Cardholder funds Transfer (Visa)	Card-present credit payment of cardholder funds transfer	N
5K	6K	Card-not-present Credit Cardholder Funds Transfer (Visa)	Card-not-present credit payment of cardholder funds transfer	Y
5L	6L	Credit /Stored Value Balance Inquiry	Balance Inquiry	Y
5M	6M	Healthcare Eligibility Inquiry	Visa only	Y
5N	6N	Balance Inquiry Reversal	Used to reverse a balance inquiry transaction (MasterCard only)	Y

Transaction code	Repeat code	Transaction type	Comments	Token purchase
9H		Debit Account Funding Transaction Return (Visa), Debit Payment Transaction Return (MC)	Debit card return for account to account transactions	N
9J		Debit Cardholder Funds Transfer (Visa)	Debit card used for payment of cardholder funds transfer	N
9K		Debit Cardholder Funds Transfer Return (Visa)	Debit card return for cardholder funds transfer	N
9L		EBT Food Stamp Balance Inquiry	Balance Inquiry (Group III version 022 needed)	N
9M		EBT Cash Benefits Balance Inquiry	Balance Inquiry (Group III version 022 needed)	N
A3		Automatic Reversal: Direct Debit Purchase (for use in limited availability)	Used in Controller-based environments only (optional)	N
A4		Automatic Reversal: Direct Debit Purchase Return (for use in limited availability)	Used in Controller-based environments only (optional)	N
B1		ATM Cash Disbursement	Cash disbursement from the specified account type	N
B2		ATM Balance Inquiry	Available balance of the specified account type	N
B3		ATM Deposit	ATM deposit to the specified account type	N
B4		ATM Cardholder Account Transfer	ATM transfer funds from one cardholder account to another cardholder account. Only Domestic U.S. transactions.	N
C1		ATM Cash Disbursement reversal	Reversal of cash disbursement request	N
C3		ATM Deposit Reversal	Reversal of ATM deposit request	N
C4		ATM Cardholder Account Transfer Reversal	Reversal of ATM account transfer requests	N
C8		ATM Adjustment Up (Credit)	Used in ATM messages to request a positive (credit) financial adjustment to the original transaction amount.	N

Transaction code	Repeat code	Transaction type	Comments	Token purchase
GF		Gift Card Merchant Initiated Reversal	Merchant initiated reversal	N
GG		Gift Card Cash Back	Cash back	N
P1	Q1	Prepaid Card Activation	Credit Type	N
P2	Q2	Prepaid Card Activation Reversal	Credit Type	N
P3	Q3	Prepaid Card Load	Credit Type	N
P4	Q4	Prepaid Card Load Reversal	Credit Type	N
R1		Prepaid Card Activation	Debit Type	N
R2		Prepaid Card Activation Reversal	Debit Type	N
R3		Prepaid Card Load	Debit Type	N
R4		Prepaid Card Load Reversal	Debit Type	N
TA	N/A	Terminal Authentication	Used to authenticate a device using Group III version 49.	N
TD	N/A	Terminal Deactivation	Deactivates a device previously authenticated; authenticate again after deactivation.	N

5.202 Transaction date

This six-character numeric field contains the date in the terminal when the transaction is performed (see [Table 4.19](#) for record format and version number). This field must be provided in YYMMDD format.

5.203 Transaction fee amount

Transaction Fee Amount is used in PIN POS and credit transactions to carry the acquirer-assessed surcharge for informational purposes only (see [Table 4.46](#) for record format and version number). This field can be zero length or nine alphanumeric characters in length. The format of the nine characters is “annnnnnnn” where “a” is either “D” for debit or “C” for credit and where “nnnnnnnn” is the numeric fee amount with the decimal implied. Example: “D00000150” is a \$1.50 transaction fee amount debited to the cardholder's account.

This field must also be present in advice and reversal messages.

Table 5.80 Transportation mode indicator

Value	Description
00	Unknown
01	Urban Bus
02	Interurban Bus
03	Light Train Mass Transit (Underground Metro, LTR)
04	Train
05	Commuter Train
06	Water Borne Vehicle
07	Toll
08	Parking
09	Taxi
10	High Speed Train
11	Rural Bus
12	Express Cummuter Train
13	Para Transit
14	Self Drive Vehicle
15	Coach
16	Locomotive
17	Powered Motor Vehicle
18	Trailer
19	Regional Train
20	Inter City
21	Funicular Trailer
22	Cable Car
23-99	Reserved for future use

5.208 Transtain

This 40-character field contains a unique value calculated by applying a secure hash algorithm to the XID (see [Table 4.17](#) for record format and version number). This value must be unique for every transaction request. This field contains a 40-character ASCII representation of a 20-character numeric binary field. Refer to [6.8](#) for instructions on performing the necessary binary to ASCII data conversion.

5.209 UCAF authentication data

This MasterCard only, variable length issuer generated security field is up to 32 bytes in length. Please refer to G3v019 ([4.2.15](#)). It contains the encoded MasterCard SecureCode issuer or cardholder-generated authentication data (collected by the merchant) resulting from all SecureCode fully authenticated or attempts transactions, and any data associated with the 3-D Secure Electronic Commerce Verification Service.

5.210 UCAF collection indicator

This MasterCard only field indicates the merchant's support and usage of UCAF (see [Table 4.33](#) for record format and version number). The UCAF Collection Indicator is required on all MasterCard SecureCode ecommerce credit transactions.

MasterCard's processing rules allow merchants to gain a liability shift and interchange benefit if they submit their electronic commerce transactions for cardholder authentication. Effective November 8, 2016, if merchants do not pass the appropriate authentication detail in UCAF Authentication Data ([5.209](#)), demonstrating they actually authenticated or attempted to authenticate the cardholder, MasterCard will downgrade the Authorization Request/0100 message and forward it to the Issuer. The correct values will be returned in the response message in the Electronic Commerce Security Level Indicator in G3v072 ([5.77](#)), whether downgraded or not. It is critical to have the proper indicators during settlement.

The SecureCode functionality is not applicable for Full Financial/0200 Transactions.

Table 5.81 UCAF collection indicator

Value	Description
0	UCAF data is not supported by the merchant or the merchant has chosen not to send the indicator
1	UCAF data collection is supported by the merchant and UCAF data was present and contained an attempted AAV for MasterCard SecureCode
2	UCAF data collection is supported by the merchant and UCAF data was present and contained a fully authenticated AAV
5	Issuer Risk-Based Decisioning
6	Merchant Risk-Based Decisioning
7	Partial Shipment, Incremental or Recurring Payment

5.211 Unpredictable number

This field contains an eight-character code that is used as a variable factor to provide variability and uniqueness to the cryptogram (see [Table 4.19](#) for record format and version number). This field is supplied as ASCII-coded binary data. Refer to [6.8](#) for information concerning the conversion of binary to ASCII data.

5.212 Validation code

5.212.1 Discover usage

This field is used to indicate the magnetic stripe condition and the vulnerability for fraud in Discover Network Card Transactions.

Table 5.82 Track 1 Data Indicator

Positions	Description
1-2	Track Data Condition Code
3-4	Space filled

Track 1 Data Indicator:

This position indicates the condition of track 1 data in the request Code Definition (position 1).

Code	Description
0	Track 1 data is not present, or invalid or missing CAVV or Cryptogram
1	Track 1 data is present but CVV/DCVV/iCVV is not provided
2	Track 1 data is present using CVV/DCVV/iCVV without blanks or spaces
3	Track 1 data present with CVV/DCVV/iCVV is set to all zeros
4	Track 1 data present with CVV/DCVV/iCVV containing some or all blanks
5	Track 1 data present but CVV/DCVV/iCVV location was not disclosed by issuer
6	No Track 1 data is present, valid CAVV present

Table 5.83 Track 2 Data Indicator

Track 2 Data Indicator:

This position indicates the condition of track 2 data in the request Code Definition (position 2).

Code	Description
0	Track 2 data not present
1	Track 2 data present with CVV/DCVV/iCVV is not provided
2	Track 2 data present using CVV/DCVV/iCVV without blanks or spaces
3	Track 2 data present with CVV/DCVV/iCVV is set to all zeros
4	Track 2 data present with CVV/DCVV/iCVV containing some or all blanks
5	Track 2 data present but CVV/DCVV/iCVV location not disclosed by issuer

5.212.2 Non-Discover usage

This optional four-character field can contain specific information generated by the card issuer (see [Table 4.6](#) for record format and version number). The POS device should not attempt to interpret the meaning of any data appearing in this field. Data returned in this field is recorded and submitted as part of the data capture settlement format.

5.213 Verification code (CVV2, CVC2, CID)

This six-character field is used in assigning a value that assists in authenticating the physical presence of a Visa, MasterCard, Discover, PayPal or American Express credit card (see [Table 4.13](#) for record format and version number). Card Verification is not contained in the magnetic stripe information nor does it appear on sales receipts; it is an additional three to four-character value, printed on the front or back of Visa, MasterCard, Discover, PayPal and American Express cards. This field is used to support the following card verification programs.

- Visa - Card Verification Value 2 (CVV2)
- MasterCard - Card Validation Code 2 (CVC2)
- American Express - Cardholder Identification Code (CID)
- Discover/PayPal - Cardholder Identification Code (CID)

Table 5.84 Verification code (CVV2, CVC2, CID)

Position	Code	Description
1	0	Verification Code is intentionally not provided
	1	Verification Code is present
	2	Verification Code is present but illegible
	9	Cardholder states that no Verification Code is present on the card
2	0	Only the normal Response Code should be returned
	1	Response code and the Verification Code result code should be returned
3-6		<p>Verification Code as printed on the card, right- justify/space-fill entry</p> <p>If Position 1 = 0, 2, or 9, positions 3-6 should be space-filled</p> <p>If the Verification Code is part of an encrypted (Record Format = 'W') transaction, positions 3-6 should be space-filled.</p>

If Verification Code is sent as part of an encrypted transaction (Record Format = 'W'), Positions 1 and 2 still need to be present even though the Verification Code is sent in the Customer Data field.

NOTE:

- If Position 1 = 1, then Position 2 should be set to 0 or 1.
- If Position 1 = 0, 2, or 9, then Position 2 should be set to 0.

5.214 Verification code result code

This zero or one-character field contains the host returned CVV2/CVC2/CID Result Code as requested in Field 4.22 (see [Table 4.14](#) for record format and version number). [Table 5.85](#) provides a listing of current CVV2/CVC2/CID Result Codes:

Table 5.85 Verification code result code

Code	Description
M	CVV2/CVC2/CID - Match
N	CVV2/CVC2/CID - No Match
P	Not Processed

5.216 Voucher approval code (EBT)

This zero or six alphanumeric character field contains the Voice Authorization Approval Code sent in the Request message for EBT/Electronic Voucher transactions (see [Table 4.23](#) for record format and version number). Please note that the Approval Code ([Section 5.22](#)) returned in the Response message is to be stored and submitted in the settlement data capture record.

NOTE:	Cash benefits transactions do not use the Electronic Voucher Serial Number, FCS ID, and Voucher Approval Code fields; food stamp transactions must use the FCS ID; and Electronic voucher transactions require Electronic Voucher Serial Number, FCS ID, and Voucher Approval Code fields.
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5.217 XID

This 40-character field contains a value assigned to a SET or 3-D Secure transaction as a unique transaction identifier (see [Table 4.17](#), [Table 4.29](#) for record formats and version numbers). If an Acquirer has opted not to return the card account number to its merchants for SET or 3-D Secure transactions, the Acquirer can utilize the XID field to identify the transaction for queries or dispute resolution without divulging the credit card account number. This field contains a 40-character ASCII representation of a 20-character numeric binary field. Refer to [6.8](#) for instructions on performing the necessary binary to ASCII data conversion.

Chapter 6

Control and character sets

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6.1 Introduction

The following subsections define the authorization request record character set and the character sets used for Track one and Track two data encoded on the magnetic stripes.

The authorization request records are generated with characters defined by ANSI X3.4-1986. The data stored on the cardholder's card in magnetic or optical form must be converted to the ANSI X3.4 character set before transmission to TSYS Acquiring Solutions. [Section 6.2](#) provides Track One character set definition. [Section 6.3](#) provides Track Two character set definition. [Section 6.4](#) provides the ANSI X3.4-1986 and ISO 646 character set definitions. [Section 6.5](#) provides a cross-reference between the Track one, Track two, and ANSI X3.4 character sets. [Section 6.6](#) describes the method for generating and checking the Mod-10 Luhn check digit for credit card account numbers. [Section 6.7](#) describes the method for generating the LRC byte for the authorization request message and for testing the magnetic stripe LRC byte.

The POS device must perform the following operations on Track read data before it can be used in an authorization request message.

1. The LRC must be calculated for the data read from the Track and compared to the LRC read from the Track. The Track data is assumed to be read without errors when no character parity errors are detected and the calculated and read LRCs match.
2. The starting sentinel, ending sentinel, and LRC are discarded.
3. The character codes read from the magnetic stripe must be converted from the encoded character set to the set used for the authorization request message. The characters encoded on Track One are six bit plus parity codes and the characters encoded on Track Two are four bit plus parity codes, with the character set used for the request message defined as seven bit plus parity code.

All characters read from a Track must be converted to the request message character set and transmitted as part of the request. The converted Track data cannot be modified by adding or deleting non-framing characters and must be a one for one representation of the characters read from the Track.

6.2 Track one character definition

[Table 6.1](#) provides the ISO 7811-2 Track One character encoding definitions. This “standards” format is a sample guideline for expected credit card Track encoding. Private issue cards can differ in the way they are encoded.

Each character is defined by the six bit codes listed in [Table 6.1](#).

Track One can be encoded with up to 79 characters as shown in [Figure 6.1](#).

Table 6.1 ISO 7811-2 track one character encoding definitions

SS	FC	PAN	FS	Name	FS	Date	Discretionary Data	ES	LRC
----	----	-----	----	------	----	------	--------------------	----	-----

Track One Character Definition:

Field	Description	Length	Format
SS	Start Sentinel “%”	1	A/N
FC	Format Code (“B” for credit cards) “B”	1	A/N
PAN	Primary Account Number	19 max	NUM
FS	Field Separator “^”	1	A/N
Name	Card Holder Name	2-26 max	A/N
FS	Field Separator “^”	1	A/N
Date	Expiration Date (YYMM)	4	NUM
SVC CD	Service Code	3	A/N
Discretionary Data	Optional Issuer Data	variable	A/N
ES	End Sentinel “?”	1	A/N
LRC	Longitudinal Redundancy Check	1	
	Total cannot exceed 79 bytes	79 max	

BIT NUMBER				b6	0	0	1	1				
				b5	0	1	0	1				
b4	b3	b2	b1	(a) These character positions are for hardware use only								
				ROW/COL	0	1	2	3				
0	0	0	0	0	SP	0	(a)	P	(b) These characters are for country use only, not for international use			
0	0	0	1	1	(a)	1	A	Q				
0	0	1	0	2	(a)	2	B	R				
0	0	1	1	3	(c)	3	C	S				
0	1	0	0	4	\$	4	D	T	(c) These characters are reserved for added graphic use			
0	1	0	1	5	(%)	5	E	U				
0	1	1	0	6	(a)	6	F	V				
0	1	1	1	7	(a)	7	G	W				
1	0	0	0	8	(8	H	X	(%) Start sentinel			
1	0	0	1	9)	9	I	Y	(?) End sentinel			
1	0	1	0	A	(a)	(a)	J	Z	(^) Field Separator			
1	0	1	1	B	(a)	(a)	K	(b)	/ Surname separator			
1	1	0	0	C	(a)	(a)	L	(b)	. Title separator			
1	1	0	1	D	-	(a)	M	(b)	SP Space			
1	1	1	0	E	.	(a)	N	(^)				
1	1	1	1	F	/	(?)	O	(a)				
				<table><tr><td>PAR</td><td>MSB</td><td>B5</td><td>B4</td></tr></table>					PAR	MSB	B5	B4
PAR	MSB	B5	B4									
				<div><div></div><div>Most Significant Bit</div><div>Parity Bit (ODD)</div><div>Read LSB first</div></div>								

6.3 Track two character definition

[Table 6.2](#) provides the ISO 7811-2 Track Two character encoding definitions. This “standards” format is a sample guideline for expected credit card Track encoding. Private issue cards can differ in the way they are encoded.

Each character is defined by the four bit codes listed in [Table 6.2](#).

Track Two can be encoded with up to 40-characters as shown in [Figure 6.2](#).

Table 6.2 ISO 7811-2 Track Two encoding definition

SS	PAN	FS	Date	SVC CD	Discretionary Data	ES	LRC
----	-----	----	------	--------	--------------------	----	-----

Track Two Character Definition:

Field	Description	Length	Format
SS	Start Sentinel “;”	1	A/N
PAN	Primary Account Number	19 max	NUM
FS	Field Separator “=”	1	A/N
Date	Expiration Date (YYMM)	4	NUM
SVC CD	Service Code	3	NUM
Discretionary Data	Optional Issuer Data	variable	NUM
ES	End Sentinel “?”	1	A/N
LRC	Longitudinal Redundancy Check	1	A/N
	Total cannot exceed 40 bytes	40 max	

6.4 Authorization message character set

[Table 6.3](#) and [Table 6.4](#) provide authorization request message character set definitions for the second generation message formats.

Table 6.3 ANSI X3.4-1986 character set

BIT NUMBER				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1	ROWCOL	0	1	2	3	4	5	6	7
0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
0	0	0	1	1	SOH	DC1	!	1	A	Q	a	q
0	0	1	0	2	STX	DC2	“	2	B	R	b	r
0	0	1	1	3	ETX	DC3	#	3	C	S	c	s
0	1	0	0	4	EOT	DC4	\$	4	D	T	d	t
0	1	0	1	5	ENQ	NAK	%	5	E	U	e	u
0	1	1	0	6	ACK	SYN	&	6	F	V	f	v
0	1	1	1	7	BEL	ETB	'	7	G	W	g	w
1	0	0	0	8	BS	CAN	(	8	H	X	h	x
1	0	0	1	9	HT	EM	)	9	I	Y	i	y
1	0	1	0	A	LF	SUB	*	:	J	Z	j	z
1	0	1	1	B	VT	ESC	+	;	K	[	k	{
1	1	0	0	C	FF	FS	,	<	L	\	l	|
1	1	0	1	D	CR	GS	-	=	M	]	m	}
1	1	1	0	E	SO	RS	.	>	N	^	n	~
1	1	1	1	F	SI	US	/	?	O	_	o	DEL

BIT NUMBER				b7		0	0	0	0	1	1	1	1
				b6		0	0	1	1	0	0	1	1
				b5		0	1	0	1	0	1	0	1
b4	b3	b2	b1	ROW	COL	0	1	2	3	4	5	6	7
0	0	0	0	0		NUL	DLE	SP	0	@	P	`	p
0	0	0	1	1		SOH	DC1	!	1	A	Q	a	q
0	0	1	0	2		STX	DC2	“	2	B	R	b	r
0	0	1	1	3		ETX	DC3	#	3	C	S	c	s
0	1	0	0	4		EOT	DC4		4	D	T	d	t
0	1	0	1	5		ENQ	NAK	%	5	E	U	e	u
0	1	1	0	6		ACK	SYN	&	6	F	V	f	v
0	1	1	1	7		BEL	ETB	'	7	G	W	g	w
1	0	0	0	8		BS	CAN	(	8	H	X	h	x
1	0	0	1	9		HT	EM	)	9	I	Y	i	y
1	0	1	0	A		LF	SUB	*	:	J	Z	j	z
1	0	1	1	B		VT	ESC	+	;	K	[	k	{
1	1	0	0	C		FF	IS4	,	<	L	\	l	|
1	1	0	1	D		CR	IS3	-	=	M	]	m	}
1	1	1	0	E		SO	IS2	.	>	N	^	n	~
1	1	1	1	F		SI	IS1	/	?	O	_	o	DEL

6.5 Character conversion summary

[Table 6.5](#) provides authorization request message character set definition for second generation authorization request messages cross referenced to the Track One and Track Two character set.

Table 6.5 Character conversion summary.

EBCDIC				TRACK 1		TRACK 2	
HEX	HEX	DEC		HEX		HEX	
1C	1C	28	FS				
1F	1F	31	US				
40	20	32	SP	00	SP		
4F	21	33	!	01	(a)		
7F	22	34	“	02	(a)		
7B	23	35	#	03	(c)		
5B	24	36	\$	04	\$		
6C	25	37	%	05	(%)		
50	26	38	&	06	(a)		
7D	27	39	,	07	(a)		
4D	28	40	(	08	(
5D	29	41	)	09)		
5C	2A	42	*	0A	(a)		
4E	2B	43	+	0B	(a)		
6B	2C	44	,	0C	(a)		
60	2D	45	-	0D	-		
4B	2E	46	.	0E	.		
61	2F	47	/	0F	/		
F0	30	48	0	10	0	0	0
F1	31	49	1	11	1	1	1
F2	32	50	2	12	2	2	2

(a) Hardware use
only

(c) Reserved

(%) Starting Sentinel
Track 1

EBCDIC X3.4-1986				TRACK 1		TRACK 2	
HEX	HEX	DEC		HEX		HEX	
D4	4D	77	M	2D	M		
D5	4E	78	N	2E	N		
D6	4F	79	O	2F	O		
D7	50	80	P	30	P		
D8	51	81	Q	31	Q		
D9	52	82	R	32	R		
E2	53	83	S	33	S		
E3	54	84	T	34	T		
E4	55	85	U	35	U		
E5	56	86	V	36	V		
E6	57	87	W	37	W		
E7	58	88	X	38	X		
E8	59	89	Y	39	Y		(a) Hardware use only
E9	5A	90	Z	3A	Z		
A4	5B	91	[	3B	(b)		(b) Reserved for Country use
E0	5C	92	\	3C	(b)		Track 1
5A	5D	93	]	3D	(b)		
5F	5E	94	^	3E	(^)		
6D	5F	95	_	3F	(a)		(^) Field Separator
79	60	96	`				Track 1
81	60	97	a				

6.6 MOD-10 check-digit algorithm

Credit card account numbers should be checked for validity using the Luhn check digit algorithm. The following procedure must be followed in order to calculate the correct check-digit for given account number.

NOTE: Please note that some Private Label (Private Issue) and Debit cards cannot utilize an account check-digit.

1. Exclude the right-most digit from the calculation because this is the actual check digit to be examined for validity.
2. Starting with the second to the last digit, and moving right to left, alternately multiply each successive digit by two and one respectively.
3. Sum the integers comprising the product obtained from each of the calculations.
4. Subtract the resulting sum from the next higher multiple of ten (10). The resulting value is the desired account number check digit.

Assuming an account number of: 4287 9478:

[illegible]

6.7 Longitudinal Redundancy Check (LRC)

The Longitudinal Redundancy Check is used to ensure the data integrity of information packets exchanged through the TSYS Acquiring Solutions system. An LRC character is generated and appended to all data packets in order to detect and recover from transmission errors which might result of line interference. An LRC is the 8-bit EXCLUSIVE-OR (Binary ADD with no Carry) of all bytes starting with the byte AFTER the <STX> and including the final <ETX> of the message.

STX	Message	ETX	LRC
-----	---------	-----	-----

Range of LRC calculation

6.8 Conversion of binary to ASCII characters

TSYS Acquiring Solutions' Second Generation message formats allow only printable characters to appear in transaction data fields. To represent binary data, each byte of binary data is expanded into two hexadecimal characters. The upper four bits of a byte are represented by the first hexadecimal character, and the lower four bits are represented by a second hexadecimal character. Hexadecimal characters are to be encoded in ASCII. See table 6.6 below. For example, to represent a 20-byte binary field, 40 hexadecimal characters are used to define it.

Table 6.6 Byte to 2-Hex character conversion table

Byte	Byte is composed of 8 bits							
Bits in byte	7	6	5	4	3	2	1	0
Hexadecimal Character	First hexadecimal character				Second Hexadecimal character			
	0000 = '0' 1000 = '8'				0000 = '0' 1000 = '8'			
	0001 = '1' 1001 = '9'				0001 = '1' 1001 = '9'			
	0010 = '2' 1010 = 'A'				0010 = '2' 1010 = 'A'			
	0011 = '3' 1011 = 'B'				0011 = '3' 1011 = 'B'			
	0100 = '4' 1100 = 'C'				0100 = '4' 1100 = 'C'			
	0101 = '5' 1101 = 'D'				0101 = '5' 1101 = 'D'			
	0110 = '6' 1110 = 'E'				0110 = '6' 1110 = 'E'			
	0111 = '7' 1111 = 'F'				0111 = '7' 1111 = 'F'			

Chapter 7

Message format examples

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NOTE: Tables provided in this chapter are for example only. Reference the sections provided for a complete description of all applicable values. For the Acquirer BIN, Merchant Number, Store, and Terminal number in development usage, please contact the TSYS Acquiring Solutions development lab for specific values on these fields. For production development, please contact the Acquiring bank of the merchant for these and other applicable values.

7.1 Card present examples

7.1.1 Credit

7.1.1.1 Retail/restaurant - request

Table 7.1 [Retail/restaurant - request](#)

D-Format Authorization Request Message (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192

D-Format Authorization Request Message (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Purchase	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Card reader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	ASCII	Group Separator <GS>		5.96
-	3	NUM	Group III Version Number	025	5.95
-	0 or 9	A/N	Transaction Fee Amount		5.203
	1	ASCII	Field Separator <FS>		5.90

7.1.1.2 Retail/restaurant - manual AVS- request

Table 7.2 Retail/restaurant - manual AVS- request

D-Format Authorization Request Message (Retail/Restaurant - Manual AVS)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Purchase	5.201
63	1	A/N	Cardholder ID Code	M - AVS-Bad Mag. read	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T- Keyed/Track 2 Capable X- Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	0-29	A/N	Address Verification Data (If Cardholder ID - "M")	Street Address<SP>Zip Code	5.51.4
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Authorization Request Message (Retail/Restaurant - Manual AVS)					
Byte	Length	Format	Field description	Content	Section
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.3 Hotel/lodging - manual AVS - request

Table 7.3 [Hotel/lodging - manual AVS - request](#)

D-Format Authorization Request Message (Hotel/Lodging - Manual AVS)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	H	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110

D-Format Authorization Request Message (Hotel/Lodging - Manual AVS)					
Byte	Length	Format	Field description	Content	Section
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.4 Auto rental - request

Table 7.4 [Auto rental - request](#)

D-Format Authorization Request Message (Auto Rental)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121

D-Format Authorization Request Message (Auto Rental)					
Byte	Length	Format	Field description	Content	Section
56	1	A/N	Requested ACI	Y - CPS Capable P - Preferred Customer	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Card Present 56 - Card Not Present	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature N - Address Verification	5.50
64	1	A/N	Account Data Source	@ - No Cardreader D - Track 2 Read H - Track 1 Read T - Keyed/Track2 Capable X - Keyed/Track1 Capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Prestigious Property Ind	Space	5.117.1
-	1	A/N	Market Specific Data ID	A	5.117.2
-	2	NUM	Stay of Duration		5.117.3
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.5 Automated fueling - request

Table 7.5 [Automated fueling - request](#)

D-Format Authorization Request Message (Automated Fueling)					
Byte	Length	Format	Field description	Contents	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	O	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Card Present	5.201
63	1	A/N	Cardholder ID Code	E - Automated Fueling	5.50
64	1	A/N	Account Data Source	D - Track 2 Read H - Track 1 Read	5.1
-	5-76	A/N	Customer Data Field	Full Track 1 or Full Track 2	5.71
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount	100	5.199

D-FORMAT AFD Credit Completion Advice request (Visa, MasterCard, PayPal and Discover)					
Byte	Length	Format	Field description	Content	Section
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code	5542	5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	5C- Credit Advice	5.201
63	1	A/N	Cardholder ID Code	E – Automated Fueling	5.50
64	1	A/N	Account Data Source	D – Track 2 Read H – Track 1 read	5.1
	5-76	A/N	Customer Data Field	Full Track 1 Full Track 2	5.71
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount	Actual Amount Dispensed	5.199
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	6	A/N	Approval Code	Echo pre-auth response	5.165.1
	6	A/N	Local Transaction Date	Echo pre-auth response	5.165.2
	6	A/N	Local Transaction Time	Echo pre-auth response	5.165.3
	12	NUM	RRN	Echo pre-auth response	5.165.5
	1	A/N	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	A/N	Field Separator	<FS>	5.90

D-FORMAT AFD Credit Completion Advice response (Visa, MasterCard, PayPal and Discover)					
Byte	Length	Format	Field description	Content	Section
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code		5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Auth. Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163
67	1	A/N	Market Data Identifier		5.117
-	0-15	A/N	Transaction Identifier	MC Reference Number	5.204
-	1	A/N	Field Separator	<FS>	5.90
-	0-4	A/N	Validation Code		5.212
-	1	A/N	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	1	A/N	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	033	5.95
	1	A/N	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	039 (MasterCard Only)	5.95
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	050 (MasterCard Only)	5.95
	0, 10	NUM	Association Timestamp	mmddhhmmss	5.23
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	056	5.95
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	057	5.95
	0-25	A/N/S	Additional Response Data		5.10
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96

7.1.1.8 Quasi-cash - request

Table 7.8 Quasi-cash - request

D-Format Authorization Request Message (Quasi-Cash)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	57 - Quasi-Cash	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Authorization Request Message (Quasi-Cash)					
Byte	Length	Format	Field description	Content	Section
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.9 Incremental authorization - request

Table 7.9 [Incremental authorization - request](#)

D-Format Incremental Authorization Request Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70

D-Format Incremental Authorization Request Message					
Byte	Length	Format	Field description	Content	Section
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.10 Credit authorization reversal - request

Table 7.10 [Credit authorization reversal - request](#)

D-Format Authorization Request Message (Reversal)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Returned ACI	Value returned in Original Authorization Response	5.164
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	59 - Pre-settlement 5A - Post-settlement 5N - Balance inquiry reversal	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50

E-Format Authorization Response Message (Credit Card/Base Group I)					
Byte	Length	Format	Field description	Content	Section
3	1	A/N	Message Delimiter	.	5.136
4	1	A/N	Returned ACI		5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code	XX	5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Auth. Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163
67	1	A/N	Market Data Identifier		5.117
-	0-15	A/N	Transaction Identifier		5.204
-	1	A/N	Field Separator <FS>		5.90
-	0-4	A/N	Validation Code		5.212
-	1	A/N	Field Separator <FS>		5.90
	3	NUM	Group III Version Number		5.95

7.1.1.12 Credit integrated chip card (ICC - EMV format) - request (G3v055)

All group III version 55 alpha-numeric format data elements are hexadecimal values unless otherwise specified.

Table 7.12 [Credit integrated chip card \(ICC - EMV format\) - request \(G3v055\)](#)

D-Format EMV Authorization Request Message (credit card)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transactions 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4

D-Format EMV Authorization Request Message (credit card)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.192
	1	ASCII	Field Separator	<FS>	5.90
	0-12	NUM	Secondary Amount		5.162
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	40	A/N	Card Acceptor Data		5.32
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	027	5.95
	12	A/N	POS Data Code		5.150
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	055	5.95
	6-255	ASCII Hex	TLV EMV Tag Data	Send all EMV Data tags that are supported by the card and terminal interaction. Expected tags can be found in Appendix A .	5.193
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96

7.1.1.13 Credit integrated chip card (ICC - EMV format) - response (G3v055)

All group III version 55 alpha-numeric format data elements are hexadecimal values unless otherwise specified.

Table 7.13 Credit contactless using EMV data rules authorization - response

E-Format EMV Authorization Response Message (credit card)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transactions 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	NUM	Return ACI		5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	AN	Response Code		5.162
20-25	6	AN	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Auth. Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163
67	1	A/N	Market Data Identifier		5.117
	0-15	A/N	Transaction Identifier		5.204
	1	ASCII	Field Separator	<FS>	5.90
	0,4	A/N	Validation Code		5.212
	3	NUM	Group III Version Number	020	5.95
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	027	5.95
	12	A/N	POS Data Code		5.150
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	055	5.95
	6-255	ASCII Hex	TLV Data, 2 characters per byte	Typically includes one or more issuer scripts (tag 71 or 72) the response code (tag 8A)and issuer authentication data (tag 91)	5.193
	1	ASCII	Field Separator	<FS>	5.90

E-Format EMV Authorization Response Message (credit card)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Group Separator	<GS>	5.96

7.1.1.14 Credit contactless using EMV data rules authorization - request

All group III version 55 alpha-numeric format data elements are hexadecimal values unless otherwise specified.

Table 7.14 [Credit contactless using EMV data rules authorization - request](#)

Format D Contactless Using EMV Data Rules Authorization - Request (Credit Card)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	X	5.74
31	1	A/N	Industry Code	A, B, F, G, H, L, O, P, R	5.101
32-34	3	NUM	Currency Code		5.70
35-37	3	NUM	Country Code		5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	008 (GMT + 8 hours, non-daylight savings)	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54- Purchase	5.201

Format D Contactless Using EMV Data Rules Authorization - Request (Credit Card)					
Byte	Length	Format	Field description	Content	Section
	3	NUM	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	027	5.95
	12	A/N	POS Data Code		5.150
	3	NUM	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	055	5.95
	6-255	ASCII Hex	TLV EMV Tag Data	Send all EMV Data tags that are supported by the card and terminal interaction. Expected tags can be found in Appendix A .	5.193
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group Separator	<GS>	5.96

7.1.1.15 Credit contactless using EMV data rules authorization - response

All group III version 55 alpha-numeric format data elements are hexadecimal values unless otherwise specified.

Table 7.15 [Credit contactless using EMV data rules authorization - response](#)

E-Format Contactless Using EMV Data Rules Authorization Response Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	NUM	Return ACI		5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Tran. Sequence Number		5.205
18-19	2	A/N	Response Code		5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.50
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Auth. Response Text		5.27
54	1	A/N	AVS Result Code		5.11

D-Format Authorization Chip Card Fallback request (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54- Purchase	5.201
63	1	A/N	Cardholder ID Code	@ = Cardholder Signature P - No CVM Required	5.50
64	1	A/N	Account Data Source	Z - Chip Card transaction processed as magnetic stripe from a chip capable terminal, due to card or terminal failure W - Chip Card transaction processed as magnetic stripe due to the terminal application not having any EMV applications in common with the chip card.	5.1
-	5-76	A/N	Customer Data Field	Field Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90

E-Format Authorization Chip Card Fallback response (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54- Purchase	5.201
63	1	A/N	Cardholder ID Code	@ = Cardholder Signature P - No CVM Required	5.50
64	1	A/N	Account Data Source	Z - Chip Card transaction processed as magnetic stripe from a chip capable terminal, due to card or terminal failure W - Chip Card transaction processed as magnetic stripe due to the terminal application not having any EMV applications in common with the chip card.	5.1
-	5-76	A/N	Customer Data Field	Field Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1-12	NUM	Transaction Amount		5.199
	3	NUM	Group III Version Number	011	5.95
	3	NUM	Group Separator	<GS>	5.96

D-Format Authorization Request Message (Credit Account Funding Transaction [Visa] or Debit Payment Transaction [MC])					
Byte	Length	Format	Field description	Content	Section
64	1	A/N	Account Data Source	@ - No Cardreader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	0-29	A/N	Field Separator <FS>	Hex 1C	5.90
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
-	1	A/N	Field Separator <FS>	Hex 1C	5.90
	3	NUM	Group III Version Number		5.95
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.1.19 Cash advance - request

Table 7.19 Credit Cash advance - request

D-Format Authorization Request Message (Cash Advance)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136

D-Format Authorization Request Message (Cash Advance)					
Byte	Length	Format	Field description	Content	Section
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90

7.1.2 Debit/EBT

7.1.2.1 Debit non-confirmation - request

Table 7.20 [Debit non-confirmation - request](#)

T-Format Authorization Request Message (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified / space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	93 - Purchase 94 - Purchase Return	5.201
63	1	A/N	Cardholder ID Code	K-DUK/PT PIN Entry	5.50
64	1	A/N	Account Data Source	D - Track 2	5.1
	5-76	A/N	Customer Data Field	Full Track 2	5.71

T-Format Authorization Request Message (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
	0 or 8	NUM	Original Purchase Data	MMDDHHMM (Returns only)	5.142
	1	A/N	Field Separator <FS>		5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90

7.1.2.2 Debit authorization reversal - request

Table 7.21 [Debit authorization reversal - request](#)

T-Format Authorization Request Message (Debit reversal)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	0 - Single 2 - Multiple Tran. 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840 - U.S.	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	N	5.161

T-Format Authorization Request Message (Debit reversal)					
Byte	Length	Format	Field description	Content	Section
	0 or 4	A/N	Merchant Settlement Agent Number		5.132
	1	A/N	Field Separator <FS>		5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	A/N	Field Separator <FS>		5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90

7.1.2.3 Debit card/EBT - response

Table 7.22 [Debit card/EBT - response](#)

U-Format Authorization Response Message (Debit Card/EBT)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	U	5.157
2	1	NUM	Application Type		5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	A/N	Returned ACI		5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code	XX	5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Auth. Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163

T-Format Authorization Request Message (Debit Account Funding Transaction [Visa] or Debit Payment Transaction [MC])					
Byte	Length	Format	Field description	Content	Section
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	9G - Account Funding Trans./Payment Trans.	5.201
63	1	A/N	Cardholder ID Code	K - DUK/PT PIN Entry	5.50
64	1	A/N	Account Data Source	D - Track 2	5.1
-	5-76	A/N	Customer Data Field	Full Track 2	5.71
-	1	A/N	Field Separator <FS>		5.90
-	32	A/N	Cardholder identification data	Encrypted PIN Block Data	5.51
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	A/N	Field Separator <FS>		5.90
-	0-12	NUM	Cash Back Amount		
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name	(Required)	5.32.1
-	13	A/N	Merchant Location/City	(Required)	5.32.2
-	2	A/N	Merchant State	(Required)	5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	6	A/N	Approval Code	(Required)	5.165.1
-	6	A/N	Local Transaction Date	(Required)	5.165.2
-	6	A/N	Local Transaction Time	(Required)	5.165.3
-	12	NUM	RRN	(Required)	5.165.5
-	1	A/N	Field Separator <FS>		5.90

T-Format Authorization Request Message (Debit Cardholder Funds Transfer [Visa])					
Byte	Length	Format	Field description	Content	Section
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	9J - Account Funding Tran./Payment Tran.	5.201
63	1	A/N	Cardholder ID Code	K - DUK/PT PIN Entry	5.50
64	1	A/N	Account Data Source	D - Track 2	5.1
-	5-76	A/N	Customer Data Field	Full Track 2	5.71
-	1	A/N	Field Separator <FS>		5.90
-	32	A/N	Cardholder identification data	Encrypted PIN Block Data	5.51
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	0-12	NUM	Cash back Amount		
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name	(Required)	5.32.1
-	13	A/N	Merchant Location/City	(Required)	5.32.2
-	2	A/N	Merchant State	(Required)	5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

T-Format Authorization Request Message (EBT)					
Byte	Length	Format	Field description	Content	Section
2	1	NUM	Application Type	0 - Single 2 - Multiple Tran. 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	92 - EBT/FS Return 96 - EBT/CD Cash Withdrawal 98 - EBT/FS Purchase 9E - EBT/FS Electronic Voucher 9F - EBT/CD Purchase or Purchase with Cash back	5.201
63	1	A/N	Cardholder ID Code	K - DUK/PT PIN Entry Z - Cardholder Signature - Terminal has a PIN pad	5.50
64	1	A/N	Account Data Source	D - Track 2 T - Manual Entry/T2 capable X - Manual Entry/T1 capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 2 or manually entered data (EBT)	5.71

T-Format Authorization Request Message (EBT)					
Byte	Length	Format	Field description	Content	Section
-	1	A/N	Field Separator <FS>		5.90
-	32	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	0-12	NUM	Secondary Amount		5.169
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name	(Required)	5.32.1
-	13	A/N	Merchant Location/City	(Required)	5.32.2
-	2	A/N	Merchant State	(Required)	5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	6	A/N	Approval Code	(Required)	5.165.1
-	6	A/N	Local Transaction Date	(Required)	5.165.2
-	6	A/N	Local Transaction Time	(Required)	5.165.3
-	12	NUM	RRN	(Required)	5.165.5
-	1	A/N	Field Separator <FS>		5.90
-	7	A/N	System Trace Audit Number (STAN) 6 bytes, 1 byte SPACE (' ')	(Required)	5.166.1
-	1	A/N	Field Separator <FS>		5.90
-	1-30	A/N	Sharing Group	K	5.176
-	1	A/N	Field Separator <FS>		5.90
-	0 or 9	NUM	Merchant ABA Number		5.118
-	0 or 4	A/N	Merch. Settlement Agent Number		5.132
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Agent Bank Number		5.12
-	6	NUM	Agent Chain Number		5.13
-	3	NUM	Batch Number		5.31
-	1	A/N	Reimbursement Attribute		5.158
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	013	5.95

T-Format Authorization Request Message (EBT)					
Byte	Length	Format	Field description	Content	Section
-	0 or 7	A/N	FCS ID		5.89
-	1	A/N	Field Separator <FS>		5.90
-	0 or 15	A/N	Electronic Voucher Serial Number		5.77
-	1	A/N	Field Separator <FS>		5.90
-	0 or 6	A/N	Voucher Approval Code		5.216
-	1	ASCII	Group Separator		5.96
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.1.2.7 Electronic benefits transfer (EBT) non-confirmation - request

Table 7.26 EBT non-confirm - request

T-Format Authorization Request Message (EBT Non-confirm)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	4-Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential		5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161

T-Format Authorization Request Message (EBT Non-confirm)					
Byte	Length	Format	Field description	Content	Section
57-60	4	NUM	Transaction Sequence Number		5.205
61-62	2	A/N	Transaction Code	9E - Food Stamps Electronic Voucher 9F - Cash benefits: Purchase or Purchase with Cash back	5.201
63	1	A/N	Cardholder ID Code	K - DUK/PT PIN Entry Z - Cardholder Signature - Terminal has a PIN pad	5.50
64	1	A/N	Account Data Source	D - Track 2 T - Manual Entry/T2 capable X - Manual Entry/T1 capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 2 or manually entered data (EBT)	5.71
-	1	ASCII	Field Separator	<FS>	5.90
-	0-29	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	ASCII	Field Separator	<FS>	5.90
-	0-12	NUM	Secondary Amount		5.169
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	40	A/N	Card Acceptor Data	(Required)	5.32
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	6	A/N	Approval Code	(Required)	5.165.1
-	6	A/N	Local Transaction Date	(Required)	5.165.2
-	6	A/N	Local Transaction Time	(Required)	5.165.3
-	12	NUM	RRN	(Required)	5.165.5
-	1	ASCII	Field Separator	<FS>	5.90
-	7	A/N	System Trace Audit Number (STAN) 6 bytes, 1 byte SPACE (')	(Required)	5.166.1
-	1	ASCII	Field Separator	<FS>	5.90
-	1-30	A/N	Sharing Group	K	5.176
-	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message (EBT Non-confirm)					
Byte	Length	Format	Field description	Content	Section
-	0 or 9	NUM	Merchant ABA Number		5.118
	0 or 4	A/N	Merch. Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	013	5.95
	0 or 7	A/N	FCS ID		5.89
	1	ASCII	Field Separator	<FS>	5.90
	0 or 15	A/N	Electronic Voucher Serial Number		5.77
	1	ASCII	Field Separator	<FS>	5.90
	0 or 6	A/N	Voucher Approval Code		5.216
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90

7.1.2.8 Electronic benefits transfer (EBT) - confirmation message

Table 7.27 [Electronic benefits transfer \(EBT\) non-confirmation - request](#)

Authorization Request Message - Confirmation Message (EBT)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	V	5.157
2	1	NUM	Application Type	0 - Single 2 - Multiple Tran.	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-17	8	A/N	Host Message Identifier		5.98

T-Format Authorization Request Message (Direct Debit)					
Byte	Length	Format	Field description	Content	Section
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	0-12	NUM	Cash back Amount		
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name	(Required)	5.32.1
-	13	A/N	Merchant Location/City	(Required)	5.32.2
-	2	A/N	Merchant State	(Required)	5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	6	A/N	Approval Code	(Required)	5.165.1
-	6	A/N	Local Transaction Date	(Required)	5.165.2
-	6	A/N	Local Transaction Time	(Required)	5.165.3
-	12	NUM	RRN	(Required)	5.165.5
-	1	ASCII	Field Separator	<FS>	5.90
-	7	A/N	System Trace Audit Number (STAN) 6 bytes, 1 byte SPACE (' ')	(Required)	5.166.1
-	1	A/N	Field Separator <FS>		5.90
-	1-30	A/N	Sharing Group		5.176
-	1	A/N	Field Separator <FS>		5.90
-	0 or 9	NUM	Merchant ABA Number		5.118
-	0 or 4	A/N	Merch. Settlement Agent Number		5.132
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Agent Bank Number		5.12
-	6	NUM	Agent Chain Number		5.13
-	3	NUM	Batch Number		5.31
-	1	A/N	Reimbursement Attribute		5.158
-	0 or 8	NUM	Original Purchase Data	MMDDHHMM (Returns Only)	5.142
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95

T-Format EMV Authorization Request Message (Direct Debit)					
Byte	Length	Format	Field description	Content	Section
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	B, C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, B, F, G, H, L, O, P, R	5.101
32-34	3	NUM	Currency Code		5.70
35-37	3	NUM	Country Code		5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	008 (GMT + 8 hours, non-daylight savings)	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	93 - Purchase	5.201
63	1	A/N	Cardholder ID Code	F - PIN Authentication by ICC (Chip Card) (Offline PIN authentication for debit and credit chip card transactions) K - Personal Identification Number 32-character DUK/PT. (Online PIN authentication for debit and credit transactions) Z - Cardholder Signature - Terminal has a PIN pad	5.50
64	1	A/N	Account Data Source	G - Chip Card Read Data(ICC)	5.1
-	1	ASCII	Field Separator	<FS>	5.90
-	5-76	A/N	Customer Data Field	Full Track 2	5.71
-	1	ASCII	Field Separator	<FS>	5.90
-	32	A/N	Cardholder Identification Data	Encrypted PIN Block Data	5.51
-	1	ASCII	Field Separator	<FS>	5.90
-	1	ASCII	Field Separator	<FS>	5.90
-	1-12	NUM	Transaction Amount		5.192

T-Format EMV Authorization Request Message (Direct Debit)					
Byte	Length	Format	Field description	Content	Section
-	3	NUM	Group III Version Number	027	5.95
-	12	A/N	POS Data Code		5.150
-	3	NUM	Group Separator	<GS>	5.96
-	3	NUM	Group III Version Number	045 055	5.95
-	6-255	ASCII Hex	TLV EMV Tag Data	Send all EMV Data tags that are supported by the card and terminal interaction. Expected tags can be found in Appendix A .	5.193
-	1	ASCII	Field Separator	<FS>	5.90
-	3	NUM	Group Separator	<GS>	5.96

7.1.2.12 Debit integrated chip card (ICC - EMV format) - response

All group III version 55 alpha-numeric format data elements are hexadecimal values unless otherwise specified.

Table 7.31 Debit integrated chip card (ICC - EMV format) - response

T-Format EMV Authorization Response Message (Direct Debit)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	U	5.157
2	1	NUM	Application Type	0 - Single 2 - Multiple Tran. 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	NUM	Return ACI		5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1		Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code		5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time HHMMSS		5.113

T-Format Authorization Request Message (ATM Cash Disbursement Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	B	5.74
31	1	A/N	Industry Code	B	5.101
32-34	3	NUM	Currency Code	840 – USD	5.70
35-37	3	NUM	Country Code	840 – United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified / space-filled	5.59
47-48	2	NUM	Language Indicator	00 – English	5.110
49-51	3	NUM	Time Zone Differential	705 – EST 706 – CST 707 – MST 708 – PST	5.192
52-55	4	NUM	Merchant Category Code	6011	5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Trans. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	B1 – ATM Cash Disbursement	5.201
63	1	A/N	Cardholder ID Code	J - PIN at Automated Dispensing Machine 32-character DUK/PT	5.50
64	1	A/N	Account Data Source	D – Track 2	5.1
	5-76	A/N	Customer Data Field	Full Track 2	5.71
	1	ASCII	Field Separator	<FS>	5.90
	32	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name	(Required)	5.32.1
	13	A/N	Merchant Location/City	(Required)	5.32.2
	2	A/N	Merchant State	(Required)	5.32.3
	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message (ATM Cash Disbursement Non-Confirm)

Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	30	A/N	Approval Code - Space Filled if not available (6 bytes) Local Transaction Date - (6 bytes) Local Transaction Time - (6 bytes) Retrieval Reference Number - (12 bytes)	(Required)	5.165
	1	ASCII	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) 6 bytes 1 bytes SPACE (‘ ’)	(Required)	
	1	ASCII	Field Separator	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA		5.118
	0 or 4	A/N	Merchant Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	025	5.95
	9	A/N	Transaction Fee Amount	required in ATM messages	5.203
	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message (ATM Cash Disbursement Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	044	5.95
	0 or 2	NUM	Account Type (From)	10 = Savings account 20 = Checking account 30 = Credit Card account 40 = Universal	5.2
	1	ASCII	Field Separator	<FS>	5.90
	0 or 2	NUM	Account Type (To)	00 = Not Applicable	5.3
	1	ASCII	Field Separator	<FS>	5.90

7.1.3.2 ATM balance inquiry - request

Table 7.33 [ATM balance inquiry - request](#)

T-Format Authorization Request Message (ATM Balance Inquiry Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	B	5.74
31	1	A/N	Industry Code	B	5.101
32-34	3	NUM	Currency Code	840 – USD	5.70
35-37	3	NUM	Country Code	840 – United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified / space-filled	5.59
47-48	2	NUM	Language Indicator	00 – English	5.110
49-51	3	NUM	Time Zone Differential	705 – EST 706 – CST 707 – MST 708 – PST	5.192
52-55	4	NUM	Merchant Category Code	6011	5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Trans. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	B2 – ATM Balance Inquiry	5.201

T-Format Authorization Request Message (ATM Balance Inquiry Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
63	1	A/N	Cardholder ID Code	J - PIN at Automated Dispensing Machine 32-character DUK/PT	5.50
64	1	A/N	Account Data Source	D – Track 2	5.1
	5-76	A/N	Customer Data Field	Full Track 2	5.71
	1	ASCII	Field Separator	<FS>	5.90
	32	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name	(Required)	5.32.1
	13	A/N	Merchant Location/City	(Required)	5.32.2
	2	A/N	Merchant State	(Required)	5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	30	A/N	Approval Code - Space Filled if not available (6 bytes) Local Transaction Date - (6 bytes) Local Transaction Time - (6 bytes) Retrieval Reference Number - (12 bytes)	(Required)	5.165
	1	ASCII	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) 6 bytes 1 bytes SPACE (')	(Required)	
	1	ASCII	Field Separator	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA		5.118

T-Format Authorization Request Message (ATM Balance Inquiry Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
	0 or 4	A/N	Merchant Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	025	5.95
	9	A/N	Transaction Fee Amount	required in ATM messages	5.203
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	044	5.95
	0 or 2	NUM	Account Type (From)	10 = Savings account 20 = Checking account 30 = Credit Card account 40 = Universal	5.2
	1	ASCII	Field Separator	<FS>	5.90
	0 or 2	NUM	Account Type (To)	00 = Not Applicable	5.3
	1	ASCII	Field Separator	<FS>	5.90

7.1.3.3 ATM deposit - request

Table 7.34 [ATM deposit - request](#)

T-Format Authorization Request Message (ATM deposit non-confirmation)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4

T-Format Authorization Request Message (ATM deposit non-confirmation)					
Byte	Length	Format	Field description	Content	Section
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	B	5.74
31	1	A/N	Industry Code	B	5.101
32-34	3	NUM	Currency Code	840 – USD	5.70
35-37	3	NUM	Country Code	840 – United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified / space-filled	5.59
47-48	2	NUM	Language Indicator	00 – English	5.110
49-51	3	NUM	Time Zone Differential		5.192
52-55	4	NUM	Merchant Category Code	6011	5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Trans. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	B3 – ATM Deposit	5.201
63	1	A/N	Cardholder ID Code	J - PIN at Automated Dispensing Machine 32-character DUK/PT	5.50
64	1	A/N	Account Data Source	D – Track 2	5.1
	5-76	A/N	Customer Data Field	Full Track 2	5.71
	1	ASCII	Field Separator	<FS>	5.90
	32	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name	(Required)	5.32.1
	13	A/N	Merchant Location/City	(Required)	5.32.2
	2	A/N	Merchant State	(Required)	5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message (ATM deposit non-confirmation)					
Byte	Length	Format	Field description	Content	Section
	30	A/N	Approval Code - Space Filled if not available (6 bytes) Local Transaction Date - (6 bytes) Local Transaction Time - (6 bytes) Retrieval Reference Number - (12 bytes)	(Required)	5.165
	1	ASCII	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) 6 bytes 1 bytes SPACE (' ')	(Required)	
	1	ASCII	Field Separator	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA		5.118
	0 or 4	A/N	Merchant Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	025	5.95
	9	A/N	Transaction Fee Amount	required in ATM original request messages	5.203
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96

T-Format Authorization Request Message (ATM account transfer non-confirm)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	32	A/N	Cardholder ID Data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name	(Required)	5.32.1
	13	A/N	Merchant Location/City	(Required)	5.32.2
	2	A/N	Merchant State	(Required)	5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	30	A/N	Approval Code - Space Filled if not available (6 bytes) Local Transaction Date - (6 bytes) Local Transaction Time - (6 bytes) Retrieval Reference Number - (12 bytes)	(Required)	5.165
	1	ASCII	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) 6 bytes 1 bytes SPACE (' ')	(Required)	
	1	ASCII	Field Separator	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA		5.118
	0 or 4	A/N	Merchant Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13

T-Format Authorization Request Message (ATM Reversal and Adjustment Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	B	5.74
31	1	A/N	Industry Code	B	5.101
32-34	3	NUM	Currency Code		5.70
35-37	3	NUM	Country Code		5.63
38-46	9	A/N	City Code (ZIP)	Left-justified / space-filled	5.59
47-48	2	NUM	Language Indicator	00 – English	5.110
49-51	3	NUM	Time Zone Differential		5.192
52-55	4	NUM	Merchant Category Code	6011	5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Trans. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	C1 – ATM Cash Disbursement Reversal C3 – ATM Deposit Reversal C4 – ATM Account Transfer Reversal C8 – ATM Adjustment Up (Credit) C9 – ATM Adjustment Down (Debit)	5.201
63	1	A/N	Cardholder ID Code	D - Self - Service Terminal (No ID method available)	5.50
64	1	A/N	Account Data Source	T - Manually keyed, Track two capable	5.1
	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Total Authorized Amount	reversal C1,C3,C4 -original transaction amount adjustment C8, C9 -amount to be adjusted	5.193
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message (ATM Reversal and Adjustment Non-Confirm)					
Byte	Length	Format	Field description	Content	Section
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	025 (If present in original)	5.95
	9	A/N	Transaction Fee Amount	For reversals Transaction Codes C1, C3, C4 - the original request value. For adjustment Transaction Codes C8, C9 - "D000000000"	5.203
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	044	5.95
	2	NUM	Account Type (FROM)	Original request value	5.2
	1	ASCII	Field Separator	<FS>	5.90
	2	NUM	Account Type (TO)	Original request value	5.3
	1	ASCII	Field Separator	<FS>	5.90

7.2 Card not present examples

7.2.1 Credit & Debit

7.2.1.1 Direct marketing - request

Table 7.37 [Direct marketing - request](#)

D-Format Authorization Request Message (Direct Marketing)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136

D-Format Authorization Request Message (Direct Marketing)					
Byte	Length	Format	Field description	Content	Section
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	D	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	56 - Card Not Present	5.201
63	1	A/N	Cardholder ID Code	N - Address Verification	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	0-29	A/N	Address Verification Data (If Cardholder ID - "N")	Street Address<SP>Zip Code	5.51.4
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2

D-Format Authorization Request Message (Direct Marketing)					
Byte	Length	Format	Field description	Content	Section
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	014	5.95
-	1	A/N	MOTO/Electronic Commerce Ind.	1	5.137
-	1	ASCII	Group Separator		5.96
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	ASCII	Group Separator <GS>		5.96
-	3	NUM	Group III Version Number	025	5.95
-	0 or 9	A/N	Transaction Fee Amount		5.203
	1	ASCII	Field Separator <FS>		5.90

7.2.1.2 Bill payment - request

Table 7.38 [Bill payment - request](#)

D-Format Authorization Request Message (Bill Payment)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
1	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.191
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R, D	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70

D-Format Authorization Request Message (Bill Payment)					
Byte	Length	Format	Field description	Content	Section
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y - CPS Capable	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	5B	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature N - Address Verification	5.50
64	1	A/N	Account Data Source	@ - No Cardreader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Full Track 1 Full Track 2 Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Prestigious Property Ind.	Space	5.117.1
-	1	A/N	Market Specific Data ID	B	5.117.2
-	2	NUM	Stay of Duration	00	5.117.3
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Authorization Request Message (Bill Payment)					
Byte	Length	Format	Field description	Content	Section
	3	NUM	Group III Version Number	014	5.95
	1	A/N	MOTO/e-Commerce Indicator	1, 2, 3, 7, or 8	5.137
	1	ASCII	Group Separator		5.96
	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.2.1.3 Credit cardholder funds transfer [Visa] - request

Table 7.39 [Credit cardholder funds transfer \[Visa\] - request](#)

D-Format Authorization Request Message (Credit Cardholder Funds Transfer [Visa])					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	D	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121

D-Format Authorization Request Message (Credit Cardholder Funds Transfer [Visa])					
Byte	Length	Format	Field description	Content	Section
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.2.1.4 Credit account funding transactions [Visa] or payment transaction [MC] with CPS for Internet - request

Table 7.40 [Credit account funding transactions \[Visa\] or payment transaction \[MC\] with CPS for Internet - request](#)

D-Format Authorization Request Message (Credit Account Funding Transactions [Visa] or Payment Transaction [MC] with CPS for Internet)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	D	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	5G - Account Funding Tran. / Payment Tran.	5.201
63	1	A/N	Cardholder ID Code	N - Card not present AVS	5.50

D-Format Authorization Request Message (Credit Account Funding Transactions [Visa] or Payment Transaction [MC] with CPS for Internet)					
Byte	Length	Format	Field description	Content	Section
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	0-29	A/N	Address Verification Data (If Cardholder ID - "N")	Street Address<SP>Zip Code	5.51.4
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Customer Service Phone Number	NNN-NNNNNNN (dash is required)	
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	007	5.95
-	6	A/N	Verification Code		5.213
-	1	ASCII	Group Separator		5.96
-	3	NUM	Group III Version Number	014	5.95
-	1	A/N	MOTO/Electronic Commerce Ind.		5.137
-	1	ASCII	Group Separator		5.96
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

7.2.1.5 3-D secure - request

Table 7.41 [3-D secure - request](#)

D-Format Authorization Request Message (3-D Secure)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	D	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	56 - Card Not Present	5.201
63	1	A/N	Cardholder ID Code	N - AVS	5.50
64	1	A/N	Account Data Source	@ - No Cardreader	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	0-29	A/N	Address Verification Data	Street Address<SP>Zip Code if Cardholder ID Code - N	5.51.4
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Authorization Request Message (e-Commerce)					
Byte	Length	Format	Field description	Content	Section
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, B, D, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	56 - Card Not Present	5.201
63	1	A/N	Cardholder ID Code	N - AVS	5.50
64	1	A/N	Account Data Source	@ - No Cardreader	5.1
-	5-76	A/N	Customer Data Field	Acct#<FS>ExpDate<FS>	5.71
-	1	A/N	Field Separator <FS>		5.90
-	0-29	A/N	Address Verification Data	Street Address<SP>ZipCode if Cardholder ID Code- N	5.51.4
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	25	A/N	Merchant Name		5.32.1
-	13	A/N	Merchant Location/City		5.32.2
-	2	A/N	Merchant State		5.32.3
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Authorization Request Message (e-Commerce)					
Byte	Length	Format	Field description	Content	Section
	3	NUM	Group III Version Number	014	5.95
-	1	NUM	MOTO/e-Commerce Indicator	7 or 8	5.137
-	1	ASCII	Group Separator		5.96
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3 Check examples

7.3.1 Check guarantee authorization - request

Table 7.43 [Check guarantee authorization - request](#)

D-Format Check Authorization Request Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110

D-Format Check Authorization Request Message					
Byte	Length	Format	Field description	Content	Section
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	N	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	1-28	A/N	Check Data Field 1	XXXXXXXXXXXXXXXXXXXX	*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1-128	A/N	Check Data Field 2	XXXXXXXXXXXXXXXXXXXX	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	XXXXXX	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

*For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.2 Certegy/Equifax check guarantee (key MICR) - request

Table 7.44 *Certegy/Equifax check guarantee (key MICR) - request*

D-Format Certegy/Equifax Check Guarantee Request Message (Key MICR)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-14	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-66	2	A/N	MICR Entry Identifier	MR	*
-	1-26	A/N	Account Number	123456789	*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format Certegy/Equifax Check Guarantee Request Message (Key MICR)					
Byte	Length	Format	Field description	Content	Section
-	6	NUM	Receiving Institution ID	894300 - Certegy/Equifax	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.3 Certegy/Equifax check guarantee (raw MICR) - request

Table 7.45 [Certegy/Equifax check guarantee \(raw MICR\) - request](#)

D-Format Certegy/Equifax Check Guarantee Request Message (Raw MICR)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-14	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101

D-Format Certegy/Equifax Check Guarantee Request Message (Raw MICR)					
Byte	Length	Format	Field description	Content	Section
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (Zip Code)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Entry Identifier	FM000	*
70	1	A/N	Field Separator <FS>		5.90
71	1	A/N	Field Separator <FS>		5.90
-	1-128	A/N	RAW MICR Data		*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	894300 - Certegy/Equifax	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90
	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.4 Certegy/Equifax check guarantee (driver's license) - request

Table 7.46 [Certegy/Equifax check guarantee \(driver's license\) - request](#)

D-Format Certegy/Equifax Check Guarantee Request Message (Driver's License)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-14	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-66	2	A/N	State Code		5.57
-	1-26	A/N	Driver's License Number		5.57

D-Format Certegy/Equifax Check Guarantee Request Message (Driver's License with Raw MICR Data)					
Byte	Length	Format	Field description	Content	Section
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.52
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-66	2	A/N	State Code		5.57
-	1-26	A/N	Driver's License Number		5.57
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Date of Birth	MMDDYY Format	5.57
-	1	A/N	Field Separator <FS>		5.90
-	4	NUM	Format Identifier	1002	*
-	40	A/N	Raw MICR Data	Left-justified/space-filled	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	894300 - Certegy/Equifax	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format SCAN Check Guarantee Request Message (Short MICR)					
Byte	Length	Format	Field description	Content	Section
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-66	2	A/N	MICR Entry Identifier	MR	*
-	9	A/N	ABA Number		*
-	1-15	A/N	Account Number		*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	813500 - Scan	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.7 International Check Service (ICS) check guarantee (MICR read) - request

Table 7.49 *International Check Service (ICS) check guarantee (MICR read) - request*

D-Format International Check Service (ICS) Check Guarantee (MICR Read) Transaction Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
15-19	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Account Identifier	AAAAA	*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	2	A/N	Entry Identifier	MR	*
-	9	A/N	ABA Number	121000400 (Test Data)	*

D-Format International Check Service (ICS) Check Guarantee (MICR Read) Transaction Message					
Byte	Length	Format	Field description	Content	Section
-	15	NUM	Account Number	Left-justified/space-filled	*
-		NUM	Check Number	0100 (Test Data)	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	810000 - ICS	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.8 International Check Service (ICS) check guarantee (key MICR) - request

Table 7.50 [International Check Service \(ICS\) check guarantee \(key MICR\) - request](#)

D-Format International Check Service (ICS) Check Guarantee (Key MICR) Transaction Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4

D-Format International Check Service (ICS) Check Guarantee (Key MICR) Transaction Message					
Byte	Length	Format	Field description	Content	Section
15-19	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T -Keyed/Track 2 Capable X -Keyed/Track 1 Capable	5.1
65-69	5	A/N	Account Identifier	BBBBB	*
-		NUM	Check Number	0345 (Test Data)	*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	2	A/N	Entry Identifier	MR	*
-	9	NUM	ABA Number	121000400 (Test Data)	*
-	1-15	NUM	Account Number	783776521 (Test Data)	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	810000 - ICS	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format International Check Service (ICS) Check Guarantee (Key MICR) Transaction Message					
Byte	Length	Format	Field description	Content	Section
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.9 International Check Service (ICS) check guarantee (account number) - request

Table 7.51 [International Check Service \(ICS\) check guarantee \(account number\) - request](#)

D-Format International Check Service (ICS) Check Guarantee (Account Number) Transaction Format					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
15-19	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110

D-Format International Check Service (ICS)
Check Guarantee (Account Number) Transaction Format

Byte	Length	Format	Field description	Content	Section
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
-	1-15	NUM	Account Number		*
-	1	A/N	Field Separator	#	*
-		NUM	Check Number (Optional)	0345 (Test Data)	*
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	810000 - ICS	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.10 TeleCheck check guarantee (driver's license) - request

Table 7.52 [TeleCheck check guarantee \(driver's license\) - request](#)

D-Format TeleCheck Check Guarantee Request Message (driver's license)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	D	5.157
2	1	NUM	Application Type	0 - Single Transaction 2 - Multiple Transaction 4 - Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer Bank Identification Number (BIN)		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (Zip Code)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Filler	Spaces	*
70	1	A/N	Field Separator <FS>		5.90
71	1	A/N	Field Separator <FS>		5.90
72-73	2	A/N	Telecheck ID Type	03	*
74-75	2	A/N	State Code		5.57

D-Format TeleCheck Check Guarantee Request Message (Key Full MICR)					
Byte	Length	Format	Field description	Content	Section
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	A, D, H, P, R	5.101
32-34	3	NUM	Currency Code	840 - U.S. Dollars	5.70
35-37	3	NUM	Country Code	840 - United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language Indicator	00 - English	5.110
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Filler	Spaces	5.91
70	1	A/N	Field Separator <FS>		5.90
71	1	A/N	Field Separator <FS>		5.90
72-73	2	A/N	Telecheck Tag	03	*
74-75	2	A/N	Telecheck ID Type	19	*
-	1-50	NUM	MICR Data	All digits from the check	*
-	1	A/N	Termination Character	| (Vertical Bar)	*
-	2	A/N	Telecheck ID Type	07	*
-	1-10	A/N	Check Sequence Number		*
-	1	A/N	Termination Character	| (Vertical Bar)	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	861400 - TeleCheck	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

D-Format TeleCheck Check Guarantee Request Message (Key Partial MICR)					
Byte	Length	Format	Field description	Content	Section
49-51	3	NUM	Time Zone Differential	705 - EST 706 - CST 707 - MST 708 - PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Tran. Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	70 - Check Authorization	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Filler	Spaces	5.91
70	1	A/N	Field Separator <FS>		5.90
71	1	A/N	Field Separator <FS>		5.90
72-73	2	A/N	Telecheck Tag	03	*
74-75	2	A/N	Telecheck ID Type	18	*
76-84	9	NUM	ABA Number		*
-	1-12	NUM	Account Number		*
-	1	A/N	Termination Character	| (Vertical Bar)	*
-	2	A/N	Telecheck ID Type	07	*
-	1-10	A/N	Check Sequence Number		*
-	1	A/N	Termination Character	| (Vertical Bar)	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	861400 - TeleCheck	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.192
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73

D-Format TeleCheck Check Guarantee Request Message (Raw MICR)					
Byte	Length	Format	Field description	Content	Section
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Cardreader T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
65-69	5	A/N	Filler	Spaces	5.91
70	1	A/N	Field Separator <FS>		5.90
71	1	A/N	Field Separator <FS>		5.90
72-73	2	A/N	Telecheck ID Type	09	*
-	1-50	A/N	Full MICR Data	“TOAD” MICR Format	*
-	1	A/N	Termination Character	| Vertical Bar	*
-	1	A/N	Field Separator <FS>		5.90
-	6	NUM	Receiving Institution ID	861400 - TeleCheck	5.156
-	1	A/N	Field Separator <FS>		5.90
-	1-12	NUM	Transaction Amount		5.199
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90
-	3	NUM	Group III Version Number	020	5.95
-	6	A/N	Developer ID		5.73
-	4	A/N	Version ID		5.215
-	1	A/N	Field Separator <FS>		5.90
-	1	A/N	Field Separator <FS>		5.90

* For development testing please use the values as designated in the content column, or contact your TSYS Acquiring Solutions development lab technician for assistance. For production concerns, please contact either the merchant acquiring bank and or the check service provider for valid values.

7.3.14 Check guarantee authorization - response

Table 7.56 [Check guarantee authorization - response](#)

D-Format Authorization Check Guarantee Response Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type		5.21

D-FORMAT Authentication Request Message					
Byte	Length	Format	Field description	Content	Section
32-34	3		Currency Code	same as for authorization	5.70
35-37	3		Country Code	same as for authorization	5.63
38-46	9		City Code (ZIP)	same as for authorization	5.59
47-48	2		Language indicator	same as for authorization	5.110
49-51	3		Time Zone Differential	same as for authorization	5.192
52-55	4		Merchant Category Code	same as for authorization	5.121
56	1		Requested ACI	N	5.161
57-60	4		Transaction Sequence Number		5.205
61-62	2	A/N	Transaction Code	TA – Terminal Authentication	5.201
63	1		Cardholder ID Code	N - no card present	5.50
64	1		Account Data Source	@, T, X - manually keyed	5.1
	6-10	AN	Authentication Code		5.94.1
	1	ASCII	Field Separator	<FS>	5.90
	0,5-6	NUM	Authentication Factor 1 (AF1)	Not present if AF2 present. (one of AF1 and AF2 is mandatory)	5.94.2
	1	ASCII	Field Separator	<FS>	5.90
	0,7-10	NUM	Authentication Factor 1 (AF2)	Not present if AF1 present. (one of AF1 and AF2 is mandatory)	5.94.3
	1	ASCII	Field Separator	<FS>	5.90
	3		Group 3 Version Number	049	5.95
	1		Field Separator	<FS>	5.90

7.4.2 Authentication response

Table 7.58 Gen2 Terminal Authentication - response

E-FORMAT Authentication Response Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type	0 – Single Transaction	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1		Returned ACI	space	5.164
5-8	4		Store Number		5.177

D-FORMAT Deactivation Request Message					
Byte	Length	Format	Field description	Content	Section
31	1		Industry Code	same as for authorization	5.101
32-34	3		Currency Code	same as for authorization	5.70
35-37	3		Country Code	same as for authorization	5.63
38-46	9		City Code (ZIP)	same as for authorization	5.59
47-48	2		Language indicator	same as for authorization	5.110
49-51	3		Time Zone Differential	same as for authorization	5.192
52-55	4		Merchant Category Code	same as for authorization	5.121
56	1		Requested ACI	N	5.161
57-60	4		Transaction Sequence Number		5.205
61-62	2	A/N	Transaction Code	TD – Terminal Deactivation	5.201
63	1		Cardholder ID Code	N - no card present	5.50
64	1		Account Data Source	@, T, X - manually keyed	5.1
65	1	ASCII	Field Separator	<FS>	5.90
66	1	ASCII	Field Separator	<FS>	5.90
67	1	ASCII	Field Separator	<FS>	5.90
68-70	3	NUM	Group III Version Number	049	5.95
71-94	24	ASCII	Genkey	ASCII Representation of HEX	5.94.4
95	1	ASCII	Field Separator	<FS>	5.90

7.4.4 Deactivation response

Table 7.60 Authentication Terminal Deactivation - response

D-FORMAT Deactivation Response Message					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type	0 – Single Transaction	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1		Returned ACI	space	5.164
5-8	4		Store Number		5.177
9-12	4		Terminal Number		5.187
13	1		Authorization Source Code		5.28
14-17	4		Transaction Sequence Number		5.205

7.5 Encryption and token examples

7.5.1 Encrypted credit

This is a sample retail/restaurant credit request with encrypted track data.

Table 7.61 Encrypted retail/restaurant - request

W-Format Encrypted Authorization Request Message (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	W	5.157
2	1	NUM	Application Type	0 – Single Transaction 2 – Multiple Transaction 4 – Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840- U.S. Dollars	5.70
35-37	3	NUM	Country Code	840- U.S. United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language indicator	00-English	5.110
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Purchase	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Card Reader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1

7.5.2 Encrypted debit non-confirmation - request

This is a sample debit non-confirmation request with encrypted track data.

Table 7.62 Encrypted debit non-confirmation - request

X-Format Encrypted Authorization Request Message (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	X	5.157
2	1	NUM	Application Type	4 – Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840- U.S. Dollars	5.70
35-37	3	NUM	Country Code	840- U.S. United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language indicator	00-English	5.110
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	93 - Purchase 94 - Purchase Return	5.201
63	1	A/N	Cardholder ID Code	K-DIK/PT PIN Entry	5.50
64	1	A/N	Account Data Source	D - Track 2 Read	5.1
	5-76	A/N	Customer Data Field	TEP2 Track1 TEP2 Track2 Encrypted Acct# <FS> ExpDt<FS>Encrypted CVV	5.71
	1	ASCII	Field Separator	<FS>	5.90
	0-29	A/N	Address Verification Data	Street Address <SP> Zip Code	5.51.4

X-Format Encrypted Authorization Request Message (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
	32	A/N	Cardholder identification data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	0-12	NUM	Cash Back Amount		
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	6	A/N	Approval Code	Required	5.22
	6	A/N	Local Transaction Data	Required	5.112
	6	A/N	Local Transaction Time	Required	5.113
	12	NUM	Retrieval Reference Number (RRN)	Required	5.163
	1	A/N	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) (6bytes) 1 byte SPACE (' ')		5.179
	1	ASCII	Field Separator <FS>	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator <FS>	<FS>	5.90
	0 or 9	NUM	Merchant ABA Number		5.118
	0 or 4	A/N	Merch. Settlement Agent Number		5.132
	1	ASCII	Field Separator <FS>	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	0 or 8	NUM	Original Purchase Data	MMDDHHMM (Returns only)	5.142

X-Format Encrypted Authorization Request Message (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	049	5.95
	24	ASCII	GenKey	ASCII Representation of HEX	5.94.4
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	1	NUM	Group III Version Number	052	5.95
	1	A/N	Encryption Type	V	5.86
	250-300	A/N	Encryption Transmission Block (ETB)		5.85
	1	A/N	Field Separator	<FS>	5.90

7.5.3 Encrypted credit with token - request

This is a sample retail/restaurant credit request with encrypted track data.

Table 7.63 Encrypted credit with token - request

W-Format Encrypted Authorization Request Message with Token Request (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	W	5.157
2	1	NUM	Application Type	0 – Single Transaction 2 – Multiple Transaction 4 – Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187

W-Format Encrypted Authorization Request Message with Token Request (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	B, F, G, P, R	5.101
32-34	3	NUM	Currency Code	840- U.S. Dollars	5.70
35-37	3	NUM	Country Code	840- U.S. United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language indicator	00-English	5.110
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	54 - Purchase	5.201
63	1	A/N	Cardholder ID Code	@ - Customer Signature	5.50
64	1	A/N	Account Data Source	@ - No Card Reader D - Track 2 Read H - Track 1 Read T - Keyed/Track 2 Capable X - Keyed/Track 1 Capable	5.1
	5-76	A/N	Customer Data Field	TEP2 Track1 TEP2 Track2 Encrypted Acct# <FS> ExpDt<FS>Encrypted CVV	5.71
	1	ASCII	Field Separator	<FS>	5.90
	0-29	A/N	Address Verification Data	Street Address<SP>Zip Code	5.51.4
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	ASCII	Field Separator	<FS>	5.90

W-Format Encrypted Authorization Request Message with Token Request (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	049	5.95
	24	A/N	GenKey	ASCII Representation of HEX	5.94.4
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	052	5.95
	1	A/N	Encryption Type	V	5.86
	250-300	A/N	Encryption Transmission Block (ETB)		5.85
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	053	5.95
	1	ASCII	Group Separator	<GS>	5.96

7.5.4 Encrypted credit with token request - response

This is a sample response to a retail/restaurant credit request with encrypted track data and a token request.

Table 7.64 Encrypted credit with token request- response

E-Format Authorization Response Message with Token (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	E	5.157
2	1	NUM	Application Type	0 – Single Transaction 2 – Multiple Transaction 4 – Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	A/N	Returned ACI	Space	5.164
5-8	4	NUM	Store Number		5.177

E-Format Authorization Response Message with Token (Retail/Restaurant)					
Byte	Length	Format	Field description	Content	Section
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code		5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Authorization Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163
67	1	A/N	Mkt. Specific Data Identifier		5.117
	0,15	A/N	Transaction Identifier	Reference Number	5.204
	1	ASCII	Field Separator	<FS>	5.90
	0,4	A/N	Validation Code		
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	049	5.95
	24	A/N	GenKey	ASCII Representation of HEX	5.94.4
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	053	5.95
	1	A/N	Token Status	0	5.195
	1	ASCII	Field Separator	<FS>	5.90
	0,13-19	A/N	Token		5.193
	1	ASCII	Field Separator	<FS>	5.90

7.5.5 Debit non-confirmation with token request - request

This is a sample debit non-confirmation request requesting a token.

Table 7.65 Debit non-confirmation with token request -request

T-Format Authorization Request Message with Token Request (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	T	5.157
2	1	NUM	Application Type	4 – Interleaved	5.21
3	1	A/N	Message Delimiter	.	5.136
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, D, E, I, M, Q	5.74
31	1	A/N	Industry Code	R	5.101
32-34	3	NUM	Currency Code	840- U.S. Dollars	5.70
35-37	3	NUM	Country Code	840- U.S. United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language indicator	00-English	5.110
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	93 - Purchase 94 - Purchase Return	5.201
63	1	A/N	Cardholder ID Code	K-DIK/PT PIN Entry	5.50
64	1	A/N	Account Data Source	D - Track 2 Read	5.1
	5-76	A/N	Customer Data Field	Full Track 2	5.71
	1	ASCII	Field Separator	<FS>	5.90
	32	A/N	Cardholder identification data	Encrypted PIN Block Data	5.51
	1	ASCII	Field Separator	<FS>	5.90

T-Format Authorization Request Message with Token Request (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	0-12	NUM	Cash back amount		
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	6	A/N	Approval Code	Required	5.22
	6	A/N	Location Transaction Date	Required	5.112
	6	A/N	Location Transaction Time	Required	5.113
	12	A/N	Retrieval Reference Number	Required	5.163
	1	ASCII	Field Separator	<FS>	5.90
	7	A/N	System Trace Audit Number (STAN) (6bytes) 1 byte SPACE (' ')		5.179
	1	ASCII	Field Separator	<FS>	5.90
	1-30	A/N	Sharing Group		5.176
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA Number		5.118
	0 or 4	A/N	Merch. Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	0 or 8	NUM	Original Purchase Data	MMDDHHMM (Returns only)	5.142
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73

T-Format Authorization Request Message with Token Request (debit non-confirm)					
Byte	Length	Format	Field description	Content	Section
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	049	5.95
	24	A/N	GenKey	ASCII Representation of HEX	5.94.4
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	053	5.95
	1	ASCII	Field Separator <FS>	<FS>	5.90

7.5.6 Debit care/EBT with token request-response

This is a sample response to a debit/EBT request that is requesting a token.

Table 7.66 Debit/EBT with token request-response

U-Format Authorization Response Message with Token (Debit Card/EBT)					
Byte	Length	Format	Field description	Content	Section
1	1	A/N	Record Format	U	5.157
2	1	NUM	Application Type		5.21
3	1	A/N	Message Delimiter	.	5.136
4	1	A/N	Returned ACI	Space	5.164
5-8	4	NUM	Store Number		5.177
9-12	4	NUM	Terminal Number		5.187
13	1	A/N	Authorization Source Code		5.28
14-17	4	NUM	Transaction Sequence Number		5.205
18-19	2	A/N	Response Code	XX	5.162
20-25	6	A/N	Approval Code		5.22
26-31	6	NUM	Local Transaction Date	MMDDYY	5.112
32-37	6	NUM	Local Transaction Time	HHMMSS	5.113
38-53	16	A/N	Authorization Response Text		5.27
54	1	A/N	AVS Result Code		5.11
55-66	12	A/N	Retrieval Reference Number		5.163

Y-Format Tokenized Authorization Request Message (bill payment)					
Byte	Length	Format	Field description	Content	Section
4-9	6	NUM	Acquirer BIN		5.4
10-21	12	NUM	Merchant Number		5.129
22-25	4	NUM	Store Number		5.177
26-29	4	NUM	Terminal Number		5.187
30	1	A/N	Device Code	C, E, I, M, Q	5.74
31	1	A/N	Industry Code	R, D	5.101
32-34	3	NUM	Currency Code	840- U.S. Dollars	5.70
35-37	3	NUM	Country Code	840- United States	5.63
38-46	9	A/N	City Code (ZIP)	Left-justified/space-filled	5.59
47-48	2	NUM	Language indicator	00-English	5.110
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	5B-Bill Payment	5.201
63	1	A/N	Cardholder ID Code	N-Card Not Present	5.50
64	1	A/N	Account Data Source	@-Manually Keyed	5.1
	5-76	A/N	Customer Data Field	Token<FS>ExpDate<FS>	5.71
	1	A/N	Field Separator	<FS>	5.90
	0-29	A/N	Address Verification Data (If Cardholder ID = "N")	Street Address <SP> Zip Code	5.51.4
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.192
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	1	A/N	Field Separator	<FS>	5.90
	25	A/N	Merchant Name		5.32.1
	13	A/N	Merchant Location/City		5.32.2
	2	A/N	Merchant State		5.32.3
	1	A/N	Field Separator	<FS>	5.90

Z-Format Tokenized PINless Debit Bill Payment					
Byte	Length	Format	Field description	Content	Section
49-51	3	NUM	Time Zone Differential	705-EST 706-CST 707-MST 708-PST	5.192
52-55	4	NUM	Merchant Category Code		5.121
56	1	A/N	Requested ACI	Y	5.161
57-60	4	NUM	Transaction Sequence Number	0001	5.205
61-62	2	A/N	Transaction Code	9C-PINless Debit	5.201
63	1	A/N	Cardholder ID	N- Not Present	5.50
64	1	A/N	Account Data Source	@-Manually Keyed	5.1
	5-76	A/N	Customer Data Field	Token<FS>ExpDate<FS>	5.71
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1-12	NUM	Transaction Amount		5.199
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	0,4	A/N	Market Specific Data Indicator	B11, B22	5.117
	1	ASCII	Field Separator	<FS>	5.90
	25	A/N	Merchant Name	(Required)	5.32.1
	13	A/N	Merchant Location/City	(Required) Phone # if NYCE network	5.32.2
	2	A/N	Merchant State	(Required)	5.32.3
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	6	A/N	Approval Code		5.22
	6	NUM	Location Transaction Date		5.112
	6	NUM	Location Transaction Time		5.113
	12	A/N	Retrieval Reference Number		5.163
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	System Trace Audit Number (STAN)		5.179
	1	A/N	Network Identification Code		5.139

Z-Format Tokenized PINless Debit Bill Payment					
Byte	Length	Format	Field description	Content	Section
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	0 or 9	NUM	Merchant ABA Number		5.118
	0 or 4	A/N	Merch. Settlement Agent Number		5.132
	1	ASCII	Field Separator	<FS>	5.90
	6	NUM	Agent Bank Number		5.12
	6	NUM	Agent Chain Number		5.13
	3	NUM	Batch Number		5.31
	1	A/N	Reimbursement Attribute		5.158
	1	ASCII	Field Separator	<FS>	5.90
	3	NUM	Group III Version Number	014	5.95
	1	A/N	MOTO Indicator	Must be 1, 2, 3, 5, 6, 7, or 8	5.137
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	020	5.95
	6	A/N	Developer ID		5.73
	4	A/N	Version ID		5.215
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Field Separator	<FS>	5.90
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	043	5.95
	4	NUM	Network ID	Must not be "0000"	5.139
	1	ASCII	Group Separator	<GS>	5.96
	3	NUM	Group III Version Number	049	5.95
	0,24	ASCII	GenKey	ASCII Representation of HEX	5.94.4
	1	ASCII	Field Separator	<FS>	5.90

Appendix A

The following list of EMV tags are mandatory and must be sent on any transaction that contains Group 3 Version 55. If either or both of these tags are missing, the transaction will be rejected.

Table A.1 Mandatory EMV tags

Tag	Tag name	Description
DF79	Kernal Version Number	The version number of the kernel used to process the chip data in the transaction. (variable 1 - 32)
DF78	Device Serial Number	The manufacturer's unique serial number of the device that interacts with the chip card. (variable 1 - 20)

The following list of EMV tags are the primary tags used in a chip card transaction. Not all tags are used in every transaction. The tags being sent should be included if available and in the order listed where possible.

Table A.2 Summary chip card transaction data elements

Tag	Tag name	Description
9F40	Additional Terminal Capabilities	Indicates the data input and output capabilities of the terminal.
9F02	Amount, Authorized	Authorized amount of the transaction (excluding adjustments).
9F03	Amount, Other	Secondary amount associated with the transaction representing a cashback amount
9F26	Application Cryptogram	Cryptogram returned by the ICC in response of the GENERATE AC command.
4F	Application Identifier (AID) - ICC	Identifies the application as described in ISO/IEC 7816-5.
9F06	Application Identifier (AID) - Terminal	Identifies the application as described in ISO/IEC 7816-5.
82	Application Interchange Profile	Mnemonic associated with the AID according to ISO/IEC 7816-5.

Tag	Tag name	Description
9F36	Application Transaction Counter	Counter maintained by the application in the ICC (incrementing the ATC is managed by the ICC).
9F34	Cardholder Verification Method (CVM) Results	Identifies a method of verification of the cardholder supported by the application.
9F27	Cryptogram Information Data	Indicates the type of cryptogram and the actions to be performed by the terminal.
9F39	POS Entry Mode	Indicates the method by which the PAN was entered, according to the first two digits of the ISO 8583:1987 POS Entry Mode.
9F33	Terminal Capabilities	Indicates the card data input, CVM, and security capabilities of the terminal.
9F1A	Terminal country Code	Indicates the country of the terminal, represented according to ISO 3166.
9F35	Terminal Type	Indicates the environment of the terminal, its communications capability, and its operational control.
95	Terminal Verification Results	Status of the different functions as seen from the terminal.
5F2A	Transaction Currency Code	Indicates the currency code of the transaction according to ISO 4217.
9A	Transaction Date	Local date that the transaction was authorized.
9B	Transaction Status Information	Indicates the functions performed in a transaction.
9F21	Transaction Time	Local time that the transaction was authorized.
9C	Transaction Type	Indicates the type of financial transaction, represented by the first two digits of ISO 8583:1987 Processing Code.
9F37	Unpredictable Number	Value to provide variability and uniqueness to the generation of a cryptogram.
5F2D	Language Preference	1-4 languages stored in order of preference, each represented by 2 alphabetical characters according to ISO 639.
91	Issuer Authentication Data	Data sent to the ICC for online issuer authentication.

Tag	Tag name	Description
5F34	Primary Account Number (PAN) Sequence Number	Identifies and differentiates cards with the same PAN.
84	Dedicated File (DF) Name	Identifies the name of the DF as described in ISO/IEC 7816-4.
9F10	Issuer Application Data	Contains proprietary application data for transmission to the issuer in an online transaction.
9F5B	Issuer Script Results	Indicates the result of the terminal script processing.

The following list of EMV tags should not be sent in Group 3 Version 55.

Table A.3 EMV tags that should not be sent

Tag	Tag name
5A	Primary Account Number (PAN)
57	Track 2 Equivalent Data
5F24	Application Expiration date
5F30	Service Code
9F1F	Track 1 Discretionary Data
9F20	Track 2 Discretionary Data

The following list of EMV tags are only used in contactless transactions. If the tag is transaction specific, this is stated in the description.

Table A.4 Contactless chip card transaction data elements

Tag	Tag name	Description
9F4C	ICC Dynamic Number	ICC PIN Encipherment Public Key certified by the issuer (Contactless EMV only)
9F6B	Track 2 Data (MasterCard)	The Track 2 Data is present in the file read using the READ RECORD command during a PayPass - Mag Stripe transaction. The PayPass reader copies the required digits of the UN (Numeric), CVC3TRACK2, ATC and nUN into the discretionary data field of the Track 2 Data and stores the modified Track 2 Data in the Data Record to be sent to the terminal. (MasterCard Contactless mag stripe only)
9F6E	Form Factor Indicator (FFI)	The PayPass Third Party Data contains proprietary information from a third party. (contactless mag stripe only)
9F7C	Customer Exclusive Data (CED) (Visa)	Contains data for transmission to the Issuer in Magnetic Stripe Data (MSD) transactions with a cryptogram. The MSD chip may contain customer data to be sent to the issuer in a contactless MSD transaction containing a cryptogram For Visa only, the issuer may change this customer data using the Issuer Script in the response message.

The following is a list of expected response tags in a typical response message. Tags 71 and 72 are optional and if one is received the other will not be received. Other tags may be included in the response message.

Table A.5 Chip card transaction response data elements

Tag	Tag name	Description
8A	Authorization Response Code	Code that defines the disposition of a message. (response)
91	Issuer Authentication Data	Data sent to the ICC for online issuer authentication
71	Issuer Script Template 1	Contains proprietary issuer data for transmission to the ICC before the second GENERATE AC command. (response)

72	Issuer Script Template 2	Contains proprietary issuer data for transmission to the ICC after the second GENERATE AC command. (response)
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Appendix B

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Card product codes

Value	Product description
A^	Visa Traditional
AX	American Express Card
B^	Visa Traditional Rewards
C^	Visa Signature
D^	Visa Signature Preferred
DI	Discover Card
DN	Diners Card
E^	Proprietary ATM
F^	Visa Classic
G^	Visa Business
G1	Visa Signature Business
G2	Reserved
G3	Visa Business Enhanced Visa Platinum Business
G4	Visa Infinite Business Visa Infinite Privilege Business (Canada)
H^	Reserved
I^	Visa Infinite [New Consumer Credit Product]
I1	Visa Infinite Privilege
I2	[Ultra High Net Worth]
J^	Reserved
J1	Reserved
J2	Reserved
J3	Visa Healthcare
J4	Reserved

Value	Product description
JC	JCB Card
K^	Visa Corporate T & E
K1	Visa GSC Corporate T & E
L^	Electron
M^	MasterCard
N^	Visa Platinum
N1	Visa Rewards
N2	Visa Select
P^	Visa Gold
Q^	Private Label
Q1	Reserved
Q2	Private Label Basic
Q3	Private Label Standard
Q4	Private Label Enhanced
Q5	Private Label Specialized
Q6	Private Label Premium
R^	Proprietary
S^	Visa Purchasing
S1	Visa Purchasing with Fleet (outside of Canada) Visa Fleet (cards issued in Canada)
S2	Visa GSA Purchasing
S3	Visa GSA Purchasing with Fleet
S4	Commercial Loan
S5	Commercial Transport EBT
S6	Business Loan
S7	Reserved
T^	Reserved
U^	Visa Travel Money

