ECHO ISO 8583
Technical Specification

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Revision 1.6.5

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1. Introduction

This document describes a protocol which may used for passing credit card, debit card and/or check information to and from *ECHO*. This document is designed to be a part of a suite of documents intended to assist the Business Partner with implementing a complete transaction processing service.

This document does not address how the data are used for authorizing consumer's accounts, clearing funds, settling funds to the appropriate parties, or reporting. Neither does this document describe in any detail the communications or security layer between the *ECHO* host and the Business Partner's client. Please contact your *ECHO* representative for the complete package of documents.

1.1   Summary of Changes

This release replaces release 1.6.3 dated August 7, 2007. The changes for 1.6.4 are described below.

• As of January 2008, a new Federal Reserve Board amendment to Regulation E, which implements the Electronic Funds Transfer Act, requires that a customer be notified of the amount of any applicable returned item fee for a check at the time of customer authorization. Two amount field types have been added to Field 54 to comply with this requirement.

1.2   Definitions

ACH – Automatic Clearing House

AVS – Address Verification System. A system supported by certain Card Networks for Credit Card transactions. This information is used when the cardholder is not present.

CVV2 – Visa Credit card security code

CVC2 – Master Card Credit card security code

CIN – American Express Credit Card security code

Commercial Card – A specific credit card that during transaction capture sales tax and purchase order number are required.

ECC – Electronic Check Conversion

MICR – Magnetic Ink Character Recognition. Magnetic codes are found on the bottom of checks, deposit slips, and general ledger debit and credit tickets that allow a machine to scan (capture) the information. MICR encoding on a check includes the account number, the routing number, the serial number of the check and the amount of the check. The amount of the check is encoded when the proof department processes the check.

MCC – Merchant Category Code

MID – Merchant Identification

MOTO – Mail Order/Telephone Order

NACHA – National Automated Clearing House Association

NCN – National Check Network

OTP – Online Transaction Processing, an *ECHO* proprietary gateway

PAN – Primary Account Number

POS – Point-of-Sale

RCC – Remotely Created Check

RDFI – Receiving Depository Financial Institution

Risk Protect System – *ECHO*'s proprietary fraud detection system which is part of *ECHO*'s authorization system.

SET – Secure Electronic Transaction

SIC – Standard Industrial Classification

SSL – Security Socket Layer

STAN – Systems Audit Trace Number

UCAF – Universal Cardholder Authentication Field

2. System Basics

2.1 *ECHO* ISO 8583 Overview

The *ECHO* ISO platform is a part of the *ECHO* transaction processing network. The term applies to all components of the network, from the hardware, software, and communications facilities that connect the *ECHO* network with Business Partners' systems and with other networks, to the systems that perform all transaction processing and system services. The *ECHO* ISO8583 platform routes transactions between Acquirers and Issuers through its global transaction processing network.

The *ECHO* ISO platform supports:

- Credit and signature-based debit card transactions.

- PIN-based debit card transactions.

- Traditional electronic check conversion (ECC) transactions.

- Visa POS Check electronic check conversion transactions.

- Check verification only transactions.

These transactions are processed through *ECHO* ISO 8583's authorization, clearing, and settlement services. *ECHO* defines these basic services as follows:

- Authorization is when the Issuer approves or declines a sales transaction before a purchase is finalized or cash is disbursed.

- Clearing is when a transaction is delivered from an Acquirer to an Issuer for posting to the Cardholder's or Checkwriter's account.

- Settlement is the process of calculating and determining the net financial position of each merchant for all transactions that are cleared. The actual exchange of funds is a separate process.

Transactions can be authorized, cleared, and settled either as dual-message or single-message transactions.

A dual-message transaction is sent twice, the first time with only the information needed for an authorization decision, and again later with additional information required for clearing and settlement. Typically, authorization is performed online while clearing and settlement occur later offline. Examples include credit card and traditional ECC check transactions.

A single-message transaction is sent once for authorization and contains clearing and settlement information as well as authorization information. These transactions are also called "full financial" transactions. Typically, authorization and clearing occur online, while settlement occurs later offline. Examples include PIN-based debit and Visa POS Check transactions.

2.2 Payment Card Services

The *ECHO* ISO platform supports most payment cards including credit cards, signature-based debit cards, and PIN-based debit cards. All services may be performed by a merchant using a single Merchant Identification number (the "ECHO ID" or MID) (provided that the

single merchant is operating with a consistent business model which can be defined/identified by a single Merchant Category Code (MCC)/Standard Industrial Classification (SIC) code).

If both Payment Card Services and Check Services are used, merchant funding will occur at separate times for each service. Each service supports its own settlement reporting interface. Please contact *ECHO* customer support for assistance on funding timing and reporting.

2.2.1 Credit and Signature-Based Debit Card

The supported cards for this product include those that carry the following logos on them: Visa, MasterCard, American Express, Discover, JCB, and Diners Club. *ECHO* does not support "Bankcard" or "China UnionPay".

The *ECHO* ISO platform supports most credit and signature-based debit transactions including:

1. "Authorization Only" transactions where money is not moved but funds may be "reserved" on the consumer's card. The *ECHO* platform will respond with an authorization code if the transaction is approved by the bank that issued the card (the bank is known as the "Issuer").

   The consumer's card usually has a defined limit of spending and the amount reserved by this transaction minus the spending limit is defined as the "open to buy" amount.

   A "deposit only" transaction usually follows an "authorization only" transaction within a few hours or days. An authorization usually "falls off" a consumer's card in about a week making the funds available to the consumer again and thus increasing the "open to buy" amount on the card.

2. "Deposit Only" ("Forced Deposit") transactions move money and are usually preceded by an "Authorization Only" transaction. The authorization code from the Authorization Only transaction should be placed into the Deposit Only transaction (unless there are special circumstances where the authorization number is not required). Transactions performed by midnight Pacific Standard Time will usually debit the Card Holder on the following day. Funds will subsequently be moved into the merchant's account the day or two after that depending on the brand of card used and the Business Partner's arrangements with *ECHO*. *ECHO* will bill a transaction fee for both the "Authorization Only" and "Deposit Only" if they are performed separately.

3. "Authorization and Deposit" transactions perform the functionality of the Authorization Only and Deposit Only transactions in one process. Based on its efficiency, this is one of the most common transaction types. The Card Holder and the merchant will have their money moved in the same timing as described above.

4. A "Purchase Return" is where the amount of the transaction is debited and taken from the merchant's bank account and credited to the Card Holder's account – in effect giving funds to the cardholder. It is important to note that this transaction is not a "void" of an original transaction. The Card Holder's account statement will usually show two transactions, one transaction debiting his account for the "Purchase" and a second transaction showing the credit for the "Purchase Return". This transaction type can be performed whenever funds need to be placed on a consumer's card.

5. An "Address Verification Service ('AVS')" transaction is the equivalent of the Authorization Only transaction but contains additional data (the consumer's address, for example). This provides an added level of protection that usually translates into a lower transaction fee for the merchant due to the reduced risk to the Issuer.

6. A "CVV verification" transaction is the equivalent of an Authorization Only transaction but contains additional data (Card Holder's CVV code). This provides an added level of

protection that usually translates into a lower transaction fee for the merchant due to the reduced risk to the Issuer.

7. eCommerce based services such as MasterCard's UCAF and Visa's "Visa3D" program may contain more data in the transactions (and/or processing steps). This provides additional levels of protection that usually translate into lower transaction fees for the merchant due to the reduced risk to the Issuer.

Any mix of these transactions can all be done on one transaction, e.g. an Authorization Only transaction along with Address Verification and CVV Verification.

The *ECHO* ISO Platform does not support the following credit or signature-based debit card transactions:

1. Void of a deposit or authorization

2. Reversal of a deposit or authorization

3. Cash back (or "Cash over purchase")

4. Split tender

5. Balance inquiry on pre-paid cards

6. "Batching" – The *ECHO* ISO platform does not keep a record of batch numbers or batch totals. The Point-of-Sale device may keep a record of this information internally and forward it to *ECHO* who will then echo it back. However; the platform does not validate the batch data. Neither batch inquiry, settlement-by-batch, nor reporting-by-batch-number are supported.

	Message Description	Message Type (Field 0)	Credit Card & Signature-Based Debit
1	Authorization Only	0100	Y
2	Void Authorization Only	0420	N
3	Payroll Verification Only	0100	N
4	Address Verification Service ("AVS")	0100	Y
5	Void Address/ID Verification Service ("AVS")	0420	N
6	CVV2 Verification	0100	Y
7	Void CVV2 Verification	0420	N
8	Authorization and Deposit ("Purchase")	0200	Y
9	Void Authorization and Deposit ("Purchase")	0420	N
10	Purchase Return	0200	Y
11	Void Purchase Return	0420	N
12	Purchase with Cash Back	0200	N
13	Authorization and Deposit w/Guarantee	0200	N
14	Void Authorization and Deposit w/Guarantee	0420	N
15	Deposit/Conversion Only ("Forced Deposit")	0220	Y
16	Void Deposit/Conversion Only ("Forced Deposit")	0420	N

2.2.2 PIN-Based Debit Card

The supported cards for this product include those that carry the following logos on them:

1. Maestro (A joint venture by MasterCard and Europay International, 5 million terminals worldwide in 81 countries)

2. Interlink/Plus (Visa) (more than one million ATMs in over 160 countries)

3. STAR (STAR Networks, a subsidiary company of First Data with over 1.7 million ATMs)

4. Pulse (Discover Card, The Pulse ATM network currently serves more than 4,100 banks, credit unions, and savings institutions)

5. NYCE (NYCE is a primary network of 211,000 ATMs with a customer base of over 60 million users)

ECHO does not support the follow interbank networks: Credomatic, Interac, RED, Red Total, SHAZAM, The Exchange or other international interbank networks such as 4B, Altın Nokta, BankAxept, BKM, CB, DIAS, Eufiserv, Euronet, Multibanco, Ortak Nokta, Otto, ServiRed, StarNet.

The *ECHO* ISO Platform supports most PIN-based debit transactions including:

1. Normal "Purchase" transactions where the total amount of the sale is taken from the Card Holder's bank account and deposited in the merchant's bank account – all in one transaction. The PIN-based debit network is a "single message system" which means that the transaction is both authorized and cleared in one request unlike signature-based debit in which an authorization must be done followed by a separate clearing process.

2. "Purchase with Cash Back" transactions where the total amount of the sale plus the cash back amount is taken from the Card Holder's bank account and deposited in the merchant's bank account

3. "Void" transactions where the original transaction if effectively "cancelled out." Money movement is cancelled before it occurs. The Card Holder should see no record of the transaction on his end-of-month normal account statement however this varies by company. This transaction type has limited time windows in which it can be performed (measured in minutes to hours) as well as special rules about the timing and storage of Card Holder data. The cardholder need not be present to perform a "Void" transaction.

4. "Purchase Return" transactions where amount of the transaction is debited and taken from the merchant's bank account and credited to the Card Holder's account – in effect giving funds to the cardholder. This transaction is not a "Void" of an original transaction. The Card Holder's account statement will show two transactions, one transaction debiting his account for the "Purchase" and a second transaction showing the credit for the "Purchase Return. The Cardholder must be present to enter his PIN to perform this transaction.

5. This transaction type has traditionally been used for consumers returning merchandise or being over charged and requesting a credit. However, this transaction type is not limited to this usage. Unless otherwise prohibited, this transaction type may be used any time a merchant wishes to give funds to a consumer.

The *ECHO* ISO Platform does not support the following PIN-based debit card transactions:

1. Authorization Only

2. Split Tender

3. Balance Inquiry

4. "Batching" – The *ECHO* ISO platform does not keep a record of batch numbers or batch totals. The point-of-sale device may keep a record of this information internally and forward it to *ECHO* who will then echo it back however; the platform does not validate the batch data. Neither batch inquiry, settlement-by-batch nor reporting-by-batch-number are supported.

	Message Description	Message Type (Field 0)	PIN-Based Debit
x	Authorization Only	0100	N
2	Address/ID Verification Service ("AVS")	0100	N
3	CVV2 Verification	0100	N
4	Authorization and Deposit ("Purchase")	0200	Y
5	Void Authorization and Deposit ("Purchase")	0420	Y
6	Purchase Return	0200	Y
7	Void Purchase Return	0420	Y
8	Purchase with Cash Back	0200	Y
9	Void Purchase with Cash Back	0420	Y
10	Authorization and Deposit w/Guarantee	0200	N
11	Deposit/Conversion Only ("Forced Deposit")	0220	N

2.3 Electronic Check Services

The *ECHO* ISO platform supports most checks as described in the following sections. Of the three supported check services, only one check service may be performed by a single merchant (without switching between separate merchant identifiers). The one selected check service may be combined with any or all of the Payment Card services while continuing to use a single unified merchant identification number (the "ECHO ID" or MID).

If both Payment Card Services and Check Services are used, merchant funding will occur at separate times for each service. Each service supports its own settlement reporting interface. Please contact *ECHO* customer support for assistance on funding timing and reporting.

2.3.1 Traditional Electronic Check Conversion (ECC)

The supported checks for this product include first party checks, consumer checks, business checks, corporate checks. The numbers on the bottom line of the check (the "MICR line") must be imprinted following the United States and/or Canadian MICR convention. The electronic check network (the "ACH Network") through which *ECHO* processes these checks does not support third party checks, traveler's checks, government checks or money orders.

The *ECHO* ISO Platform supports most electronic check transactions including:

1. A "Verification With Conversion" transaction both authorizes the transaction and moves money. The *ECHO* platform will respond with an authorization code if the transaction is approved by the *ECHO* Risk Protection System. Transactions performed by about 6:30 PM Pacific Standard Time (unless otherwise defined by the Business Partner's agreement with *ECHO*) will usually debit the Checkwriter on the following day unless the following day is a bank holiday or weekend. Funds will subsequently be moved into the merchant's account the day or two after that depending on the Business Partner's arrangements with *ECHO*.

2. A "Verification With Conversion Override" allows the Business Partner to override a "warning" response issued by the *ECHO* Risk Protection System if the Risk Protection System has been configured to issue "warnings." "Declined" and "Authorized" transactions may not be overridden. When a "warning" response is overridden by the Business Partner, the *ECHO* platform turns the "warning" into a *de facto* authorization and will move money regardless of the warning. Overriding a Conversion Warning indicates that the Merchant or Business Partner is assuming all risk for the transaction.

3. "Guarantee w/Conversion" transactions are equivalent to "Verification With Conversion" with the addition of being guaranteed by *ECHO* (or other partner as defined by the arrangement with *ECHO*). Special processing conditions may apply such as the types of transactions supported and the dollar amounts of the transactions as described in the processing agreement. Please contact your sales representative or customer support should the Business Partner have any questions about the qualifications for guaranteed transactions. If the "Guarantee w/Conversion" service is used by the merchant, then no other check service may usually be used.

4. "Void" transactions effectively cancel the original transaction. No record of the transaction will show on the Checkwriter's statement. This transaction is usually performed within ten minutes from the time of the original transaction though exceptions may apply. Voids (also know as "Reversals") to correct erroneous credit transactions are allowed on all Standard Entry Class codes. Please contact *ECHO* customer support for additional information.

5. "Purchase Return" is defined as a transaction that debits the merchant's bank account and credits the Checkwriter's account – in effect giving funds to the consumer. It is important to note that this transaction is not a "void" of an original transaction. This transaction may be performed whenever funds need to be placed in a Checkwriter's account (subject to any restrictions by the class of check transaction being performed and the processing agreement with *ECHO*). The only SEC codes that support crediting a Checkwriter's bank account are PPD and CCD.

Traditional electronic check conversion has "classes" of check services. These classes identify payment types as categorized usually by the consumer's interaction at the point of sale/purchase. There are legal ramifications and requirements the Business Partner will consider for each of the classes as described in the processing agreement with *ECHO* and by ACH Network Rules (as published by the National Automated Clearing House Association (NACHA)).

The *ECHO* ISO Platform supports the most popular electronic check service classes including:

1. POP – Point-of-Purchase Entry

2. ARC – Accounts Receivable Entry

3. PPD – Prearranged Payment and Deposit Entry

4. TEL – Telephone-Initiated Entry

5. WEB – Internet-Initiated Entry

6. CCD – Cash Concentration or Disbursement.

For WEB and TEL check services, NACHA Rules require that the Checkwriter's first and last name be included in the transaction.

The *ECHO* ISO Platform does not support the following Traditional Electronic Check Conversion transactions:

1. "Conversion Only" – This service is not supported as the *ECHO* ISO platform validates each check though its authorization system (Risk Protection System). If the authorization

system declines the check, then the check will not be converted. The authorization system may not be bypassed like it can be in the Visa POS Check service.

2. "Verification Only for Paper-Deposited Checks" – The *ECHO* ISO platform performs only one check service per ECHO ID (MID). If the Traditional Electronic Check Conversion is being used, then the "Verification Only" check service may not.

3. The "Verification Only" service is traditionally used when a merchant plans to process the consumer's check by driving the paper check to his local bank instead of electronically converting it. The "Verification Only" service is performed only to validate that the checking account does not have outstanding debt associated with it. However, Traditional Electronic Check Conversion service both validates outstanding debt and validates that the consumer's check is eligible for participation in the electronic check conversion network (ACH Network). For this reason, "Verification Only for Paper-Deposited Checks" service is not supported while using the Traditional Electronic Check Conversion service.

4. "Visa POS Check" – The *ECHO* ISO platform performs only one check service per ECHO ID (MID). If the Traditional Electronic Check Conversion is being used, then the Visa POS Check service may not.

The *ECHO* ISO Platform does not support the following electronic check service classes:

1. CIE - Customer Initiated Entry

2. MTE - Machine Transfer Entry

3. PBR - Consumer Cross-Border Payment

4. POS/SHR - Point of Sale Entry/Shared Network Transaction

5. RCK - Re-presented Check Entry

6. CBR - Corporate Cross-Border Payment

7. CTX - Corporate Trade Exchange

8. ACK/ATX - Acknowledgment Entries

9. ADV - Automated Accounting Advice

10. COR - Automated Notification of Change or Refused Notification of Change

11. DNE - Death Notification Entry

12. ENR - Automated Enrollment Entry

13. TRC/TRX - Truncated Entries

14. XCK - Destroyed Check Entry

15. BOC - Back Office Conversion.

The following operations are available for *ECHO* ECC Merchants:

		Auth	Override	Void	ID Only Auth	ID Only Void	Payroll Auth	Payroll Void	Payroll Override	Payroll Acct Auth	Payroll ID Auth	Log
Traditional ECC Merchant	Verification Only											
	Conversion w/Verification	Y	Y	Y								
	Conversion w/Guarantee	Y	Y	Y								
	Conversion Only											

2.3.2 Visa POS Check

The supported checks for this product include first party checks, consumer checks and some business checks. The numbers on the bottom line of the check (the "MICR line") must be imprinted following the United States and/or Canadian MICR convention. VisaNet (as regulated by Visa USA) and the ACH Network (as overseen by NACHA), through which *ECHO* processes these checks, do not usually support checks that are:

- Drawn on invalid or fraudulent ABA numbers.

- Drawn on banks that do participate in an automated clearing house (ACH) and that have not contracted directly with Visa.

- Not linked to a consumer demand deposit account.

- Convenience and travelers checks.

- Corporate checks.

- Federal Reserve checks.

- Government checks.

- Third-party checks.

- U.S. Treasury checks.

- (Money Orders)

ECHO supports all features of the POS Check Service (except for the "Telephone" and "Web" initiated message types, which are seldom used). As noted below, checks are authorized or declined by either a financial institution (the "drawee bank" or "Visa participating bank" or "issuing bank") or by *ECHO*.

If the response to the transaction is issued by *ECHO*, then Field 63, subfield 12 is populated. If the response comes from a Visa participating bank, then Field 63, subfield 12 is empty.

The POS Check service provides flexible options for managing check risk. Transactions can be authorized utilizing different levels of authorization criteria. Three options are available:

1. "Conversion Only" – The customer's financial institution or a third-party authorizer (*ECHO*) verifies if a check is eligible for conversion. If the check belongs to a participating bank, the bank will verify whether the account is open or closed. Regardless of the authorizer, an authorization response will be returned electronically. The merchant retains the risk.

2. "Verification with Conversion" – Based on available risk-management data, the financial institution or the third party (*ECHO*) makes an "accept" or "decline" recommendation, and returns the authorization response. When a decline response is received, the merchant will ask for another form of payment. (It is possible, but not recommended, for the merchant to accept the check regardless on the "decline" response.)

3. "Guarantee with Conversion" – In addition to the above, the customer's financial institution or third-party authorizer (*ECHO*) will also decide if the check can be guaranteed for payment based on available funds and other information. Provided all point-of-sale acceptance criteria have been met, the customer's financial institution or the third-party authorizer returns the authorization response and accepts the risk for approved transactions. If the "Guarantee With Conversion" service is used by the merchant, then no other check service may usually be used.

4. "Void" transactions effectively cancel the original transaction. No record of the transaction will show on the Checkwriter's statement. This transaction must be performed within ten minutes from the time of the original transaction per Visa USA regulations. Please contact *ECHO* customer support for additional information.

The Visa POS Check product and/or the *ECHO* ISO Platform do not support the following transactions:

1. "Purchase Return" type transactions are not a service offered in the Visa POS Check product. The Visa POS Check service does not allow money to be put into (credited to) the Checkwriter's account from the point of sale. If a transaction was entered in error, please either find an in store solution (*e.g.* issue a store credit) or contact *ECHO* customer support for resolution.

2. "Override" transactions are not a service offered in the Visa POS Check product. The Visa POS Check service does not issue warnings that can be overridden. Once a transaction is declined, the clerk at the point of sale should ask the consumer for another form of payment.

3. The "Verification Only" service as described above may not be used at the same time as the Visa POS Check product.

4. The "Traditional Electronic Check Conversion" service as described above may not be used at the same time as the Visa POS Check product (unless special conditions apply).

5. The "Telephone" and "Web" initiated message types are not supported by *ECHO* based on the limited support offered by Visa-participating banks for these services.

The following operations are available for the VISA POS Check service:

		Auth	Void	ID Only Auth	ID Only Void	Payroll Auth	Payroll Void	Payroll Override	Payroll Acct Auth	Payroll ID Auth	Log
Visa POS Check Merchant	Verification Only										
	Conversion w/Verification	Y	Y								
	Conversion w/Guarantee	Y	Y								
	Conversion Only	Y	Y								

2.3.3 Verification Only

This product supports all checks as long as the numbers on the bottom line of the check (the "MICR line") are imprinted following the United States and/or Canadian MICR convention. This includes third party checks, consumer checks, business checks, corporate checks, checks not drawn on banks that do participate in an automated clearing house (ACH), checks not linked to a consumer demand deposit account, convenience and travelers checks, corporate checks, Federal Reserve checks, government checks, U.S. Treasury checks, money orders and payroll checks.

The "Verification Only" service is traditionally used when a merchant plans to process the consumer's check by driving the paper check to his local bank instead of electronically converting it. The "Verification Only" service is performed only to validate that the checking account does not have outstanding debt associated with it as well as other advanced features available though *ECHO*'s authorization system (Risk Protection System).

The "Verification Only" service is the equivalent of the "Authorization Only" service from the Card Based service except that checks that are run though the "Verification Only" service are rarely subsequently electronically converted.

The *ECHO* ISO Platform supports the most popular check Verification Only transactions including:

1. "Authorization" – This transaction evaluates the risk associated with accepting the check. Checks that deemed high-risk are declined. Checks that are deemed medium -risk might be issued a "warning." Checks that are deemed low-risk are "approved." The factors that determine "risk" are configured in the *ECHO* Risk Protection System. These settings may be available to the Business Partner subject to the partner's agreements with *ECHO*.

2. "Authorization Override" – This transaction type allows the Business Partner to override a "warning" response issued by the *ECHO* Risk Protection System if the Risk Protection System has been configured to issue "warnings." "Declined" transactions may not be overridden. When a "warning" response is overridden by the Business Partner, the *ECHO* platform turns the "warning" into a *de facto* "authorization" regardless of the warning.

3. "Void" – This transaction effectively cancels the original transaction. No record of the transaction will be recorded by the *ECHO* Risk Protection System. This transaction is usually performed within ten minutes from the time of the original transaction however exceptions may apply. Please contact *ECHO* customer support for additional information.

4. "ID Authorization" – This transaction evaluates the risk associated with the Consumer's identification card (usually a driver's license). Supported forms of identification include: drivers' licenses (United States and United States Territories only), Department of State, Military ID, Social Security number, and Resident Alien.
5. IDs that deemed high-risk are declined. IDs that are deemed medium -risk might be issued a "warning." IDs that are deemed low-risk are "approved." The factors that determine "risk" are configured in the *ECHO* Risk Protection System. These settings may be available to the Business Partner subject to the partner's agreements with *ECHO*.
6. "Payroll Authorization" – This transaction performs a simple verification of a payroll check as if it were a normal consumer check.

The *ECHO* ISO Platform does not support the following Verification Only transactions:

1. Void ID Authorization – An "ID Authorization" transaction may not be voided or reversed. The *ECHO* authorization system does not support this service.

2. Payroll Authorization – A "Payroll Authorization" transaction may not be voided or reversed. The *ECHO* authorization system does not support this service.

3. Payroll Account Authorization – This transaction type is not supported.

4. Payroll ID Authorization – This transaction type is not supported.

The following operations are available for Verification Only Merchants:

		Auth	Override	Void	ID Only Auth	ID Only Void	Payroll Auth	Payroll Void	Payroll Override	Payroll Acct Auth	Payroll ID Auth	Log
Verification Only Merchant	Verification Only	Y	Y	Y	Y		Y					
	Conversion w/Verification											
	Conversion w/Guarantee											
	Conversion Only											

3. Transaction Format Details

This chapter provides details about transactions supported by the *ECHO* ISO Platform.

3.1 Transaction Message Types

Typically, certain standard message types apply to particular services. This chapter shows the messages related to a specific service.

A general overview of the message types and the fields used in each message are shown below.

Code	Message Type	Description
0100	Authorization Request	A 0100 authorization request message is usually used to only verify information like "address verification". No money movement occurs.
0110	Authorization Response	*ECHO* uses this message to respond to the 0100 authorization request.
0120	Authorization Advice	A 0120 advice notifies *ECHO* that the merchant is going to stand in and authorize the transaction even though *ECHO* has issued a warning. This might be viewed as an "Override" transaction.
0130	Authorization Advice Response	*ECHO* uses this message to respond to the 0120 authorization advice.
0200	Financial Request	A 0200 message is a request to move money.
0210	Financial Transaction Response	*ECHO* uses this message to respond to the 0200 financial request.
0220	Financial Transaction Advice	A 0220 advice notifies *ECHO* that the merchant is going to stand in and authorize the transaction even though *ECHO* has issued a warning. This message is a demand to move money. This might be viewed as an "Override" transaction.
0230	Financial Transaction Advice Response	*ECHO* uses this message to respond to the 0220 Financial Transaction Advice.
0420	Void	A 0420 void is used to cancel a previous transaction.
0430	Void Response	*ECHO* uses this message to respond to the 0420 Void message.
0800	Network Management Request	Interface inquiry status request.
0810	Network Management Response	Interface inquiry status response.

3.2 Transaction Message Definitions

For a detailed description of each field and its use, refer to *Chapter 3.2.4 Field Definitions*.

The following table provides an indication of how the fields are used in the transactions described in this section.

Code	Description
C	Conditional – The field/value is present in the message under certain conditions, which are explained in Section 4.
C+	The field/value is conditionally added.
M	Mandatory – The field/value must be present in the message.
M+	The field/value is always added.
O	Optional – The field/value presence in the message is up to the message initiator or the recipient.
➔	The field/value is passed through as it is received.
➔+	The field/value is passed through and other subfields are added.
–	The field/value is always removed.
blank space	A field or value must not be present.

The remaining tables in this section provide a reference showing how fields should be used when coding transaction types.

3.2.1 Credit Card and Signature-Based Debit Card Transaction Message and Response Fields

The following table indicates the fields used for **Credit Card** and **Signature-Based Debit Card** Transactions.

Field	Description	0100	0110	0200	0210	0220	0230
0	Message Type Identifier	M	M	M	M	M	M
1	Bit Map	M	M	M	M	M	M
2	Primary Account Number	O†		O†		O†	
3	Processing Code	M	➔	M	➔	M	➔
4	Transaction Amount	M	➔	M	➔	M	➔
7	Transmission Date and Time	M	➔	M	➔	M	➔
11	Systems Trace Audit Number	M	➔	M	➔	M	➔
12	Local Transaction Time	O	➔	O	➔	O	➔
13	Local Transaction Date	O	➔	O	➔	O	➔
14	Expiration Date	O†		O†		O†	
18	Merchant Type	O	➔	O	➔	O	➔
25	Message Reason Code						
32	Acquiring Institution Identification Code						
35	Track 2 Data	C††		C††		C††	
37	Retrieval Reference Number	O	➔	O	➔	O	➔
38	Approval Code		C		C	C	➔
39	Response Code		M		M		M
41	Card Acceptor Terminal ID	O	➔	O	➔	O	➔

Field	Description	0100	0110	0200	0210	0220	0230
42	Card Acceptor ID Code	M	→	M	→	M	→
43	Card Acceptor Name/ Location	O		O		O	
44	Additional Data						
45	Track 1 Data	C[††]		C[††]		C[††]	
49	Transaction Currency Code	O	→	O	→	O	→
52	Personal Identification Number (PIN) Data						
53	Security Related Control Information						
54	Additional Amounts	C	→	C	→	C	→
59	Transport Data	O	→	O	→	O	→
60	Check Information						
61	ID Information						
62	Application Information	C	→	C	→	C	→
63	Private Data	O	→	O	→	O	→
70	Network Management Information Code						
90	Original Data Elements						
95	Replacement Amounts						
123	POS Data Code	M	→	M	→	M	→
† Required if Track 1 and Track 2 data are not present.							
†† If the request is not manually entered then either the Track 1 or Track 2 data must be present. Track 1 data is preferred.							

3.2.2 PIN-Based Debit Card Transactions Message and Response Fields

The following table indicates the fields used for **PIN-based Debit Card** Transactions.

Field	Description	0200	0210	0420	0430
0	Message Type Identifier	M	M	M	M
1	Bit Map	M	M	M	M
2	Primary Account Number	M	→	M	→
3	Processing Code	M	→	M	→
4	Transaction Amount	M	→	M	→
7	Transmission Date and Time	M	→	M	→
11	Systems Trace Audit Number	M	→	M	→
12	Local Transaction Time	O	→	O	→
13	Local Transaction Date	O	→	O	→
14	Expiration Date	O[†]	→	M	→

Field	Description	0200	0210	0420	0430
18	Merchant Type	O	➜	O	➜
25	Message Reason Code				
32	Acquiring Institution Identification Code				
35	Track 2 Data	M		O	
37	Retrieval Reference Number	O	➜	O	➜
38	Approval Code		C	C	C
39	Response Code		M		M
41	Card Acceptor Terminal ID	O	➜	O	➜
42	Card Acceptor ID Code	M	➜	M	➜
43	Card Acceptor Name/ Location			O	
44	Additional Data		C		
45	Track 1 Data			O	
49	Transaction Currency Code	O	➜	O	➜
52	Personal Identification Number (PIN) Data	M			
53	Security Related Control Information	M			
54	Additional Amounts	C	➜	O	➜
59	Transport Data	O	➜	O	➜
60	Check Information				
61	ID Information				
62	Application Information	C	➜	C	C
63	Private Data	O	➜		➜
70	Network Information Management Code				
90	Original Data Elements			M	
95	Replacement Amounts			C	
123	POS Data Code	M	➜	M	➜

3.2.3 Check Transactions Message and Response Fields

The following table indicates the fields used for Check Transactions. See *Chapter 12.2 Use Cases* for detailed examples that can be used to build specific check transactions types.

Field	Description	0100	0110	0120	0130	0200	0210	0220	0230	0420	0430
0	Message Type Identifier	M	M	M	M	M	M	M	M	M	M
1	Bit Map	M	M	M	M	M	M	M	M	M	M
2	Primary Account Number										
3	Processing Code	M	➜	M	➜	M	➜	M	➜	M	➜

Field	Description	0100	0110	0120	0130	0200	0210	0220	0230	0420	0430
4	Transaction Amount	M	➔	M	➔	M	➔	M	➔	M	➔
7	Transmission Date and Time	M	➔	M	➔	M	➔	M	➔	M	➔
11	Systems Trace Audit Number	M	➔	M	➔	M	➔	M	➔	M	➔
12	Local Transaction Time	O	➔	O	➔	O	➔	O	➔	O	➔
13	Local Transaction Date	O	➔	O	➔	O	➔	O	➔	O	➔
14	Expiration Date										
18	Merchant Type	O	➔	O	➔	O	➔	O	➔	O	➔
25	Message Reason Code										
32	Acquiring Institution Identification Code										
35	Track 2 Data										
37	Retrieval Reference Number	O	➔	O	➔	O	➔	O	➔	O	➔
38	Approval Code		C		C		C		C	C	C
39	Response Code		M		M		M		M		M
41	Card Acceptor Terminal ID	O	➔	O	➔	O	➔	O	➔	O	➔
42	Card Acceptor ID Code	M	➔	M	➔	M	➔	M	➔	M	➔
43	Card Acceptor Name/ Location	O	➔	O	➔	O	➔			O	➔
44	Additional Data		C		C		C		C		
45	Track 1 Data										
49	Transaction Currency Code	O	➔	O	➔	O	➔	M	➔	M	➔
52	Personal Identification Number (PIN) Data	C	-	C	-	C	-	C	-	C	-
53	Security Related Control Information										
54	Additional Amounts	C	➔	C	➔	C	➔+	C	➔	O	➔
59	Transport Data	O	➔	O	➔	O	➔	O	➔	O	➔
60	Check Information	M	➔	M	➔	M	➔	M	➔	M	➔
61	ID Information	C	➔	C	➔	C	➔	C	➔	C	➔
62	Application Information	C	➔	C	➔	C	➔	C	➔	C	➔
63	Private Data	O	➔	O	➔	O	➔	C	O	O	➔
70	Network Management Information Code										
90	Original Data Elements									M	➔
95	Replacement Amounts										
123	POS Data Code	M	➔	M	➔	M	➔	M	➔	M	➔

3.2.4 System Request/Repeat Message and Response Fields

The following table indicates the fields used for Host system requests and responses.

Field	Description	0800	0810
0	Message Type Identifier	M	M
1	Bit Map	M	M
7	Transmission Date and Time	M	➔
11	Systems Trace Audit Number	M	➔
39	Response Code		M, must be 00
41	Card Acceptor Terminal ID	O	➔
42	Card Acceptor ID Code	M	➔
44	Additional Data		text string returned by the host
70	Network Management Information Code	M, must be 301	➔

4. Field Definitions

The following section provides a detailed description for each data field.

Field 0 – Message Type Identifier

Description: The message type identifier is a four-digit numeric field identifying the message class and function. Every message must begin with a message identifier.

Field Length: 4 Bytes, fixed length

Field Type: Numeric

Field Values/Usage: The values are:

Code	Message Type	Purpose
0100	Authorization Only Request	This message is used to verify information or simply request an pre-authorization to move money. This message does not request money to be moved. However, funds may be memo posted (locked) and fraud protection systems may be activated.
0110	Authorization Only Response	Contains the answer to an authorization only request.
0120	Authorization Advice	A request by the merchant to override the *ECHO* authorization system, in which case the merchant accepts financial responsibility for the transaction.
0130	Authorization Advice Response	The response to an override request by the merchant.
0200	Financial Request	This message can both authorize a transaction and money movement at the same time. A 0200 message is a request to move money.
0210	Financial Response	Contains the answer to a financial request.
0220	Financial Advice Request	This message only requests money movement and does not authorize the transaction.
0230	Financial Advice Request Response	Carries the answer to a deposit only request
0420	Void Request	This message cancels a previous transaction. This message is subject to certain timeframe restrictions.
0430	Void Response	Contains the answer to a void request message.
0800	Network Management Request	Interface inquiry status request.
0810	Network Management Response	Interface inquiry status response.

Field 1 – Bit Map

Description:	This bit map is a series of 128 bits. This field is required for every message type. The bits are divided into primary and secondary bit maps. Except for the first bit in the primary bit map, each bit signifies the presence (1) or the absence (0) of data fields 2-64 in the message. The value of the first bit indicates the presence of the secondary bit map and therefore must always be 1. For the secondary bit map, the first bit (65) will always be zero (as there will not be a third bit map), and bits 66-128 will likewise indicate the presence (1) or the absence (0) of a data field in the message.
Field Length:	16 Bytes, 128 bits, fixed length
Field Type:	Binary (Hexadecimal Configuration)
Note:	Bit 123 (POS Data Code) is always required in an Authorization/Financial Request/Advice, therefore the primary and secondary bit maps are always required in these messages (i.e. Bit 1 must always be switched on in the bit map).

Field 2 – Primary Account Number (PAN)

Description:	The Primary Account Number (PAN) is a series of digits used to identify a card member.
Field Length:	19 Bytes Maximum, LLVAR
Variable Length Indicator:	2 Bytes, right justified with leading zeros
Field Type:	Numeric

Field 3 – Processing Code

Description:	This code describes the effect of a transaction on the card member account and the accounts affected. The processing code is used with the message type to define the type of transaction sent by the point of service device.
Field Length:	6 Bytes, fixed length
Field Type:	Numeric
Field Values/Usage:	The "from" account is the consumer's account while the "to" account is the Business Partner or merchant's account.
	This field is formatted as follows:

Positions	Length	Data Element
1-2	2	Describe a specific transaction (see the following table below for codes)
3-4	2	"From" account
5-6	2	"To" account

The codes to describe a specific transaction are:

Code	Description (Positions 1-2)
"00"	Purchase (of Goods or Services) with a type of Payment Card tender.
"01"	Cash
"03"	Check Guarantee with Conversion
"04"	Check Verification Only (In a 0200 message, the use of this code becomes "Verification With Conversion" ; in a 0100 message it becomes "Verification Only".)
"09"	Purchase with Cash Back. This code has been deprecated as of version 1.5.1.
"16"	Check Conversion Only. This code has been deprecated as of version 1.5.1. Use "18" in its place.
"17"	Check Conversion with Cash Back. This code has been deprecated as of version 1.5.1.
"18"	Check Conversion Only
"20"	Purchase Return

The codes to describe the "From" Account Types (Positions 3-4) and the "To" Account Types (Positions 5-6) are:

Code	Description (Positions 3-4, 5-6)
"00"	Default, not specified
"10"	Savings Account
"20"	Checking Account
"30"	Credit Facility
"40"	Universal Account
"50"	Investment Account

Please refer to *Chapter 12. Use Cases* for examples of how these codes are used.

Field 4 – Transaction Amount

Description: This field is the total transaction amount requested by the consumer in the local currency of the transaction originator. The value is right justified with leading zeroes.

Field Length: 12 Bytes, fixed length

Field Type: Numeric

Field Value/Usage: Example: $100.00 in US currency is entered as "000000010000."

Note: This field should be zero filled for AVS only transactions (Processing Code 18).

Field 7 – Transmission Date & Time

Description:	The date and time the request is entered into the data interchange system, expressed Coordinated Universal Time (UTC) (formerly known as Greenwich Mean Time – GMT). The value must be a valid date and time.
Field Length:	10 Bytes, fixed length
Field Type:	Numeric, MMDDhhmmss
Field Values/Usage:	Example: March 2, 1:15:00 p.m. Pacific Standard Time is entered as "0302211500", since Pacific Standard Time is 8 hours behind UTC.
	The format is MMDDhhmmss:

Field	Definition	Length	Range
MM	Month	2	01-12
DD	Day	2	01-31
hh	Hour	2	00-23
mm	Minute	2	00-59
ss	Second	2	00-59

Note:	The Transmission Date and Time and the Systems Trace Audit Number (Field 11) are used to uniquely identify transactions.

Field 11 – Systems Trace Audit Number (STAN)

Description:	A number assigned by a transaction originator that provides a unique identifier for a message. The trace number remains unchanged for life of the transaction.
Field Length:	6 Bytes, fixed length
Field Type:	Numeric
Field Values/Usage:	A suggested use of this field is as follows:
	An audit number starting at 1 which will increment for each subsequent transaction from 000001 to 999999.
Note:	The Systems Trace Audit Number and the Transmission Date and Time (Field 7) are used to uniquely identify transactions.

Field 12 – Local Transaction Time

Description:	This is the local time at which the transaction takes place at the point of card acceptor location.
Field Length:	6 Bytes, fixed length
Field Type:	Numeric, hhmmss
Field Value/Usage:	The format is:

Field	Definition	Length	Range
hh	Hour	2	00-23
mm	Minute	2	00-59
ss	Second	2	00-59

Field 13 – Local Transaction Date

Description: This is the local month and day on which the transaction takes place at the point of card acceptor location.

Field Length: 4 Bytes, fixed length

Field Type: Numeric, MMDD

Field Value/Usage: The format is:

Field	Definition	Length	Range
MM	Month	2	01-12
DD	Day	2	01-31

Field 14 – Expiration Date

Description: The year and month after which the PAN (Field 2) expires. The value in this field must be a valid date.

Field Length: 4 Bytes, fixed length

Field Type: Numeric, YYMM

Field Value/Usage: The format is:

Field	Definition	Length	Range
YY	Year	2	00-99
MM	Month	2	01-12

Field 18 – Merchant Type

Description: This field identifies the merchant's type of business product or service using the standard Merchant Category Code (MCC).

Field Length: 4 Bytes, fixed length

Field Type: Numeric

Field Value/Usage: An MCC code will be agreed on between *ECHO* and the Merchant as part of the merchant underwriting and boarding process. Please refer to that documentation for an appropriate MCC Code to place in this field.

Field 25 – Message Reason Code

Description:	This code provides the Issuer with the reason or purpose of the 0420 Reversal Advice Request Messages. Reserved for future use.
Field Length:	2 Bytes, fixed length
Field Type:	Numeric
Field Value/Usage:	The following codes indicate the specific purpose of the message:

Code	Definition
00	Customer Cancellation
01	Unspecified; No Action Taken
02	Timed-Out Waiting for Response

Field 32 – Acquiring Institution Identification Code

Description:	The code identifies the financial institution acting as the Acquirer of the transaction. Reserved for future use.
Field Length:	11 Bytes Maximum, LLVAR
Variable Length Indicator:	2 Bytes, right justified with leading zeros
Field Type:	Numeric
Field Value/Usage:	*ECHO* will assign this code.

Field 35 – Track 2 Data

Description:	This field is the standard Track 2 data encoded on the magnetic stripe of the PAN card. The Track 2 data field is present when valid Track 2 is used to initiate the transaction.
Condition:	If the transaction is magnetically swiped, either bit 35 or bit 45 must be sent. Reversals may utilize this field.
Field Length:	37 Bytes Maximum, LLVAR
Variable Length Indicator:	2 Bytes, right justified with leading zeros
Field Type:	Alphanumeric & Special Characters

Field 37 – Retrieval Reference Number

Description:	This field is a number that used with other key data elements to identify and track all messages related to a given consumer transaction (referred to as a transaction set).
	The first four digits are usually a yddd date (Julian date format). The date is defined to be the same day as the date in Field 7 (Transmission Date and Time) of the original request. In other words, the last digit of the calculated year should be the value of Position 1.
Field Length:	12 Bytes, fixed length

| **Field Type:** | Alphanumeric |
| **Field Value/Usage:** | The suggested format of this field is to combine elements from Field 7 the transmission date and time, and Field 11 the STAN: |

Position	Definition
1	The last-digit-of-the-year-equivalent of the date in Field 7.
2-4	The Julian day equivalent of the month and day in Field 7.
5-6	The hours from the time in Field 7.
7-12	The value from Field 11.

Field 38 – Approval Code

Description:	This field is the six-position approval response code that is assigned by the Issuer or stand-in source.
Condition:	If the transaction is not approved, then this field will not be sent.
Field Length:	6 Bytes, fixed length
Field Type:	Alphanumeric

Field 39 – Response Code

Description:	This field is the standard ISO8583 Response Code that indicates the status of the request.
Field Length:	2 Bytes, fixed length
Field Type:	Alphanumeric
Field Value/Usage:	See *Chapter 8* for Auxiliary Response Code values.

Field 41 – Card Acceptor Terminal Identification

Description:	This field identifies a terminal at the merchant location where the transaction originates. The value for this field will be provided to the merchant by *ECHO*. Reserved for future use.
Field Length:	8 Bytes, fixed length
Field Type:	Alphanumeric & Special Characters
Field Value/Usage:	

Field 42 – Card Acceptor Identification Code

| **Description:** | This is the 10-digit terminal or merchant identifier number as provided by *ECHO*, e.g., "1231234567". |
| **Field Length:** | 15 Bytes, fixed length |

| | | Field Type: | Alphanumeric & Special Characters |

Field 43 – Card Acceptor Name/Location

Description:	This field is the name and location of the card acceptor as known to the card member.
Field Length:	40 Bytes, fixed length
Field Type:	Alphanumeric & Special Characters
Field Value/Usage:	This field is formatted as follows:

Positions	Length	Definition
1-22	22	Merchant Name
23	1	Delimiter (space)
24-36	13	Merchant's City
37	1	Delimiter (space)
38-40	3	Merchant's State (blank-fill after State Code) or Country Code, if not US

Field 44 – Additional Data

Description:	This field may be used for additional request and response information.
Field Length:	25 Bytes, LLVAR
Variable Length Indicator:	2 Bytes, right justified with leading zeros
Field Type:	Alphanumeric & Special Characters
Field Value/Usage:	This field will mainly be used when a client message cannot be parsed. It will convey information about what is 'wrong" with the message.

Field 45 – Track 1 Data

Description:	This field is the standard Track 1 data encoded on the magnetic stripe of the PAN card. The Track 1 data field is present when valid Track 1 is used to initiate the transaction.
Condition:	If the transaction is magnetically swiped, either bit 35 or 45 must be sent. Reversals may utilize this field.
Field Length:	76 Bytes Maximum, LLVAR
Variable Length Indicator:	2 Bytes, right justified with leading zeros
Field Type:	Alphanumeric & Special Characters

Field 49 – Transaction Currency Code

Description:	This field identifies the currency type of the Transaction Amount (Field 4). For US use "840".

Field Length:	3 Bytes, fixed length
Field Type:	Numeric

Field 52 – Personal Identification Number (PIN) Data

Description:	This field identifies the number assigned to a PAN intended to uniquely identify the card member at the point of service device.
Field Length:	8 Bytes, fixed length
Field Type:	Binary

Field 53 – Security Related Control Information

Description:	This field provides data needed by the Issuer to process PINs entered at the point of service.
Condition:	Must be present if a PIN was entered and DUKPT is used.
Field Length:	48 Bytes, fixed length
Field Type:	Binary
Field Value/Usage:	The first 8 bytes are the DUKPT KSN.

Field 54 – Additional Amounts

Description:	This field provides information on up to six amounts and related account data for which specific data elements have not been defined.
Condition:	This data element must be present in the authorization request or reversal when there is a purchase of goods or services with cash back (a code of 09 in position 1-2 of the Processing Code Field 3). This data element may be present in an authorization response or reversal (0110 or 0410) to indicate card balance.
	For CHECK ECC transactions: if there is returned item fee (controlled by merchant configuration), the combined total of the returned item fee amount and the applicable tax amount on the fee will be populated in Amount Type 06 and the amount of the applicable tax on the fee will be populated in Amount Type 07. This data element may be present in a financial response (0210) to indicate the check return fee as calculated by *ECHO*.
Field Length:	80 Bytes Maximum, LLLVAR
Variable Length Indicator:	3 Bytes, right justified with leading zeros
Field Type:	Alphanumeric
Note:	This data can be repeated up to four times within this Field.
	Example: If the data in this field was repeated twice, the length of the field would be 40 bytes in length.
Field Value/Usage:	If cash back is used, then Field 4 (the transaction amount) must equal the total of the purchase amount plus Field 54 (the cash back amount).

In other words, the amount of the goods or services sold can be found by subtracting Field 54 from Field 4.

This field is formatted as follows:

Positions	Length	Definition
1-2	2	Account type is a two-digit code as defined for positions 3 and 4 or 5 and 6 of Processing Code (Field 3)
3-4	2	Amount Type 01 – Ledger Balance 02 – Available Balance 03 – Amount Owing 04 – Amount Due 05 – Amount Cash Back 06 – For CHECK Only: Returned Item Fee Amount including applicable tax on the fee 07 – For CHECK Only: Applicable Tax on the Fee (just the tax portion of Amount Type 06)
5-7	3	Currency Code (see *Chapter 3.2.4*)
8	1	Format of this data element is "C" (for credit amount) or "D" (for debit amount)
9-20	12	Amount is 12 numeric digits, right-justified with leading zeros

Field 59 – Transport Data

Description:	This field is set by the client and is returned unchanged in the response. This field can be used to match a response with its corresponding request.
Field Length:	64 Bytes Maximum, LLLVAR
Variable Length Indicator:	3 Bytes, right justified with leading zeros
Field Type:	Alphanumeric & Special Characters
Field Value/Usage:	Field may be used in any manner. At this time, this field is not captured by ECHO and thus will not be available to the Business Partner in Reports.

Field 60 – Check Information

Description:	This field contains information regarding the check presented by the consumer.
Field Length:	999 Bytes Maximum, LLLVAR
Variable Length Indicator:	3 Bytes, right justified with leading zeros
Field Type:	An 8 byte binary bitmap, and alphanumeric & special characters.
Field Value/Usage:	If subfields 60.11 or 60.12 are present, then subfield 60.10 is required. If electronic check conversion (Check Verification w/Conversion) service is requested, subfield 60.12 is required unless prior special arrangements are made with *ECHO*.

This field is formatted as follows:

Subfield	Format	Definition
0	b8	Bit Map specifying which subfields are present
1	ans..35, LLVAR	RDFI Name
2	ans..29, LLVAR	RDFI Address1
3	ans..29, LLVAR	RDFI Address2
4	an..20, LLVAR	RDFI City
5	an2	RDFI State/Province Code from FIPS PUB 55-2
6	an9	RDFI Postal Code, left justified, pad filled
7	a2	RDFI Country Code from ISO 3166
8	n..20, LLVAR	RDFI Phone
9	ans..35, LLVAR	RDFI Miscellaneous
10	n2	Check Type
11	ans..56, LLVAR	Check Manual Data
12	ans..65, LLVAR	Check MICR Data, in TOAD format (see *Chapter 5*)

Subfield 10 Check Type:

Code	Definition
"01"	Personal
"02"	Payroll
"03"	Government
"04"	Travelers Check
"05"	Money Order
"06"	Cashiers Check
"07"	Counter Check
"08"	Two Party Check
"09"	Business

Subfield 11 Manual Check Data:

Subfield	Format	Definition
1	ans..9, LLVAR	Routing Number
2	ans..20, LLVAR	Account Number
3	ans..18, LLVAR	Check Number

Field 61 – ID Information

Description: This field contains information regarding the identification presented by the consumer.

Field Length:	999 Bytes Maximum, LLLVAR
Variable Length Indicator:	3 Bytes, right justified with leading zeros
Field Type:	An 8 byte binary bitmap, and alphanumeric & special characters.
Field Value/Usage:	If identification information is provided in this field, then subfields 61.1 61.9 are required.

Swiped (magnetically read) DL information should be populated in Field 61.14 (Track 2 of the driver's license contains the information *ECHO*'s authorization system is expecting)

Canadian Driver's license are not a supported ID Type ("02") at this time. If provided, the ID will be stripped and forwarded on to the appropriate authorization system.

For Visa POS Check, the following ID Types are supported: driver's license and ID from the 50 U.S. states, District of Columbia, Puerto Rico plus ID numbers from: U.S. Military Base (embassy, traveling merchant) courtesy card, Military ID, Social Security Number and proprietary cards.

For Traditional Electronic Check Conversion and Check Verification Only, the following ID Types are supported: driver's license (United States and United States Territories only), Department of State, Military ID, Social Security number, and Resident Alien.

For WEB and TEL check transactions, NACHA rules require that a Checkwriter's first and last name must be included in the transaction. If subfield 123.5 indicates that the customer is not present with a value of either 3 (not present telephone order) or 9 (not present eCommerce), subfield 61.5 must contain at least one alpha character for first name and one alpha character for last name separated by either a space or comma or both. Additional name information, such as middle name, middle initial, title, etc., are also allowed. If the name format does not meet NACHA criteria, the transaction will be rejected as invalid.

Examples of acceptable WEB and TEL check transaction first and last names include but are not limited to:

John Smith	J R S
John R Smith	Smith, John
John R. Smith	Smith, John R
John Smith III	Smith III, John
J S	

This field is formatted as follows:

Subfield	Format	Definition
0	b8	Bit Map specifying which subfields are present
1	n2	ID Type
2	ans..42, LLVAR	ID Number
3	n8	ID Expiration Date
4	n8	ID Date of Birth
5	ans..35, LLVAR	ID Name
6	ans..29, LLVAR	ID Address1
7	ans..29, LLVAR	ID Address2

Subfield	Format	Definition
8	ans..20, LLVAR	ID City
9	an2	ID State/Province Alpha Code from the State Code Table in Section 7.
10	an9	ID Postal Code, left justified pad filled
11	an2	ID Country Code using "US" for the United States of America , "MX" for Mexico or "CA" for Canada
12	n..20, LLVAR	ID Phone Number
13	ans..107, LLLVAR	ID Track 1
14	z..40, LLLVAR	ID Track 2
15	z..107, LLLVAR	ID Track 3

Subfield 1 ID Type:

Code	Definition
"00"	Unknown
"01"	U.S. Driver's License
"02"	Canadian Driver's License
"03"	Mexican Driver's License
"04"	State ID Card
"05"	Canadian Identification
"06"	Mexican Identification
"07"	Military Identification
"08"	Law Enforcement
"09"	U.S. Government ID (Social Security Number)
"10"	Passport
"11"	Alien Registration Card
"12"	Immigration Card

Field 62 – Application Information

Description: This field contains supplemental data that may vary by the service requested, for example, hotels, gas stations, and restaurants.

Field Length: 999 Bytes Maximum, LLLVAR

Variable Length Indicator: 3 Bytes, right justified with leading zeros

Field Type: An 8 byte binary bitmap and alphanumeric & special characters.

Field Value/Usage: This field is formatted as follows:

Subfield	Format	Definition
0	b8	Bit Map specifying which subfields are present
1-4		Reserved
5	n2	Application Environment

Subfield	Format	Definition
6	ansp..31, LLVAR	AVS Data
7	a1	AVS Response Data
8	np5	CVC2, CVV2 Data
9	a1	CVC2, CVV2 Response Data
10	ansp..33, LLVAR	Commercial Card Data
11	ans..99, LLVAR	Operator ID
12	ans..99, LLVAR	Supervisor ID
13	ans..22, LLVAR	Cash Register Data
14	ans..51, LLVAR	Lodging Data
15	ans..99, LLVAR	Restaurant Data
16	ans..73, LLVAR	Service Station Data
17	ansp..41, LLVAR	DMA Data
18	ans28	MasterCard UCAF Data, contains the UCAF data obtained from the consumer.
19	ans28	Visa 3D CAVV, contains the CAVV data obtained from the consumer.
20	ans28	Visa 3D XID, contains the XID data obtained from the consumer.
21	ans1	Visa 3D Response Data
22	ans2	Recurring Payment Response Data
23	n4	Auxiliary Response Code, see *Chapter 8*.

Subfield 5 Application Environment:

Code	Definition (Position 1)
"00"	Auto/vehicle Rental
"01"	Cash Advance (financial institutions only)
"02"	Restaurant
"03"	Hotel/Motel
"04"	Hospitalization, college
"05"	Retail Sale
"06"	Mail Order or Telephone Order (MOTO)
"07"	Airline, other transportation services
"08"	ATM Cash Disbursement
"09"	Telemerchant (DMA)

Subfield 6 AVS Data:

Positions	Format	Definition
1-9	np9	Zip/Postal Code, left justified space padded
10-31	ansp..20, LLVAR	Address Data

Subfield 7 AVS Response Data:

Code	Definition(Position 1)
A	Address matches, ZIP does not
E	Invalid response received from Issuer
N	Nothing matches
R	Retry, system is currently unable to process
T	Issuer is unavailable; no response
U	Issuer is unavailable; no response
W	ZIP matches (9-digit), address does not
X	All digits of address and ZIP match (9-digit)
Y	All digits of address and ZIP match (5-digit)
Z	ZIP matches (5-digit), address does not

Subfield 8 CVC2/CVV2 Data:

Positions	Definition
1	Presence Flag
	"0" Not Provided or Bypassed
	"1" Present on Card
	"2" Present but Illegible
	"9" Not Present on Card
2-5	CVC2/CVV2 Code

Subfield 9 CVC2/CVV2 Response Data:

Code	Definition
M	Match
N	No Match
P	Not Processed
S	Card issued with CVV2, merchant indicates CVV2 not present
U	Issuer does not support CVV2

Subfield 10 Commercial Card Data:

Positions	Format	Definition
1	n1	Sales Tax Flag "0" Tax Not Included in Amount "1" Tax Is Included in Amount
2-14	x + n12	Sales Tax x = C(redit), D(ebit)
12-31	ansp..17, LLVAR	PO Number

Subfield 13 Cash Register Data:

Positions	Format	Definition
1-8	ans8	POS Register Terminal ID
9-14	ans6	POS Register Sequence Number
15-22	ans8	POS Register Operator ID

Subfield 14 Lodging Data:

Positions	Format	Definition
1-6	n6	Start Date, YYMMDD • LODGING: Check-in Date • AUTO RENTAL: Rental Start Date
7-12	n6	End Date, YYMMDD • LODGING: Check-in Date • AUTO RENTAL: Rental Start Date

13	n1	AMEX Program Code
		
		AMEX and LODGING
		  Contains special program code.
		Non-AMEX or AUTO RENTAL
		  Set to default
		"1" No Special Circumstances
		"2" No Show
		"3" CARD Deposit
		"4" Delayed Charge
		"5" Express Service
		"6" Assured Reservation

14-19	ans6	Visa Extra Charge Code Left justified, pad filled. May contain any combination of values not exceeding 6 chars in length. Visa/MC Contains extra charge code.

Positions	Format	Definition
		Non-Visa/MC: Set to default "0" Default Lodging: "0" No extra charges "2" Restaurant "3" Gift Shop "4" Mini Bar "5" Telephone "6" Other "7" Laundry Auto Rental: "0" No extra charges "1" Gas "2" Extra mileage "3" Late Return "4" One Way "5" Parking Violation (non-US)
20	np1	Visa No Show Indicator " " Not Applicable "0" Not Applicable "1" No Show
21-26	n6	Room Rate
27-51	ansp..25, LLVAR	Lodging Trace Number

Subfield 15 Restaurant Data:

Positions	Format	Definition
1-99		TBD

Subfield 16 Service Station Data:

Positions	Format	Definition
1	n1	Vehicle Usage Indicator "0" Private "1" Business
2-7	n6	Odometer Reading
8-9	ans2	Product 1 ID
10-17	n8	Product 1 Literage
18-29	n12	Product 1 Amount
30-31	ans2	Product 2 ID
32-39	n8	Product 2 Literage
40-51	n12	Product 2 Amount
52-53	ans2	Product 3 ID

Positions	Format	Definition
54-61	n8	Product 3 Literage
62-73	n12	Product 3 Amount

Subfield 17 DMA Data:

Positions	Format	Definition
1-2	sn2	Value equals "^1". This is the merchant information subcode.
3-14	ansp12	Product Description – Character String that identifies the product for DMA Merchants. This is a fixed length field.
15-41	ansp..25, LLVAR	Order Number – Optional. Alphanumeric string that identifies the specific order for DMA merchants. Left Justified. Trailing <spaces> need not be transmitted. Therefore, this is a variable length field.

Subfield 18 UCAF Data:

The MasterCard UCAF Data extended field is designed to convey a cardholder's UCAF data from the merchant's web storefront.

This field should be provided when:

1. This extended value field is permitted to the desired transaction.

2. The merchant's web storefront is UCAF enabled.

3. The method of payment is MasterCard.

Positions	Format	Definition
1-28	ans28	MasterCard UCAF data

Subfield 19 Visa 3D CAVV:

The Visa CAVV/XID data extended field is designed to convey a cardholder's CAVV and XID data from the merchant's web storefront.

This field should be provided when:

1. This extended value field is permitted to the desired transaction

2. The merchant's web storefront is CPS/Electronic Commerce (Preferred) enabled.

3. The method of payment is Visa.

Positions	Format	Definition
1-28	ans28	If present, contains the CAVV data obtained from the consumer; CAVV data is Base 64-encoded.

Subfield 20 Visa 3D XID:

Positions	Format	Definition
1-28	ans28	If present, contains the XID data obtained from the consumer; XID data is Base 64-encoded.

Subfield 21 Visa 3D Response Codes:

Code	Definition (Position 1)
" "	CAVV not validated
"0"	CAVV not validated due to erroneous data submitted
"1"	CAVV failed validation
"2"	CAVV passed validation
"3"	CAVV validation could not be performed
"4"	CAVV validation could not be performed
"5"	Authentication attempted, but not completed
"6"	System error or failure prevented authentication

Subfield 22 Recurring Payment Response Codes:

Code	Definition (Positions 1-2)
"01"	New account information is available; obtain new account information from the cardholder.
"02"	Try again later; retry the transaction after 72 hours.
"03"	Do not try again later; obtain another type of payment from the customer.
"21"	Issuer has advised the merchant that the cardholder has cancelled the agreement supporting this and all future transactions.
"R0"	Stop Payment Order
"R1"	Revocation of Authorization Order
"R3"	Revocation of All Authorizations Order

Subfield 23 Auxiliary Response Codes:

Refer to *Chapter 8* for a complete listing of possible Auxiliary Response Code values for this Subfield.

Field 63 – Private Data

Description: This field contains information regarding the identification presented by the consumer.

Field Length: 999 Bytes Maximum, LLLVAR

Variable Length Indicator: 3 Bytes, right justified with leading zeros

Field Type: An 8 byte binary bitmap and alphanumeric & special characters.

Note:		If the response to the transaction is issued by *ECHO*, then Field 63, subfield 12 will be populated. If the response comes from a Visa participating bank, then Field 63, subfield 12 will be empty.
Field Value/Usage:		This field is formatted as follows:

Subfield	Format	Definition
0	b8	Bit Map specifying which subfields are present
1-10		Reserved
11	n2	POS display size, 16 and 20 character wide displays are supported
12	ans..255, LLLVAR	Identifies customer receipt information, field length, and contents. Receipt text is in 16-character-width lines. In a VISA POS Check program, only the first 32 characters of this field may be printed on the Transaction Receipt.
13	ans..255, LLLVAR	Callback information for use on Visa POS Check service only. Contains non-bank authorizer name, address, and customer service telephone number. The field is returned by *ECHO* only on declines for original requests.
		Format for data content must be: name/address/telephone number.
		Street, city, state, and ZIP code must be separated by a back slash (\), with a space between street name and number.
		The format for telephone number must be AAANNNNNNN, where the first three positions are the area code followed by the 7-digit local number.
14	ans16	POS prompt message

Field 70 – Network Management Information Code

Description:		The code in this field identifies the purpose of the Network Management Message.
Field Length:		3 Bytes, fixed length
Field Type:		Numeric
Field Value/Usage:		This field is formatted as follows:

Positions	Length	Data Element
1-3	3	301 – Ping Test

Field 90 – Original Data Elements

Description:		The data elements contained in the original Authorization Request or Authorization Advice. This field is utilized for transaction matching. This field does not uniquely identify the data within the request (the credit card financial transaction), but rather uniquely identifies this specific request/response.

Field Length:	42 Bytes, fixed length
Field Type:	Numeric
Note:	Field 90, while required on void or other message types, is not used by the Traditional Electronic Check Conversion service to match the void message to its original message. When a transaction like a void must be matched to its original message (on the Traditional Electronic Check Conversion service), just the check route number, checking account number, check serial number and transaction amount are used – Field 90 is not used *per se*.
	On the PIN-based Debit service and VISA POS Check service, Field 90 is used to match the void to its original message.
Field Value/Usage:	This field is formatted as follows:

Positions	Length	Data Element
1-4	4	Original Message Type Identifier
5-10	6	Original STAN from Bit 11
11-20	10	Original Transmission Date and Time from Field 7
21-42	22	Zero Filled

Field 95 – Replacement Amounts

Description:	The new actual amount data elements, necessary to perform a partial or full reversal on a transaction. Field 4 will retain the original amount of the transaction.
Field Length:	42 Bytes, fixed length
Field Type:	Alphanumeric
Field Value/Usage:	This field is formatted as follows:

Positions	Length	Data Element
1-12	12	Actual Amount of Transaction
13-24	12	Zero Filled
25	1	Default to 'D'
26-33	8	Zero Filled
34	1	Default to 'D'
35-42	8	Zero Filled

Example: Field 4 (Transaction Amount) – Field 95 (Replacement Amount) = Amount to be credited to the card member.

Field 123 – POS Data Code

Description:	This field information contains information about the merchant/customer environment and transaction conditions at the point and time of sale.

Condition:	Required in all messages except for 0800 messages.
Field Length:	15 Bytes Maximum, LLLVAR
Variable Length Indicator:	3 Bytes, right justified with leading zeros
Field Type:	Alphanumeric
Field Value/Usage:	Many of the values in this field are essentially constants for any one combination of POS device and method of payment. The values set in this field impact the how the transaction is settled.

In the credit and signature tender types, the values in this field impact the interchange fee program that the transaction will qualify for. For example, if the transaction is unattended (there is no clerk watching the consumer swipe the card) then the cost to the Business Partner to process this transaction (transaction fee) could double. The combinations of how these data impact the transaction fees in this tender type are exhaustive and beyond the scope of this document. It is crucial to accurately represent the point of sale environment when setting the values in this field.

In the ECC tender type, the values in this field impact which SEC code the transaction will settle under and the transaction fee. Certain regulations must be followed by the Business Partner depending on these settings. For example, if the settings in this field indicate that the transaction will be assigned a SEC code of "TEL", then the merchant is obligated to have either recorded the conversation with the consumer or have notified them of the transaction writing by fax, U.S. mail, or email. Other regulations apply. Please refer to *Chapter 5 Electronic Check Standard Entry Class (SEC) Code* for more information.

This field is formatted as follows:

Position	Length	Definition
1	1	Card Data Input Capability
2	1	Authentication Capability
3	1	Capture Capability
4	1	Operating Environment
5	1	Cardholder Presence Indicator
6	1	Card Presence
7	1	Data Input Method
8	1	Authentication Method
9	1	Authentication Entity
10	1	Card Data Output Capability
11	1	Terminal Output Capability
12	1	PIN Capability
13	1	Terminal Operator
14-15	2	Terminal Type

Position 1 Card Data Input Capability:

Identifies the preferred means within the POS device to obtain the consumers payment method electronically.

Code	Definition
0	Unknown (Generic eCommerce)
1	Manual, no terminal
2	Magnetic stripe read (Credit processing with Swipe Reader) (Debit processing) (Check processing without MICR Reader)
3	Bar code
4	OCR
5	Integrated Circuit Card (ICC)
6	Key Entry (Credit processing w/o Swipe Reader)
S	MICR/Magnetic Reader (Check processing with MICR Reader)
T	Imager/MICR/Magnetic Reader (Check processing with Imager & MICR Reader)

Position 2 Authentication Capability:

Identifies the preferred means to authenticate the consumer.

Code	Definition
0	No electronic capability
1	PIN (Credit processing) (Debit processing) (Check processing)
2	Electronic signature analysis
3	Biometrics
4	Biographic
5	Electronic authentication inoperative
6	Other (Credit processing) (Debit processing) (Check processing)
S	Password with digital certification
T	Password without digital certification
U	Certificate and cryptogram

Position 3 Capture Capability:

Identifies if the POS device can automatically capture the consumer's payment card.

Code	Definition
0	None (Customer not present, *e.g.* MOTO)
1	Capture available (Customer present)

Position 4 Operating Environment:

Identifies where the POS device is located and who is responsible for operating it.

Code	Definition
0	No terminal used
1	On premises of card acceptor, attended (At merchant's location, attended)
3	On premises of card acceptor, unattended
4	Off premises of card acceptor, attended
5	On premises of Card Holder, attended (Generic eCommerce)

Position 5 Cardholder Presence Indicator:

From the merchant's perspective, identifies if the consumer is present for the transaction or not. If the consumer is not present, options permit identification of how the consumer initiated the transaction with the merchant.

Code	Definition
0	Cardholder present (Electronic entry) (Manual entry, cardholder present)
1	Not present, unspecified (Manual entry, *e.g.* MOTO)
2	Not present, mail order
3	Not present, telephone
4	Not present, standing authorization (Recurring Payment)
5	Not present, fax
9	Not present, Generic eCommerce

Position 6 Card Presence:

From the merchant's perspective, identifies if the consumers payment method was present and the time of sale.

Code	Definition
0	Card not present (Manual entry, *e.g.* MOTO) (Generic eCommerce)
1	Card present (Electronic entry) (Manual entry, card present)

Position 7 Data Input Method:

Identifies how the consumer's payment method was obtained for this transaction.

Code	Definition
0	Unknown
1	Manual, no terminal
2	Magnetic stripe read (Track 1 or Track 2 swipe)
3	Bar code
4	OCR
5	Integrated Circuit Card (ICC)
6	Key Entry
S	MICR without image (MICR read)
T	MICR with image
U	Stored on file

Position 8 Authentication Method:

Identifies how the consumer was authenticated for this transaction.

Code	Definition
0	No electronic capability (eCommerce – no consumer authentication)
1	PIN (Debit processing)
2	Electronic signature analysis
3	Biometrics
4	Biographic
5	Electronic authentication inoperative
6	Other (Check processing or Credit processing)

Code	Definition
S	Password with digital certificate/certification (eCommerce)
T	Password without digital certification (Chip cryptogram, eCommerce – authentication via smart card chip cryptogram)
U	Certificate and cryptogram

Position 9 Authentication Entity:

Identifies who or what authenticated the cardholder for this transaction.

Code	Definition
0	Not authenticated (eCommerce – No security between cardholder and merchant)
1	Integrated Circuit Card (ICC)
2	Terminal
3	Authorizing agent
4	Merchant (merchant authenticates cardholder)
5	Other
S	SET (eCommerce – SET security between cardholder and merchant)
T	Channel Encryption (eCommerce – Channel Encryption (SSL) between cardholder and merchant)

Position 10 Card Data Output Capability:

Identifies whether the payment method allows writes as well as reads.

Code	Definition
0	Unknown
1	None (no output capability)
2	Magnetic stripe write
3	Integrated Circuit Card (ICC)
4	Printing and display (printer attached)

Position 11 Terminal Output Capability:

Identifies the capability of the POS device to provide information to the consumer.

Code	Definition
0	Unknown (Generic eCommerce)
1	None

Code	Definition
2	Printing
3	Display (no printer attached)
4	Printing and display (printer attached)

Position 12 PIN Capability:

Identifies the maximum PIN length supported by the POS device for debit card transactions.

Code	Definition
0	No PIN capture capability (Credit processing or Generic eCommerce or Check processing)
1	Device PIN capture capability unknown
4	Four characters
5	Five characters
6	Six characters
7	Seven characters
8	Eight characters
9	Nine characters
A	Ten characters
B	Eleven characters
C	Twelve characters

Position 13 Terminal Operator:

Identifies the general physical characteristics of the POS Device initiating this transaction.

Code	Definition
0	Customer operated (Generic eCommerce)
1	Card acceptor operated (Operated by Merchant)
2	Administrative

Positions 14-15 Terminal Type:

Identifies the general physical characteristics of the POS Device initiating this transaction.

Code	Definition
"00"	Administrative Terminal
"01"	POS Terminal
"02"	ATM
"03"	Home Terminal (Generic eCommerce)

Code	Definition
"04"	ECR
"05"	Dial Terminal
"06"	Travelers Check Machine
"07"	Fuel Machine
"08"	Script Machine
"09"	Coupon Machine
"10"	Ticket Machine
"11"	Point-of-Banking Machine
"96"	ECHOfax
"97"	ECHOtel
"98"	ECHOnline

5. Traditional ECC Standard Entry Class (SEC) Codes

Electronic checks are processed though the Automated Clearing House (ACH) network with a specially designated code based on the customer's point of purchase experience and a variety of other factors.

The code, known as a Standard Entry Class (SEC) code, is attached to each transaction. Each code identifies to *ECHO*, NACHA, the FED and its participating banks that certain actions and responsibilities have been performed by the Checkwriter and the Merchant. Each unique SEC code has distinct actions and responsibilities associated with it. The actions and responsibilities for each SEC code are summarized in *Chapter 11 Consumer Interface Requirements*.

Based on the actions and responsibilities that are being performed by the Checkwriter and the Merchant, an appropriate SEC code can be identified. Once identified, the table below shows the proper values that will indicate the correct SEC code.

By setting SEC codes, the Business Partner understands it will comply with the summaries in Chapter 11 as well as the full requirements as described in the OPERATING RULES OF THE NATIONAL AUTOMATED CLEARING HOUSE and THE OPERATING GUIDELINES OF THE NATIONAL AUTOMATED CLEARING HOUSE.

Electronic Check Standard Entry Class (SEC) Codes						
SECC NACHA Processing Code Type	Authorization System	*ECHO* Settlement Code	Service	Field 3 Positions 1-2 Permitted Values	Field 123 Position 5 Permitted Values	Field 123 Position 7 Permitted Values
ARC[1]	Traditional ECC	MLORDRV	Verification w/ Conversion	16	2	S
					2	T
		MLORDRG	Guarantee w/ Conversion	03	2	S
					2	T
POP[1]	Visa POS	VPOPC	Conversion Only	04	0	0
					0	1
					0	2
					0	3
					0	4
					0	5
					0	6
					0	S
					0	T
		VPOPV	Verification w/ Conversion	16	0	2
					0	S
					0	T
		VPOPG	Guarantee w/ Conversion	03	0	2
					0	S
					0	T
	Traditional ECC	POPV	Verification w/ Conversion	16	0	1[2]
					0	6[1]
					0	S
					0	T
					0	U
		POPG	Guarantee w/ Conversion	03	0	1[1]
					0	6[1]
					0	S
					0	T
					0	U

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[1] If there is an "Auxiliary On-Us" in the MICR (which indicates that the check is a business check), the transaction will be automatically converted from POP or PPD into a Remotely Created Check or paper draft (RCC) transaction. If the "*ECHO* Settlement Code" is a type of Mail Order (MLORDR), the electronic check will be converted by *ECHO* from an electronic check back into an RCC or "paper draft" and hand deposited.

[2] Electronic item will be printed out on paper check stock and settled as a paper draft.

	Electronic Check Standard Entry Class (SEC) Codes					
SECC NACHA Processing Code Type	**Authorization System**	***ECHO* Settlement Code**	**Service**	**Field 3 Positions 1-2 Permitted Values**	**Field 123 Position 5 Permitted Values**	**Field 123 Position 7 Permitted Values**
PPD[1]	Traditional ECC	MLORDRV	Verification w/ Conversion	16	2	0
					2	1
					2	6
					2	U
		MLORDRG	Guarantee w/ Conversion	03	2	0
					2	1
					2	6
					2	U
		POPV	Verification w/ Conversion	16	0	U
		POPG	Guarantee w/ Conversion	03	0	U
		NREFT	Verification w/ Conversion	16	1	0
					1	1
					1	6
					1	S
					1	U
					4	0
					4	1
					4	6
					4	S
					4	T
					4	U
			Guarantee w/ Conversion	03	1	0
					1	1
					1	6
					1	S
					1	T
					1	U
					4	0
					4	1
					4	6
					4	S
					4	T
					4	U

Electronic Check Standard Entry Class (SEC) Codes						
SECC NACHA Processing Code Type	Authorization System	*ECHO* Settlement Code	Service	Field 3 Positions 1-2 Permitted Values	Field 123 Position 5 Permitted Values	Field 123 Position 7 Permitted Values
TEL	Traditional ECC	TELV	Verification w/ Conversion	16	3	0
					3	1
					3	6
					3	S
					3	T
					3	U
		TELG	Guarantee w/ Conversion	03	3	0
					3	1
					3	6
					3	S
					3	T
					3	U
WEB	Traditional ECC	WEBV	Verification w/ Conversion	16	9	0
					9	1
					9	6
					9	S
					9	T
					9	U
		WEBG	Guarantee w/ Conversion	03	9	0
					9	1
					9	6
					9	S
					9	T
					9	U

6. Raw TOAD Requirements

When sending check data to *ECHO*, in Field 61.12 the characters should be in raw TOAD format (with spaces retained) for best results. Sending MICR data that has been parsed and reassembled to *ECHO* will have two effects: (1) It will degrade *ECHO*'s ability to successfully clear funds from the consumer's bank account; and (2) it may disqualify the transaction from electronically moving money as described under Check Request (0200).

Note that "TOAD" describes a method of converting the special codes placed between the check number, routing number, and account number into the ASCII characters "t", "o", "a", or "d" and are assigned below. Lower case is preferred.

MICR Symbol	Textual Representation	Definition
⌐⣀	"t" or "T"	Transit
‖▪	"o" or "O"	On-Us
▪⌐	"a" or "A"	Amount
▮▮▮	"d" or "D"	Dash

An On-Us field (a series of digits enclosed by two On-Us symbols) appearing to the left of the Transit field is called the Auxiliary On-Us field, and indicates a business check, which will be treated differently in settlement. See *Chapter 5 Traditional ECC Standard Entry Class (SEC) Codes* for more information.

7. State Code Table

Code	Alpha	Description	Code	Alpha	Description
01	AL	Alabama	33	NH	New Hampshire
02	AK	Alaska	34	NJ	New Jersey
04	AZ	Arizona	35	NM	New Mexico
05	AR	Arkansas	36	NY	New York
06	CA	California	37	NC	North Carolina
08	CO	Colorado	38	ND	North Dakota
09	CT	Connecticut	39	OH	Ohio
10	DE	Delaware	40	OK	Oklahoma
11	DC	District of Columbia	41	OR	Oregon
12	FL	Florida	42	PA	Pennsylvania
13	GA	Georgia	44	RI	Rhode Island
15	HI	Hawaii	45	SC	South Carolina
16	ID	Idaho	46	SD	South Dakota
17	IL	Illinois	47	TN	Tennessee
18	IN	Indiana	48	TX	Texas
19	IA	Iowa	49	UT	Utah
20	KS	Kansas	50	VT	Vermont
21	KY	Kentucky	51	VA	Virginia
22	LA	Louisiana	53	WA	Washington
23	ME	Maine	54	WV	West Virginia
24	MD	Maryland	55	WI	Wisconsin
25	MA	Massachusetts	56	WY	Wyoming
26	MI	Michigan	60	AS	American Samoa
27	MN	Minnesota	66	GU	Guam
28	MS	Mississippi	69	MP	Northern Mariana Islands
29	MO	Missouri	70	PW	Palau
30	MT	Montana	72	PR	Puerto Rico
31	NE	Nebraska	74	UM	US Minor Outlying Islands
32	NV	Nevada	78	VI	US Virgin Islands

8. Terminal Response Codes

An excellent point of sale terminal, electronic cash register, etc., will lead the Clerk and Consumer through the steps needed to complete the transaction quickly and accurately even when challenged with a potentially confusing scenarios like voice authorization on the Card services or "ID was not provided but is required to complete the transaction" on the Check services. The Workflow table below provides these recommended steps and actions that the Clerk and Consumer should take at the point of sale, if applicable, based on all the Response Codes (from Field 39) that might be received. It is crucial when designing a new system to always consider the effects an action will have to the Clerk and Consumer standing in front of the new device at the point of sale.

The Response Code table that follows provides a list and description of the response codes which will be provided in Field 39.

ECHO ISO Workflow Action Based On Response Codes		
Workflow Code	**Action**	
A	Clerk will call either *ECHO*'s voice authorization telephone number or the Card Issuer at the phone number provided on a lay by card. This Voice Center will ask for the clerk's merchant number, card number and the amount of the transaction and if approved, will issue an authorization number that the clerk can then enter into the point of sale device and complete the transaction.	
B	Print decline receipt and ask for another form of payment.	
D	Card	The clerk should reinitiate the transaction by re-swiping the check, card or ID, or re-key the manual information because it appears as though there was a misread/mis-key. If the same response is received, then terminate this tender type and ask for another form of payment.
	Check	
E	The clerk should ask the customer for an identification card and either swipe or key in the ID in order to complete the transaction. The clerk should review positive identification (such as an unexpired passport or driver's license) to validate the Cardholder's identity. Verify both of the following: Signature on the Card matches the signature on the Transaction Receipt and identification presented. This signature may be different from the name embossed or printed on the Card. Cardholder resembles the person described, or depicted in any photograph intended for identification on the Card.	
F	Card	Print authorization receipt and ask customer to sign if applicable. Keep merchant copy, give receipt to customer and complete tender. Please see Chapter 11 for authorization receipt requirements. Verification of Cardholder identity using the steps in Workflow Code E reduces fraud and is required for certain transactions such as quasi-cash, cash advance and other transactions except where prohibited by law.
	Check	Print authorization receipt, tear off and ask customer to sign if applicable. Confirm customer has completed and signed the paper check in addition to the receipt if applicable. Keep merchant copy, give receipt to customer and complete tender. Please see Chapter 11 for authorization receipt requirements. Verification of Checkwriter identity using the steps in Workflow Code E reduces fraud and may be required except where prohibited by law.
G	Hardware Error	**Example**: The point of sale device locks up when printing the receipt and cannot complete the transaction. Or, the terminal runs out of ink and cannot print an authorization receipt. **Solution**: The clerk should call the 24-hour, first level, merchant support hot line at the merchant services provider for direction on how to proceed.
H	There is a merchant service configuration error or the merchant's account has been temporarily put on hold. The clerk should call the 24-hour, first level, merchant support hot line at the merchant services provider for direction on how to proceed. Terminate this tender type and ask for another form of payment.	

ECHO ISO Workflow Action Based On Response Codes		
Workflow Code	**Action**	
I/J	The clerk should use their best efforts to recover and retain the customer's card by reasonable and peaceful means. After recovering a card, the merchant must notify *ECHO* to receive instructions for returning the card. *ECHO* may pay the person caputing the card and merchant a reward of up to $100 for capturing a card in accordance with local practices. And under certain circumstances, *ECHO* is required to pay the Merchant a reward of at least $100 for example if the clerk notices the first four digits of the embossed or printed Account Number (if applicable) do not match the four digits printed above or below the Account Number on a Visa Card or Visa Electron Card and captures the card.	
K	This check has already been authorized and cannot be authorized a second time. Please call the 24-hour, first level, merchant support hot line at the merchant services provider to confirm that this transaction has been authorized. Do not ask for another form of payment or scan a new check unless merchant support indicates that it is necessary	
L	Card	Credit card and signature-based debit services: If the business partner does not receive a response from the *ECHO* host then *ECHO* recommends that the point of sale device immediately send a 0800 network management message to confirm the connection to *ECHO* is active. Then the point of sale device should either prompt the clerk if he wants to resend the message or automatically resend the message using the same transaction trace values in fields 11 (STAN), 59, etc. If an authorization message is received, the merchant's copy of the receipt should be marked and reported to the store manager for research. The manager should call 24-hour, first level, merchant support hot line at the merchant services provider to confirm the transaction only occurred once. If the transaction happened twice (but the business partner didn't receive *ECHO*'s authorization response the first time) the merchant services provider will be able to cancel one of the transactions so that the consumer is not debited twice. The store manager should call the merchant services provider by midnight or the transaction cannot be cancelled.
		PIN-based debit services: If the business partner does not receive a response from the *ECHO* host then *ECHO* recommends that the point of sale device immediately first send a 0800 network management message to confirm the connection to *ECHO* is active. Second, the point of sale should immediately send a void message, cancelling the previous message that might have been received by *ECHO*. Third, the point of sale should resend the original request using new transaction trace values in fields 11 (STAN) and if appropriate Field 59, etc. These three steps should be done automatically and should be transparent – with no input or intervention needed by the clerk.
	Check	Visa POS Check and Traditional ECC services: If the business partner does not receive a response from the *ECHO* host then *ECHO* recommends that the point of sale device immediately first send a 0800 network management message to confirm the connection to *ECHO* is active. Second, the point of sale should immediately send a void message, cancelling the previous message that might have been received by *ECHO*. Third, the point of sale should resend the original request using new transaction trace values in fields 11 (STAN) and if appropriate Field 59, etc. These three steps should be done automatically and should be transparent – with no input or intervention needed by the clerk.
N	Not used.	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
00	Accepted and Processed	Card	None		F	
		Check	None		F	
01	Refer to Card Issuer The Card must be referred to the Issuer before the transaction can be approved.	Card	2071	CALL VISA	A	An authorization number from the Issuers' Voice Center is required to approve this transaction.
			2072	CALL MASTER CARD		
			2073	CALL CARTE BLANCHE		
			2074	CALL DINERS CLUB		
			2075	CALL AMEX		
			2076	CALL DISCOVER		
			2077	CALL JCB		
		Check	None		N	
02	Refer to Card Issuer Special Conditions	Card				
		Check				
03	Invalid Merchant	Card	1001	ACCOUNT CLOSED		The merchant account has been closed.
			1013	INVALID TERM ID		The ECHO ID is invalid.
		Check	None	UNKNOWN ACQ	H	
			None	UNKNOWN MER		
			None	INVALID TERM ID		
			None	BAD TERMINAL ID		
			None	SITE NOT SETUP		
			None	UNDEF RULE SET		
			None	AGENCY UNKNOWN		
			None	AGENCY DATA ERR		
			None	AGENCY PROBLEM		
			None	SERVICE CUT OFF		
			None	NO ROOM FOR AUTH		
04	Pick Up Card	Card			I/J	The card number has been listed on the Warning Bulletin File for reasons of counterfeit, fraud, or other.
		Check				

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
05	Do Not Honor	Card				The transaction was declined by the Issuer without definition or reason.
		Check	0017	UNPAIDS ON ACCT	B	The customer's checking account appears to have outstanding unpaid check debt.
			0018	ID IS FLAGGED		The customer's identification information submitted with the transaction is associated with apparent outstanding unpaid check debt on an alternate checking account.
			0019	DECLINE CHECK SC		*ECHO* and its partners have determined that the customer's checking account appears to have outstanding unpaid check debt.
			0020	ACCOUNT CLOSED SC		*ECHO* and its partners have determined that the customer's checking account appears to have been closed.
			0021	ACCOUNT CLOSED		*ECHO* and its partners have determined that the customer's checking account appears to have been closed.
			0022	ACCOUNT STOPPED		*ECHO* and its partners have determined that the customer's checking account appears to have been closed.
			0055	DECLINE CHECK SN		*ECHO* and its partners have determined that the customer's checking account appears to not be in good standing.
			0056	VISA 3P ACCOUNT PROBLEM		Used in Visa POS. This response occurs only on Visa "Conversion Only" transactions where *ECHO* has determined that this checking account has been listed as a "STOPPED" account.
			0057	DECLINE CHECK		*ECHO* and its partners have determined that the customer's checking account appears to not be in good standing.
			0060	N/A		Used in Visa POS, "Unpaid items, fail negative file check (T4)".
06	Error	Card			H	
		Check			H	
07	Pick Up Card Special Conditions	Card			I/J	Capture card.
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
08	Honor with Identification/Approve	Card			F	
		Check			N	
09	Request in Progress	Card			N	
		Check			N	
10	Approval for Partial Amount	Card			F	
		Check			N	
11	Approved VIP	Card			N	
		Check			N	
12	Invalid Transaction	Card	1012	INVALID TRANSACTION CODE	G	The host computer received an invalid transaction code. The transaction request presented is not supported or is not valid for the card number presented.
		Check			G	For example, this will occur if client sends in a 0220 (Override) or 0100 (Verification Only) message while configured for the Visa POS Check service. The Visa POS Check service does not support these message types.
13	Amount Error/Invalid Amount	Card	1017	INVALID AMOUNT	D	The dollar amount was less than 1.00 or greater than the maximum allowed for this card.
		Check			N	
14	Invalid Account/Card Number	Card	1015	INVALID CARD NUMBER	D	The credit card number that was sent to the host computer was invalid.
		Check			N	
15	No Such Issuer	Card			D	The Issuer number is not valid.
		Check			N	
16	Approved, Update Track 3	Card			N	
		Check			N	
17	Customer Cancellation	Card			N	
		Check			N	
18	Customer Dispute	Card			N	
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
19	Transaction Error Re-enter Transaction	Card				
		Check	0002	ERROR IN MICR	D	The requested service requires correctly formatted check MICR data to complete the transaction however the data received does not match normal MICR formatting standards.
			0003	NO MICR GIVEN	D	The requested service requires check MICR data to complete the transaction however none was received.
			0004	NO MICR	D	The requested service requires check MICR data to complete the transaction however none was received.
			0005	NO CHECK NUMBER	D	The requested service requires that a check number be provided in the transaction however none was received.
			0006	NO RAW MICR	D	The requested service requires swiped/magnetically read check data but the MICR data provided in the transaction was hand-keyed/keyboard entered.
			0007	ERROR IN ID	D	The identification provided is either an unsupported type of ID or the ID is incorrectly formatted.
			0010	ID IS NEEDED	E	The requested service requires a type of identification be provided as part of the transaction as dictated by the risk protection program.
			0011	PAYROLL NEEDS ID	E	The requested service requires a type of identification be provided as part of the transaction as dictated by the risk protection program.
			0058	N/A	D	Used in Visa POS, "MICR Error (T6)".
20	Invalid Response	Card			N	
		Check			N	
21	No Action Taken	Card			N	
		Check			N	
22	Suspected Malfunction	Card			N	
		Check			N	
23	Unacceptable Transaction	Card			N	
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
24	File Action Not Supported by Receiver	Card			N	
		Check			N	
25	Unable to Locate Record in File	Card			N	
		Check			N	
26	Duplicate File Record, Old Record Replaced	Card			N	
		Check			N	
27	File Action Edit Error	Card			N	
		Check			N	
28	File Temporarily Not Available for Update	Card			N	
		Check			N	
29	File Action Failed/Contact Acquirer	Card			N	
		Check			N	
30	Format Error	Card			A	The merchant must call *ECHO* customer support.
		Check			A	
31	Bank Not Supported by Switch	Card			N	
		Check			N	
32	Complete Partially	Card			N	
		Check			N	
33	Expired Card Pickup	Card			I	Capture card.
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
34	Suspected Fraud/Pickup	Card			I	Capture card.
		Check	0012	AGENCY STOP	B	An *ECHO*-participating Collection Service Agency has requested that all checks with this account be stopped.
			0013	STORE STOP		The merchant has requested that all checks with this account be stopped.
			0014	STLN/FRGD		Someone has reported that checks with this account have been stolen or forged.
			0015	CHECK STOPPED		The check sequence number matches a range stopped by the account owner (used in the case of lost checks).
			0016	CUSTOMER STOP		The account owner has requested that transactions on this account be stopped. This is likely because checks have been lost.
35	Card Acceptor Contact Acquirer, Pickup	Card			I	Capture card.
		Check			N	
36	Restricted Card, Pickup	Card			I	Capture card.
		Check			N	
37	Card Acceptor Call Acquirer Security, Pickup	Card			I	Capture card.
		Check			N	
38	PIN Tries Exceeded, Pickup	Card			I	Capture card.
		Check			N	
39	No Credit Account	Card			N	
		Check			N	
40	Function Not Supported	Card	1021	INVALID SERVICE	G/H	The merchant or Card Holder is not allowed to perform that kind of transaction.
		Check			G/H	
41	Lost Card	Card			I/J	This card has been reported lost.
		Check			N	
42	No Universal Account/Decline	Card			N	
		Check			N	
43	Stolen Card	Card			I/J	This card has been reported stolen.
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
44	No Investment Account/Decline	Card			N	
		Check			N	
51	NSF	Card			B	The transaction will result in an over credit limit or insufficient funds condition.
		Check			B	
52	No Checking Account	Card			B	
		Check			B	
53	No Savings Account	Card			B	
		Check			B	
54	Expired Card	Card	1016	INVALID EXPIRATION DATE	D	The card has expired or the expiration date was invalid.
		Check			N	
55	Invalid PIN	Card			D	
		Check	None	INVALID PASSWORD	B	The requested service requires a password and the manager password provided in the request packet does not match that specified in the rule set.
56	No Card Record	Card			N	
		Check			N	
57	Transaction Not Permitted	Card				This card does not support the type of transaction requested.
		Check	0001	INVALID SERVICE	G/H	The point of sale device is requesting a service which the merchant services provider has not allowed.
58	Transaction Not Permitted to Terminal	Card			G/H	
		Check			G/H	
59	Suspected Fraud Decline	Card			N	
		Check			N	
60	Card Acceptor Contact Acquirer/Decline	Card	2078	CALL ECHO	H	The merchant must call *ECHO* Customer Support for approval or because there is a problem with the merchant's account.
			2079	CALL XPRESSCHEX	H	
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
61	Exceeds Approval Amount The cardholder has requested a withdrawal amount in excess of the frequency limit.	Card	None		B	The cardholder has requested a withdrawal amount in excess of the daily defined maximum.
		Check*	0023	CHECK TOO LARGE	B	The face amount of the check is greater than the limit imposed by the merchant.
			0024	TOO MUCH CASH		The amount of cash returned with the purchase exceeds the limit imposed by the merchant. This message will only appear if both sale and check amount are included in the request packet and cash back limits have been imposed by the merchant.
			0025	PAY CHK TOO BIG		The merchant set limit on payroll checks has been exceeded.
			0029	DAY LOC/AMT=%d		These report that the cumulative face amount of checks has been exceeded for the day where "%d" is the dollar amount of the checks.
			0030	DAY GRP/AMT=%d		
			0031	DAY ALL/AMT=%d		
			0032	DAY LOC/CASH=%d		These report that the cumulative of cash returned from checks has been exceeded for the day.
			0033	DAY GRP/CASH=%d		
			0034	DAY ALL/CASH=%d		
			0038	WIN LOC/AMT=%d		These report that the cumulative face amount of checks has been exceeded for the time window.
			0039	WIN GRP/AMT=%d		
			0040	WIN ALL/AMT=%d		
			0041	WIN LOC/CASH=%d	B	These report that the cumulative of cash returned from checks has been exceeded for the time window.
			0042	WIN GRP/CASH=%d		
			0043	WIN ALL/CASH=%d		
			0045	AMT PAYCHKS=%d		The rule set limit on the cumulative face amount of payroll checks has been exceeded.
			0061	N/A		Used in Visa POS, "Amount greater than established service limit (T3)".
						* These check declines may be usually be overridden with a Check Override Request if *ECHO*'s ECC program is being used and the risk protection program permits it.

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
62	Restricted Card	Card				The card has been restricted.
		Check	0046	NO CANADIAN	B	Canadian checks are not permitted by the risk protection program.
			0047	OUT OF AREA ACCT		This banking route number is outside the Federal Reserve Districts permitted by the risk protection program.
			0048	VISA 3P ABA IS NON-ACH		On a Visa POS program, *ECHO* has determined that the check cannot be electronically converted. No risk services were performed.
			0049	NO ACH SC		*ECHO* and its partners have determined that the check cannot be electronically converted.
			0050	VISA 3P NO ACH		On a Visa POS program, *ECHO* has determined that the check cannot be electronically converted. No risk services were performed.
			0051	NO ACH		*ECHO* has determined that the check cannot be electronically converted. No risk services were performed.
			0052	NO PAYROLL		Payroll checks are not permitted by the risk protection program.
			0053	NOT PAYROLL ACCT		The payroll check submitted is not listed in the risk protection program as a Checkwriter account permitted to use this service.
			0054	ID-NO PAYRL AUTH		The identification information provided with the transaction is not listed in the risk protection program as an allowed ID to use this service.
63	Security Violation	Card			B	The card has been restricted.
		Check			N	
64	Original Amount Incorrect	Card			N	
		Check			N	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
65	Exceed Withdrawal Frequency	Card				The allowed number of daily transactions has been exceeded.
		Check*	0026	DAY LOC/NCHKS=%d	B	These report that the number of checks limit has been exceeded for the day where "%d" is the number of checks.
			0027	DAY GRP/NCHKS=%d		
			0028	DAY ALL/NCHKS=%d		
			0035	WIN LOC/NCHKS=%d		This reports that the number of checks limit has been exceeded for the time window.
			0036	WIN GRP/NCHKS=%d		
			0037	WIN ALL/NCHKS=%d		
			0044	NUM PAYCHKS= %d		The rule set limit on the number of payroll checks that can be cashed on a given ID in a given period of time has been exceeded.
			0062	None		Used in Visa POS, "Too many checks (over merchant or bank limit) (T7)".
						* These check declines may be usually be overridden with a Check Override Request if *ECHO*'s ECC program is being used and the risk protection program permits it.
66	Card Acceptor Call Acquirer/Decline	Card			A	The merchant must call *ECHO* customer support.
		Check			N	
67	Hard Capture – ATM	Card			I	Capture card.
		Check			N	
68	Response Received Too Late	Card			N	
		Check			N	
75	Exceed PIN Tries	Card			B	The allowed number of PIN retries has been exceeded.
		Check			N	
76	Unsolicited Reversal	Card			D	The "to" (credit) account does not exist or is not associated with the card number presented.
		Check			D	
79	Already Reversed	Card			D	The "from" (debit) account does not exist or is not associated with the card number presented.
		Check			D	

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
80	Visa Private Use	Card			L	Credit Issuer Unavailable
		Check			D	Invalid date
82	Incorrect CVV/iCVV	Card			D	
85	No Reason to Decline	Card			F	Not declined. No reason to decline a request for account number verification, address verification, or CVV2 verification. Usually seen on AVS transactions.
		Check				
91	Time Out	Card			L	The authorization system is not available to authorize this transaction at this time.
		Check			L	The authorization system is not available to authorize this transaction at this time.
92	Cannot Reach Network	Card			D	The transaction does not contain enough information to be routed to the authorizing agency.
		Check			D	
93	Cannot Complete	Card			B	Transaction cannot be completed; violation of law
		Check			N	
94	Duplicate Transaction	Card			K	The host has detected a duplicate transmission.
		Check	0008	RE-PRESENTED CHK	K	This message appears when *ECHO* attempts to authorize a check which it has authorized in a previous transaction.
			0009	DUPLICATE CHECK		This payroll check has been presented before for cashing.
96	System Error	Card	NULL		L	A system error has occurred or the files required for authorization are not available.
			1000	UNRECOVERABLE ERROR.	L	An unrecoverable error has occurred.
			1014	INVALID CARD-PVT	D	Generally applies to VISA private label.
			1019	INVALID STATE	D	The state code was invalid.
			1024	INVALID AUTH CODE	D	The authorization number presented with this transaction is incorrect. (deposit transactions only)
			1025	INVALID REFERENCE NUMBER	D	The reference number presented with this transaction is incorrect or is not numeric.
			1897	INVALID RESPONSE	L	The host returned an invalid response.
			1898	DISCONNECT	L	The host unexpectedly disconnected.

Response Code (Field 39)	Description (Business Condition)	Tender Type	Auxiliary Response Code (Field 62.23)	Auxiliary Response Text (might return in the response message)	Workflow Code	Comments
96 (Con't)	System Error (Con't)	Card (Con't)	1899	TIMEOUT	L	Timeout waiting for host response.
			3001	NO ACK ON RESPONSE	L	The host did not receive an ACK from the terminal after sending the transaction response.
			3002	POS NAK'D 3 TIMES	L	The host disconnected after the terminal replied 3 times to the host response with a NAK.
			3003	DROP ON WAIT	L	The line dropped before the host could send a response to the terminal.
			3005	DROP ON RESPONSE	L	The line dropped while the host was sending the response to the terminal.
			3007	DROP BEFORE EOT	L	The host received an ACK from the terminal but the line dropped before the host could send the EOT.
			3011	NO RESPONSE TO ENQ	L	The line was up and carrier detected, but the terminal did not respond to the ENQ.
			3012	DROP ON INPUT	L	The line disconnected while the host was receiving data from the terminal.
			3013	FEP NAK'D 3 TIMES	L	The host disconnected after receiving 3 transmissions with incorrect LRC from the terminal.
			3014	NO RESPONSE TO ENQ	L	The line disconnected during input data wait in Multi-Trans Mode.
			3015	DROP ON INPUT	L	The host encountered a full queue and discarded the input data.
		Check	NULL	SYS ERR	L	These are system errors that may be corrected by resending the transaction again.
			NULL	SYS BUSY		
			NULL	NCN NOT AVAIL		
			NULL	PACKET ERROR		
97	No Response from ECHO Host	Card	NULL	NULL	L	
		Check	NULL	NULL	L	

9. Communications

9.1   Using TCP/IP for Message Processing

The Business Partner is responsible for providing and supporting the client portion of the TCP/IP connection in sending and receiving ISO8583 requests and responses. This document assumes that the Business Partner has a thorough knowledge of the TCP/IP protocol.

The client software should establish and maintain the active socket-to-socket connection for as long as it is likely to be used. In other words, the connection should be kept "up" between messages to minimize the overhead caused by repeatedly establishing and breaking the connection. In addition, the client software should include logic to periodically check for a break in the connection and automatically re-establish it.

It is recommended that request messages be sent asynchronously for improved efficiency; that is, the client software need not wait for a response to a prior request before sending another. The client software must provide logic to match responses with their corresponding requests.

It is also recommended that the easiest way to implement request/response matching is for the client to populate Field 59, transport data, with a unique value per request. Field 59 will be returned unaltered in the corresponding response.

Messages are sent as variable length byte streams (65,533 bytes, maximum).

Request messages must be preceded by a two byte, unsigned integer, field length indicator, in binary, "network short/big-endian" format (i.e. most significant byte, followed by least significant byte). Response messages (returned by the server) will contain a similarly formatted field length indicator that reflects the length of the response message data field.

ECHO supports multiple sockets listening on the same port; therefore the client may establish multiple TCP connections simultaneously to that one port.

The format of the data is in two parts, a "Data Length" header indicating the length of the Data Packet followed by a "Data Packet," which contains the bulk of the transaction information. The "Data Length" header is a two-byte, unsigned integer and the "Data Packet" is variable length field up to 65,533 bytes.

This might be graphically represented as

Data Length	Data Packet. . . . .
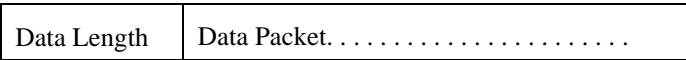
The following screen captures show how TCP/IP requests and responses are framed. In Figure *9-1*, the highlighted data in the bottom panel displays a 0100 request.

Note

These screen images were taken from packet sniffer software available at http://www.ethereal.com/.
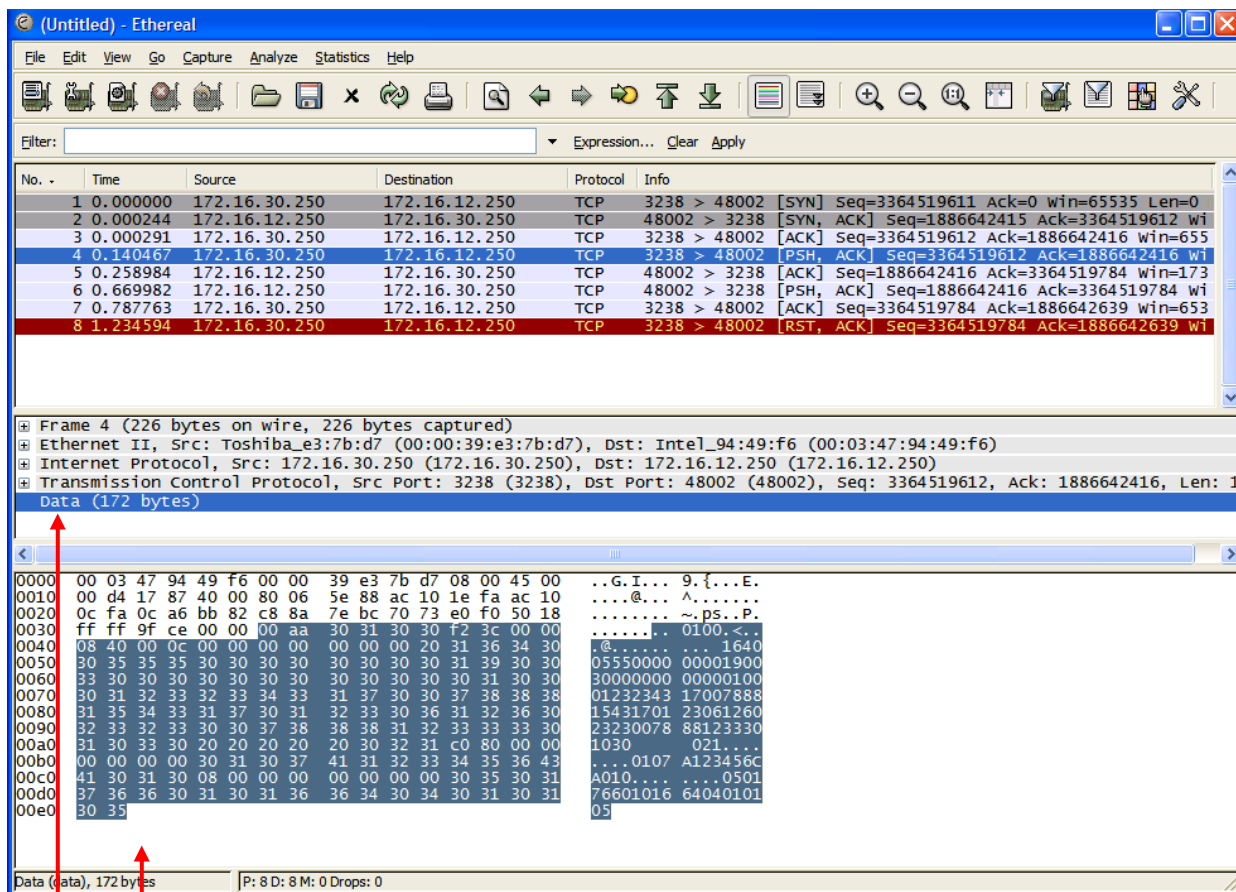
Figure 9-1. Framing of a TCP/IP Request

The first two bytes, hex(00aa) = decimal(170), represent the length of the request, and the data that follows is the actual request.

The middle pane displays the 172 bytes, which is the 2 length bytes plus the 170 bytes of data.

Figure 9-2 illustrates a 0110 response.

Figure 9-2. *Framing of a TCP/IP Response*

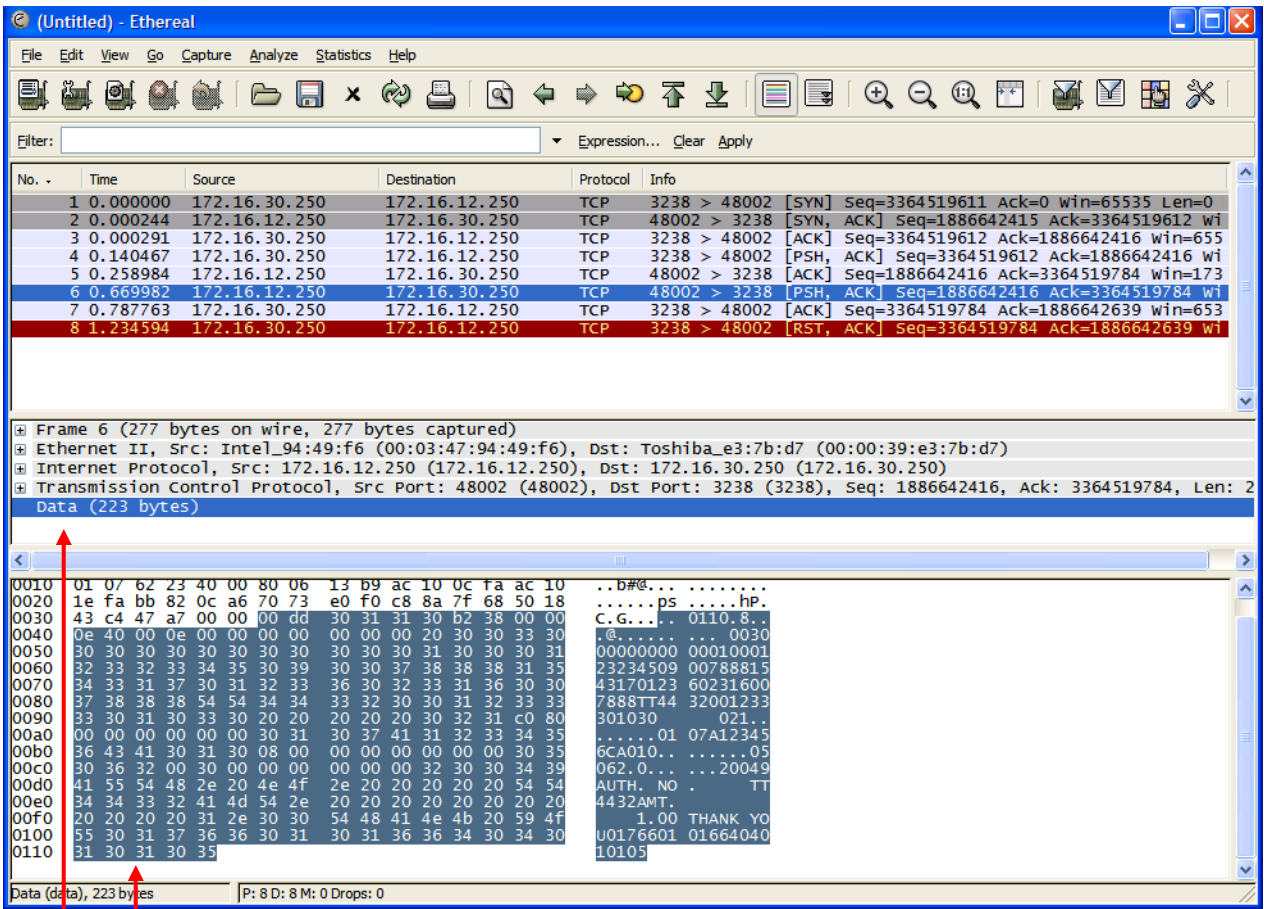The highlighted data in the bottom panel is the request. The first two bytes, hex(00dd) = decimal(221), represent the length of the response and the rest of the data is the actual response.

The middle pane shows 223 bytes, which is the 2 length bytes plus the 221 bytes of data.

10. Field Attributes

The following table describes field lengths and attributes.

Note that while all Bitmap fields are binary, all other coding for the ISO gateway is in an ASCII format.

Length/Modifier	Description
a	Alphabetic characters, A through Z and a through z. Left justified, space filled unless otherwise noted.
N	Numeric digits, 0 through 9. Right justified, zero filled unless otherwise noted.
P	Pad character, space.
H	Hexadecimal characters, 0 through 9, A through F, a through f.
s	Special characters, i.e. other printable characters. Left justified, space filled unless otherwise noted.
An	Alphabetic and numeric characters. Left justified, space filled unless otherwise noted.
As	Alphabetic and special characters. Left justified, space filled unless otherwise noted.
Ns	Numeric and special characters. Left justified, space filled unless otherwise noted.
Anp	Alphabetic, numeric and pad characters. Left justified, space filled unless otherwise noted.
Ans	Alphabetic, numeric and special characters. Left justified, space filled unless otherwise noted.
YY	Year, 00 through 99
MM	Month, 01 through 12
DD	Day, 01 through 31
hh	Hour, 00 through 23
mm	Minute, 00 through 59
ss	Second, 00 through 59
LL	Length of variable data element that follows, 01 through 99
LLL	Length of variable data element that follows, 001 through 999
VAR	Variable length data element. When field length is indicated, it does not include the length of any variable length indicator prefix for example if a LLLVAR field has a maximum length of "15" then it is understand that the "total length" of the field would be 18 characters.
3	Fixed length of 3 characters
..17	Variable length up to 17 characters, containing additional 2 or 3 characters at the start of the data indicating the number of characters following to the end of the field.
X	C for credit, D for debit. Always associated with a numeric amount field, i.e., x + n16 indicates a prefix of C or D followed by 16 numeric characters.
B	Binary representation of data
Z	Track 2 data, variable length of up to 37 chars.

11. Consumer Interface Requirements

11.1 Electronic Check Requirements

Electronic checks are processed through the Automated Clearing House (ACH) network with a specially designated code based on the customer's point of purchase experience and a variety of other factors.

The code, known as a SEC code, is attached to each transaction. Each code identifies to *ECHO*, NACHA, the FED and its participating banks that certain actions and responsibilities have been performed by the Checkwriter and the Merchant. Each unique SEC code has distinct actions and responsibilities associated with it. The actions and responsibilities for each SEC code are summarized in *Chapter 5 Traditional ECC Standard Entry Class (SEC) Codes*.

Based on the actions and responsibilities that are being performed by the Checkwriter and the Merchant, an appropriate SEC code can be identified. Once identified, the table below shows the proper values that will indicate the correct SEC code.

By setting SEC codes, the Business Partner understands it will comply with the summaries in this chapter as well as the full requirements as described in the OPERATING RULES OF THE NATIONAL AUTOMATED CLEARING HOUSE and THE OPERATING GUIDELINES OF THE NATIONAL AUTOMATED CLEARING HOUSE.

The Checkwriter must be provided with notification either prior to the transaction or immediately following the transaction that their check was (or is going to be) electronically converted for all transaction types below.

11.1.1 WEB Transactions

An Internet-initiated entry is called a "WEB" transaction. This is used for a single-entry debit to a consumer account that is the result of an authorization received by the merchant from the Internet.

The requirements for a WEB transaction are:

1. Merchant must have a commercially reasonable method of authenticating the identity of the Checkwriter.

2. Transactions must be encrypted or transmitted via a secure session (*ECHO's* internet application provides this).

3. Transactions must be drawn on Consumer Accounts.

4. Credits cannot be issued unless needed for a reversal.

5. Both Single Entry and Recurring Entry transactions are allowed.

    a) Single Entry Transactions:

        (1) Revocation language is NOT required to be included in consumer authorizations.

        (2) RDFI's are not permitted to return Single Entry transactions based on a consumer's claim that his/her authorization has been revoked (Reason Code 07).

        (3) Consumers are allowed to complete a stop payment order on Single Entry transactions at their financial institution within certain time frames.

    b) Recurring Entry Transactions:

        (1) Revocation language is required to be included in consumer authorizations for Recurring Entries.

        (2) Consumers have the right to place a stop payment on Recurring Entry transactions. However, it must be done at least three days prior to the scheduled settlement date of the transaction.

  6. Originators of WEB transactions are required to obtain the consumer's authorization prior to initiating a debit entry.

    a) The Checkwriter must be able to read the authorization language displayed on a computer screen or other visual display, which may be authenticated by the Checkwriter.

    b) Authorization must be readily identifiable as an ACH debit authorization.

    c) Authorization must clearly and conspicuously state its terms.

11.1.2 Pre-arranged Payment and Deposit (PPD) Transactions

A Prearranged Payment and Deposit Entry is called a "PPD". This can be either a debit or a credit transaction to a consumer account that has been previously authorized. Examples of this are Direct Deposit and Preauthorized Bill Payment.

The Merchant is required to receive signed authorization from the consumer to initiate periodic charges or credits to the consumer's bank account.

11.1.3 Accounts Receivable Entries (ARC) Transactions

Accounts Receivable Entries (ARC) are Single Entry debits used for the conversion of a consumer check received by the U.S. mail or at a dropbox location for the payment of goods or services. ARC transactions are allowed in conjunction with *ECHO*-approved MagTek and RDM Imagers.

The merchant can accept a check as a source document to initiate an ARC entry only if it has been sent through the U.S. mail or delivered to a dropbox.

ECHO has an optional feature to provide research on returned items, and, if items are returned for certain of the above reasons, we can attempt to clear the items via paper draft.

Note: The Merchant must image the front of all checks that are to be processed as ARC transactions.

The Merchants must provide a reasonable method to allow Checkwriters to opt out of check conversion if they wish to.

11.1.4 Point-of-Purchase (POP) Transactions

Point-of-purchase (POP) transactions are Single Entry debits used for the conversion of a consumer check.

The requirements for a POP transaction are:

1. Receipt:

   A Merchant must provide to each Checkwriter a receipt containing the following information with respect to each POP entry to the Checkwriter's account:

   a) Merchant name;

   b) Company (merchant)/third-party service provider telephone number;

   c) Date of transaction;

   d) Transaction amount;

   e) Source document check serial number;

   f) Merchant number (or other unique number that identifies the location of the transaction);

   g) Terminal City;

   h) Terminal State; and

   i) Returned Item Fee (if collection service fee is greater than zero). See Field 54 Amount Type 06 for details.

   The National Association strongly recommends, but these rules do not require, that the Merchant also provide the following information on the receipt provided to the Checkwriter:

   a) Merchant address;

   b) Merchant identification number;

   c) Checkwriter's financial institution routing number;

   d) Checkwriter's truncated account number;

   e) Checkwriter's truncated identification number; and

   f) Transaction reference number.

The Checkwriter's complete account number and complete identification number are not permitted to be placed on the receipt.

   a) Source document:

   For a POP entry, a check or sharedraft provided by the Checkwriter at the point-of-purchase must be used by the Merchant as a source document for the Checkwriter's routing number, account number, and check serial number. The source document must be voided by the Merchant and returned to the Checkwriter at the point-of- purchase. Only a check or sharedraft that meets the follow requirements may be used as a source document for a POP transaction:

   The following requirements for the source document for a POP transaction:

   b) Contains a pre-printed serial number

   c) Does not contain an Auxiliary On-Us Field in the MICR line

   d) Is in an amount of $25,000 or less

   e) Is not a third-party check or sharedraft.

   The following source documents are not permitted for a POP transaction:

   a) Demand drafts and third- party drafts that do not contain the signature of the Checkwriter

b) Checks provided by a credit card Issuer for purposes of accessing a credit account or checks drawn on home equity lines of credit

c) Checks drawn on an investment company as defined in the Investment Company Act of 1940

d) Obligations of a financial institution (e.g., traveler's checks, cashier's checks, official checks, money orders, etc.);

e) Checks drawn on the Treasury of the United States, a Federal Reserve Bank, or a Federal Home Loan Bank

f) Checks drawn on a state or local government that are not payable through or at a Participating DFI

g) Checks or sharedrafts payable in a medium other than United States currency.

f) Capture of MICR Information:

The Merchant may not key-enter the routing number, account number, or check serial number from the Checkwriter's source document.

ECHO has an optional feature to provide research on returned items, and, if items are returned for certain of the above reasons, we can attempt to clear the items via paper draft.

The Merchant must provide a reasonable method to allow Checkwriters to opt out of check conversion if they wish to.

11.1.5   Telephone (TEL) Transactions

A Telephone-Initiated Entry is called a "TEL". This is used for a single-entry debit to a consumer account that is the result of an oral authorization obtained from the consumer via the telephone.

TEL Transaction Requirements:

1. Merchant can conduct a TEL transaction when either:

    a) There is an existing relationship between the Checkwriter and the merchant, or

    b) There is no existing relationship between the Checkwriter and the merchant, but the Checkwriter has initiated the phone call.

    The merchant and consumer are considered to have an existing relationship when either:

    a) There is a written agreement in place between the Checkwriter and the merchant for the provision of goods and services, or

    b) The Checkwriter has purchased goods or services from the Originator within the last two years.

2. Merchants must obtain the Checkwriter's explicit authorization to do a TEL transaction. This may be obtained orally, but merchants must do one of the following (and the Checkwriter must be told which of the following methods will be used):

    a) Tape record the consumer's oral authorization. Tape recordings must be retained for two years from the date of the authorization. Oral authorizations must include:

        (1) The merchant clearly stating during the conversation that the consumer is authorizing a debit entry to his account;

        (2) Terms of the authorization; and

        (3) Checkwriter must express consent.

    b)   Provide, in advance of the Settlement Date of the entry, written notice to the consumer that confirms the oral authorization (such as a postcard or fax). This must include:

        (1)   Date on which the account will be debited;

        (2)   Amount of debit;

        (3)   Name of Checkwriter;

        (4)   Customer service telephone number that Checkwriter may call for questions;

        (5)   Date of Checkwriter's oral authorization; and

        (6)   Statement that the authorization obtained from Checkwriter will be used to debit the checking account.

11.2   Receipt Requirements

The Business Partner must insure that the POS/purchase device prints an appropriate Transaction Receipt based on the tender type, type of merchant, and type of transaction. A Transaction Receipt is an electronic or paper record of a Transaction (or a copy), generated at the Point-of-Transaction.

11.2.1   Payment Card Requirements

Each payment card association has its own unique requirements.

The below text should be printed above the signature line on all transaction (where money is being debited from the cardholder) Payment Card receipts:

> "Cardholder acknowledges receipt of goods and/or services in the amount of the Total shown hereon and agrees to perform the obligations set forth in the Cardholder's agreement with the Issuer."

The following text should be printed above the signature line on all debit (where money is being transferred back onto the Cardholder's card) Payment Card receipts:

> "Merchant named above hereby authorizes the Member to whom this Voucher is initially presented: (i) to charge Merchants account for the TOTAL shown hereon in accordance with the Merchant Agreement with such Bank and (ii) to deliver this Voucher to the Issuer of the Payment Card, as identified by the account number imprinted hereon, for credit to such account."

Regardless of the type of transaction, the following Transaction Receipt Requirements apply:

1.   Each Transaction Receipt formset must contain, at a minimum, a Member copy and a Cardholder copy. The Merchant or Member copy must bear the Cardholder's original signature.

2.   Formset ink colors must comply with the following:

	Ink Color
Transaction Receipt	Dark blue or black
Cash Disbursement Transaction Receipt	Dark green or black
Credit Transaction Receipt	Red ink of legible density

3. Each formset must bear a sequential number consisting of at least five digits.

Transaction Receipt Prohibitions:

1. Preprinted legends designating space for supplementary Cardholder information (e.g., address, telephone number) or ancillary charges to be added after completion of the Transaction areprohibited, except as specified below:

    a) Supplementary Cardholder information may be designated on formsets also designed for use as:

        - Mailing or delivery slips

        - Guest registration forms

        - Car rental contracts

        - Wire Transfer Money Orders.

    b) Space for ancillary charges is permitted on T&E Document formsets used by Lodging or Cruise Line Merchants, or Car Rental Companies.

2. Use of promotional, advertising, or similar language that conveys preference of a non-Visa payment card on Transaction Receipts that bear the Visa Program Marks is prohibited.

3. The use of language that conveys any limitation of a Cardholder's rights to dispute the Transaction with the Issuer is prohibited.

11.2.1.1 Transaction Receipt for Transactions Completed at Point-of-Transaction Terminals

Transaction Data Requirements
Account Number: Effective through June 30, 2006, except for the final four digits, the Account Number on the Cardholder's copy of the Transaction Receipt may be disguised or suppressed. Effective for Electronic Transaction Receipts generated from Point-Of-Transaction Terminals installed on or after July 1, 2003, except for the final four digits, the Account Number on the Cardholder's copy of the Transaction Receipt must be disguised or suppressed. Effective July 1, 2006, except for the final four digits, the Account Number on the Cardholder's copy of the Transaction Receipt must be disguised or suppressed.
Expiration Date: Effective through June 30, 2006, expiration date, except for Limited-Amount Terminal or Express Payment Service Transactions Effective for Electronic Transaction Receipts generated from Point-of-Transaction Terminals installed on or after July 1, 2003, the expiration date must be disguised or suppressed on the Cardholder's copy of the Transaction Receipt. Effective July 1, 2006, the expiration date must be disguised or suppressed on the Cardholder's copy of the Transaction Receipt.
Merchant or Member Name and Location, or the city and state of the Automated Dispensing Machine or Self-Service Terminal
Location Code
Transaction Amount
Transaction Date (or credit preparation date)
Transaction Payment Type (i.e., "Visa"). Effective November 1, 2005, the payment brand used to complete the Transaction must be identified on the Cardholder's copy of the Transaction Receipt
Space for Cardholder signature*, except for: • Transactions in which the PIN is an acceptable substitute for Cardholder • Limited-Amount Terminal Transactions

Transaction Data Requirements
• Self-Service Terminal Transactions • Effective October 1, 2005, Transactions under $25 completed Point-of-Transaction Terminal with Contactless Payment capability • Effective through April 7, 2006, Express Payment Service Transactions • Small Ticket Transactions • Effective April 8, 2006, No Signature Required Transactions
Effective April 8, 2006, a legend identifying the party to whom it will be delivered (e.g., Member copy, Merchant copy, Cardholder copy), except for Small Ticket and No Signature Required Transactions.
Authorization Code, if applicable
For a Quasi-Cash Transaction completed in a Face-to-Face Environment, the Transaction Receipt must provide space for Cardholder identification and the four digits printed above or below the Account Number.

11.2.1.2   Electronic Commerce Transaction Receipt

Transaction Data Requirements
Merchant Name: The Merchant name must not be the name of the network provider or other entity unless the transaction represents membership service charges or merchandise/services provided by the network provider itself.
Merchant Online Address
Transaction Amount
Transaction Date
Transaction Payment Type (i.e., "Visa"). **Effective November 1, 2005**, the payment brand used to complete the Transaction must be identified on the Cardholder's copy of the Transaction Receipt
Unique Transaction Identification Number
Purchaser Name
Authorization Code
Transaction Type (purchase or credit)
Description of merchandise/services
Return/Refund Policy (if restricted)

11.2.1.3   Self-Service Terminal Transaction Receipt

Transaction Data Requirements
Account Number: Except for the final four digits, the Account Number on the Cardholder's copy of the Transaction Receipt must be disguised or suppressed.
Merchant Name
Location Code, or City and State
Transaction Amount

Transaction Data Requirements
Transaction Date
Transaction Payment Type (i.e., "Visa"). Effective November 1, 2005, the payment brand used to complete the Transaction must be identified on the Cardholder's copy of the Transaction Receipt.

11.2.1.4 Lodging or Cruise Line Transaction Receipt

Transaction Data Requirements
Imprint
Imprint of Merchant Name and Location
Location Code
Transaction Amount
Transaction Date
Transaction Payment Type (i.e., "Visa"). **Effective November 1, 2005**, the payment brand used to complete the Transaction must be identified on the Cardholder's copy of the Transaction Receipt
Guest check-out or disembarkation date
Legend identifying its purpose (i.e., Transaction Receipt or Sales Slip)
Legend identifying the party to whom it will be delivered (e.g., member copy). The other copies of the formset should also be appropriately labeled Merchant copy or Cardholder copy.
Description of goods or services
Room rate and sales person's initials or department number
Authorization dates, amounts, and approval codes
Space for Cardholder signature

11.2.1.5 Manual Cash Disbursement Transaction Receipt

Transaction Data Requirements
Imprint of the name and location of the Member, Merchant, or Cash Disbursement Merchant
Transaction Amount
Transaction Date
Transaction Payment Type (i.e., "Visa"). **Effective November 1, 2005**, the payment brand used to complete the Transaction must be identified on the Cardholder's copy of the Transaction Receipt
Transaction Type (Cash Disbursement)
Legend identifying the party to whom it will be delivered (e.g., member copy). The other copies of the formset should also be appropriately labeled Merchant copy or Cardholder copy.
Space for Cardholder signature
Space for Cardholder's address (may be eliminated from the Cash Disbursement Transaction Receipt used only by a Cash Disbursement Merchant).

Transaction Data Requirements
Space for Cardholder identification
Space for clerk's signature or identification
Authorization Code
Space for four printed digits above or below Account Number

11.2.2   Electronic Check Services

11.2.2.1   Traditional Electronic Check Conversion

NACHA and the U.S. Government (through Regulation E) mandate that certain data be printed on the receipt. Please contact *ECHO* Customer Support for this information.

A Merchant must provide to each Checkwriter a receipt containing the following information with respect to each POP entry to the Checkwriter's account:

a)   Merchant name

b)   Company (merchant)/third-party service provider telephone number;

c)   Date of transaction;

d)   Transaction amount;

e)   Source document check serial number;

f)   Merchant number (or other unique number that identifies the location of the transaction);

g)   Terminal City

h)   Terminal State; and

i)   Returned Item Fee (if collection service fee is greater than zero). See Field 54 Amount Type 06 for details.

The National Association strongly recommends, but these rules do not require, that the Merchant also provide the following information on the receipt provided to the Checkwriter:

a)   Merchant address;

b)   Merchant identification number;

c)   Checkwriter's financial institution routing number;

d)   Checkwriter's truncated account number;

e)   Checkwriter's truncated identification number; and

f)   Transaction reference number.

11.2.2.1.1 Authorization Transaction Receipt

An authorized transaction must have the following text printed above the signature line:

"When you provide a check as payment, you authorize us to (1) use information from your check to make a one-time electronic fund transfer from your account, (2) process the payment as a check transaction, or (3) create and process a demand draft against your account for the amount of the transaction. When we use information from your check to make an electronic fund transfer, funds may

be withdrawn from your account as soon as the same day you make your payment, and you will not receive your check back from your financial institution. If your payment is returned unpaid, you authorize us to collect the returned item fee described elsewhere on this receipt by presenting a demand draft against your account or by making a one-time electronic fund transfer from your account."

11.2.2.1.2 Authorization Transaction Reciept – ARC Transactions

An authorized ARC transaction must have the following text should be printed above the signature line:

"By paying your bill by check, you authorize the company to electronically process your payment. If your check is processed electronically, your checking account may be debited as soon as the same day that the check is received and it will not be returned to you by your financial institution."

11.2.2.1.3 Decline Transaction Receipt

There are several receipts that can be printed depending on the reason for the decline and the nature of the merchant's relationship with *ECHO*.

11.2.2.1.3.1   Collection Agency Decline

Your check cannot be accepted for the Electronic Check Conversion service at this time. The decision to deny your check is based on the information provided to us by:

COMPANY NAME

1-800-XXX-XXXX

You have the right to request a free copy of this information from the company listed above, if you request it from the company within 60 days. You also have the right to dispute directly with the company listed above about the accuracy or completeness of any information they provide to you. The merchant did not make the decision to deny your check and is not able explain why the decision was made.

The font in CAPITALIZED letters is obtained from Field 63.12 in sixteen character rows using the following workflow:

Search the first three characters of the sixteen character rows. There may be more than one row that matches. Use the first existence. If a row begins with "`PHN `" then print that row in the place of the phone number. Print the row immediately following it in the place of the Company Name. For example, the text string "`DECLINE CHECK    3 UNPAIDS (ALL)UNPAID AMT=  197PHN 888-340-9205CYBRCOLLECT    PHN 800-947-3604CHECK WISE`" would be formatted as:

```
       CYBRCOLLECT
   PHN 888-340-9205
```

Field 63.12 will only contain the text string "`PHN `" if Field 39 in the response message contains a value of "05".

11.2.2.1.3.2 Non-Collection Agency Decline

If there are no rows beginning with "PHN " then the following workflow will be used:

> Your check cannot be accepted for the Electronic Check Conversion service at this time. The decision to deny your check is based on the information provided to us by:
>
> <div align="center">COMPANY NAME</div>
>
> <div align="center">1-800-XXX-XXXX</div>
>
> You have the right to request a free copy of this information from the company listed above, if you request it from the company within 60 days. You also have the right to dispute directly with the company listed above about the accuracy or completeness of any information they provide to you. The merchant did not make the decision to deny your check and is not able explain why the decision was made.

The company name and the toll-free phone number in CAPITALIZED letters above must be obtained from entity that is responsible for configuring the merchants rule set and Risk Protection System parameters. For more information as to who this entity is please review the Business Partner's agreement with *ECHO*, contact your sales representative or *ECHO* customer support.

At the Business Partner's discretion, the first three 16-character rows may be printed under the company name and telephone number as long as there are no rows beginning with the text string "PHN" For example, the text string "MANAGER NEEDED YOUNG ACCOUNT CHECK TOO LARGE DAY LOC/AMT=1119" would be formatted as:

```
JOHN DOE COMPANY
PHN 888-340-9203

 MANAGER NEEDED
  YOUNG ACCOUNT
 CHECK TOO LARGE
```

11.2.2.2   Visa POS Check

Visa USA, Inc. mandates certain data be printed on the receipt. These data include:

Transaction Data Requirements
Check Number
Contact Information
DDA Number
Depository Bank
Disclosure Agreement
Local Date of Transaction
Location of Terminal
Merchant Name and Address
Signature Line
Transaction Amount
Transaction ID
Transit Routing Number

On an authorized transaction the following text should be printed above the signature line:

"When you provide a check as payment, you authorize us to (1) use information from your check to make a one-time electronic fund transfer from your account, (2) process the payment as a check transaction, or (3) create and process a demand draft against your account for the amount of the transaction. When we use information from your check to make an electronic fund transfer, funds may be withdrawn from your account as soon as the same day you make your payment, and you will not receive your check back from your financial institution. If your payment is returned unpaid, you authorize us to collect the returned item fee described elsewhere on this receipt by presenting a demand draft against your account or by making a one-time electronic fund transfer from your account."

A sample receipt is below:

Merchant Name

Merchant Address

Merchant Phone

Terminal City and State

Date: 04/04/00

Time 11:56

Lane #99

Cashier #7777

AMOUNT OF TRANSACTION: $82.35

RETURN ITEM FEE: $25.00

Routing # 122101191

Account # XXXXXX4587

Check # 1234

Auth: 203500   Ref# 001002

AUTHORIZATION AGREEMENT:

When you provide a check as payment, you authorize us to (1) use information from your check to make a one-time electronic fund transfer from your account, (2) process the payment as a check transaction, or (3) create and process a demand draft against your account for the amount of the transaction. When we use information from your check to make an electronic fund transfer, funds may be withdrawn from your account as soon as the same day you make your payment, and you will not receive your check back from your financial institution. If your payment is returned unpaid, you authorize us to collect the returned item fee described elsewhere on this receipt by presenting a demand draft against your account or by making a one-time electronic fund transfer from your account.

X_____

Authorization Signature

Customer Service Number

Top Copy – Merchant

Bottom Copy – Customer

For authorized transactions where Field 54 Amount Type 06 contains an amount value, starting January 2008, any check service fee must be disclosed on the receipt. Any time this value is greater than zero, it should be printed on the receipt as above.

When a third-party authorizer (*ECHO*) declines an authorization request, it is necessary to provide the customer with a Decline Disclaimer in order to comply with the Fair Credit Reporting Act. Visa USA recommends using the generic language below for a declined transaction. On a declined transaction where Field 63, subfield 12 of the response is populated (indicating the decline was issued by *ECHO*) the following text should be printed above the signature line. The font in CAPITALIZED letters is obtained from Field 63.13.

Your check cannot be accepted for the POS Check Service at this time. The decision to deny your check is based on information provided to us by:

COMPANY NAME

COMPANY ADDRESS

1-800-XXX-XXXX

You have the right to request a free copy of this information from the company listed above, if you request it from the company within 60 days. You also have the right to dispute directly with the company listed above about the accuracy or completeness of any information they provide to you. The merchant did not make the decision to deny your check and is not able explain why the decision was made.

The Business Partner may also print the first 32 characters of Field 63.12 at their discretion under the toll free phone number. Receipt text is in 16-character width lines.

When a participating drawee bank declines an authorization request, it is necessary to inform the customer that their respective financial institution declined the transaction. Visa

recommends using the generic language below for a declined transaction. On a declined transaction where Field 63, subfield 12 of the response is **not** populated (indicating the decline was issued by the Checkwriter's bank (aka "drawee" or "Visa participating bank") the following text should be printed above the signature line:

Your check cannot be accepted [for the check conversion program] at this time. The decision to deny your check is based on information provided to us by:

The consumer's financial institution

ABA: 123456789

DDA: xxxxx1234

Please contact your financial institution for an explanation of why the request was declined.

Unlike the non-participating receipt, Field 63.12 will not be populated so there is no additional text that can be printed.

11.3   Point-of-Sale Posted Signage Requirements

The following text must be presented at the point of sale. Depending on arrangements with *ECHO*, this verbiage may be available in the form of a decal.

"When you provide a check as payment, you authorize us to (1) use information from your check to make a one-time electronic fund transfer from your account, (2) process the payment as a check transaction, or (3) create and process a demand draft against your account. When we use information from your check to make an electronic fund transfer, funds may be withdrawn from your account as soon as the same day you make your payment, and you will not receive your check back from your financial institution.

If your payment is returned unpaid, you authorize us to represent the check either electronically or by a paper draft drawn on your account. You also authorize us to collect the returned item fee described below by presenting a demand draft against your account or by making a one-time electronic fund transfer from your account.

Please be advised civil penalties, interest, collection costs, legal expenses, attorney fees and other expenses incidental to the collection of the prinicipal obligation may also be imposed.

Returned Item fee will be XXX."

NOTE: Every decal at the point of sale must contain either the exact amount of the returned check fee or the calculation used in determining the fee in order to maintain compliance with Reg E.

12. Use Cases

12.1 Types of Responses to Transaction Requests

Chapter 2 System Basics describes the types of transaction requests the Business Partner may send to the *ECHO* ISO platform. Based on the response from the *ECHO* ISO host, the Business Partner will initiate some action at the Point of sale. There are four categories of actions for all tender types plus an additional one for card-based transactions:

Point of Sale actions:

1. An approved transaction.

2. Declined – Terminate the tender and ask for another form of payment.

3. Declined – Retry the transaction: re-swipe the card or check.

4. Declined – Call Issuer (card-based transaction only).

5. Error – Call *ECHO*.

Actions 1 and 2 are relatively straight forward. However, actions 3, 4 and 5 require some additional responses at the Point of Sale. Based on these five actions, the following capabilities will be needed at the Point of Sale:

1. Information from the *ECHO* host will need to be displayed to clerk.

2. A receipt will be printed.

3. The clerk will need to be instructed how and when to call the Issuer for a voice authorization.

4. The clerk will need to be instructed how and when to reinitiate/retry the transaction, and the Point of Sale system will need to capacity to perform this function.

5. The clerk will need a way of backing out of a scenario where the clerk mistakenly attempts to run the same transaction twice. The second transaction may result in an error condition "represented transaction" and the clerk will need a way of completing the tender.

6. The clerk will need to be instructed how and when a system error has occurred and who to call for help.

7. Authorization logging and reporting.

8. Update local records.

12.2 Payment Card Use Cases

12.2.1 Credit and Signature-based Debit

Authorization Only

```
{0100}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[0806]42[1234567890]59[050"CREDIT CARD AUTHORIZATION ONLY
  "]123[260101664040101]
```

AVS Only

```
{0100}2[400555000000****]3[003000]4[000000000000]7[0623010426]11[1617]
14[0606]42[1234567890] 59[050"CREDIT CARD AVS ONLY
   "]62.6[12345678920ADDRESSS_DATA_HERE__]123[260101664040101]
```

CVV2 AUTHORIZATION ONLY

```
{0200}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[1007]42[1234567890] 59[050"CREDIT CARD CVV2 AUTHORIZATION ONLY
   "]62.8[10233]123[260101664040101]
```

Generic Purchase

```
{0200}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[1206]42[1234567890] 59[050"CREDIT CARD PURCHASE
   "]123[260101664040101]
```

Purchase Return

```
{0200}2[400555000000****]3[200030]4[1000]7[0623010426]11[1617]14[1206]
14[0106]42[1234567890] 59[050"CREDIT CARD PURCHASE RETURN
   "]123[260101664040101]
```

Forced Deposit

Note that the authorization number returned in the 0100 message should be placed into field 38 of the below 0220 message unless special conditions apply.

```
{0220}2[400555000000****]3[000000000100]4[3700]7[0623010426]11[1617]14
[1206]38[AUTH##]42[1234567890] 59[050"CREDIT CARD FORCED DEPOSIT
      "]123[260101664040101]
```

12.2.2   PIN-based Debit

Purchase

```
{0200}3[000000]4[000000000100]7[0622175500]11[900000]35[30400555000000
****=001210110000?]42[1234567890]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_
LENGTH_FORTY_BYTE_PIN_DATA]59[050"PIN-Based Debit Test PURCHASE
         "]123[210101214118101]
```

Purchase Void

```
{0420}2[400555000000****]3[000000]4[000000000100]7[0622175500]11[90000
0]14[0806]42[1234567890]59[050"PIN-Based Debit Test VOID

"]90[0200_STAN_DATE&&TIME00000000000000000000000]123[210101214118101]
```

Purchase with Cash Back

```
{0200}3[090000]4[000000000100]7[0622175500]11[900000]35[30400555000000
****=001210110000?]42[7022223318]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_
LENGTH_FORTY_BYTE_PIN_DATA]54[0005840D000000000100]59[050"PIN-Based
Debit Test PURCHASE w/CASH BACK       "]123[210101214118101]
```

Purchase Return

```
{0200}3[200000]4[000000000100]7[0622175500]11[900000]35[30400555000000
****=001210110000?]42[7022223318]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_
```

```
LENGTH_FORTY_BYTE_PIN_DATA]59[050"PIN-Based Debit Test PURCHASE RETURN
       "]123[210101214118101]
```

Generic Void

```
{0420}3[000000]4[000000000100]7[0622175500]11[900000]14[0806]35[304005
55000000****=001210110000?]42[7022223318]59[050"PIN-Based Debit Test
VOID
"]90[0200_STAN_DATE&&TIME000000000000000000000000]123[210101214118101]
```

12.3   Check Use Cases Examples

12.3.1   Verification Only: MICR Verification Only

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Verification Only" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0100	0110	
1	BitMap	M	M	
3	Processing Code	M	➔	Must be 04200 or 04000
4	Transaction Amount	M	➔	
7	Transmission Date and Time	M	➔	
11	Systems Trace Audit Number	M	➔	
12	Local Transaction Time	O	➔	
13	Local Transaction Date	O	➔	
18	Merchant Type	O	➔	
37	Retrieval Reference Number	O	➔	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	C	➔	Populate for Cashback only
59	Transport Data	O	➔	
60.10	Check Type	M	➔	
60.11	Keyed MICR	C	➔+	Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR	C	➔	Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this

Field	Description	Re q	Res p	Comment
				should be Track 2 data from the DL
62	Application Information	C	→	
63	Private Data	O	→+	63.12 will contain the response text
123	POS Data Code	M	→	

NOTES:

1. SWIPED vs KEYED MICR:

   a) If Fields 60.10 and 60.12 are present, the transaction will be a SWIPED MICR transaction.

   b) If Fields 60.10 and 60.11 are present, the transaction will be a KEYED MICR transaction.

2. Affect of Check Type:

   a) If Field 60.10 types 1, 3, 4, 5, 6, 7, 9 all yield a personal check (type 7) transaction.

   b) If Field 60.10 is set to type 2, then the check will be processed as a payroll (type 9) transaction, and an ID is required in 61 regardless of how *ECHO*'s risk protection systems are configured (Ruleset).

   c) If Field 60.10 is set to type 8, then the check will be processed as a ThirdParty (type 8) check transaction.

3. If a valid swiped ID is submitted in Field 61.14, the State code is returned in Field 61.9 and the ID number is returned in Field 61.2.

4. If cash back is used, then Field 4 (the transaction amount) must equal the total of the purchase amount plus Field 54 (the cash back amount). In other words, the amount of the goods or services sold can be found by subtracting Field 54 from Field 4.

Example:

	Verification Only, No ID, No Cashback
Req	`{0100}3[042000]4[00101]7[0627182747]11[7747]37[617818007747]42[1233301100]60.10[01]60.12[t12345****t809123****0o1003]123[S60101S64040101]`
Resp	`{0110}3[042000]4[000000000101]7[0627182747]11[007747]37[617818007747]38[187341]39[00]42[1233301100 ]60.10[01]60.11[0912345****10809123****0041003]60.12[t12345****t809123****0o1003]63.12[ISO TEST 200    AUTH NUM 187-341]123[S60101S64040101]`

12.3.2 Verification Only: ID-Based Verification Only

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Verification Only" transactions.

Field	Description	Re q	Res p	Comment
0	Message Type	0100	0110	
1	BitMap	M	M	
3	Processing Code	M	→	Must be 04200 or 04000
4	Transaction Amount	M	→	

Field	Description	Req	Resp	Comment
7	Transmission Date and Time	M	→	
11	Systems Trace Audit Number	M	→	
12	Local Transaction Time	O	→	
13	Local Transaction Date	O	→	
18	Merchant Type	O	→	
37	Retrieval Reference Number	O	→	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	→	
42	Card Acceptor ID Code	M	→	This is the merchant ID
43	Card Acceptor Name/ Location	O	→	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	→	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	O	→	Populate for Cashback only
59	Transport Data	O	→	
60.10	Check Type	M	→	
60.11	Keyed MICR			MUST NOT BE POPULATED
60.12	Swiped MICR			MUST NOT BE POPULATED
61.1	ID type	C	→	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	→	Required for keyed ID
61.9	ID State Code	C	→	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	→	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	→	
63	Private Data	O	→+	63.12 will contain the response text
123	POS Data Code	M	→	

NOTES:

1. MICR must NOT be populated in either Fields 60.11 or 60.12. Even though NCN supports an optional Check Number, this cannot be used in the ISO gateway.

2. Affect of Check Type: Field 60.10 is IGNORED.

3. If a valid swiped ID is submitted in Field 61.14, the State code is returned in Field 61.9, and the ID number is returned in Field 61.2.

Example:

	ID-Based Verification Only, Keyed U.S. DL
Req	`{0100}3[042000]4[105]7[0616225311]11[9352]12[165311]13[0616]37[616722009352]42[1233301017]59[9352]61.1[01]61.2[123123]61.9[NC]62.5[05]123[S60101S64040101]`
Resp	`{0110}3[042000]4[000000000105]7[0616225311]11[009352]12[165311]13[0616]37[616722009352]38[185500]39[00]42[1233301017]59[9352]61.1[01]61.2[123123]61.9[NC]62.5[05]63.12[NCN VERIFY AUTH NUM 185-500]123[S60101S64040101]`

12.3.3 Verification Only: MICR Override Verification

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "verification only" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0120	0130	
1	BitMap	M	M	
3	Processing Code	M	➔	Must be 04200 or 04000
4	Transaction Amount	M	➔	
7	Transmission Date and Time	M	➔	
11	Systems Trace Audit Number	M	➔	
12	Local Transaction Time	O	➔	
13	Local Transaction Date	O	➔	
18	Merchant Type	O	➔	
37	Retrieval Reference Number	O	➔	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	C	➔	Populate for Cashback only
59	Transport Data	O	➔	
60.10	Check Type	M	➔	
60.11	Keyed MICR	C	➔+	Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR	C	➔	Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this should be Track 2 data from the DL

Field	Description	Req	Resp	Comment
62	Application Information	C	→	
63	Private Data	O	→+	63.12 will contain the response text
123	POS Data Code	M	→	

NOTES:

1. See notes for MICR Verification Only as they all apply.

2. Only warnings are eligible for override. An override request on a decline will still yield a decline.

Example:

	Verification Override, No ID, No Cashback
Req	{0120}3[042000]4[00101]7[0627182747]11[7747]37[617818007747]42[1233301100]60.10[01]60.12[t12345****t809123****0o1003]123[S60101S64040101]
Resp	{0130}3[042000]4[000000000101]7[0627182747]11[007747]37[617818007747]38[187341]39[00]42[1233301100]60.10[01]60.11[0912345****10809123****0041003]60.12[t12345****t809123****0o1003]63.12[ISO TEST 200 AUTH NUM 187-341]123[S60101S64040101]

12.3.4 Verification Only: MICR Verification VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "verification only" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0420	0430	
1	BitMap	M	M	
3	Processing Code	M	→	Must be 04200 or 04000
4	Transaction Amount	M	→	
7	Transmission Date and Time	M	→	
11	Systems Trace Audit Number	M	→	
12	Local Transaction Time	O	→	
13	Local Transaction Date	O	→	
18	Merchant Type	O	→	
37	Retrieval Reference Number	O	→	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	→	
42	Card Acceptor ID Code	M	→	This is the merchant ID
43	Card Acceptor Name/ Location	O	→	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	→	
52	PIN Data	C	-	Removed from response

Field	Description	Req	Resp	Comment
54	Additional Amounts	O	➜	Populate for Cashback only
59	Transport Data	O	➜	
60.10	Check Type	M	➜	
60.11	Keyed MICR			Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR			Either 60.11 or 60.12 is required
61.1	ID type	C	➜	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➜	Required for keyed ID
61.9	ID State Code	C	➜	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➜	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	➜	
63	Private Data	O	➜+	63.12 will contain the response text
90	Original Data Elements	M	➜	
123	POS Data Code	M	➜	

NOTES:

1. See notes for MICR Verification only, except that Field 60.10 payroll (type 2) is NOT ALLOWED.

2. Field 90 MUST be added to provide the reference to the original transaction.

3. This "void" message type must is done within at least the same 24-hour day. However, special conditions may apply and best practice is to perform any voids within 10 minutes of the original message. Additionally, the amount, check serial number, account number and route number must all match the original values used on the authorized transaction.

4. Only transactions that have received a response code of "00" can be voided.

Example:

	ID-Based Verification Only VOID, Keyed U.S. DL
Req	{0420}3[162000]4[124]7[0616225321]11[9363]12[165321]13[0616]37[616722009363]42[1233301018]59[9363]60.10[01]60.12[T12345****T 809123****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]90[02000087691028220326]123[S60101S64040101]
Resp	{0430}3[162000]4[000000000124]7[0616225321]11[009363]12[165321]13[0616]37[616722009363]39[00]42[1233301018]59[9363]60.10[01]60.11[0912345****08809123****44051]60.12[T12345****T 809123****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]63.12[ECHO TEST ACCNT VOID ACCEPTED]90[00000000000000000000000020000876910282203 26]123[S60101S64040101]

12.3.5   Traditional ECC: Verification with Conversion

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Traditional ECC" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0200	0210	
1	BitMap	M	M	
3	Processing Code	M	➔	Must be 04200 or 04000
4	Transaction Amount	M	➔	
7	Transmission Date and Time	M	➔	
11	Systems Trace Audit Number	M	➔	
12	Local Transaction Time	O	➔	
13	Local Transaction Date	O	➔	
18	Merchant Type	O	➔	
37	Retrieval Reference Number	O	➔	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	C	➔+	Populate for Cashback only.
59	Transport Data	O	➔	
60.10	Check Type	M	➔	
60.11	Keyed MICR	C	➔+	Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR	C	➔	Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	➔	
63	Private Data	O	➔+	63.12 will contain the response text
123	POS Data Code	M	➔	

NOTES:

1. SWIPED vs KEYED MICR:

   a)   If Fields 60.10 and 60.12 are present, the transaction will be a SWIPED MICR transaction.

b) If Fields 60.10 and 60.11 are present, the transaction will be a KEYED MICR transaction. If this happens, a response code of 19, "transaction not allowed" will be issued in the response message unless special arrangements have been made otherwise.

2. Affect of Check Type:

a) If Field 60.10 types 1, 3, 4, 5, 6, 7, 9, then the check will be processed as personal check (type 7) transaction.

b) Field 60.10 must not be set to payroll (type 2), this transaction type is not allowed.

c) Field 60.10 must not be set to two-party (type 8), this transaction type is not allowed.

3. If a valid swiped ID is submitted in Field 61.14, the State code is returned in Field 61.9, and the ID number is returned in Field 61.2.

4. In Field 54, returned item fee and returned item fee tax may be added for ECC transactions.

Example:

	Verification w/Conversion, No ID, No Cashback
Req	{0200}3[042000]4[00101]7[0627182747]11[7747]37[617818007747]42[1233301100]60.10[01]60.12[t12345****t809123****0o1003]123[S60101S64040101]
Resp	{0210}3[042000]4[000000000101]7[0627182747]11[007747]37[617818007747]38[187341]39[00]42[1233301100]60.10[01]60.11[0912345****10809123****0041003]60.12[t12345****t809123****0o1003]63.12[ISO TEST 200 AUTH NUM 187-341]123[S60101S64040101]

12.3.6   Traditional ECC: Guarantee with Conversion

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Guarantee" transactions.

Same as Verification w/Conversion except: Field 3, Processing Code must be 03200 or 03000.

12.3.7   Traditional ECC: Verification with Conversion Override

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Traditional ECC" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0220	0230	
1	BitMap	M	M	
3	Processing Code	M	➜	Must be 04200 or 04000
4	Transaction Amount	M	➜	
7	Transmission Date and Time	M	➜	
11	Systems Trace Audit Number	M	➜	
12	Local Transaction Time	O	➜	
13	Local Transaction Date	O	➜	
18	Merchant Type	O	➜	
37	Retrieval Reference Number	O	➜	
38	Approval Code		C+	Present if 39 = 00

Field	Description	Req	Resp	Comment
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	→	
42	Card Acceptor ID Code	M	→	This is the merchant ID
43	Card Acceptor Name/ Location	O	→	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	→	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	C	→+	Populate for Cashback only
59	Transport Data	O	→	
60.10	Check Type	M	→	02 (payroll) indicates a different transaction type.
60.11	Keyed MICR	C	→+	Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR	C	→	Either 60.11 or 60.12 is required
61.1	ID type	C	→	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	→	Required for keyed ID
61.9	ID State Code	C	→	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	→	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	→	
63	Private Data	O	→+	63.12 will contain the response text
123	POS Data Code	M	→	

NOTES:

1. Refer to notes for Verification w/Conversion. They all apply here.

2. Only warnings are eligible for override. An override request on a decline will still yield a decline.

3. In Field 54, returned item fee and returned item fee tax may be added for ECC transactions.

Example:

	Verification w/Conversion Override, No ID, No Cashback
Req	{0220}3[042000]4[00101]7[0627182747]11[7747]37[617818007747]42[1233301100]60.10[01]60.12[t12345****t809123****0o1003]123[S60101S64040101]
Resp	{0230}3[042000]4[000000000101]7[0627182747]11[007747]37[61781800 7747]38[187341]39[00]42[1233301100]60.10[01]60.11[0912345****10809123****0041003]60.12[t12345****t 809123****0o1003]63.12[ISO TEST 200 AUTH NUM 187- 341]123[S60101S64040101]

12.3.8   Traditional ECC: Guarantee with Conversion Override

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Guarantee" transactions.

Same as Verification w/Conversion Override except: Field 3, Processing Code must be 03200 or 03000.

12.3.9   Traditional ECC: Verification with Conversion VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Traditional ECC" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0420	0430	
1	BitMap	M	M	
3	Processing Code	M	➔	Must be 04200 or 04000
4	Transaction Amount	M	➔	
7	Transmission Date and Time	M	➔	
11	Systems Trace Audit Number	M	➔	
12	Local Transaction Time	O	➔	
13	Local Transaction Date	O	➔	
18	Merchant Type	O	➔	
37	Retrieval Reference Number	O	➔	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	O	➔+	Populate for Cashback only
59	Transport Data	O	➔	
60.10	Check Type	M	➔	02 (payroll) indicates a different transaction type.
60.11	Keyed MICR			Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR			Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	➔	
63	Private Data	O	➔+	63.12 will contain the response text
90	Original Data Elements	M	➔	
123	POS Data Code	M	➔	

NOTES:

1. See notes for MICR Verification w/Conversion, except that Field 90 MUST be added to provide the reference to the original transaction.

2. All other transaction-related fields (MICR, ID, Amount, etc) should be identical to the original transaction.

3. This "void" message type must is done within at least the same 24-hour day. However, special conditions may apply and best practice is to perform any voids within 10 minutes of the original message. Additionally, the amount, check serial number, account number and route number must all match the original values used on the authorized transaction.

4. Only transactions that have received a response code of "00" can be voided.

5. In Field 54, returned item fee and returned item fee tax may be added for ECC transactions.

Example:

	Verification w/Conversion VOID
Req	{0420}3[042000]4[124]7[0616225321]11[9363]12[165321]13[0616]37[616722009363]42[1233301018]59[9363]60.10[01]60.12[T12345****T 809123****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]90[020000876910282 20326]123[S60101S64040101]
Resp	{0430}3[042000]4[000000000124]7[0616225321]11[009363]12[165321]13[0616]37[616722009363]39[00]42[1233301018]59[9363]60.10[01]60.11[0912345****08809123****44051]60.12[T12345 ****T 809123****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]63.12[E CHO TEST ACCNT VOID ACCEPTED]90[00000000000000000000000002000087691028220326]123[S60101S6404010 1]

12.3.10 Traditional ECC: Guarantee with Conversion VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Guarantee" transactions.

Same as Verification w/Conversion VOID except: Field 3, Processing Code must be 03200 or 03000.

12.3.11 VISA POS Check Verification with Conversion

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Verification with Conversion" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0200	0210	
1	BitMap	M	M	
3	Processing Code	M	→	Must be 04200 or 04000
4	Transaction Amount	M	→	
7	Transmission Date and Time	M	→	
11	Systems Trace Audit Number	M	→	
12	Local Transaction Time	O	→	
13	Local Transaction Date	O	→	
18	Merchant Type	O	→	
37	Retrieval Reference Number	O	→	

Field	Description	Req	Resp	Comment
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	C	➔	Ignored
59	Transport Data	O	➔	
60.10	Check Type	M	➔	
60.11	Keyed MICR	C	➔+	Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR	C	➔	Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	➔	
63	Private Data	O	➔+	63.12 will contain the response text 63.13 will contain the Callback Information
123	POS Data Code	M	➔	

NOTES:

1. SWIPED vs KEYED MICR:

   a) If Fields 60.10 and 60.12 are present, the transaction will be a SWIPED MICR transaction.

   b) If Fields 60.10 and 60.11 are present, the transaction will be a KEYED MICR transaction. If this happens, a response code of 19, "transaction not allowed" will be issued in the response message unless special arrangements have been made otherwise.

2. Affect of Check Type:

   a) If Field 60.10 types 1, 3, 4, 5, 6, 7, 9, then the check will be processed as a personal check (type 7) transaction.

   b) Field 60.10 must not be set to payroll (type 2), this transaction type is not allowed.

   c) Field 60.10 must not be set to two-party (type 8), this transaction type is not allowed.

2. If a valid swiped ID is submitted in Field 61.14, the State code is returned in Field 61.9, and the ID number is returned in Field 61.2.

3. If a valid swiped ID is submitted in 61.14, the State code is returned in 61.9, and the ID number is returned in 61.2

4. The Visa POS Check service does not permit cash back therefore cash back is not allowed in Field 54. (If Field 54 is populated, it will be ignored.)

Example:

	VISA POS Check Verification w/Conversion, No ID, No Cashback
Req	{0200}3[042000]4[00101]7[0627182747]11[7747]37[617818007747]42[1233301100]60.10[01]60.12 [t12345****t809123****0o1003]123[S60101S64040101]
Resp	{0210}3[042000]4[000000000101]7[0627182747]11[007747]37[617818007747]38[187341]39[00]42[1233301100]60.10[01]60.11[0912345****10809123****0041003]60.12[t12345****t 809123****0o1003]63.12[ISO TEST 200 AUTH NUM 187- 341]123[S60101S64040101]

12.3.12 VISA POS Check Guarantee with Conversion

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Guarantee with Conversion" transactions.

Same as Verification w/Conversion except: Field 3, Processing Code must be 03200 or 03000.

12.3.13 VISA POS Check Conversion Only

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Conversion Only" transactions.

Same as Verification w/Conversion except: Field 3, Processing Code must be 18200 or 18000 (also allowed are the deprecated processing codes 17200, 17000, 16200, 16000).

12.3.14 VISA POS Check Verification with Conversion VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Verification with Conversion" transactions.

Field	Description	Req	Resp	Comment
0	Message Type	0420	0430	
1	BitMap	M	M	
3	Processing Code	M	➔	Must be 04200 or 04000
4	Transaction Amount	M	➔	
7	Transmission Date and Time	M	➔	
11	Systems Trace Audit Number	M	➔	
12	Local Transaction Time	O	➔	
13	Local Transaction Date	O	➔	
18	Merchant Type	O	➔	
37	Retrieval Reference Number	O	➔	
38	Approval Code		C+	Present if 39 = 00
39	Response Code		M+	
41	Card Acceptor Terminal ID	O	➔	
42	Card Acceptor ID Code	M	➔	This is the merchant ID

Field	Description	Req	Resp	Comment
43	Card Acceptor Name/ Location	O	➔	
44	Additional Data		C+	If present, generally indicates some sort packet format error
49	Transaction Currency Code	O	➔	
52	PIN Data	C	-	Removed from response
54	Additional Amounts	O	➔	Populate for Cashback only
59	Transport Data	O	➔	
60.10	Check Type	M	➔	02 (payroll) indicates a different transaction type.
60.11	Keyed MICR			Either 60.11 or 60.12 is required. If valid raw MICR sent in 60.12, parsed MICR in 60.11 is added
60.12	Swiped MICR			Either 60.11 or 60.12 is required
61.1	ID type	C	➔	If an ID is submitted, this is REQUIRED
61.2	ID Number	C	➔	Required for keyed ID
61.9	ID State Code	C	➔	Required for keyed Driver's license or other State-issued IDs
61.14	ID Track 2 data	C	➔	Required for swiped Driver's License – this should be Track 2 data from the DL
62	Application Information	C	➔	
63	Private Data	O	➔+	63.12 will contain the response text 63.13 will contain the Callback Information
90	Original Data Elements	M	➔	
123	POS Data Code	M	➔	

NOTES:

1. See notes for MICR Verification w/Conversion, except that Field 90 must be added to provide the reference to the original transaction.

2. All other transaction-related fields (MICR, ID, Amount, etc) should be identical to the original transaction.

3. This "void" message type must is done within 10 minutes of the original message. Additionally, the amount, check serial number, account number and route number must all match the original values used on the authorized transaction.

4. Only transactions that have received a response code of "00" can be successfully voided.

Example:

	VISA POS Check Verification w/Conversion VOID
Req	`{0420}3[042000]4[124]7[0616225321]11[9363]12[165321]13[0616]37[61 6722009363]42[1233301018]59[9363]60.10[01]60.12[T12345****T 80912 3****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]90[020000876910282 20326                 ]123[S60101S64040101]`
Resp	`{0430}3[042000]4[000000000124]7[0616225321]11[009363]12[165321]13 [0616]37[616722009363]39[00]42[1233301018]59[9363]60.10[01]60.11[0912345****08809123****44051]60.12[T12345 ****T 809123****O4051]61.1[01]61.2[123123]61.9[NC]62.5[05]63.12[E CHO TEST ACCNT VOID ACCEPTED]90[000000000000000000000002000087691028220326]123[S60101S6404010 1]`

12.3.15 VISA POS Check Guarantee with Conversion VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Guarantee with Conversion" transactions.

Same as Verification w/Conversion VOID except:

1. Field 3, Processing Code must be 03200 or 03000.

2. This "void" message type must is done within 10 minutes of the original message. Additionally, the amount, check serial number, account number and route number must all match the original values used on the authorized transaction.

3. Only transactions that have received a response code of "00" can be successfully voided.

12.3.16 VISA POS Check Conversion Only VOID

Pre-Conditions: Merchant is configured in *ECHO*'s systems to process "Visa POS Check Guarantee with Conversion" transactions.

Same as Verification w/Conversion VOID except:

1. Field 3, Processing Code must be 18200 or 18000 (also allowed are the deprecated processing codes 17200, 17000, 16200, 16000).

2. This "void" message type must is done within 10 minutes of the original message. Additionally, the amount, check serial number, account number and route number must all match the original values used on the authorized transaction.

3. Only transactions that have received a response code of "00" can be successfully voided.

12.4 Request Examples

The examples below explain the convention for representing binary data in ASCII text. This allows the document to show these data in an easily readable format.

In the example below, Field 3 is shown in brackets and the field number precedes the leading bracket.

```
3[162000]
```

The example below shows a full keep-alive message type 0800.

```
{0800}7[0331142322]11[999009]41[      999] 42[1234567890      ]70[301]
```

Field 0 is shown in curly braces as {0800} and Field 7 is shown as "7[0331142322]", and so on.

The following provides several use cases to describe the process from the Point of Sale:

Card-Based Transaction That Was Hand Keyed

```
{0100}2[400555000000****]3[003000]4[103]14[0606] 42[1234567890
]61.1[01]61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260101664040101]
```

Check-Based Swiped Check, Verification Only

```
{0100}3[042000]4[100]42[1233301017]60.10[01]60.12[T480000018T 809123**
**O1020]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Check-Based Hand-Keyed Verification Only

```
{0100}3[042000]4[100]42[1233301017]60.10[01]60.11[0948000001808809123*
***41021]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101664040101]
```

ID Driver's License Verification Only

```
{0100}3[042000]4[100]42[1233301017]61.1[01]61.2[A123456]61.9[CA]62.5[0
5]123[S60101S64040101]
```

Check-Based Swiped Check Financial Request

```
{0200}3[162000]4[102]42[1233301030]60.10[01]60.12[T480000018T 809123**
**O1022]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Check-Based Swiped Check VOID

```
{0420}3[162000]4[102]42[1233301030]60.10[01]60.12[T480000018T123456***
*O1001]61.1[01]61.2[A123456]61.9[CA]62.5[05]90[02000087691028220326
]123[S60101S64040101]
```

Card-Based Transaction Hand Keyed Authorization Only

```
{0100}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260101664040101]
```

Card-Based Transaction Swiped Card Authorization Only with Track 1

```
{0100}3[003000]4[103]42[1233301030]45[B400555000000****^5/TEST
CARDHOLDER^001210110000]49[840]61.1[01]61.2[A123456]61.9[CA]62.5[05]63
.11[16]123[260101664040101]
```

Card-Based Transaction Swiped Card Authorization Only with Track 2

```
{0100}3[003000]4[103]18[5999]32[100]35[400555000000****=0606]41[000000
00]42[1233301030]61.1[01]61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260
101664040101]
```

CC Authorization/Verification Only

```
{0100}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[0806]42[1234567890]59[050"CREDIT CARD AUTHORIZATION ONLY
"]123[260101664040101]
```

CC Address/ID Verification Service

```
{0100}2[400555000000****]3[003000]4[000000000000]7[0623010426]11[1617]
14[0606]42[1234567890] 59[050"CREDIT CARD AVS ONLY
   "]62.6[12345678920ADDRESSS_DATA_HERE__]123[260101664040101]
```

CC CVV2 Verification

```
{0200}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[1007]42[1234567890] 59[050"CREDIT CARD CVV2 AUTHORIZATION ONLY
  "]62.8[10233]123[260101664040101]
```

CC Authorization and Deposit

```
{0200}2[400555000000****]3[003000]4[000000000100]7[0623010426]11[1617]
14[1206]42[1234567890] 59[050"CREDIT CARD PURCHASE
  "]123[260101664040101]
```

PIN-Based Debit Card Authorization and Deposit

```
{0200}3[000000]4[000000000100]7[0622175500]11[900000]35[30400555000000
****=001210110000?]42[1234567890]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_
LENGTH_FORTY_BYTE_PIN_DATA]59[050"PIN-Based Debit Test PURCHASE
         "]123[210101214118101]
```

PIN-Based Debit Card Void Authorization and Deposit

```
{0420}2[400555000000****]3[000000]4[000000000100]7[0622175500]11[90000
0]14[0806]42[1234567890]59[050"PIN-Based Debit Test VOID
```

```
"]90[0200_STAN_DATE&&TIME000000000000000000000000]123[210101214118101]
```

CC Purchase Return

```
{0200}2[400555000000****]3[200030]4[1000]7[0623010426]11[1617]14[1206]
14[0106]42[1234567890] 59[050"CREDIT CARD PURCHASE RETURN
    "]123[260101664040101]
```

PIN-Based Debit Purchase Return

```
{0200}3[200000]4[000000000100]7[0622175500]11[900000]35[30400555000000
****=001210110000?]42[1234567890]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_
LENGTH_FORTY_BYTE_PIN_DATA]59[050"PIN-Based Debit Test PURCHASE RETURN
          "]123[210101214118101]
```

PIN-Based Debit Purchase with Cash Back

```
200}3[090000]4[000000000100]7[0622175500]11[900000]35[30400555000000**
**=001210110000?]42[1234567890]52[8BYTEPIN]53[DUKPTKSN_BINARY_FIXED_LE
NGTH_FORTY_BYTE_PIN_DATA]54[0005840D000000000100]59[050"PIN-Based
Debit Test PURCHASE w/CASH BACK      "]123[210101214118101]
```

CC Deposit/Conversion Only (Forced Deposit)

```
{0220}2[400555000000****]3[000000000100]4[3700]7[0623010426]11[1617]14
[1206]38[AUTH##]42[1234567890] 59[050"CREDIT CARD FORCED DEPOSIT
          "]123[260101664040101]
```

Card-Based Transaction with 16 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260101664040101]
```

Card-Based Transaction Swiped Card Authorization Only Plus AVS and 16 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377
]63.11[16]123[260101664040101]
```

Card-Based Transaction Swiped Card Authorization Only Plus CVV and 16 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0505]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.8[19876]63.11[16]123[260101664040101]
```

Card-Based Transaction Authorization Only Plus CVV and AVS and 16 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0505]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377
]62.8[19876]63.11[16]123[260101664040101]
```

Card-Based Transaction AVS Only and 16 Character Window

```
{0100}2[400555000000****]3[003000]4[0]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377
]63.11[16]123[260101664040101]
```

Card-Based Authorization and Deposit Transaction and 16 Character Window

```
{0200}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260101664040101]
```

Card-Based Deposit Transaction and 16 Character Window

```
{0220}2[400555000000****]3[003000]4[103]14[0606]18[5999]32[100]38[1231
23]41[00000000]42[1233301030]61.1[01]61.2[A123456]61.9[CA]62.5[05]63.1
1[16]123[260101664040101]
```

Card-Based Return Transaction and 16 Character Window

```
{0200}2[400555000000****]3[200030]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[16]123[260101664040101]
```

Card-Based Authorization Only Transaction and 20 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[20]123[260101664040101]
```

CC Authorization Plus AVS 20 Character Window

```
{0100}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377
]63.11[20]123[260101664040101]
```

CC Authorization Plus CVV 20 Character Window

```
0100}2[400555000000****]3[003000]4[103]14[0505]42[1233301030]61.1[01]6
1.2[A123456]61.9[CA]62.5[05]62.8[19876]63.11[20]123[260101664040101]
```

CC Auth+AVS+CVV 20 character window

```
{0100}2[400555000000****]3[003000]4[103]14[0505]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377    ]62.8[19876]63.11[20]
123[260101664040101]
```

CC AVS only 20 character window

```
{0100}2[400555000000****]3[003000]4[0]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]62.6[91377    ]63.11[20]
123[260101664040101]
```

CC Auth+Deposit 20 character window

```
{0200}2[400555000000****]3[003000]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[20]123[260101664040101]
```

CC Deposit 20 character window

```
{0220}2[400555000000****]3[003000]4[103]14[0606]18[5999]32[100]38[1231
23]41[00000000]42[1233301030]61.1[01]61.2[A123456]61.9[CA]62.5[05]63.1
1[20]123[260101664040101]
```

CC Return 20 character window

```
{0200}2[400555000000****]3[200030]4[103]14[0606]42[1233301030]61.1[01]
61.2[A123456]61.9[CA]62.5[05]63.11[20]123[260101664040101]
```

*Requests that can't be ECC'ed

Parsed ECC:

```
{0200}3[162000]4[100]42[1233301030]60.10[01]60.11[0948000001808809123*
***41001]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Keyed ECC:

```
{0200}3[162000]4[100]42[1233301030]60.10[01]60.11[0948000001808809123*
***41001]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101664040101]
```

*Requests with missing fields

Missing processing code:

```
{0100}4[100]42[1233301030]60.10[01]60.12[T480000018T 809123****O1001]6
1.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Missing amount:

```
{0100}3[042000]42[1233301030]60.10[01]60.12[T480000018T 809123****O100
1]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Missing merchant ID:

```
{0100}3[042000]4[100]60.10[01]60.12[T480000018T 809123****O1001]61.1[0
1]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Missing check info:

```
{0100}3[042000]4[100]42[1233301030]123[S60101S64040101]
```

Missing POS info:

```
{0100}3[042000]4[100]42[1233301030]60.10[01]60.12[T480000018T 809123**
**O1001]61.1[01]61.2[A123456]61.9[CA]62.5[05]
```

*Requests with inconsistent data

Authorization message with ECC processing code:

```
{0100}3[162000]4[100]42[1233301030]60.10[01]60.12[T480000018T 809123**
**O1001]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

Financial message with verification processing code:

```
{0200}3[042000]4[101]42[1233301030]60.10[01]60.12[T480000018T 809123**
**O1001]61.1[01]61.2[A123456]61.9[CA]62.5[05]123[S60101S64040101]
```

13. Certification

Protocol compliance will be performed by *ECHO* together with the Business Partner to assure successful processing of the various transaction types. *ECHO* maintains a Quality Assurance Simulator that generates specific responses based on the values sent in Field 60.7. A table will also be provided with the appropriate values and their corresponding responses as part of the simulation testing.

The Business Partner will be required to certify for both Payment Card and Check services unless previous arrangements have been made otherwise.

At the completion of the exercise, either the Business Partner will be certified as an *ECHO* ISO Business Certified Partner or additional protocol development will be requested of the Business Partner.