

**Electronic Data Interchange  
Transaction Set Implementation Guide**

**810**

**State Farm Insurance Companies  
Invoice**

**ANSI ASC X12  
Invoice  
Version 004010**

**Implementation Guide Version 1.0**

**September 2003 – Final**

# Table of Contents

<b>1</b>	<b>PURPOSE AND BUSINESS OVERVIEW</b>	<b>4</b>
1.1	DOCUMENT PURPOSE	4
1.2	VERSION AND RELEASE	4
1.3	BUSINESS DEFINITION AND USAGE	4
1.4	CONTACT INFORMATION	4
1.5	INFORMATION FLOW	5
1.5.1	Invoice	5
<b>2</b>	<b>DATA OVERVIEW</b>	<b>6</b>
2.1	OVERALL DATA ARCHITECTURE	6
2.1.1	The Invoice Process	6
2.2	DATA USAGE BY BUSINESS USAGE	6
<b>3</b>	<b>TRANSACTION SET</b>	<b>7</b>
3.1	PRESENTATION EXAMPLES	7
3.2	TRANSACTION SET LISTING	15
810	Invoice (Implementation Version)	15
810	Invoice (Standard Version)	17
ST	Transaction Set Header	21
BIG:	Beginning segment for Invoice	22
CUR	Currency	24
N1	Name	28
N3	Address Information	30
N4	Geographic Location	31
PER	Contact	33
ITD	Terms of Sale/Deferred Terms of Sale	35
IT1	Baseline Item Data	39
PID	Product/Item description	45
N1	Name	48
N3	Address Information	50
N4	Geographic Location	51
TDS	Total Monetary Value Summary	53
TXI	Tax Information	55
SAC	Service, Promotion, Allowance, or Charge Information	57
CTT	Transaction Totals	61
SE	Transaction Set Trailer	63
<b>4</b>	<b>TRANSMISSION EXAMPLES</b>	<b>64</b>
4.1	STORE INVOICE	64
4.2	TRANSACTION SET MAPPING	67
<b>A</b>	<b>X12 NOMENCLATURE</b>	<b>69</b>
A.1	INTERCHANGE AND APPLICATION CONTROL STRUCTURES	69
A.1.1	Interchange Control Structure	69
A.1.2	Application Control Structure Definitions and Concepts	71
A.1.2.1	Basic Structure	71
A.1.2.2	Basic Character Set	71
A.1.2.3	Extended Character Set	71
A.1.2.4	Control Characters	72
A.1.2.5	Base Control Set	72
A.1.2.6	Extended Character Set	73

A.1.2.7	Delimiters .....	73
A.1.3	<i>Business Transaction Structure Definitions and Concepts</i> .....	74
A.1.3.1	Data Element .....	74
A.1.3.1.1	Numeric .....	74
A.1.3.1.2	Decimal .....	75
A.1.3.1.3	Identifier .....	75
A.1.3.1.4	String .....	75
A.1.3.1.5	Date .....	76
A.1.3.1.6	Time .....	76
A.1.3.2	Composite Data Structure .....	76
A.1.3.3	Data Segment .....	76
A.1.3.4	Syntax Notes .....	76
A.1.3.5	Semantic Notes .....	77
A.1.3.6	Comments .....	77
A.1.3.7	Reference Designator .....	77
A.1.3.8	Condition Designator .....	78
A.1.3.9	Absence of Data .....	79
A.1.3.10	Control Segments .....	79
A.1.3.10.1	Loop Control Segments .....	79
A.1.3.10.2	Transaction Set Control Segments .....	79
A.1.3.10.3	Functional Group Control Segments .....	79
A.1.3.10.4	Relations among Control Segments .....	80
A.1.3.11	Transaction Set .....	80
A.1.3.11.1	Transaction Set Header and Trailer .....	80
A.1.3.11.2	Data Segment Groups .....	80
A.1.3.11.3	Repeated Occurrences of Single Data Segments .....	80
A.1.3.11.4	Loops of Data Segments .....	80
A.1.3.11.5	Data Segments in a Transaction Set .....	81
A.1.3.11.6	Data Segment Requirement Designators .....	81
A.1.3.11.7	Data Segment Position .....	81
A.1.3.11.8	Data Segment Occurrence .....	82
A.1.3.12	Functional Group .....	82
A.1.4	<i>Envelopes and Control Structures</i> .....	82
A.1.4.1	<i>Interchange Control Structures</i> .....	82
A.1.4.2	Functional Groups .....	83
A.1.5	<i>Acknowledgments</i> .....	83
A.1.5.1	Interchange Acknowledgment, TA1 .....	83
A.1.5.2	Functional Acknowledgment, 997 .....	84
<b>B</b>	<b>EDI CONTROL DIRECTORY .....</b>	<b>85</b>
B.1	CONTROL SEGMENTS .....	85
ISA	INTERCHANGE CONTROL HEADER .....	86
IEA	INTERCHANGE CONTROL TRAILER .....	90
GS	FUNCTIONAL GROUP HEADER .....	91
GE	FUNCTIONAL GROUP TRAILER .....	93
B.2	FUNCTIONAL ACKNOWLEDGMENT TRANSACTION SET, 997 .....	94
Transaction Set Response Trailer .....	104	
<b>C</b>	<b>CODE LISTS AND EXTERNAL CODE SOURCES .....</b>	<b>110</b>
4	ABA ROUTING NUMBER .....	110
5	COUNTRIES, CURRENCIES AND FUNDS .....	110
22	STATES AND OUTLYING AREAS OF THE U.S. ....	111
51	ZIP CODE .....	111
<b>D</b>	<b>CHANGE SUMMARY .....</b>	<b>112</b>

# 1 Purpose and Business Overview

## 1.1 Document Purpose

The purpose of the Invoice implementation guide is to provide standardized data requirements and content to all users of ASC X12, Invoice, referred to by its identifier 810. The guide provides a detailed explanation of the transaction set by defining uniform data content and identifying valid code tables and specifying values applicable for the Invoice. This will aid users in the successful migration from their own internal format to the ASC X12 standards required by State Farm Insurance Companies.

This implementation guideline is designed to assist those who send invoice information to State Farm Insurance Companies. Expected users of this implementation guide include State Farm Insurance Companies and vendors doing business with State Farm Insurance Companies.

This implementation guide has limited the data content to the business requirements identified from the Vendors Invoice process. The ability to satisfy the data requirements has been provided in this guide. As new business requirements are identified, changes to this implementation guide can be made by contacting State Farm Insurance Companies.

+-

## 1.2 Version and Release

The State Farm Insurance Companies Invoice Implementation Guide is based on ASC X12 standards. It is based on the standard approved for publication in October of 1997, referred to as Version 4 Release 1 (004010).

## 1.3 Business Definition and Usage

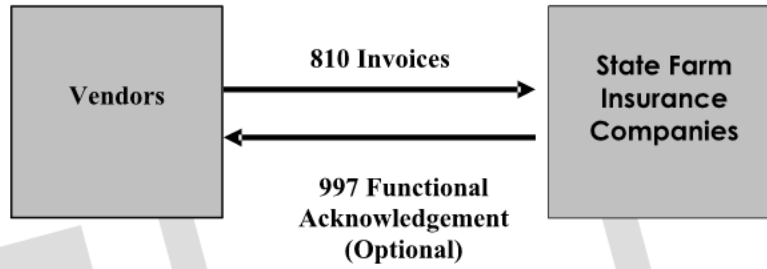
The 810 transaction set is used by State Farm Insurance Companies to receive invoice information from vendors. The 810 transmission file will be generated daily by the vendors and transmitted to State Farm Insurance Companies on a daily basis. Only actual sales are included on the 810 transmission file, and this file is used to update State Farm Insurance Companies internal invoice database.

## 1.4 Contact Information

To contact State Farm about this guide or a production problem with the implementation of this guide call **1 (877) 766-6371**. Your call will be answered by a voice menu that will give you two options. Choose the option for "**Corporate Employees**" and stay on the line. When a representative answers, request help with "**EDI** (Electronic Data Interchange)". They will route your call to someone who will assist you.

## 1.5 Information Flow

### 1.5.1 Invoice



Final

## 2 Data Overview

### 2.1 Overall Data Architecture

- **NOTE**  
For a review of transaction set structure, including descriptions of segments, data elements, levels and loops, see Appendix A, ASC X12 Nomenclature.

#### 2.1.1 The Invoice Process

The Invoice implementation of the 810 is used to update State Farm Insurance Companies internal database. This is accomplished by receiving an 810 transmission file daily from the vendors. These records are then matched to the internal invoice database and records are updated accordingly.

### 2.2 Data Usage by Business Usage

The 810 transaction is divided into three tables, Table 1 (Header), Table 2 (Detail), and Table 3 (Summary). See **Section 3, Transaction Set**, for a description of the following presentation format.

- Table 1, the Header level, contains general information about the transaction.
- Table 2, the Detail level, contains the line item detail information.
- Table 3, the Summary level, contains the totals, tax, a segment count and control number.

### 3 Transaction Set

- **NOTE**  
For a review of the transaction set structure including descriptions of segments, data elements, levels and loops, see **Appendix A, ASC X12 Nomenclature**.

#### 3.1 Presentation Examples

The ASC X12 standards are generic in nature. For example, multiple trading communities use the same PER segment to specify administrative communication contacts. Each community decides which elements to use and which code values in those elements are applicable. This guide uses a format that depicts both the generalized standard and the State Farm Insurance Company's specific implementation.

The transaction set detail is comprised of two main sections with subsections within the main sections:

- Transaction Set Listing
  - Implementation
  - Standard
- Segment Detail
  - Implementation
  - Standard
  - Diagram
  - Element Summary

The examples in Figures 3 through 8 define the presentation of the Transaction Set that follows. The figures use the 834 Transaction set for examples only of how to interpret the presentation format that follows.

**IMPLEMENTATION**



*Indicates that this section is how State Farm Insurance Companies is implementing the transaction/segment and not the standard*

**834 Benefit Enrollments and Maintenance**  
Functional Group: **BE**

**Table 1 – Header**

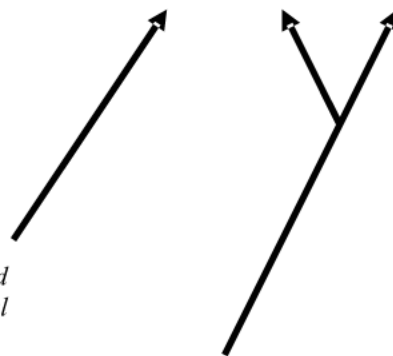
*Each segment is assigned State Farm specific name. Segments or loops that aren't used do not appear. Each loop (shaded in gray) is assigned a State Farm specific name as well.*

POS.NO.	SEG.ID	NAME	REQ. DES.	MAX USE	LOOP REPEAT
010	ST	Transaction Set Header	R	1	
020	BGN	Beginning of Dental Eligibility Data	R	1	
		<b>LOOP ID - 1000</b>			<b>1</b>
070	N1	Sender Name	R	1	
090	N3	Sender Address	O	1	
100	N4	Sender City, State and Zip	O	1	
		Sender Contact Information	O	1	



*Position Numbers and Segment ID's retain their ASC X12 values*

*R = Required  
O = Optional*

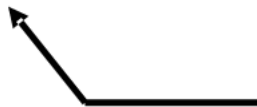


*Segment repeats and loop repeats reflect actual usage. Individual segments and entire loops are repeated if the business needs require it*

**Figure 3. Transaction Set Key – IMPLEMENTATION**



**STANDARD**



*Indicates that this section is identical to the ASC X12 standard  
See Appendix A, ASC X12 Nomenclature for a complete  
description of the standard*

**834 Benefit Enrollments and Maintenance**

Functional Group: **BE**

This Draft Standard for Trial Use contains the format and establishes the data contents of the Benefit Enrollment and Maintenance Transaction Set (834) for use within the context of an Electronic Data Interchange (EDI) environment. This transaction set can be used to establish communication between the sponsor of the insurance product and the payer. Such transaction(s) may or may not take place through a third party administrator (TPA).

For the purpose of this standard, the sponsor is the party or entity that ultimately pays for the coverage, benefit or product. A sponsor can be an employer, union, government agency, association, or insurance agency.

The payer refers to an entity that pays claims, administers the insurance product or benefit, or both. A payer can be an insurance company, health maintenance organization (HMO), preferred provider organization (PPO), government agency (Medicare, Medicaid, Champus, etc.), or an entity that may be contracted by one of these former groups.

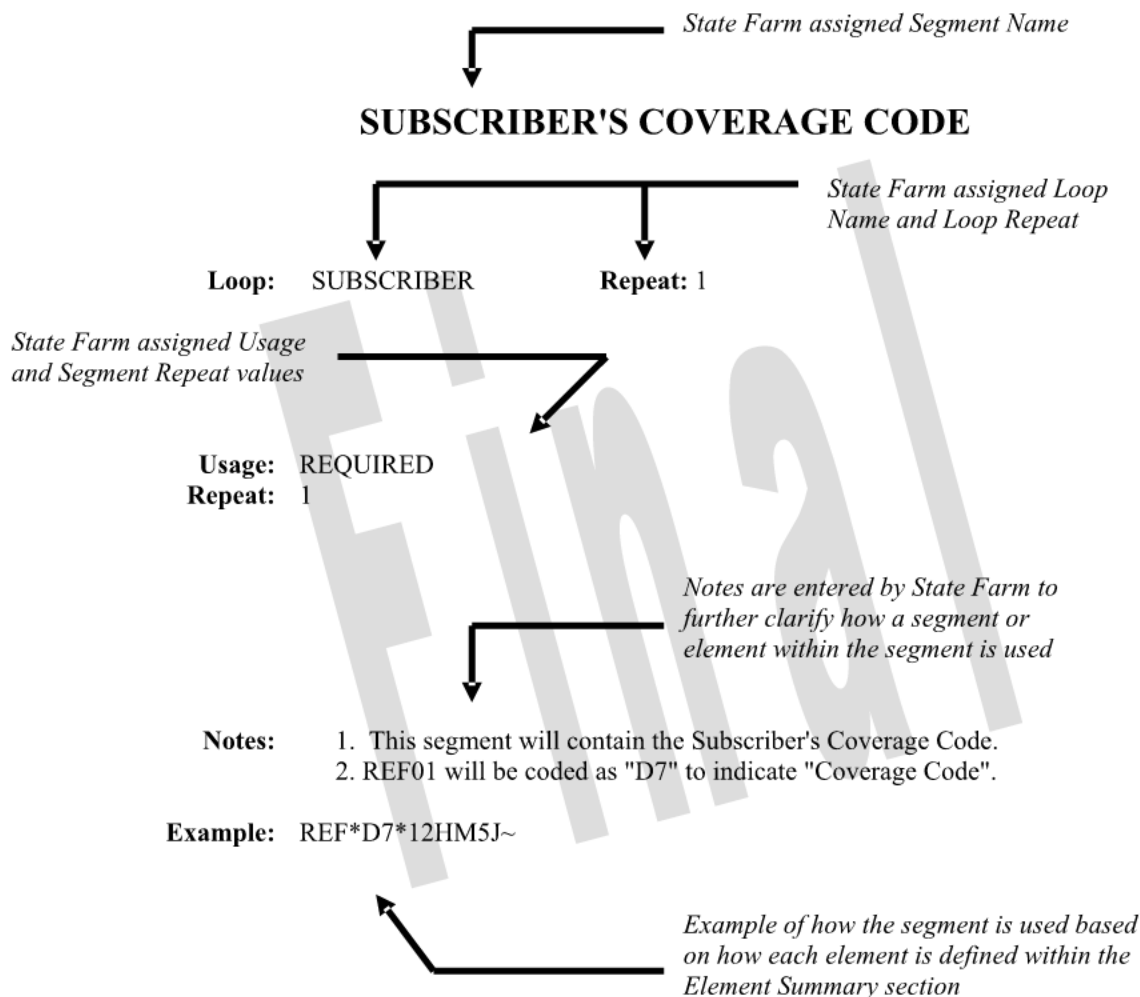
For the purpose of the 834 Transaction set, a third party administrator (TPA) can be contracted by a sponsor to handle data gathering from those covered by the sponsor if the sponsor does not elect to perform this function itself.

Table 1 – Header

POS. NO.	SEG. ID	NAME	REQ. DES.	MAX USE	LOOP REPEAT
010	ST	Transaction Set Header	M	1	
020	BGN	Beginning Segment	M	1	
030	REF	Reference Identification	O	>1	
040	DTP	Date or Time or Period	O	>1	
050	AMT	Monetary Amount	O	>1	

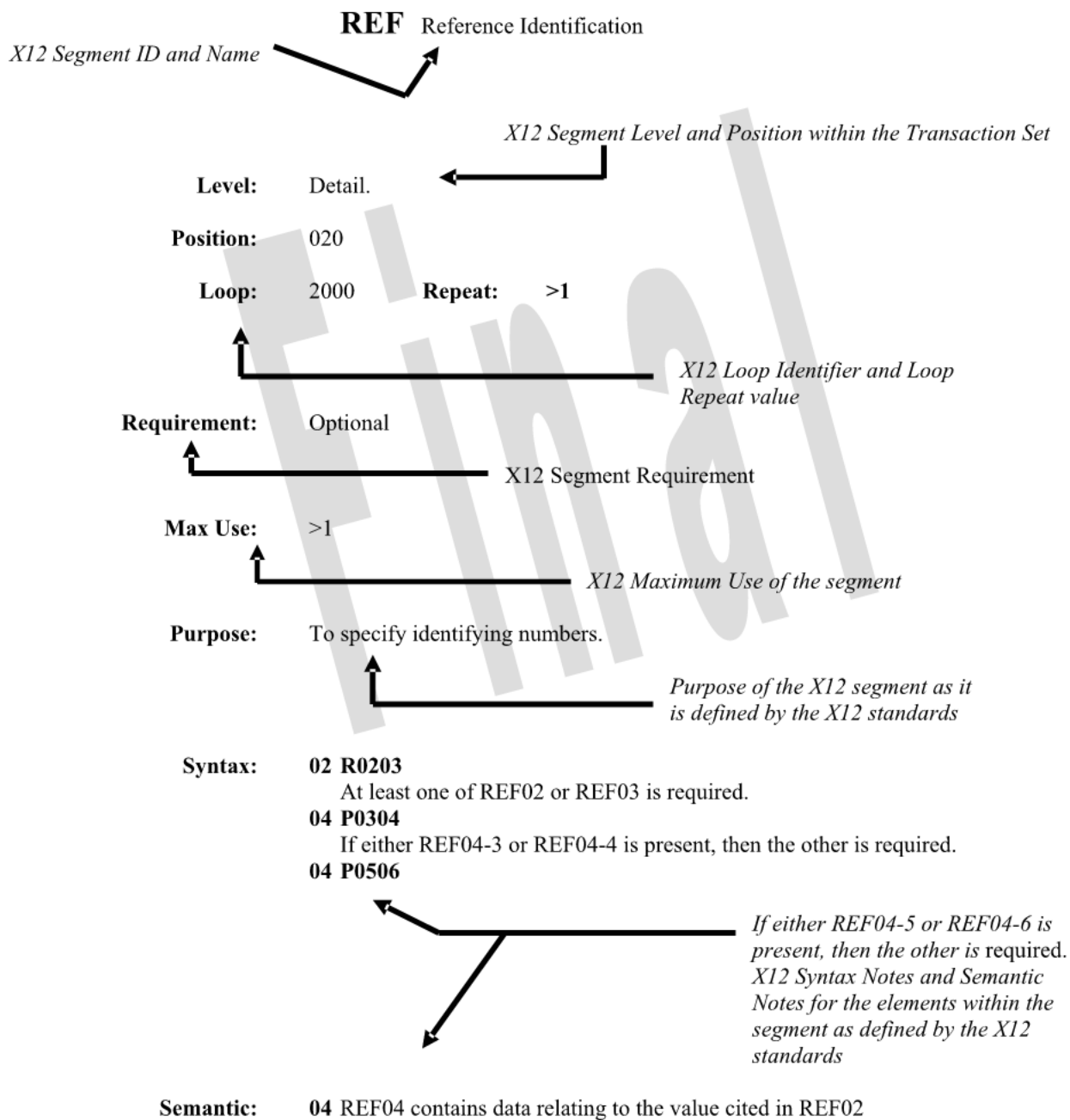
**Figure 4. Transaction Set Key – STANDARD**

**IMPLEMENTATION**



**Figure 5. Segment Key – IMPLEMENTATION**

**STANDARD**

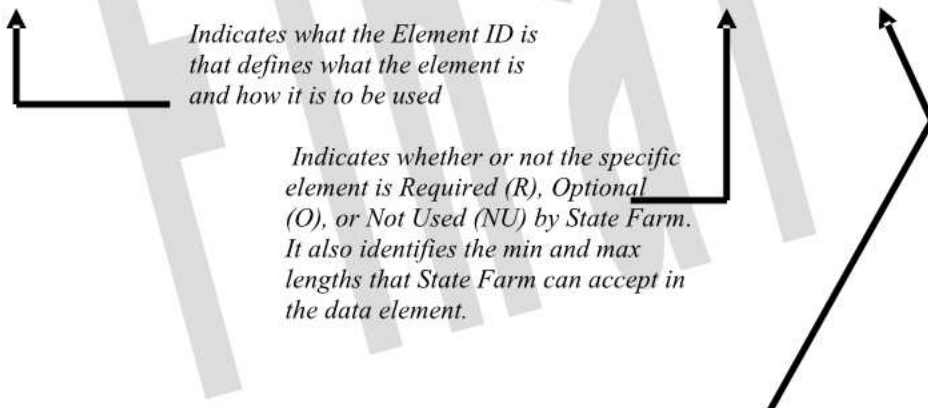


**Figure 6. Segment Key - STANDARD**

**DIAGRAM**

*Indicates the element Number/Sequence Number of the element within the segment*

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
REF01	128	Reference Identification Qualifier	R 2/3	M ID 2/3
REF02	127	Reference Identification	R 1/30	X AN 1/30
REF03	352	Description	NU	X AN 1/80
REF04	C040	Reference Identifier	NU	O/Z



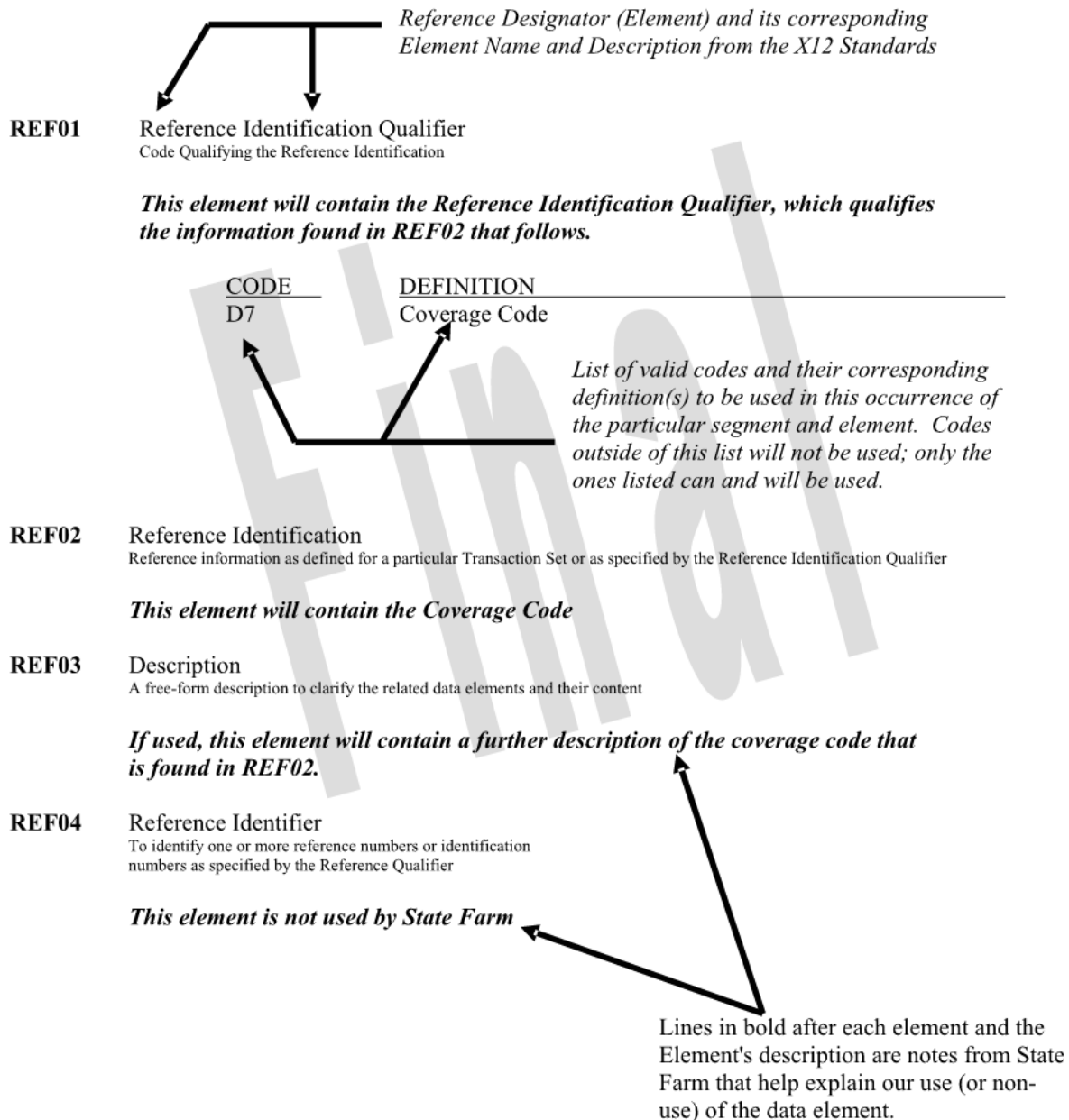
*Indicates what the Element ID is that defines what the element is and how it is to be used*

*Indicates whether or not the specific element is Required (R), Optional (O), or Not Used (NU) by State Farm. It also identifies the min and max lengths that State Farm can accept in the data element.*

*This section is made up of three distinct pieces. All of the information contained in this box is based on the actual X12 standard for the segment. The first piece of information on the far left is called the "Requirements Designator". This piece is based upon the X12 standards for the segment whereas The "SF Req." box to the immediate left indicates requirements based on State Farm's needs. The designators used here are Mandatory (M), Optional (O) and Relational (X). If a "Z" follows the Requirements Designator, that indicates a Semantic Note is available to identify what the intended use of the element is. The semantic note on the element can be found in the STANDARDS section. The information in the center is the Data Type of the element. The information on the right side indicates what the minimum and maximum lengths are for the data element.*

**Figure 7. Segment Key - DIAGRAM**

**ELEMENT SUMMARY**



**Figure 8. Segment Key - ELEMENT SUMMARY**

**This completes section 3.1, which explains the format that is used starting on the next page. The actual implementation guide for the Invoice process follows:**

Final

### 3.2 Transaction Set Listing

#### IMPLEMENTATION

## 810 Invoice (Implementation Version)

Functional Group: IN

**Table 1 - Header**

POS.NO.	SEG.ID	NAME	REQ. DES.	MAX USE	LOOP REPEAT
010	ST	Transaction Set Header	R	1	
020	BIG	Beginning Segment for Invoice	R	1	
030	CUR	Currency	R	1	
<b>LOOP ID – Name</b>					<b>3</b>
040	N1	Name	R	1	
050	N3	Address Information	R	1	
060	N4	Geographic Location	R	1	
070	PER	Administrative Communications Contact	S	1	
080	ITD	Terms of Sale/Deferred terms of Sale	O	1	

**Table 2 - Detail**

<b>LOOP ID – Invoice</b>					<b>200000</b>
010	IT1	Baseline Item Data (Invoice)	R	1	
<b>LOOP ID – Product Item/Description</b>					<b>1</b>
020	PID	Product Item/Description	R	1	
<b>LOOP ID – Ship From / Ship To Name</b>					<b>2</b>
030	N1	Name	R	1	
040	N3	Address Information	R	1	
050	N4	Geographic Location	R	1	

**Table 3 - Summary**

<b>010</b>	<b>TDS</b>	Total Monetary Value Summary	<b>R</b>	<b>1</b>
<b>020</b>	<b>TXI</b>	Tax Information	<b>O</b>	<b>1</b>
		<b>LOOP ID – SAC</b>		<b>4</b>
<b>030</b>	<b>SAC</b>	Service, Promotion, Allowance, or Charge Information	<b>O</b>	<b>1</b>
<b>040</b>	<b>CTT</b>	Transaction Totals	<b>O</b>	<b>1</b>
<b>050</b>	<b>SE</b>	Transaction Set Trailer	<b>R</b>	<b>1</b>

Final



**STANDARD**

**810 Invoice (Standard Version)**

Functional Group: IN

This Draft Standard for Trial Use contains the format and establishes the data contents of the Invoice Transaction Set (810) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to provide for customary and established business and industry practice relative to the billing for goods and services provided.

Table 1 - Header

POS.NO.	SEG.ID	NAME	REQ. DES.	MAX USE	LOOP REPEAT
010	ST	Transaction Set Header	M	1	
020	BIG	Beginning Segment for Invoice	M	1	
030	NTE	Note/Special Instruction	O	100	
040	CUR	Currency	O	1	
050	REF	Reference Identification	O	12	
055	YNQ	Yes/No Question	O	10	
060	PER	Administrative Communications Contact	O	3	
<b>LOOP ID – N1</b>					<b>200</b>
070	N1	Name	O	1	
080	N2	Additional Name Information	O	2	
090	N3	Address Information	O	2	
100	N4	Geographic Location	O	1	
110	REF	Reference Identification	O	12	
120	PER	Administrative Communications Contact	O	3	
125	DMG	Demographic Information	O	1	
130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1	
140	DTM	Date/Time Reference	O	10	
150	FOB	F.O.B. Related Instructions	O	1	
160	PID	Product/Item Description	O	200	
170	MEA	Measurements	O	40	
180	PWK	Paperwork	O	25	
190	PKG	Marketing, Packaging, Loading	O	25	
200	L7	Tariff Reference	O	1	

212	BAL	Balance Detail	O	>1
213	INC	Installment Information	O	1
214	PAM	Period Amount	O	>1
<b>LOOP ID – LM</b>				<b>10</b>
220	LM	Code Source Information	O	1
230	LQ	Industry Code	M	100
<b>LOOP ID – N9</b>				<b>1</b>
240	N9	Reference Identification	O	1
250	MSG	Message Text	M	10
<b>LOOP ID – V1</b>				<b>&gt; 1</b>
260	V1	Vessel Identification	O	1
270	R4	Port or Terminal	O	>1
280	DTM	Date/Time Reference	O	>1
<b>LOOP ID – FA1</b>				<b>&gt;1</b>
290	FA1	Type of Financial Accounting Data	O	1
300	FA2	Accounting Data	M	>1

Table 2 - Detail

<b>LOOP ID – IT1</b>				<b>200000</b>
010	IT1	Baseline Item Data (Invoice)	O	1
012	CRC	Conditions Indicator	O	1
015	QTY	Quantity	O	5
020	CUR	Currency	O	1
030	IT3	Additional Item Data	O	5
040	TXI	Tax Information	O	10
050	CTP	Pricing Information	O	25
055	PAM	Period Amount	O	10
059	MEA	Measurements	O	40
<b>LOOP ID – PID</b>				<b>1000</b>
060	PID	Product Item/Description	O	1
070	MEA	Measurements	O	10

080	PWK	Paperwork	O	25
090	PKG	Marking, Packaging, Loading	O	25
100	PO4	Item Physical Details	O	1
110	ITD	Terms of Sale/Deferred Terms of Sale	O	2
120	REF	Reference Identification	O	>1
125	YNQ	Yes/No Question	O	10
130	PER	Administrative Communications Contact	O	5
140	SDQ	Destination Quantity	O	500
150	DTM	Date/Time Reference	O	10
160	CAD	Carrier Detail	O	>1
170	L7	Tariff Reference	O	>1
175	SR	Requested Service Schedule	O	1
<b>LOOP ID – SAC</b>				<b>25</b>
180	SAC	Service, Promotion, Allowance, or Charge Information	O	1
190	TXI	Tax Information	O	10
<b>LOOP ID – SLN</b>				<b>1000</b>
200	SLN	Sub line Item Detail	O	1
205	DTM	Date/Time Reference	O	10
210	REF	Reference Identification	O	>1
220	PID	Product/Item Description	O	1000
230	SAC	Service, Promotion, Allowance, or Charge Information	O	25
235	TC1	Commodity	O	2
237	TXI	Tax Information	O	10
<b>LOOP ID – N1</b>				<b>200</b>
240	N1	Name	O	1
250	N2	Additional Name Information	O	2
260	N3	Address Information	O	2
270	N4	Geographic Location	O	1
280	REF	Reference Identification	O	12
290	PER	Administrative Communications Contact	O	3
295	DMG	Demographic Information	O	1

		<b>LOOP ID – LM</b>		<b>10</b>
<b>300</b>	<b>LM</b>	Code Source Information	<b>O</b>	<b>1</b>
<b>310</b>	<b>LQ</b>	Industry Code	<b>M</b>	<b>100</b>
		<b>LOOP ID – V1</b>		<b>&gt;1</b>
<b>320</b>	<b>V1</b>	Vessel Identification	<b>O</b>	<b>1</b>
<b>330</b>	<b>R4</b>	Port or Terminal	<b>O</b>	<b>&gt;1</b>
<b>340</b>	<b>DTM</b>	Date/Time Reference	<b>O</b>	<b>&gt;1</b>
		<b>LOOP ID – FA1</b>		<b>&gt;1</b>
<b>350</b>	<b>FA1</b>	Type of Financial Accounting Data	<b>O</b>	<b>1</b>
<b>360</b>	<b>FA2</b>	Accounting Data	<b>M</b>	<b>&gt;1</b>

Table 3 - Trailer

<b>010</b>	<b>TDS</b>	Total Monetary Value Summary	<b>M</b>	<b>1</b>
<b>020</b>	<b>TXI</b>	Tax Information	<b>O</b>	<b>10</b>
<b>030</b>	<b>CAD</b>	Carrier Detail	<b>O</b>	<b>1</b>
<b>035</b>	<b>AMT</b>	Monetary Amount	<b>O</b>	<b>&gt;1</b>
		<b>LOOP ID – SAC</b>		<b>25</b>
<b>040</b>	<b>SAC</b>	Service, Promotion, Allowance, or Charge Information	<b>O</b>	<b>1</b>
<b>050</b>	<b>TXI</b>	Tax Information	<b>O</b>	<b>10</b>
		<b>LOOP ID – ISS</b>		<b>&gt;1</b>
<b>060</b>	<b>ISS</b>	Invoice Shipment Summary	<b>O</b>	<b>1</b>
<b>065</b>	<b>PID</b>	Product/Item Description	<b>O</b>	<b>1000</b>
<b>070</b>	<b>CTT</b>	Transaction Totals	<b>O</b>	<b>1</b>
<b>080</b>	<b>SE</b>	Transaction Set Trailer	<b>R</b>	<b>1</b>

**IMPLEMENTATION**

**ST Transaction Set Header**

**Loop:** N/A  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** ST\*810\*12345~

**STANDARD**

**ST Transaction Set Header**

**Level:** Header  
**Position:** 010  
**Loop:** N/A  
**Requirement:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the start of a transaction set and to assign a control number

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
ST01	143	Transaction Set Identifier Code	R	M ID 3 / 3
ST02	329	Transaction Set Control Number	R	M AN 4 / 9

**ELEMENT SUMMARY**

**ST01** Transaction Set Identifier Code  
Code uniquely identifying a Transaction Set

<u>CODE</u>	<u>DEFINITION</u>
<b>810</b>	<b>Invoice</b>

**ST02** Transaction Set Control Number  
Identifying control number that must be unique within the transaction set functional group assigned by the originator for a Transaction set

**Unique Number to identify transaction set**

The Transaction Set Control Numbers in ST02 and SE02 must be identical. This unique number also aids in error resolution research. Submitters could begin sending transactions using the number 0001 in this element and increment from there. The number must be unique within a specific functional group (GS-GE) and interchange (ISA-IEA), but can repeat in other groups and interchanges.

**IMPLEMENTATION**

**BIG: Beginning segment for Invoice**

**Loop:** N/A  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** BIG\*20000508\*038612987186\*20000508\*40D052730~

**STANDARD**

**BIG Beginning Segment for Invoice**

**Level:** Heading  
**Position:** 020  
**Loop:** N/A  
**Requirement:** Mandatory  
**Max U:** 1  
**Purpose:** To indicate the beginning of an invoice transactions set and transmit identifying Numbers and dates

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
BIG01	373	Date	R	M DT 8 / 8
BIG02	76	Invoice Number	R	M AN 1 /22
BIG03	373	Date	S	O DT 8 / 8
BIG04	324	Purchase Order Number	S	O AN 1 /22
BIG05	328	Release Number	NU	O AN 1 /30
BIG06	327	Change Order Sequence Number	NU	O AN 1 /8
BIG07	640	Transaction Type Code	NU	O ID 2/ 2
BIG08	353	Transaction Set Purpose Code	NU	O ID 2/ 2
BIG09	306	Action Code	NU	O ID 1/ 2
BIG10	76	Invoice Number	NU	O AN 1 /22

## ELEMENT SUMMARY

---

**BIG01**     Date  
Date expressed as CCYYMMDD

**Invoice Date**

**BIG02**     Invoice Number  
Identifying number assigned by issuer

**Invoice Number**

**BIG03**     Date  
Date expressed as CCYYMMDD

**Purchase Order Date**

**This Element is required when the PO Date is present in the Purchase Order**

**BIG04**     Purchase Order Number  
Identifying number for Purchase Order assigned by the orderer/purchaser

**This will be the Last Ten Positions of the State Farm's Purchase Order Number**

**This Element is required when the PO Number is present in the Purchase Order**

**BIG05**     Release Number  
Number identifying a release against a Purchase Order previously placed by the parties involved in the transaction

**Not Used**

**BIG06**     Change Order Sequence Number  
Number assigned by the orderer identifying a specific change or revision to a previously transmitted transaction set

**Not Used**

**BIG07**     Transaction Type Code  
Code specifying the type of transaction

**Not Used**

**BIG08**     Transaction Set Purpose Code  
Code identifying purpose of transaction set

**Not Used**

**BIG09**     Action Code  
Code indicating type of action

**Not Used**

**BIG10**     Invoice Number  
Identifying number assigned by issuer

**Not Used**

## IMPLEMENTATION

### CUR Currency

**Loop:** N/A  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** CUR\*ZZ\*USD~

## STANDARD

### CUR Currency

**Level:** Header/Detail/Summary  
**Position:** 040  
**Loop:** N/A  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To specify the currency (dollars, pounds, francs, etc.) used in a transaction  
**Syntax:**

- 08 C0807**  
If CUR08 is present, then CUR07 is required.
- 09 C0907**  
If CUR09 is present, then CUR07 is required.
- 10 L101112**  
If CUR10 is present, then at least one of CUR11 or CUR12 is required.
- 11 C1110**  
If CUR11 is present, then CUR10 is required.
- 12 C1210**  
If CUR12 is present, then CUR10 is required.
- 13 L131415**  
If CUR13 is present, then at least one of CUR14 or CUR15 is required.
- 14 C1413**  
If CUR14 is present, then CUR13 is required.
- 15 C1513**  
If CUR15 is present, then CUR13 is required.
- 16 L161718**  
If CUR16 is present, then at least one of CUR17 or CUR18 is required.
- 17 C1716**  
If CUR17 is present, then CUR16 is required.
- 18 C1816**  
If CUR18 is present, then CUR16 is required.
- 19 L192021**  
If CUR19 is present, then at least one of CUR20 or CUR21 is required.
- 20 C2019**  
If CUR20 is present, then CUR19 is required.
- 21 C2119**  
If CUR21 is present, then CUR19 is required.

**Comments:** **00** See Figures Appendix for examples detailing the use of the CUR segment.



**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
CUR01	98	Entity Identifier Code	R	M ID 2/3
CUR02	100	Currency Code	R	M ID 3/3
CUR03	280	Exchange Rate	NU	O R 4/10
CUR04	98	Entity Identifier Code	NU	O ID 2/3
CUR05	100	Currency Code	NU	O ID 3/3
CUR06	669	Currency Market/Exchange Code	NU	O ID 3/3
CUR07	374	Date/Time Qualifier	NU	X ID 3/3
CUR08	373	Date	NU	O DT 8/8
CUR09	337	Time	NU	O TM 4/8
CUR10	374	Date/Time Qualifier	NU	X ID 3/3
CUR11	373	Date	NU	X DT 8/8
CUR12	337	Time	NU	X TM 4/8
CUR13	374	Date/Time Qualifier	NU	X ID 3/3
CUR14	373	Date	NU	X DT 8/8
CUR15	337	Time	NU	X TM 4/8
CUR16	374	Date/Time Qualifier	NU	X ID 3/3
CUR17	373	Date	NU	X DT 8/8
CUR18	337	Time	NU	X TM 4/8
CUR19	374	Date/Time Qualifier	NU	X ID 3/3
CUR20	373	Date	NU	X DT 8/8
CUR21	337	Time	NU	X TM 4/8

**ELEMENT SUMMARY**

**CUR01** Entity Identifier Code  
Code identifying an organizational entity, a physical location, property or an individual

<u>CODE</u>	<u>DEFINITION</u>
<b>ZZ</b>	<b>Mutually Defined</b>

**CUR02** Currency Code  
Code (Standard ISO) for country in whose currency the charges are specified

<b>CODE</b>	<b>DEFINITION</b>
<b>USD</b>	<b>United States</b>
<b>CAN</b>	<b>Canada</b>

**CUR03** Exchange Rate  
 Value to be used as a multiplier conversion factor to convert monetary value from one currency to another

**Not Used**

**CUR04** Entity Identifier Code  
 Code identifying an organizational entity, a physical location, property or an individual

**Not Used**

**CUR05** Currency Code  
 Code (Standard ISO) for country in whose currency the charges are specified

**Not Used**

**CUR06** Currency Market/Exchange Code  
 Code identifying the market upon which the currency exchange rate is based

**Not Used**

**CUR07** Date/Time Qualifier  
 Code specifying type of date or time, or both date and time

**Not Used**

**CUR08** Date  
 Date expressed as CCYYMMDD

**Not Used**

**CUR09** Time  
 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**Not Used**

**CUR10** Date/Time Qualifier  
 Code specifying type of date or time, or both date and time

**Not Used**

**CUR11** Date  
 Date expressed as CCYYMMDD

**Not Used**

**CUR12** Time  
 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**Not Used**

**CUR13** Date/Time Qualifier  
 Code specifying type of date or time, or both date and time

**Not Used**

**CUR14** Date  
Date expressed as CCYYMMDD t

**Not Used**

**CUR15** Time  
Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**Not Used**

**CUR16** Date/Time Qualifier  
Code specifying type of date or time, or both date and time

**Not Used**

**CUR17** Date  
Date expressed as CCYYMMDD

**Not Used**

**CUR18** Time  
Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**Not Used**

**CUR19** Date/Time Qualifier  
Code specifying type of date or time, or both date and time

**Not Used**

**CUR20** Date  
Date expressed as CCYYMMDD

**Not Used**

**CUR21** Time  
Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**Not Used**

**IMPLEMENTATION**

**N1 Name**

**Loop:** Name **Repeat:** 3  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N1\*SU\*ABC Corp\*ZZ\*PUR01~

**STANDARD**

**N1 Name**

**Level:** Detail  
**Position:** 070  
**Loop:** Name **Repeat:** 200  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To identify a party by type of organization, name, and code.  
**Syntax:** **02 R0203**  
 At least one of N102 or N103 is required.  
**03 P0304**  
 If either N103 or N104 is present, then the other is required.  
**Comments:** **04** This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.  
**05** N105 and N106 further define the type of entity in N101.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N101	98	Entity Identifier Code	R	M ID 2/3
N102	93	Name	R	X AN 1/60
N103	66	Identification Code Qualifier	R	X ID 1/2
N104	67	Identification Code	R	X AN 2/80
N105	706	Entity Relationship Code	NU	O ID 2/2
N106	98	Entity Identifier Code	NU	O ID 2/3

**ELEMENT SUMMARY**

**N101** Entity Identifier Code  
 Code identifying and organizational entity, a physical location, or an individual

CODE	DEFINITION
<b>BY</b>	<b>Buying Party (Purchaser)</b>
<b>RI</b>	<b>Remit To</b>
<b>SU</b>	<b>Supplier/Manufacturer (SU is used as Vendor's Entity Identifier Code)</b>
<b>SF</b>	<b>Ship From</b>
<b>ST</b>	<b>Ship To</b>

**N102** Name  
 Free-form name

**Name of Organization**

**N103** Identification Code Qualifier  
 Code designating the system/method of code structure used for Identification Code (67)

CODE	DEFINITION
<b>ZZ</b>	<b>Mutually Defined</b>

**N104** Identification Code  
 Code identifying a party or other code

**Unique Identification Code**

**The correct code to use when N101 Entity Identifier codes are either RI or SU can be obtained from Financial Shared Services 877-825-1122**

**Note: The following codes are used when N101 Entity Identifier Code is BY. This Code will be the First Five Positions of the State Farm's Purchase Order Number**

CODE	DEFINITION
<b>PUR01</b>	<b>General Purchasing for State Farm US</b>
<b>RS001</b>	<b>General Purchasing for Replacement Services US</b>
<b>CANA1</b>	<b>General Purchasing for State Farm Canada</b>
<b>RSCAN</b>	<b>General Purchasing for Replacement Services Canada</b>
<b>OTHER</b>	<b>State Farm Insurance Companies</b>

**N105** Entity Relationship Code  
 Code describing entity relationship

**Not Used**

**N106** Entity Identifier Code  
 Code identifying an organizational entity, a physical location, property or an individual

**Not Used**

**IMPLEMENTATION**

**N3 Address Information**

**Loop:** Name  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N3\*123 Main Street~

**STANDARD**

**N3 Address Information**

**Level:** Detail  
**Position:** 090  
**Loop:** Name  
**Requirement:** Optional  
**Max Use:** 2  
**Purpose:** To specify the location of the named party.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N301	166	Address Information	R	M AN 1/55
N302	166	Address Information	O	O AN 1/55

**ELEMENT SUMMARY**

**N301** Address Information  
 Address Information

**Address Information**

**N302** Address Information  
 Address Information

**Address Information**

**IMPLEMENTATION**

**N4 Geographic Location**

**Loop:** Name  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N4\*GREENVILLE\*SC\*29607~

**STANDARD**

**N4 Geographic Location**

**Level:** Detail  
**Position:** 100  
**Loop:** Name  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To specify the geographic place of the named party.  
**Syntax:** **06 C0605**  
If N406 is present, then N405 is required.  
**Comments:** **01** A combination of either N401 through N404 , or N405 and N406 may be adequate to specify a location.  
**02** N402 is required only if city name (N401) is in the U.S. or Canada.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N401	019	City Name	R	O AN 2/30
N402	156	State or Province Code	R	O ID 2/2
N403	116	Postal Code	R	O ID 3/15
N404	26	Country Code	O	O ID 2/3
N405	309	Location Qualifier	NU	X ID 1/2
N406	310	Location Identifier	NU	O AN 1/30

**ELEMENT SUMMARY**

**N401** City Name  
Free-form text for city name

**City Information**

**N402** State or Province Code  
Code (Standard State/Province) as defined by appropriate government agency

**State Information**

**N403** Postal Code  
Code defining international postal zone code excluding punctuation and blanks (zip code for United States)

**Zip Code Information**

**N404** Country Code  
Code identifying the country

**Country Code Information**

**N405** Location Qualifier  
Code identifying type of location

**Not used**

**N406** Location Identifier  
Code which identifies a specific location

**Not used**

Final



**IMPLEMENTATION**

**PER Contact**

**Loop:** Name  
**Usage:** SITUATIONAL  
**Repeat:** 1  
**Notes:** This is required when the buying party information is provided in the Purchase Order.

**Example:** PER\*IC\*Jackie~

**STANDARD**

**PER** Administrative Communications Contact

**Level:** Detail  
**Position:** 120  
**Loop:** Name  
**Requirement:** Optional  
**Max Use:** 3  
**Purpose:** To identify a person or office to whom administrative communications should be directed.  
**Syntax:** **03 P0304**  
 If either PER03 or PER04 is present, then the other is required.  
**05 P0506**  
 If either PER05 or PER06 is present, then the other is required.  
**07 P0708**  
 If either PER07 or PER08 is present, then the other is required.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
PER01	366	Contact Function Code	R	M ID 2/2
PER02	93	Name	R	O AN 1/60
PER03	365	Communication Number Qualifier	NU	X ID 2/2
PER04	364	Communication Number	NU	X AN 1/80
PER05	365	Communication Number Qualifier	NU	X ID 2/2
PER06	364	Communication Number	NU	X AN 1/80
PER07	365	Communication Number Qualifier	NU	X ID 2/2
PER08	364	Communication Number	NU	X AN 1/80
PER09	443	Contact Inquiry Reference	NU	O AN 1/20

## ELEMENT SUMMARY

---

**PER01** Contact Function Code  
Code identifying the major duty or responsibility of the person or group named

<b>CODE</b>	<b>DEFINITION</b>
<b>IC</b>	<b>Information Contact</b>

**PER02** Name  
Free-form name

**A free form name**

**PER03** Communication Number Qualifier  
Code identifying the type of communication number

**Not Used**

**PER04** Communication Number  
Complete communications number including country or area code when applicable

**Not Used**

**PER05** Communication Number Qualifier  
Code identifying the type of communication number

**Not Used**

**PER06** Communication Number  
Complete communications number including country or area code when applicable

**Not Used**

**PER07** Communication Number Qualifier  
Code identifying the type of communication number

**Not Used**

**PER08** Communication Number  
Complete communications number including country or area code when applicable

**Not Used**

**PER09** Contact Inquiry Reference  
Additional reference number or description to clarify a contact number

**Not Used**

**IMPLEMENTATION**

**ITD Terms of Sale/Deferred Terms of Sale**

**Loop:** N/A  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** ITD\*\*\*\*\*N10NM~

**STANDARD**

**ITD Terms of Sale/Deferred Terms of Sale**

**Level:** Heading  
**Position:** 130  
**Loop:** N/A  
**Requirement:** Optional  
**Max Use:** >1  
**Purpose:** To specify terms of sale.  
**Syntax:** 1 If ITD03 is present, then at least one of ITD04 ITD05 or ITD13 is required.  
 2 If ITD08 is present, then at least one of ITD04 ITD05 or ITD13 is required.  
 3 If ITD09 is present, then at least one of ITD10 or ITD11 is required.  
**Semantic Notes:** 1 ITD15 is the percentage applied to a base amount used to determine a late payment charge.  
**Comments:** 1 If the code in ITD01 is "04", then ITD07 or ITD09 is required and either ITD10 or ITD11 is required; if the code in ITD01 is "05", then ITD06 or ITD07 is required.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
ITD01	336	Terms Type Code	NU	O ID 2/2
ITD02	333	Terms Basis Date Code	NU	O ID 1/2
ITD03	338	Terms Discount Percent	NU	O R 1/6
ITD04	370	Terms Discount Due Date	NU	X DT 6/6
ITD05	351	Terms Discount Days Due	NU	X N0 1/3
ITD06	446	Terms Net Due Date	NU	O DT 6/6
ITD07	386	Terms Net Days	NU	O N0 1/3
ITD08	362	Terms Discount Amount	NU	O N2 1/10

ITD09	388	Terms Deferred Due Date	NU	O DT 6/6
ITD10	389	Deferred Amount Due	NU	X N2 1/10
ITD11	342	Percent of Invoice Payable	NU	X R 1/5
ITD12	352	Description	R AN 3/5	O AN 1/80
ITD13	765	Day of Month	NU	X N0 1/82
ITD14	107	Payment Method Code	NU	O ID 1/1
ITD15	954	Percent	NU	O R 1/10

## ELEMENT SUMMARY

- ITD01** Terms Type Code  
 Code identifying type of payment terms  
  
**Not Used**
- ITD02** Terms Basis Date Code  
 Code identifying the beginning of the terms period  
  
**Not Used**
- ITD03** Terms Discount Percent  
 Terms discount percentage, expressed as a percent, available to the Purchaser if an invoice is paid on or before the Terms Discount Due Date  
  
**Not Used**
- ITD04** Terms Discount Due Date  
 Date payment is due if discount is to be earned  
  
**Not Used**
- ITD05** Terms Discount Days Due  
 Number of days in the terms discount period by which payment is due if terms discount is earned  
  
**Not Used**
- ITD06** Terms Net Due Date  
 Date when total invoice amount becomes due  
  
**Not Used**
- ITD07** Terms Net Days  
 Number of days until total invoice amount is due (discount not applicable)
- ITD08** Terms Discount Amount  
 Total amount of terms discount  
  
**Not Used**
- ITD09** Terms Deferred Due Date  
 Date deferred payment or percent of invoice payable is due  
  
**Not Used**

**ITD10** Deferred Amount Due  
Deferred amount due for payment

**Not Used**

**ITD11** Percent of Invoice Payable  
Amount of invoice payable expressed in percent

**Not Used**

**ITD12** Description  
A free-form description to clarify the related data elements and their content

**A PS Code Identifying the Payment Terms**

<u>PYMNT TERMS CODE</u>	<u>DESCRIPTION</u>
.5N10	5% 10 Days, Net 30
.5N30	5% 30 Days, Net 30
NOW	Due Immediately
N10	Net 10 Days
N10NM	Net Due 10th Day of Next Month
N15	Net 15 Days
N15M	Net Due 15th Day of the Month
N15NM	Net 15th Day of Next Month
N20	Net 20 Days
N23	Net 23 Days
N23M	Due the 23rd of the month
N25	Net 25 Days
N30	Net 30 Days
N45	Net 45 Days
N50	Net 50 Days
N60	Net 60 Days
1N10	1% 10 Days, Net 30
1N15	1% 15 Days, Net 30
1N20	1% 20 Days, Net 30
1N25	1% 25 Days, Net 30
1N30	1% 30 Days, Net 30
10N10	10% 10 Days, Net 30
10N31	10% 30 Days, Net 31
11015	1% 10 Days, Net 15
11025	1% 10 Days, Net 25
11520	1% 15 Days, Net 20
2N10	2% 10 Days, Net 30
2N15	2% 15 Days, Net 30
2N20	2% 20 Days, Net 30
2N25	2% 25 Days, Net 30
2N30	2% 30 Days, Net 30
20N30	20% 30 Days, Net 30
20710	2% 7 Days, Net 10
210NM	2% 10th Day of the Next Month
21010	2% 10 Days, Net 10
21015	2% 10 Days, Net 15
21020	2% 10 Days, Net 20
21025	2% 10 Days, Net 25
26061	2% 60 Days, Net 61
28N30	28% 30 Days, Net 30

3N10	3% 10 Days, Net 30
3N15	3% 15 Days, Net 30
3N21	3% 21 Days, Net 30
3N30	3% 30 Days, Net 30
3N75	3% 30 Days, Net 75
4N20	4% 20 Days, Net 30
40N30	40% 30 Days, Net 30
41060	4% 10 Days, Net 60
5N15	5% 15 Days, Net 30
5N20	5% 20 Days, Net 30
5N30	5% 30 Days, Net 30
51020	5% 10 Days, Net 20
55N30	55% 30 Days, Net 30
11020	1% 10 days, Net 20
N20NM	Net due 20th of next month
N14	Net 14 Days
N24	Net 24 Days
N14NM	Net 14th of Next Month
N38	Net 38 Days
N13	Net 13 Days
N28	Net 28 Days
N12	Net 12 Days
32145	3% 21 Days Net 45
N07	Net 7 Days
1.5 10 Days	Net 3
N18	Net 18 Days
N90	Net 90 Days
N84	Net 84 Days
N32	Net 32 Days

**ITD13** Day of Month  
 The numeric value of the day of the month between 1 and the maximum day of the month being referenced

**Not Used**

**ITD14** Payment Method Code  
 Code identifying type of payment procedures

**Not Used**

**ITD15** Percent  
 Percentage expressed as a decimal

**Not Used**

## IMPLEMENTATION

### IT1 Baseline Item Data

**Loop:** Invoice **Repeat:** 200000  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** IT1\*1:1:1\*1\*BX\*17.56\*\*MF\*XYZ Companies\*MG\*002340~

## STANDARD

### IT1 Baseline Item Data (Invoice)

**Level:** Detail  
**Position:** 010  
**Loop:** Invoice **Repeat:** 200000  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To specify the basic and most frequently used line item data for the invoice and related transactions

**Syntax:** **02 P020304** – If IT102, IT103 or IT104 are present, then the others are required.  
**03 P0607**-If either IT106 or IT107 is present, and then the other is required.  
**08 P0809**-If either IT108 or IT109 is present, and then the other is required.  
**10 P1011**-If either IT110 or IT111 is present, and then the other is required.  
**12 P1213**-If either IT112 or IT113 is present, and then the other is required.  
**14 P1415**-If either IT114 or IT115 is present, and then the other is required.  
**16 P1617**-If either IT116 or IT117 is present, and then the other is required.  
**18 P1819**-If either IT118 or IT119 is present, and then the other is required.  
**20 P2021**-If either IT120 or IT121 is present, and then the other is required.  
**22 P2223**-If either IT122 or IT123 is present, and then the other is required.  
**24 P2425**-If either IT124 or IT125 is present, and then the other is required.

**Semantic Notes:** **IT101** is the purchase order line item identification. 01

**Comments:** **00** Element 235 / 234 combinations should be interpreted to include products and/or services. See the Data Dictionary for a complete list of IDs.  
**06** IT106 through IT125 provide for ten different product/service IDs for each item. For example: Case, Color, Drawing No., U.P.C. No., ISBN No., Model No., or SKU.

**DIAGRAM**

<b>Seq. No.</b>	<b>Ref. No.</b>	<b>ASC X12 Name</b>	<b>SF Req.</b>	<b>ASC X12 Attributes</b>
IT101	350	Assigned Identification	R	O/Z AN 1/20
IT102	358	Quantity Invoiced	R	X R 1/10
IT103	355	Unit or Basis for Measurement Code	R	X ID 2/2
IT104	212	Unit Price	R	X R 1/17
IT105	639	Basis of Unit Price Code	NU	O ID 2/2
IT106	235	Product/Service ID Qualifier	R	X ID 2/2
IT107	234	Product/Service ID	R	X AN 1/48
IT108	235	Product/Service ID Qualifier	R	X ID 2/2
IT109	234	Product/Service ID	R	X AN 1/48
IT110	235	Product/Service ID Qualifier	NU	X ID 2/2
IT111	234	Product/Service ID	NU	X AN 1/48
IT112	235	Produce/Service ID Qualifier	NU	X ID 2/2
IT113	234	Produce/Service ID	NU	X AN 1/48
IT114	235	Produce/Service ID Qualifier	NU	X ID 2/2
IT115	234	Product/Service ID	NU	X AN 1/48
IT116	235	Product/Service ID Qualifier	NU	X ID 2/2
IT117	234	Product/Service ID	NU	X AN 1/48
IT118	235	Product/Service ID Qualifier	NU	X ID 2/2
IT119	234	Product/Service ID	NU	X AN 1/48
IT120	235	Product/Service ID Qualifier	NU	X ID 2/2
IT121	234	Product/Service ID	NU	X AN 1/48
IT122	235	Product/Service ID Qualifier	NU	X ID 2/2
IT123	234	Product/Service ID	NU	X AN 1/48
IT124	235	Product/Service ID Qualifier	NU	X ID 2/2
IT125	234	Product/Service ID	NU	X AN 1/48



**ELEMENT SUMMARY**

**IT101** Assigned Identification  
 Alphanumeric characters assigned for differentiation within a transaction set

**Combination of Voucher Line Number, PO Line number, Schedule Number**

**For PO invoices it should be: Voucher Line #: PO Line #: Schedule # (ex. 1:1:1 - 2:1:2 - 3:2:1)**  
**For non-PO or credit memo invoices it should be: Voucher Line # (ex. 1 - 2 - 3)**

**IT102** Quantity Invoiced  
 Number of units invoiced (supplier units)

**Quantity Invoiced**

**IT103** Unit or Basis for Measurement Code  
 Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken.

<u>CODE</u>	<u>DEFINITION</u>
AM	Ampoule
BG	Bag
AA	Ball
BD	Bundle
BK	Book
BA	Bale
BL	Block
BJ	Band
BX	Box
BR	Barrel
BU	Bushel
BO	Bottle
BC	Bucket
CN	Can
CA	Case
CC	Cubic Centimeter
CF	Cubic Feet
CI	Cubic Inch
CR	Cubic Meter
CX	Coil
CG	Card
CP	Crate
CQ	Cartridge
CM	Centimeter
CT	Carton
CU	Cup
CY	Cubic Yard
CL	Cylinder
DR	Drum
DZ	Dozen
EA	Each
EV	Envelop
FT	Foot
GA	Gallon
GR	Gram
GS	Gross

HR	Hours
IN	Inch
K1	Kilowatt Demand
KH	Kilowatt Hour
KG	Kilogram
KIT	Kit
LB	Pound
LF	Linear Foot
LT	Liter
LO	Lot
MM	Millimeter
MR	Meter
OZ	Ounce
PD	Pad
PH	Pack
PAL	Pail
PCS	Pieces
PR	Pair
PKG	Package
PLT	Pallet
PT	Pint
QT	Quart
RM	Ream
ROL	Roll
ST	Set
SF	Square Foot
SHT	Sheet
SI	Square Inch
SKD	Skid
69	Incremental Order Quantity
SPL	Spool
SR	Strip
SY	Square Yard
TBE	Tube
TD	Therms
TNK	Tank
TN	Ton
TUB	Tub
VIL	Vial
VOL	Volume
YD	Yard

**IT104** Unit Price  
 Price per unit of product, service, commodity, etc.

**Unit Price**

**IT105** Basis of Unit Price Code  
 Code identifying the type of unit price for an item.

**Not Used**

**IT106** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

<u>CODE</u>	<u>DEFINITION</u>
MF	Manufacturer

**IT107** Product/Service ID  
 Identifying number for a product or service

**Name of the Manufacturer or Code Identifying the Manufacturer**

**IT108** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

<u>CODE</u>	<u>DEFINITION</u>
MG	Manufacturer's Part Number

**IT109** Product/Service ID  
 Identifying number for a product or service

**Manufacturer's Item ID**

**IT110** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT111** Product/Service ID  
 Identifying number for a product or service

**Not Used**

**IT112** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT113** Product/Service ID  
 Identifying number for a product or service

**Not Used**

**IT114** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT115** Product/Service ID  
 Identifying number for a product or service

**Not Used**

**IT116** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT117** Product/Service ID  
 Identifying number for a product or service

**Not Used**

**IT118** Product/Service ID Qualifier  
 Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT119** Product/Service ID  
Identifying number for a product or service

**Not Used**

**IT120** Product/Service ID Qualifier  
Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT121** Product/Service ID  
Identifying number for a product or service

**Not Used**

**IT122** Product/Service ID Qualifier  
Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT123** Product/Service ID  
Identifying number for a product or service

**Not Used**

**IT124** Product/Service ID Qualifier  
Code identifying the type/source of the descriptive number used in Product/Service ID (234)

**Not Used**

**IT125** Product/Service ID  
Identifying number for a product or service

**Not Used**

## IMPLEMENTATION

### PID Product/Item description

**Loop:** Product/Item Description **Repeat:** 1  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** PID\*F\*\*\*\*STAPLE 1" FOR S32X Model Number SX503456~

## STANDARD

### PID Product/Item Description

**Level:** Detail  
**Position:** 060  
**Loop:** Product/Item Description **Repeat:** 1000  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To describe a product or process in coded or free form format.  
**Syntax:** **04** C0403-If PID04 is present, and then PID03 is required.  
**04** R0405-At least one of PID04 or PID05 is required.  
**07** C0703-If PID07 is present, and then PID03 is required.  
**08** C0804-If PID08 is present, and then PID04 is required.  
**09** C0905-If PID09 is present, and then PID05 is required.

**Semantic Notes:** **PID03** Use PID03 to indicate the organization that publishes the code list being referred to.  
**PID04** should be used for industry-specific product description codes.  
**PID08** describes the physical characteristics of the product identified in PID04. A "Y" indicates that the specified attribute applies to this item; an "N" indicates it does not apply. Any other value is indeterminate.

**Comments:** **PID09** is used to identify the language being used in PID05.  
**01** If PID01 equals "F", then PID05 is used. If PID01 equals "S", then PID04 is used. If PID01 equals "X", then both PID04 and PID05 are used.  
**06** Use PID06 when necessary to refer to the product surface or layer being described in the segment.  
**07** PID07 specifies the individual code list of the agency specified in PID03.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
PID01	349	Item Description Type	R	M ID 1/1
PID02	750	Product/Process Characteristic Code	NU	O ID 2/3
PID03	559	Agency Qualifier Code	NU	X/Z ID 2/2
PID04	751	Product Description Code	NU	X/Z AN 1/12
PID05	352	Description	R	X AN 1/80
PID06	752	Surface/Layer/Position Code	NU	O ID 2/2
PID07	822	Source Sub qualifier	NU	O AN 1/15
PID08	1073	Yes/No Condition or Response Code	NU	O/Z ID 1/1
PID09	819	Language Code	NU	O/Z ID 2/3

**ELEMENT SUMMARY**

**PID01** Item Description Type  
Code indicating the format of a description

<u>CODE</u>	<u>DEFINITION</u>
F	Free form

**PID02** Product/Process Characteristic Code  
Code identifying the general class of a product or process characteristic.

**Not Used**

**PID03** Agency Qualifier Code  
Code identifying the agency assigning the code values.

**Not Used**

**PID04** Product Description Code  
A code from an industry code list which provides specific data about a product characteristic

**Not Used**

**PID05** Description  
A free-form description to clarify the related data elements and their content

**Description of Item**

**PID06** Surface/Layer/Position Code  
Code indicating the product surface, layer or position that is being described

**Not Used**

**PID07** Source Sub qualifier

A reference that indicates the table or text maintained by the Source Qualifier

**Not Used**

**PID08** Yes/No Condition or Response Code  
Code indicating a Yes or No condition or response

**Not Used**

**PID09** Language Code  
Code designating the language used in text, from a standard code list maintained by the International Standards Organization (ISO 639)

**Not Used**

Final

**IMPLEMENTATION**

**N1 Name**

**Loop:** Ship From / Ship To Name **Repeat: 2**  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N1\*ST\*ABC Corp\*ZZ\*~

**STANDARD**

**N1 Name**

**Level:** Detail  
**Position:** 070  
**Loop:** Name **Repeat: 200**  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To identify a party by type of organization, name, and code.  
**Syntax:** **02 R0203**  
 At least one of N102 or N103 is required.  
**03 P0304**  
 If either N103 or N104 is present, then the other is required.  
**Comments:** **04** This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party.  
**05** N105 and N106 further define the type of entity in N101.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N101	98	Entity Identifier Code	R	M ID 2/3
N102	93	Name	R	X AN 1/60
N103	66	Identification Code Qualifier	R	X ID 1/2
N104	67	Identification Code	R	X AN 2/80
N105	706	Entity Relationship Code	NU	O ID 2/2
N106	98	Entity Identifier Code	NU	O ID 2/3



**ELEMENT SUMMARY**

**N101** Entity Identifier Code  
 Code identifying and organizational entity, a physical location, or an individual

<u>CODE</u>	<u>DEFINITION</u>
SF	Ship From
ST	Ship To

**N102** Name  
 Free-form name

**N103** Identification Code Qualifier  
 Code designating the system/method of code structure used for Identification Code (67)

<u>CODE</u>	<u>DEFINITION</u>
ZZ	Mutually Defined

**N104** Identification Code  
 Code identifying a party or other code

**Unique Identification Code**

**Note:** The following codes are used when N101 Entity Identifier Code is ST  
 This Code will be the First Five Positions of the State Farm's Purchase Order Number

<u>CODE</u>	<u>DEFINITION</u>
PUR01	General Purchasing for State Farm US
RS001	General Purchasing for Replacement Services US
CANA1	General Purchasing for State Farm Canada
RSCAN	General Purchasing for Replacement Services Canada
OTHER	State Farm Insurance Companies

**N105** Entity Relationship Code  
 Code describing entity relationship

**Not Used**

**N106** Entity Identifier Code  
 Code identifying an organizational entity, a physical location, property or an individual

**Not Used**

**IMPLEMENTATION**

**N3 Address Information**

**Loop:** Ship From / Ship To Name  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N3\*123 Main Street\*~

**STANDARD**

**N3 Address Information**

**Level:** Detail  
**Position:** 090  
**Loop:** Name  
**Requirement:** Optional  
**Max Use:** 2  
**Purpose:** To specify the location of the named party.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N301	166	Address Information	R	M AN 1/55
N302	166	Address Information	O	O AN 1/55

**ELEMENT SUMMARY**

**N301** Address Information  
 Address Information

**Address Information**

**N302** Address Information  
 Address Information

**Address Information**

## IMPLEMENTATION

### N4 Geographic Location

**Loop:** Ship From / Ship To Name  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** N4\*GREENVILLE\*SC\*29607~

## STANDARD

### N4 Geographic Location

**Level:** Detail  
**Position:** 100  
**Loop:** Name  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To specify the geographic place of the named party.  
**Syntax:** **06 C0605**  
 If N406 is present, then N405 is required.  
**Comments:** **01** A combination of either N401 through N404 , or N405 and N406 may be adequate to specify a location.  
**02** N402 is required only if city name (N401) is in the U.S. or Canada.

## DIAGRAM

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
N401	019	City Name	R	O AN 2/30
N402	156	State or Province Code	R	O ID 2/2
N403	116	Postal Code	R	O ID 3/15
N404	26	Country Code	O	O ID 2/3
N405	309	Location Qualifier	NU	X ID 1/2
N406	310	Location Identifier	NU	O AN 1/30

## ELEMENT SUMMARY

**N401** City Name  
Free-form text for city name

### City Information

**N402** State or Province Code  
Code (Standard State/Province) as defined by appropriate government agency

**State Information**

**N403** Postal Code  
Code defining international postal zone code excluding punctuation and blanks (zip code for United States)

**Zip Code Information**

**N404** Country Code  
Code identifying the country

**Country Code Information**

**N405** Location Qualifier  
Code identifying type of location

**Not used**

**N406** Location Identifier  
Code which identifies a specific location

**Not used**

Final

**IMPLEMENTATION**

**TDS Total Monetary Value Summary**

**Loop:** N/A  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** TDS\*8654~

**STANDARD**

**TDS** Total Monetary Value Summary

**Level:** Summary  
**Position:** 010  
**Loop:** N/A  
**Requirement:** Mandatory  
**Max Use:** 1  
**Purpose:** To specify the total invoice discounts and amounts.

**Semantic:**

01 TDS01 is the total amount of invoice (including charges, less allowances) before terms discount (if discount is applicable).

02 TDS02 indicates the amount upon which the terms discount amount is calculated.

03 TDS03 is the amount of invoice due if paid by terms discount due date (total invoice or installment amount less cash discount).

04 TDS04 indicates the total amount of terms discount.

**Comments:**

02 TDS02 is required if the dollar value subject to discount is not equal to the dollar value of TDS01.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
TDS01	610	Amount	R	M/Z N2 1/15
TDS02	610	Amount	O	O/Z N2 1/15
TDS03	610	Amount	O	O/Z N2 1/15
TDS04	610	Amount	O	O/Z N2 1/15

## ELEMENT SUMMARY

---

**TDS01**      Amount  
                 Monetary amount

**Total Invoice Amount**

**TDS02**      Amount  
                 Monetary amount

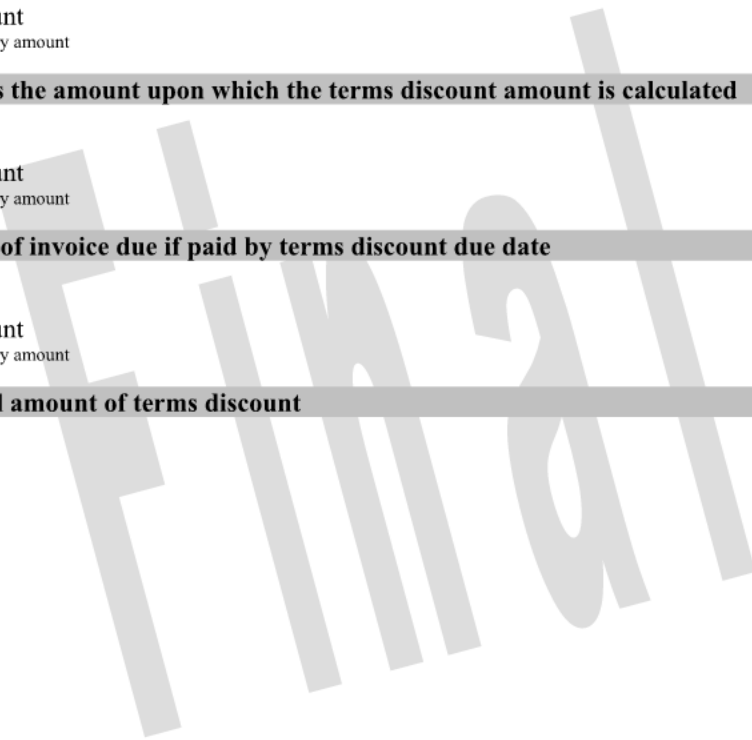
**Indicates the amount upon which the terms discount amount is calculated**

**TDS03**      Amount  
                 Monetary amount

**Amount of invoice due if paid by terms discount due date**

**TDS04**      Amount  
                 Monetary amount

**The total amount of terms discount**



**IMPLEMENTATION**

**TXI Tax Information**

**Loop:** N/A  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** TXI\*TX\*4.33~

**STANDARD**

**TXI** Tax Information

**Level:** Detail  
**Position:** 020  
**Loop:** N/A  
**Requirement:** Optional  
**Max Use:** 10  
**Purpose:** To specify tax information.  
**Syntax:** **01** RP20306 – At least one of TXI02, TXI03 or TXI06 is required.  
**04** P0405 – If either TXI04 or TXI05 is present, then the other is required.  
**08** C0803 – If TXI08 is present, and then TXI03 is required.

**Semantic Notes:** **TXI02** is the monetary amount of the tax.  
**TXI03** is the tax percent expressed as a decimal.  
**TXI07** is a code indicating the relationship of the price or amount to the associated segment.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
TXI01	963	Tax Type Code	R	M ID 2/2
TXI02	782	Monetary Amount	R	X/Z R 1/18
TXI03	954	Percent	NU	X/Z R 1/10
TXI04	955	Tax Jurisdiction Code Qualifier	NU	X ID 2/2
TXI05	956	Tax Jurisdiction Code	NU	X AN 1/10
TXI06	441	Tax Exempt Code	NU	O/Z ID 1/1
TXI07	662	Relationship Code	NU	O/Z ID 1/1
TXI08	828	Dollar Basis For Percent	NU	O R 1/9
TXI09	325	Tax Identification Number	NU	O AN 1/20
TXI10	350	Assigned Identification	NU	O AN 1/20

**TXI01** Tax Type Code  
Code specifying the type of tax

<b>CODE</b>	<b>DEFINITION</b>
<b>TX</b>	<b>All Taxes</b>

**TXI02** Monetary Amount  
Monetary amount

**Monetary Amount**

**TXI03** Percent  
Percentage expressed as a decimal

**Not Used**

**TXI04** Tax Jurisdiction Code Qualifier  
Code identifying the source of the data used in tax jurisdiction code

**Not Used**

**TXI05** Tax Jurisdiction Code  
Code identifying the taxing jurisdiction

**Not Used**

**TXI06** Tax Exempt Code  
Code identifying exemption status from sales and use tax

**Not Used**

**TXI07** Relationship Code  
Code indicating the relationship between entities

**Not Used**

**TXI08** Dollar Basis For Percent  
Dollar basis to be used in the percent calculation of the allowance, charge or tax

**Not Used**

**TXI09** Tax Identification Number  
Number assigned to a purchaser (buyer, orderer) by a taxing jurisdiction (state, county, etc.); often called a tax exemption number or certificate number

**Not Used**

**TXI10** Assigned Identification  
Alphanumeric characters assigned for differentiation within a transaction set

**Not Used**



## IMPLEMENTATION

### SAC Service, Promotion, Allowance, or Charge Information

**Loop:** SAC **Repeat:** 4  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** SAC\*C\*D240\*\*\*15021~

## STANDARD

### SAC Service, Promotion, Allowance, or Charge Information

**Level:** Detail  
**Position:** 180  
**Loop:** SAC **Repeat:** 25  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To request or identify a service, promotion, allowance, or charge, to specify the amount or percentage for the service, promotion, allowance, or charge.

**Syntax:** 1 At least one of SAC02 or SAC03 is required.  
2 If either SAC03 or SAC04 is present, then the other is required.  
3 If either SAC06 or SAC07 is present, then the other is required.  
4 If either SAC09 or SAC10 is present, then the other is required.  
5 If SAC11 is present, then SAC10 is required.  
6 If SAC13 is present, then at least one of SAC02 or SAC04 is required.  
7 If SAC14 is present, then SAC13 is required

**Semantic Notes:** 1 If SAC01 is "A" or "C", then at least one of SAC05, SAC07, or SAC08 is required.  
2 SAC05 is the total amount for the service, promotion, allowance, or charge. If SAC05 is present with SAC07 or SAC08, then SAC05 takes precedence.  
3 SAC08 is the allowance or charge rate per unit.  
4 SAC10 and SAC11 is the quantity basis when the allowance or charge quantity is different from the purchase order or invoice quantity. SAC10 and SAC11 used together indicate a quantity range, which could be a dollar amount that is applicable to service, promotion, allowance, or charge.  
5 SAC13 is used in conjunction with SAC02 or SAC04 to provide a specific reference number as identified by the code used.  
6 SAC14 is used in conjunction with SAC13 to identify an option when there is more than one option of the promotion.

**Comments:** 1 SAC04 may be used to uniquely identify the service, promotion, allowance, or charge. In addition, it may be used in conjunction to further the code in SAC02.  
2 In some business applications, it is necessary to advise the trading partner of the actual dollar amount that a particular allowance, charge, or promotion was based on to reduce ambiguity. This amount is commonly referred to a "Dollar Basis Amount". It is represented in the SAC segment in SAC10 using the qualifier "DO" - Dollars in SAC09.

**DIAGRAM**

<b>Seq. No.</b>	<b>Ref. No.</b>	<b>ASC X12 Name</b>	<b>SF Req.</b>	<b>ASC X12 Attributes</b>
SAC01	248	Allowance or Charge Indicator	R	M ID 1/1
SAC02	1300	Service, Promotion, Allowance, or Charge Code	R	X ID 4/4
SAC03	559	Agency Qualifier Code	NU	X ID 2/2
SAC04	1301	Agency Service, Promotion, Allowance, or Charge Code	NU	X AN 1/10
SAC05	610	Amount	R	O N2 1/15
SAC06	378	Percent	NU	X ID 1/1
SAC07	332	Rate	NU	X R 1/6
SAC08	118	Unit or Basis for Measurement Code	NU	O R 1/9
SAC09	355	Quantity	NU	X ID 2/2
SAC10	380	Quantity	NU	X R 1/15
SAC11	380	Allowance or Charge Method of Handling Code	NU	O R 1/15
SAC12	331	Allowance or Charge Method of Handling Code	NU	O ID 2/2
SAC13	127	Reference Identification	NU	X AN 1/30
SAC14	770	Option Number	NU	O AN 1/20
SAC15	352	Description	NU	O AN 1/80

**ELEMENT SUMMARY**

**SAC01** Allowance or Charge Indicator  
 Code which indicates an allowance or charge for the service specified

<b>CODE</b>	<b>DEFINITION</b>
<b>A</b>	<b>Allowance</b>
<b>C</b>	<b>Charge</b>
<b>S</b>	<b>Service</b>

**SAC02** Service, Promotion, Allowance, or Charge Code  
 Code identifying the service, promotion, allowance, or charge See data element 1300 for other codes. The codes listed here are only a small subset of the code, which can be used.

<b>CODE</b>	<b>DEFINITION</b>
<b>D240</b>	<b>Freight</b>
<b>D500</b>	<b>Handling</b>
<b>D900</b>	<b>Installation</b>
<b>I180</b>	<b>Trade In</b>

**SAC03** Agency Qualifier Code  
 Code identifying the agency assigning the code values.

**Not Used**

**SAC04** Agency Service, Promotion, Allowance, or Charge Code  
 Agency maintained code identifying the service, promotion, allowance, or charge

**Not Used**

**SAC05** Amount  
 Monetary amount

**Monetary Amount**

**SAC06** Allowance/ Charge Percent Qualifier  
 Code indicating on what basis allowance or charge percent is calculated

**Not Used**

**SAC07** Percent  
 Percent expressed as a percent

**Not Used**

**SAC08** Rate  
 Rate expressed in the standard monetary denomination for the currency specified

**Not Used**

**SAC09** Unit or Basis for Measurement Code  
 Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

**Not Used**

**SAC10** Quantity  
 Numeric value of quantity

**Not Used**

**SAC11**      Quantity  
Numeric value of quantity

**Not Used**

**SAC12**      Allowance or Charge Method of Handling Code  
Code indicating method of handling for an allowance or charge

**Not Used**

**SAC13**      Reference Identification  
Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier

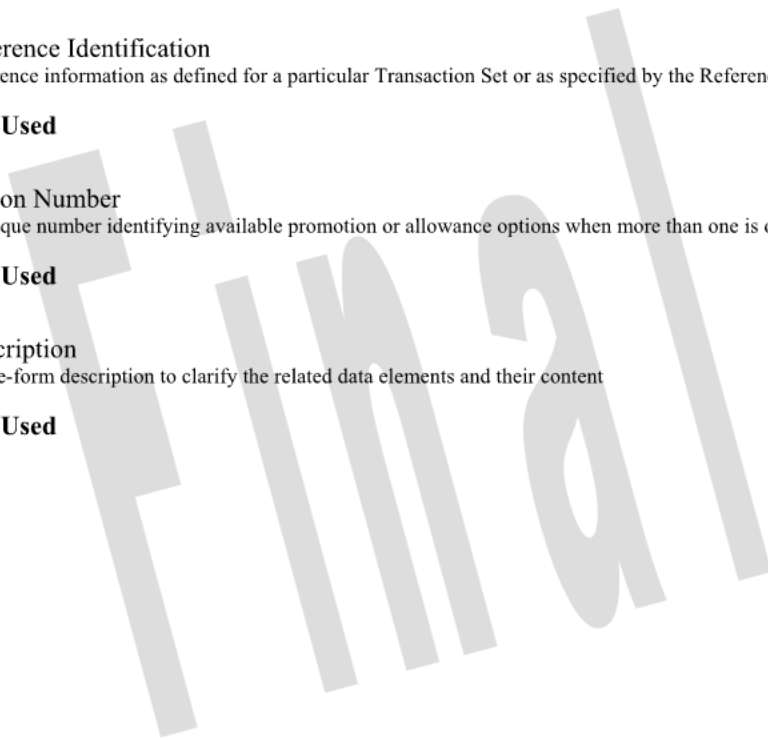
**Not Used**

**SAC14**      Option Number  
A unique number identifying available promotion or allowance options when more than one is offered

**Not Used**

**SAC15**      Description  
A free-form description to clarify the related data elements and their content

**Not Used**



**IMPLEMENTATION**

**CTT Transaction Totals**

**Loop:** N/A  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** CTT\*4~

**STANDARD**

**CTT Transaction Totals**

**Level:** Summary  
**Position:** 070  
**Loop:** N/A  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To transmit a hash total for a specific element in the transaction set  
**Syntax:** 03 P0304 – If either CTT03 or CTT04 is present, then the other is required.  
 05 P0506 – If either CTT05 or CTT06 is present, then the other is required.  
**Comments:** 00 This segment is intended to provide hash totals to validate transaction completeness and correctness.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
CTT01	354	Number of Line Items	R	M N0 1/6
CTT02	347	Hash Total	N/U	O R 1/10
CTT03	81	Weight	N/U	X R 1/10
CTT04	355	Unit or Basis for Measurement Code	N/U	X ID 2/2
CTT05	183	Volume	N/U	X R 1/8
CTT06	355	Unit or Basis for Measurement Code	N/U	X ID 2/2
CTT07	352	Description	N/U	O AN 1/80

## ELEMENT SUMMARY

---

**CTT01**      Number of Line Items  
Total number of line items in the transaction set

### Total number of line items in the transaction set

**CTT02**      Hash Total  
Sum of values of the specified data element.

**Not Used**

**CTT03**      Weight  
Numeric value of weight

**Not Used**

**CTT04**      Unit or Basis for Measurement Code  
Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

**Not Used**

**CTT05**      Volume  
Value of volumetric measure

**Not Used**

**CTT06**      Unit or Basis for Measurement Code  
Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken

**Not Used**

**CTT07**      Description  
A free-form description to clarify the related data elements and their content

**Not Used**

**IMPLEMENTATION**

**SE Transaction Set Trailer**

**Loop:** N/A  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** SE\*100\*12345~

**STANDARD**

**SE Transaction Set Trailer**

**Level:** Summary  
**Position:** N/A  
**Loop:** N/A  
**Requirement:** Mandatory  
**Max U:** 1  
**Purpose:** To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
SE01	96	Number of Included Segments	R	M NO 1 / 10
SE02	329	Transaction Set Control Number	R	M AN 4 / 9

**ELEMENT SUMMARY**

**SE01** Number of Included Segments  
 Total number of segments included in a transaction set including ST and SE segments

**Total number of segments in transaction set including ST and SE**

**SE02** Transaction Set Control Number  
 Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

**SE02 must match ST02**

## 4 Transmission Examples

Here is an example of an Invoice sent to State Farm from a supplier.

### 4.1 Store Invoice

<b>Supplier:</b>	<b>HARCOURT AND HAMILTON</b> 18 RUSKIN STREET BLOOMINGTON, IL 61704		<b>Remit To:</b>	<b>HARCOURT AND HAMILTON</b> 155 BOND STREET BLOOMINGTON, IL 61704	
<b>Date of Sale:</b>	1/1/02	<b>Account No:</b>	12345	<b>Invoice No:</b>	123456789
<b>P.O/Job:</b>	PUR010000014450		<b>Buyer:</b>	Susan Anderson	
<b>Sold To:</b>	ABC Companies 14/144 Percy Street Bloomington, IL 61701		<b>Ship To:</b>	ABC Companies 1344 E Washington Street Bloomington, IL 61701	
<b>Item</b>	<b>Description.</b>	<b>Quantity.</b>	<b>Unit Price</b>	<b>Unit.</b>	<b>Amount.</b>
1234	Floor Tiles	19	12	Each	228.00



<b>Supplier:</b> HARCOURT AND HAMILTON 18 RUSKIN STREET BLOOMINGTON, IL 61704		<b>Remit To:</b> HARCOURT AND HAMILTON 155 BOND STREET BLOOMINGTON, IL 61704			
<b>Date of Sale:</b> 1/1/02	<b>Account No:</b> 12345	<b>Invoice No:</b> 123456789	<b>Buyer:</b> Susan Anderson		
<b>P.O./Job:</b> PUR010000014450					
<b>Sold To:</b> ABC Companies 14/144 Percy Street Bloomington, IL 61701		<b>Ship To:</b> ABC Companies 14 E Vernon Street Peoria, IL 64707			
Item	Description.	Quantity.	Unit Price	Unit.	Amount.
1234	Floor Tiles	19	12	Each	228.00

<b>Supplier:</b> HARCOURT AND HAMILTON 18 RUSKIN STREET BLOOMINGTON, IL 61704		<b>Remit To:</b> HARCOURT AND HAMILTON 155 BOND STREET BLOOMINGTON, IL 61704			
<b>Date of Sale:</b> 1/1/02	<b>Account No:</b> 12345	<b>Invoice No:</b> 123456789	<b>Buyer:</b> Susan Anderson		
<b>P.O/Job:</b> PUR010000014450					
<b>Sold To:</b> ABC Companies 14/144 Percy Street Bloomington, IL 61701		<b>Ship To:</b> ABC Companies 1272 E Main Street Normal, IL 61701			
Item	Description.	Quantity.	Unit Price	Unit.	Amount.
1234	Floor Tiles	19	12	Each	228.00
<b>Total Amount:</b>					684.00
<b>Shipping:</b>					21.05
<b>Tax:</b>					41.04
<b>Total:</b>					746.09
<b>Discount For SF:</b>					14.89
<b>Balance Due:</b>					731.20
<b>Payment Terms:</b> Net Due 10th Day of Next Month					

## 4.2 Transaction Set Mapping

EDI SEGMENT	DESCRIPTION
ST*810*12345~	Start of transaction set 810. Transaction set Control Number is 12345.
BIG*20020102*123456789*20020101*0000014450~	Invoice Date is 1/2/02 for the Invoice number for the Debit Invoice 123456789, Date of Purchase of which is 1/1/2. The Purchase Order Number is 0000014450.
CUR*ZZ*USD~	The submitter is using US dollars for Payment.
N1*SU*HARCOURT AND HAMILTON *ZZ*976856743~	The name of the Material Supplier is Harcourt and Hamilton and, Identified by the 10 positions Vendor Id assigned by State Farm. Payment is to be credited to Harcourt and Hamilton.
N3*18 Ruskin Street~	The Address of Harcourt and Hamilton is 18 Ruskin Street.
N4*Bloomington*IL*61704~	Harcourt and Hamilton is located in the city of Bloomington, in the state of Illinois with Postal Code 61704 and Country Code US.
PER*IC*Dennis Hardy~	The Contact Person of Harcourt and Hamilton is Dennis Hardy
N1*RI*HARCOURT AND HAMILTON *ZZ*976876743~	The Name of Remit to party is Harcourt and Hamilton, Identified by the 10 positions Vendor Id assigned by State Farm.
N3*155 BOND STREET~	The Address of Remit to party is 155, Bond Street.
N4*Bloomington*IL*61704~	Remit to party is located in the city of Bloomington, in the state of Illinois with Postal Code 61704.
PER*IC*Jeff Joyner~	The Contact Person of the of Remit to party is Jeff Joyner
N1*BY*ABC Companies*ZZ*PUR01~	The Name of the Buyer is ABC Companies, who's Business Unit Identification Number, is PUR01.
N3*14/144 Percy Street~	The Address of Buyer is 14/144 Percy Street.
N4*Bloomington*IL*61701~	ABC Companies is located in the city of Bloomington, in the state of Illinois with Postal Code 61701.
PER*IC*Susan Anderson~	The Contact Person for ABC Companies is Susan Anderson

ITD*****N10NM~	The Payment Terms for the Invoice is N10NM
IT1*1*19*EA*12** MF*54342345*MG*1234~	Quantity: 19 Unit of Measurement: EA (Each) Unit Price: \$12 Item Id: 1234 Manufacturer Code: 54342345
PID*F****Floor Tiles~	The Product is Floor Tiles.
N1*ST*ABC Companies*ZZ*PUR01~	The Name of the Ship to party is ABC Companies, who's Business Unit Identification Number, is PUR01.
N3*1344 E Washington Street ~	The Address of Ship to party is 1344 E Washington Street.
N4*Bloomington*IL*61701~	The Ship to party is located in the city of Bloomington, in the state of Illinois with Postal Code 61701.
PER*IC*Susan Anderson~	The Contact Person for the ship to party is Susan Anderson
IT1*2*19*EA*12** MF*54342345*MG*1234~	Quantity: 19 Unit of Measurement: EA (Each) Unit Price: \$12 Item Id: 1234 Manufacturer Code: 54342345
PID*F****Floor Tiles~	The Product is Floor Tiles.
N1*ST*ABC Companies*ZZ*PUR01~	The Name of the Ship to party ABC Companies, who's Business Unit Identification Number, is PUR01.
N3*14 E Vernon Street ~	The Address of Ship to party is 14 E Vernon Street.
N4* Peoria*IL*64707~	Ship to party is located in the city of Peoria, in the state of Illinois with Postal Code 64707.
PER*IC*Susan Anderson~	The Contact Person for the Ship to party is Susan Anderson
IT1*3*19*EA*12** MF*54342345*MG*1234~	Quantity: 19 Unit of Measurement: EA (Each) Unit Price: \$12 Item Id: 1234 Manufacturer Code: 54342345
PID*F****Floor Tiles~	The Product is Floor Tiles.
N1*ST*ABC Companies*ZZ*PUR01~	The Name of the Ship to party is ABC Companies, who's Business Unit Identification Number, is PUR01.
N3*1272 E Main Street ~	The Address of Ship to party is 1272 E Main Street.
N4*Normal*IL*61701~	Ship to party is located in the city of Normal, in the state of Illinois with Postal Code 61701.
PER*IC*Susan Anderson~	The Contact Person of Ship to party is Susan Anderson
TDS*73120~	The Total Amount on the invoice is \$731.20
TXI*TX*41.04~	Tax is \$41.04.
SAC*C*D240***2105~	The shipping charges for the invoice is \$21.05
CTT*3~	The Numbers of Line Items in the invoice are 3
SE*39*12345~	End of Transaction Set. 39 segments are there in the Transaction Set whose control number is 12345.

## **A X12 Nomenclature**

### **A.1 Interchange and Application Control Structures**

#### **A.1.1 Interchange Control Structure**

The transmission of data proceeds according to very strict format rules to ensure the integrity and maintain the efficiency of the interchange. Each business grouping of data is called a transaction set. For instance, a group of benefit enrollments sent from a sponsor to a payer is considered a transaction set.

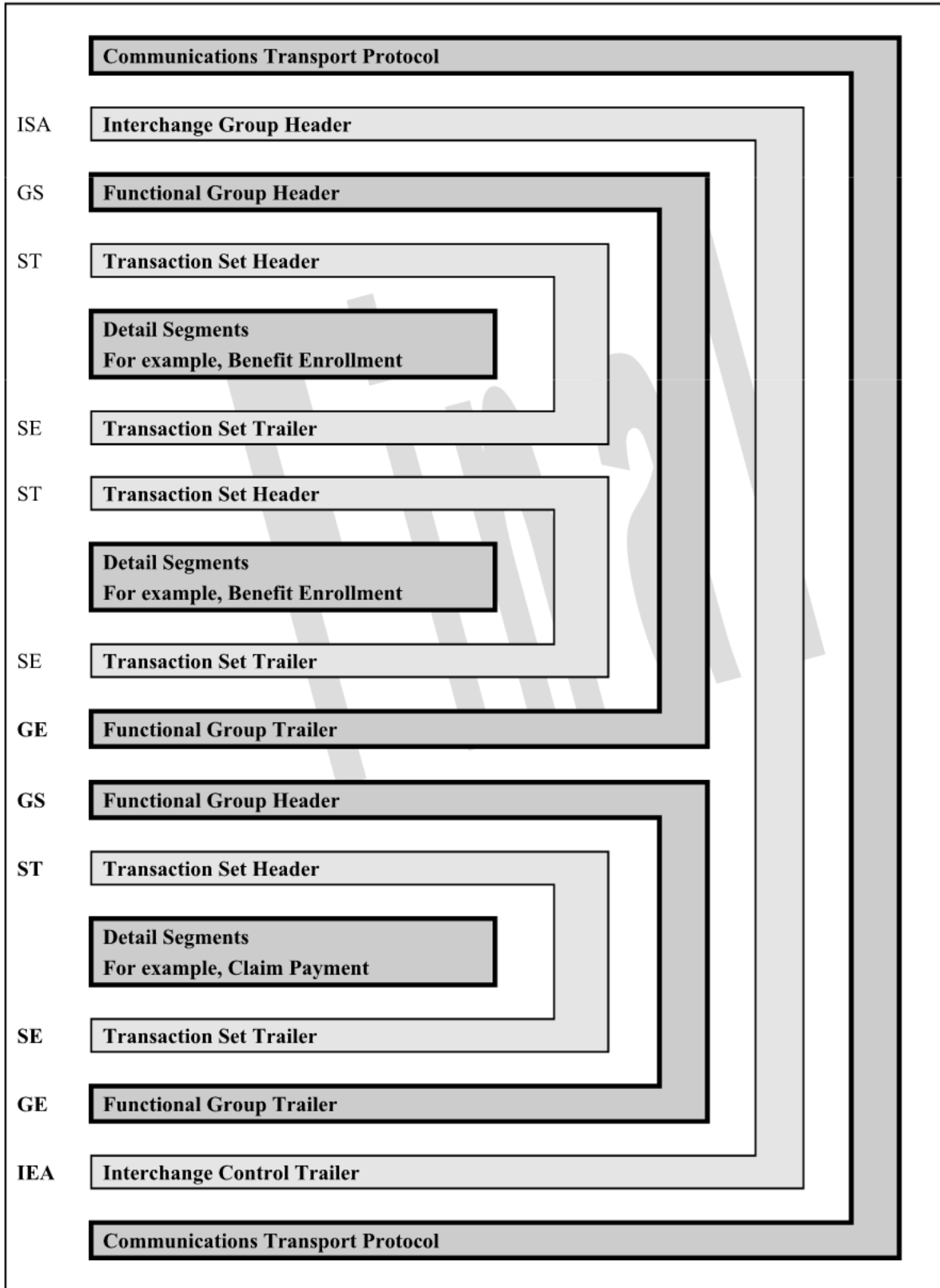
Each transaction set contains groups of logically related data in units called segments. For instance, the N4 segment used in the transaction set conveys the city, state, ZIP Code, and other geographic information. A transaction set contains multiple segments, so the addresses of the different parties, for example, can be conveyed from one computer to the other. An analogy would be that the transaction set is like a freight train; the segments are like the train's cars; and each segment can contain several data elements the same as a train car can hold multiple crates.

The sequence of the elements within one segment is specified by the ASC X12 standards as well as the sequence of the segments in the transaction set. In a more conventional computing environment, the segments would be equivalent to records, and the elements equivalent to fields within the records.

Similar transaction sets, called "functional groups," can be sent together within a transmission. Each functional group is prefaced by a group start segment; and a functional group is terminated by a group end segment. One or more functional groups are prefaced by an interchange header and followed by an interchange trailer. Figure A1, Transmission Control Schematic, on the next page, illustrates this interchange control.

The interchange header and trailer segments envelop one or more functional groups or interchange-related control segments and perform the following functions:

1. Define the data element separators and the data segment terminator.
2. Identify the sender and the receiver.
3. Provide control information for the interchange.
4. Allow for authorization and security information.



## Figure A1. Transmission Control Schematic

### A.1.2 Application Control Structure Definitions and Concepts

#### A.1.2.1 Basic Structure

A data element corresponds to a data field in data processing terminology. The data element is the smallest named item in the ASC X12 standard. A data segment corresponds to a record in data processing terminology. The data segment begins with a segment ID and contains related data elements. A control segment has the same structure as a data segment; the distinction is in the use. The data segment is used primarily to convey user information, but the control segment is used primarily to convey control information and to group data segments.

#### A.1.2.2 Basic Character Set

The section that follows is designed to have representation in the common character code schemes of EBCDIC, ASCII, and CCITT International Alphabet 5. The ASC X12 standards are graphic-character-oriented; therefore, common character encoding schemes other than those specified herein may be used as long as a common mapping is available. Because the graphic characters have an implied mapping across character code schemes, those bit patterns are not provided here.

The basic character set of this standard, shown in *Figure A2, Basic Character Set*, includes those selected from the uppercase letters, digits, space, and special characters as specified below.

A..Z	0..9	!	"	&	'	(	)	*	+
,	-	.	/	:	;	?	=	(blank)	

Figure A2. Basic Character Set

#### A.1.2.3 Extended Character Set

An extended character set may be used by negotiation between State Farm and the sending/receiving trading partner and includes the lowercase letters and other special characters as specified in *Figure A3, Extended Character Set*.

a..z	%	~	@	[	]	_	{
}	\		<	>	#	\$	

Figure A3. Extended Character Set

Note that the extended characters include several character codes that have multiple graphical representations for a specific bit pattern. The complete list appears in other standards such as CCITT S.5. Use of the USA graphics for these codes presents no problem unless data is exchanged with an international partner. Other problems, such as the translation of item descriptions from English to French, arise when exchanging data with an international partner, but minimizing the use of codes with multiple graphics eliminates one of the more obvious problems.

### A.1.2.4 Control Characters

Two control character groups are specified; they have only restricted usage. The common notation for these groups is also provided, together with the character coding in three common alphabets. In the *Matrix A1*, *Base Control Set*, the column IA5 represents CCITT V.3 International Alphabet 5.

### A.1.2.5 Base Control Set

The base control set includes those characters that will not have a disruptive effect on most communication protocols. These are requested by:

<u>NOTATION</u>	<u>NAME</u>	<u>EBCDIC</u>	<u>ASCII</u>	<u>IA5</u>
BEL	bell	2F	07	07
HT	horizontal tab	05	09	09
LF	line feed	25	0A	0A
VT	vertical tab	0B	0B	0B
FF	form feed	0C	0C	0C
CR	carriage return	0D	0D	0D
FS	file separator	1C	1C	1C
GS	group separator	1D	1D	1D
RS	record separator	1E	1E	1E
US	unit separator	1F	1F	1F
NL	new line	15		

*Matrix A1. Base Control Set*

The group separator (GS) may be an exception in this set because it is used in the 3780 communications protocol to indicate blank space compression.



### A.1.2.6 Extended Character Set

The extended control set includes those that may have an effect on a transmission system. These are shown in *Matrix A2, Extended Control Set*.

<u>NOTATION</u>	<u>NAME</u>	<u>EBCDIC</u>	<u>ASCII</u>	<u>IA5</u>
SOH	start of header	01	01	01
STX	start of text	02	02	02
ETX	end of text	03	03	03
EOT	end of transmission	37	04	04
ENQ	enquiry	2D	05	05
ACK	acknowledge	2E	06	06
DC1	device control 1	11	11	11
DC2	device control 2	12	12	12
DC3	device control 3	13	13	13
DC4	device control 4	3C	14	14
NAK	negative acknowledge	3D	15	15
SYN	synchronous idle	32	16	16
ETB	end of block	26	17	17

*Matrix A2. EXTENDED Character Set*

### A.1.2.7 Delimiters

A delimiter is a character used to separate two data elements (or subelements) or to terminate a segment. The delimiters are an integral part of the data.

Delimiters are specified in the interchange header segment, ISA. The ISA segment is a 105 byte fixed length record. The data element separator is byte number 4; the component element separator is byte number 105; and the segment terminator is the byte that immediately follows the component element separator.

Once specified in the interchange header, the delimiters are not to be used in a data element value elsewhere in the interchange. For consistency, this implementation guide uses the delimiters shown in *Matrix A3, Delimiters*, in all examples of EDI transmissions.

<u>CHARACTER</u>	<u>NAME</u>	<u>DELIMITER</u>
*	Asterisk	Data Element Separator
:	Colon	Subelement Separator
~	Tilde	Segment Terminator

*Matrix A3. Delimiters*

The delimiters above are for illustrative purposes only and are not specific recommendations or requirements. Users of this implementation guide should be aware that an application system may use some valid delimiter characters within the application data. Occurrences of delimiter characters in transmitted data within a data element can result in errors in translation programs. The existence of asterisks (\*) within transmitted application data is a known issue that can affect translation software.

### A.1.3 Business Transaction Structure Definitions and Concepts

The ASC X12 standards define commonly used business transactions (such as a health care claim) in a formal structure called "transaction sets." A transaction set is composed of a transaction set header control segment, one or more data segments, and a transaction set trailer control segment. Each segment is composed of the following:

- A unique segment ID
- One or more logically related data elements each preceded by a data element separator
- A segment terminator

#### A.1.3.1 Data Element

The data element is the smallest named unit of information in the ASC X12 standard. Data elements are identified as either simple or component. A data element that occurs as an ordinal member of a composite data structure is identified as a component data element. A data element that occurs in a segment outside of the defined boundaries of a composite data structure is identified as a simple data element. The distinction between simple and component data elements is strictly a matter of context because a data element can be used in either capacity.

Data elements are assigned a unique reference number. Each data element has a same, description, type, minimum length, and maximum length. For ID type data elements, this guide provides the applicable ASC X12 code values and their descriptions or references where the valid code list can be obtained.

Each data element is assigned a minimum and a maximum length. The length of the data element value is the number of character positions used except as noted for numeric, decimal, and binary elements.

The data element types shown in *Matrix A4, Data Element Types*, appear in this implementation guide.

<u>SYMBOL</u>	<u>TYPE</u>
Nn	Numeric
R	Decimal
ID	Identifier
AN	String
DT	Date
TM	Time
B	Binary

*Matrix A4. Data Element Types*

##### A.1.3.1.1 Numeric

A numeric data element is represented by one or more digits with an optional leading sign representing a value in the normal base 10. The value of a numeric data element includes an implied decimal point. It is used when the position of the decimal point within the data is permanently fixed and is not to be transmitted with the data.

This guide denotes the number of implied decimal positions. The representation for this data element type is "Nn" where N indicates that it is numeric and n indicates the number of decimal positions to the right of the implied decimal point.

If n is 0, it need not appear in the specification; N is equivalent to N0. For negative values, the leading minus sign (-) is used. Absence of a sign indicates a positive value. The plus sign (+) should not be transmitted.

**EXAMPLE**

A transmitted value of 1234, when specified as numeric type N2, represents a value of 12.34.

Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. The length of a numeric type data element does not include the optional sign.

### **A.1.3.1.2 Decimal**

A decimal data element may contain an explicit decimal point and is used for numeric values that have a varying number of decimal positions. This data element type is represented as "R".

The decimal point always appears in the character stream if the decimal point is at any place other than the right end. If the value is an integer (decimal point at the right end) the decimal point should be omitted. For negative values, the leading minus sign (-) is used. Absence of a sign indicates a positive value. The plus sign (+) should not be transmitted.

Leading zeros should be suppressed unless necessary to satisfy a minimum length requirement. Trailing zeros following the decimal point should be suppressed unless necessary to indicate precision. The use of triad separators (for example, the commas in 1,000,000) is expressly prohibited. The length of a decimal type data element does not include the leading sign or a decimal point.

**EXAMPLE**

A transmitted value of 12.34 represents a decimal value of 12.34.

### **A.1.3.1.3 Identifier**

An identifier data element always contains a value from a predefined list of codes that is maintained by the ASC X12 Committee or some other body recognized by the Committee. Trailing spaces should be suppressed unless they are necessary to satisfy a minimum length. An identifier is always left justified. The representation for this data element type is "ID".

### **A.1.3.1.4 String**

A string data element is a sequence of any characters from the basic or extended character sets. The significant characters shall be left justified. Leading spaces, when they occur are presumed to be significant characters. Trailing spaces should be suppressed unless they are necessary to satisfy a minimum length. The representation of this data element type is "AN".

### **A.1.3.1.5 Date**

A date data element is used to express the standard date in YYMMDD or CCYYMMDD format in which CC is the first two digits of the calendar year, YY is the last two digits of the calendar year, MM is the month (01 to 12), and DD is the day in the month (01 to 31).

### **A.1.3.1.6 Time**

A time data element is used to express the ISO standard time HHMMSSd.d format in which HH is the hour for a 24 hour clock (00 to 23), MM is the minute (00 to 59), SS is the second (00 to 59) and d.d is decimal seconds. The representation for this data element type is "TM". The length of the data element determines the format of the transmitted time.

### **A.1.3.2 Composite Data Structure**

The composite data structure is an intermediate unit of information in a segment. Composite data structures are composed of one or more logically related simple data elements, each, except the last, followed by a sub-element separator. The final data element is followed by the next data element separator or the segment terminator. Each simple data element within a composite is called a component.

Each composite data structure has a unique four-character identifier, a name, and a purpose. The identifier serves as a label for the composite. A composite data structure can be further defined through the use of syntax notes, semantic notes, and comments. Each component within the composite is further characterized by a reference designator and a condition designator. The reference designators and the condition designators are described below.

### **A.1.3.3 Data Segment**

The data segment is an intermediate unit of information in a transaction set. In the data stream, a data segment consists of a segment identifier, one or more composite data structures or simple data elements preceded by a data element separator and succeeded by a segment terminator.

Each data segment has a unique two- or three-character identifier, a name, and a purpose. The identifier serves as a label for the data segment. A segment can be further defined through the use of syntax notes, semantic notes, and comments. Each simple data element or composite data structure within the segment is further characterized by a reference designator and a condition designator.

### **A.1.3.4 Syntax Notes**

Syntax notes describe relational conditions among two or more data segment units within the same segment, or among two or more component data elements within the same composite data structure. For a complete description of the relational conditions, see A.1.3.8, Condition Designator.

### **A.1.3.5 Semantic Notes**

Simple data elements or composite data structures may be referenced by a semantic note within a particular segment. A semantic note provides important additional information regarding the intended meaning of a designated data element, particularly a generic type, in the context of its use within a specified data segment. Semantic notes may also define a relational condition among data elements in a segment based on the presence of a specific value (or one of a set of values) in one of the data elements.

### **A.1.3.6 Comments**

A segment comment provides additional information regarding the intended use of the segment.

### **A.1.3.7 Reference Designator**

Each simple data element or composite data structure in a segment is provided a structured code that indicates the segment in which it is used and the sequential position within the segment. The code is composed of the segment identifier followed by a two-digit number that defines the position of the simple data element or composite data structure in that segment.

For purposes of creating reference designators, the composite data structure is viewed as the hierarchical equal of the simple data element. Each component data element in a composite data structure is identified by a suffix appended to the reference designator for the composite data structure of which it is a member. This suffix is a two-digit number, prefixed with a hyphen, that defines the position of the component data element in the composite data structure.

#### **EXAMPLE**

- The first simple element of the CLP segment would be identified as CLP01.
- The first position in the SVC segment is occupied by a composite data structure that contains seven component data elements, the reference designator for the second component data element would be SVC01-02.

### A.1.3.8 Condition Designator

Data element conditions are of three types: mandatory, optional, and relational. They define the circumstances under which a data element may be required to be present or not present in a particular segment.

<u>DESIGNATOR</u>	<u>DESCRIPTION</u>
M- Mandatory	The designation of mandatory is absolute in the sense that there is no dependency on other data elements. This designation may apply to either simple data elements or composite data structures. If the designation applies to a composite data structure, then at least one value of a component data element in that composite data structure shall be included in the data segment.
O- Optional	The designation of optional means that there is no requirement for a simple data element or composite data structure to be present in the segment. The presence of a value for a simple data element or the presence of value for any of the component data elements of a composite data structure is at the option of the sender.
X- Relational	Relational conditions may exist among two or more simple data elements within the same data segment based on the presence or absence of one of those data elements (presence means a data element must not be empty). Relational conditions are specified by a condition code (see table below) and the reference designators of the affected data elements. A data element may be subject to more than one relational condition.
<u>CONDITION CODE</u>	<u>DEFINITION</u>
P- Paired or Multiple	If any element specified in the relational condition is present, then all of the elements specified must be present.
R- Required	At least one of the elements specified in the condition must be present.
E- Exclusion	Not more than one of the elements specified in the condition may be present.
C- Conditional	If the first element specified in the condition is present, then all of the other elements must be present. However, any or all of the elements not specified as the first element in the condition may appear without requiring that the first element be present. The order of the elements in the condition does not have to be the same as the order of the data elements in the data segment.
L- List Conditional	If the first element specified in the condition is present, then at least one of the remaining elements must be present. However, any or all of the elements not specified as the first element in the condition may appear without requiring that the first element be present. The order of the elements in the condition does not have to be the same as the order of the data elements in the data segment.

*Table A5. Condition Designator*

### **A.1.3.9 Absence of Data**

Any simple data element that is indicated as mandatory must not be empty if the segment is used. At least one component data element of a composite data structure that is indicated as mandatory must not be empty if the segment is used. Optional simple data elements and/or composite data structures and their preceding data element separators that are not needed should be omitted if they occur at the end of a segment. If they do not occur at the end of the segment, the simple data element values and/or composite data structure values may be omitted. Their absence is indicated by the occurrence of their preceding data element separators, in order to maintain the element's or structure's position as defined in the data segment.

Likewise, when additional information is not necessary within a composite, the composite may be terminated by providing the appropriate data element separator or segment terminator.

### **A.1.3.10 Control Segments**

A control segment has the same structure as a data segment, but it is used for transferring control information rather than application information.

#### **A.1.3.10.1 Loop Control Segments**

Loop control segments are used only to delineate bounded loops. Delineation of the loop shall consist of the loop header (LS segment) and the loop trailer (LE segment). The loop header defines the start of a structure that must contain one or more iterations of a loop of the data segments and provides the loop identifier for this loop. The loop trailer defines the end of the structure. The LS segment appears only before the first occurrence of the loop, and the LE segment appears only after the last occurrence of the loop. Unbounded looping structures do not use loop control segments.

#### **A.1.3.10.2 Transaction Set Control Segments**

The transaction set is delineated by the transaction set header (ST segment) and the transaction set trailer (SE segment). The transaction set header identifies the start and identifier of the transaction set. The transaction set trailer identifies the end of the transaction set and provides a count of the data segments, which includes the ST and SE segments.

#### **A.1.3.10.3 Functional Group Control Segments**

The functional group is delineated by the functional group header (GS segment) and the functional group trailer (GE segment). The functional group header starts and identifies one or more related transaction sets and provides control number and application identification information. The functional group trailer defines the end of the functional group of related transaction sets and provides a count of contained transaction sets.

#### **A.1.3.10.4 Relations among Control Segments**

The control segment of this standard must have a nested relationship as is shown and annotated in this subsection. The letters preceding the control segment name are the segment identifier for that control segment. The indentation of segment identifiers shown below indicates the subordination among control segments.

**GS** Functional Group Header starts a group of related transaction sets.

**ST** Transaction Set Header starts a transaction set.

**LS** Loop Header starts a bounded loop of data segments but is not part of the loop.

**LS** Loop Header, starts an inner, nested, bounded loop.

**LE** Loop Trailer, ends an inner, nested, bounded loop.

**LE** Loop Trailer ends a bounded loop of data segments but is not part of the loop.

**SE** Transaction Set Trailer, ends a transaction set.

**GE** Functional Group Trailer ends a group of related transaction sets.

More than one ST/SE pair, each representing a transaction set, may be used within one functional group. Also, more than one LS/LE pair, each representing a bounded loop, may be used within one transaction set.

#### **A.1.3.11 Transaction Set**

The transaction set is the smallest meaningful set of information exchanged between trading partners. The transaction set consists of a transaction set header segment, one or more data segments in a specified order, and a transaction set trailer segment. See *Figure A1, Transmission Control Schematic*.

##### **A.1.3.11.1 Transaction Set Header and Trailer**

A transaction set identifier uniquely identifies a transaction set. This identifier is the first data element of the Transaction Set Header Segment (ST). A user assigned transaction set control number in the header must match the control number in the Trailer Segment (SE) for any given transaction set. The value for the number of included segments in the SE segment is the total number of segments in the transaction set, including the ST and SE segments.

##### **A.1.3.11.2 Data Segment Groups**

The data segments in a transaction set may be repeated as individual data segments or as unbounded or bounded loops.

##### **A.1.3.11.3 Repeated Occurrences of Single Data Segments**

When a single data segment is allowed to be repeated, it may have a specified maximum number of occurrences defined at each specified position within a given transaction set standard. Alternatively, a segment may be allowed to repeat an unlimited number of times. The notation for an unlimited number of repetitions is ">1".

##### **A.1.3.11.4 Loops of Data Segments**

Loops are groups of semantically related segments. Data segment loop may be unbounded or bounded.



#### **A.1.3.11.4.1 Unbounded Loops**

To establish the iteration of a loop, the first data segment in the loop must appear once and only once in each iteration. Loops may have a specified maximum number of repetitions. Alternatively, the loop may be specified as having an unlimited number of iterations. The notation for an unlimited number of repetitions is ">1".

A specified sequence of segments is in the loop. Loops themselves are optional or mandatory. The requirement designator of the beginning segment of a loop indicates whether at least one occurrence of the loop is required. Each appearance of the beginning segment defines an occurrence of the loop.

The requirement designator of any segment within the loop after the beginning segment applies to that segment for each occurrence of the loop. If there is a mandatory requirement designator for any data segment within the loop after the beginning segment, that data segment is mandatory for each occurrence of the loop. If the loop is optional, the mandatory segment only occurs if the loop occurs.

#### **A.1.3.11.4.2 Bounded Loops**

The characteristics of unbounded loops described previously also apply to bounded loops. In addition, bounded loops require a Loop Start Segment (LS) to appear before the first occurrence and a Loop and Segment (LE) to appear after the last occurrence of the loop. If the loop does not occur, the LS and LE segments are suppressed.

#### **A.1.3.11.5 Data Segments in a Transaction Set**

When data segments are combined to form a transaction set, three characteristics are applied to each data segment: a requirement designator, a position in the transaction set, and a maximum occurrence.

#### **A.1.3.11.6 Data Segment Requirement Designators**

A data segment, or loop, has one of the following requirement designators for insurance transaction sets, indicating its appearance in the data stream of a transmission. These requirement designators are represented by a single character code.

<u>DESIGNATOR</u>	<u>DESCRIPTION</u>
M- Mandatory	This data segment must be included in the transaction set. (Note that a data segment may be mandatory in a loop of data segments, but the loop itself is optional if the beginning segment of the loop is designated as optional).
O- Optional	The presence of this data segment is the optional of the sending party.

#### **A.1.3.11.7 Data Segment Position**

The ordinal positions of the segments in a transaction set are explicitly specified for that transaction. Subject to the flexibility provided by the optional requirement designators of the segments, this positioning must be maintained.

### **A.1.3.11.8 Data Segment Occurrence**

A data segment may have a maximum occurrence of one, a finite number greater than one, or an unlimited number indicated by ">1".

### **A.1.3.12 Functional Group**

A functional group is a group of similar transaction sets that is bounded by a functional group header segment and a functional group trailer segment. The functional identifier defines the group of transactions that may be included within the functional group. The value for the functional group control number in the header and trailer control segments must be identical for any given group. The value for the number of included transaction sets is the total number of transaction sets in the group. See *Figure A1, Transmission Control Schematic*.

## **A.1.4 Envelopes and Control Structures**

### **A.1.4.1 Interchange Control Structures**

Typically, the term "interchange" denotes the ISA/IEA envelope that is transmitted between trading/business partners. Interchange control is achieved through several "control" components. The interchange control number is contained in data element ISA13 of the ISA segment. The identical control number must also occur in data element 02 of the IEA segment. Most commercial translation software products will verify that these two fields are identical. In most translation software products, if these fields are different the interchange will be "suspended" in error.

There are many other features of the ISA segment that are used for control measures. For instance, the ISA segment contains data elements such as authorization information, security information, sender identification, and receiver identification that can be used for control purposes. These data elements are agreed upon by the trading partners prior to transmission and are contained in the written trading partner agreement. The interchange date and time data elements as well as the interchange control number within the ISA segment are used for debugging purposes when there is a problem with the transmission or the interchange.

Data Element ISA12, Interchange Control Version Number, indicates the version of the ISA/IEA envelope. The ISA12 does not indicate the version of the transaction set that is being transmitted but rather the envelope that encapsulates the transaction. An Interchange Acknowledgment can be denoted through data element ISA14. The acknowledgment that would be sent in reply to a "yes" condition in data element ISA14 would be TA1 segment. Data Element ISA15, Test Indicator, is used between trading partners to indicate that the transmission is in a "test" or "production" mode. This becomes significant when the production phase of the project is to commence. Data element ISA16, Subelement Separator, is used by the translator for interpretation of composite data elements.

The ending component of the interchange or ISA/IEA envelope is the IEA segment. Data element IEA01 indicates the number of functional groups that are included within the interchange. In most commercial translation software products, an aggregate count of functional groups is kept while interpreting the interchange. This count is then verified with data element IEA01. If there is a

discrepancy, in most commercial products, the interchange is suspended. The other data element in the IEA segment is IEA02 which is referenced above.

See *Appendix B, EDI Control Directory*, for a complete detailing of the interchange control header and trailer.

## **A.1.4.2 Functional Groups**

Control structures within the functional group envelope include the functional identifier code in GS01. The Functional Identifier Code is used by the commercial translation software during interpretation of the interchange to determine the different transaction sets that may be included within the functional group. If an inappropriate transaction set is contained within the functional group, most commercial translation software will suspend the functional group within the interchange. The Application Sender's Code in GS02 can be used to identify the sending unit of the transmission. The Application Receiver's Code in GS03 can be used to identify the receiving unit of the transmission. The functional group contains a creation date (GS04) and creation time (GS05) for the functional group. The Group Control Number is contained in GS06. These data elements (GS04, GS05, and GS06) can be used for debugging purposes during problem resolution. GS08, Version/Release/Industry Identifier Code is the version/release/sub-release of the transaction sets being transmitted in this functional group. Appendix B provides guidance for the value for this data element. The GS08 does not represent the version of the interchange (ISA/IEA) envelope but rather the version/release/sub-release of the transaction sets that are encompassed within the GS/GE envelope.

The Functional Group Control Number in GS06 must be identical to data element 02 of the GE segment. Data element GE01 indicates the number of transaction sets within the functional group. In most commercial translation software products, an aggregate count of the transaction sets is kept while interpreting the functional group. This count is then verified with data element GE01.

See *Appendix B, EDI Control Directory*, for a complete detailing of the functional group header and trailer.

## **A.1.5 Acknowledgments**

### **A.1.5.1 Interchange Acknowledgment, TA1**

The Interchange or TA1 Acknowledgment is a means of replying to an interchange or transmission that has been sent. The TA1 verifies the envelopes only. Transaction set-specific verification is accomplished through use of the Functional Acknowledgment Transaction Set, 997. See *A.1.5.2, Functional Acknowledgment, 997*, for more details. The TA1 is a single segment and is unique in the sense that this single segment is transmitted without the GS/GE envelope structures. A TA1 can be included in an interchange with other functional groups and transactions.

Encompassed in the TA1 are the interchange control number, interchange date and time, interchange acknowledgment code, and the interchange note code. The interchange control number, interchange date and time are identical to those that were present in the transmitted interchange from the sending partner. This provides the capability to associate the TA1 with the transmitted interchange. TA104, Interchange Acknowledgment Code, indicates the status of the interchange control structure. This data element stipulates whether the transmitted interchange was accepted with no errors, accepted with errors, or rejected because of errors. TA105, Interchange Note Code, is a numeric code that indicates the error found while processing the interchange control structure. Values for this data element indicate whether the error occurred at the interchange or functional group envelope.

The TA1 segment provides the capability for the receiving trading partner to notify the sending trading partner of problems that were encountered in the interchange control structure.

Due to the uniqueness of the TA1, implementation should be predicated upon the ability for the sending and receiving trading partners commercial translators to accommodate the uniqueness of the TA1.

See *Appendix B, EDI Control Directory*, for a complete detailing of the TA1 segment.

## A.1.5.2 Functional Acknowledgment, 997

The Functional Acknowledgment Transaction Set, 997, has been designed to allow Trading partners to establish a comprehensive control function as a part of their business exchange process. This acknowledgment process facilitates control of EDI. There is a one-to-one correspondence between a 997 and a functional group. Segments within the 997 can identify the acceptance or rejection of the functional group. Segments within the 997 can identify the acceptance or rejection of the functional group, transaction sets or segments. Data elements in error can also be identified. There are many EDI implementations that have incorporated the acknowledgment process in all of their electronic communications. Typically, the 997 is used as a functional acknowledgment to a previously transmitted functional group. Many commercially available translators can automatically generate this transaction set through internal parameter settings. Additionally, translators will automatically reconcile received acknowledgments to functional groups that have been sent. The benefit to this process is that the sending trading partner can determine if the receiving trading partner has received ASC X12 transaction sets through reports that can be generated by the translation software to identify transmissions that have not been acknowledged.

As stated previously, the 997 is a transaction set and thus is encapsulated within the interchange control structure (envelopes) for transmission.

As with any information flow, an acknowledgment process is essential. If an "automatic" acknowledgment process is desired between trading partners then it is recommended that the 997 be used.

See *Appendix B, EDI Control Directory*, for a complete detailing of transaction set 997.

## **B EDI Control Directory**

### **B.1 Control Segments**

- **ISA**  
Interchange Control Header Segment
- **IEA**  
Interchange Control Trailer Segment
- **GS**  
Functional Group Header Segment
- **GE**  
Functional Group Trailer Segment
- **TA1**  
Interchange Acknowledgment Segment

Final

## IMPLEMENTATION

---

### ISA INTERCHANGE CONTROL HEADER

- Notes:**
1. The ISA is a fixed record length segment and all positions within each of the data elements must be filled. The first element separator defines the element separator to be used through the entire interchange. The segment terminator used after the ISA defines the segment terminator to be used throughout the entire interchange. Spaces in the example are represented by "." for clarity.

**Example:** ISA\*00\*.....\*01\*SECRET...\*ZZ\*SUBMITTERS.ID...\*ZZ  
\*RECEIVERS.ID...\*980727\*1250\*U\*00401\*000000905\*1\*T\*::~

## STANDARD

---

### ISA Interchange Control Header

**Purpose:** To start and identify an interchange of zero or more functional groups and interchange-related control segments.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
ISA01	I01	Authorization Information Qualifier	R 2/2	M ID 2/2
ISA02	I02	Authorization Information	R 10/10	M AN 10/10
ISA03	I03	Security Information Qualifier	R 2/2	M ID 2/2
ISA04	I04	Security Information	R 10/10	M AN 10/10
ISA05	I05	Interchange ID Qualifier	R 2/2	M ID 2/2
ISA06	I06	Interchange Sender ID	R 15/15	M AN 15/15
ISA07	I05	Interchange ID Qualifier	R 2/2	M ID 2/2
ISA08	I07	Interchange Receiver ID	R 15/15	M AN 15/15
ISA09	I08	Interchange Date	R 6/6	M DT 6/6
ISA10	I09	Interchange Time	R 4/4	M TM 4/4
ISA11	I10	Interchange Control Standards Identifier	R 1/1	M ID 1/1
ISA12	I11	Interchange Control Version Number	R 5/5	M ID 5/5
ISA13	I12	Interchange Control Number	R 9/9	M N0 9/9
ISA14	I13	Acknowledgment Requested	R 1/1	M ID 1/1
ISA15	I14	Test Indicator	R 1/1	M ID 1/1
ISA16	I15	Component Element Separator	R 1/1	M AN 1/1

**ELEMENT SUMMARY**

**ISA01** Authorization Information Qualifier

Code to identify the type of information in the Authorization Information.

<u>CODE</u>	<u>DEFINITION</u>
00	No Authorization Information Present (No Meaningful Information in I02)
03	Additional Data Identification

**ISA02** Authorization Information

Information used for additional identification or authorization of the interchange sender or the data in the interchange; the type of information is set by the Authorization Information Qualifier (I01).

**ISA03** Security Information Qualifier  
 Code to identify the type of information in the Security Information.

<u>CODE</u>	<u>DEFINITION</u>
00	No Security Information Present (No Meaningful Information in ISA04)
01	Password

**ISA04** Security Information  
 This is used for identifying the security information about the interchange sender or the data in the interchange; the type of information is set by the Security Information Qualifier (I03)

**ISA05** Interchange ID Qualifier  
 Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified

***This ID qualifies the sender in ISA06.***

<u>CODE</u>	<u>DEFINITION</u>
01	Duns (Dun & Bradstreet)
12	Phone (Telephone Companies) NOT ADVISED
14	Duns Plus Suffix
30	U.S. Federal Tax Identification Number
33	National Association of Insurance Commissioners Company Code (NAIC)
ZZ	Mutually Defined

**ISA06** Interchange Sender ID  
 Identification code published by the sender for other parties to use as the receiver ID to route data to them; the sender always codes this value in the sender ID element

**ISA07** Interchange ID Qualifier  
 Qualifier to designate the system/method of code structure used to designate the sender or receiver ID element being qualified

***This ID qualifies the receiver in ISA08.***

<u>CODE</u>	<u>DEFINITION</u>
01	Duns (Dun & Bradstreet)
12	Phone (Telephone Companies) NOT ADVISED
14	Duns Plus Suffix
30	U.S. Federal Tax Identification Number
33	National Association of Insurance Commissioners Company Code (NAIC)
ZZ	Mutually Defined



**ISA08**      **Interchange Receiver ID**  
 Identification code published by the receiver of the data. When sending, it is used by the sender as their sending ID, thus other parties sending to them will use this as a receiving ID to route data to them

**ISA09**      **Interchange Date**  
 Date of the interchange

*The date format is YYMMDD.*

**ISA10**      **Interchange Time**  
 Time of the interchange.

*The time format is HHMM.*

**ISA11**      **Interchange Control Standards Identifier**  
 Code to identify the agency responsible for the control standard used by the message that is enclosed by the interchange header and trailer.

<u>CODE</u>	<u>DEFINITION</u>
U	U.S. EDI Community of ASC X12, TDCC, and UCS

**ISA12**      **Interchange Control Version Number**  
 This version number covers the interchange control segments.

<u>CODE</u>	<u>DEFINITION</u>
00401	Draft Standards for Trial Use Approved for Publication by ASC X12 Procedures Review Board through October 1997

**ISA13**      **Interchange Control Number**  
 A control number assigned by the interchange sender.

**ISA14**      **Acknowledgment Code**  
 Code sent by the sender to request an interchange acknowledgment (TA1)

*See Section A.1.5.1 for Interchange Acknowledgment Information.*

<u>CODE</u>	<u>DEFINITION</u>
0	No Acknowledgment Requested
1	Interchange Acknowledgment Requested

**ISA15**      **Test Indicator**  
 Code to indicate whether data enclosed by this interchange envelope is test or production.

<u>CODE</u>	<u>DEFINITION</u>
P	Production Data
T	Test Data

**ISA16**      **Component Element Separator**  
 This field provides the delimiter used to separate component data elements within a composite data structure; this value must be different than the data element separator and the segment terminator.

**IMPLEMENTATION**

**IEA INTERCHANGE CONTROL TRAILER**

**Example:** IEA\*1\*000000905~

**STANDARD**

**IEA** Interchange Control Trailer

**Purpose:** To define the end of an interchange of zero or more functional groups and interchange-related control segments.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
IEA01	I16	Number of Included Functional Groups	R 1/5	M N0 1/5
IEA02	I12	Interchange Control Number	R 9/9	M N0 9/9

**ELEMENT SUMMARY**

**IEA01** Number of Included Functional Groups  
 A count of the number of functional groups included in an interchange

**IEA02** Interchange Control Number  
 A control number assigned by the interchange sender

**IMPLEMENTATION**

**GS FUNCTIONAL GROUP HEADER**

**Example:** GS\*IN\*SENDER CODE\*RECEIVER CODE\*19940331\*0900\*1\*X\*004010~

**STANDARD**

**GS** Functional Group Header

- Purpose:** To indicate the beginning of a functional group and to provide control information.
- Semantic:** **04** GS04 is the Group Date  
**05** GS05 is the Group Time  
**06** The data interchange control number GS06 in this header must be identical to the same data element in the associated Functional Group Trailer GE02.
- Comments:** **00** A functional group of related transaction sets, within the scope of X12 standards, consists of a collection of similar transaction sets enclosed by a functional group header and a functional group trailer.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
GS01	479	Functional Identifier Code	R 2/2	M ID 2/2
GS02	142	Application Sender's Code	R 2/15	M AN 2/15
GS03	124	Application Receiver's Code	R 2/15	M AN 2/15
GS04	373	Date	R 8/8	M DT 8/8
GS05	337	Time	R 4/8	M TM 4/8
GS06	28	Group Control Number	R 1/9	M N0 1/9
GS07	455	Responsible Agency Code	R 1/2	M ID 1/2
GS08	480	Version/Release/Industry Identifier Code	R 1/12	M AN 1/12

## ELEMENT SUMMARY

**GS01** Functional Identifier Code  
 Code identifying a group of application related Transaction Sets.

<u>CODE</u>	<u>DEFINITION</u>
IN	Invoice Information (810,819)

**GS02** Application Sender's Code  
 Code identifying party sending transmission. Codes agreed to by trading partners

*The identification code of the unit sending the information.*

**GS03** Application Receiver's Code  
 Code identifying party receiving transmission. Codes agreed to by trading partners.

*The identification code for the unit receiving the information.*

**GS04** Date  
 Date (CCYYMMDD)

*This is the functional group creation date.*

**GS05** Time  
 Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD = hundredths (00-99)

**GS06** Group Control Number  
 Assigned number originated and maintained by the sender.

**GS07** Responsible Agency Code  
 Code used in conjunction with Data Element 480 to identify the issuer of the standard.

<u>CODE</u>	<u>DEFINITION</u>
X	Accredited Standards Committee X12

**GS08** Version / Release / Industry Identifier Code  
 Code indicating the version, release, subrelease, and industry identifier of the EDI standard being used, including the GS and GE segments. If code in DE455 in GS segment is X, then in DE 480 positions 1-3 are the version number; positions 4-6 are the release and subrelease, level of the version; and positions 7-12 are the industry or trade association identifiers (optionally assigned by user). If code in DE455 in GS segment is T, then other formats are allowed.

<u>CODE</u>	<u>DEFINITION</u>
4010	Draft Standards Approved for Publication by ASC X12, Procedures Review Board through October 1997.

**IMPLEMENTATION**

**GE FUNCTIONAL GROUP TRAILER**

**Example:** GE\*1\*1~

**STANDARD**

**GE** Functional Group Trailer

- Purpose:** To indicate the end of a functional group and to provide control information.
- Semantic:** **02** The data interchange control number GE02 in this trailer must be identical to the same data element in the associated Functional Header GS06.
- Comments:** **00** The use of identical data interchange control numbers in the associated functional group header and trailer is designed to maximize functional group integrity. The control number is the same as that used in the corresponding header.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
GE01	97	Number of Transaction Sets Included	R 1/6	M N0 1/6
GE02	28	Group Control Number	R 1/9	M N0 1/9

**ELEMENT SUMMARY**

- GE01** Number of Transaction Sets Included  
 Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element.
- GE02** Group Control Number  
 Assigned number originated and maintained by the sender.

## B.2 Functional Acknowledgment Transaction Set, 997

### STANDARD

### 997 Functional Acknowledgment

Functional Group ID: **FA**

This Draft Standard for Trial Use contains the format and establishes the data contents of the Functional Acknowledgment Transaction Set (997) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to define the control structures for a set of acknowledgments to indicate the results of the syntactical analysis of the electronically encoded documents. The encoded documents are the transaction sets, which are grouped in functional groups, used in defining transactions for business data interchange. This standard does not cover the semantic meaning of the information encoded in the transaction sets.

#### Header

POS. #	SEG.ID	NAME	REQ. DES.	MAX USE	LOOP REPEAT
010	ST	Transaction Set Header	M	1	
020	AK1	Functional Group Response Header	M	1	
<b>LOOP ID - AK2</b>					<b>999999</b>
030	AK2	Transaction Set Response Header	O	1	
<b>LOOP ID - AK2/AK3</b>					<b>999999</b>
040	AK3	Data Segment Note	O	1	
050	AK4	Data Element Note	O	99	
060	AK5	Transaction Set Response Trailer	M	1	
070	AK9	Functional Group Response Trailer	M	1	
080	SE	Transaction Set Trailer	M	1	

#### NOTES:

- 1/010** These acknowledgments shall not be acknowledged, thereby preventing an endless cycle of acknowledgments of acknowledgments.
- 1/010** The Functional Group Header Segment (GS) is used to start the envelope for the Functional Acknowledgment Transaction Sets. In preparing the functional group of acknowledgments, the application sender's code and the application receiver's code, taken from the functional group being acknowledged, are exchanged; therefore, one acknowledgment functional group responds to only those functional groups from one application receiver's code to one applications sender's code.

- 1/010** There is only one Functional Acknowledgment Transaction Set per acknowledged functional group.
- 1/020** AK1 is used to respond to the functional group header and to start the acknowledgment for a functional group. There shall be one AK1 segment for the functional group that is being acknowledged.
- 1/030** AK2 is used to start the acknowledgment of a transaction set within the received functional group. The AK2 segments shall appear in the same order as the transaction sets in the functional group that has been received and is being acknowledged.
- 1/040** The data segments of this standard are used to report the results of the syntactical analysis of the functional groups of transaction sets; they report the extent to which the syntax complies with the standards for transaction sets and functional groups. They do not report on the semantic meaning of the transaction sets (for example, on the ability of the receiver to comply with the request of the sender).

Final

**IMPLEMENTATION**

**Transaction Set Header**

**Loop:** ----  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** ST\*997\*0001~

**STANDARD**

**ST** Transaction Set Header

**Level:** Header  
**Position:** 010  
**Loop:** ----  
**Requirement:** Mandatory  
**Max Use:** 1  
**Purpose:** To indicate the start of a transaction set and to assign a control number.  
**Semantic:** 1 The transaction set identifier (ST01) used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the invoice transaction set).

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
ST01	143	Transaction Set Identifier Code	R 3/3	M/Z ID 3/3
ST02	329	Transaction Set Control Number	R 4/9	M AN 4/9

**ELEMENT SUMMARY**

**ST01** Transaction Set Identifier Code  
 Code uniquely identifying a Transaction Set

<u>CODE</u>	<u>DEFINITION</u>
997	Functional Acknowledgment



**ST02** Transaction Set Control Number

Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

***The Transaction Set Control Number in ST02 and SE02 must be identical. The number is assigned by the originator and must be unique within a functional group (GS-GE). The number also aids in error resolution research. For example, start with the number 0001 and increment from there.***

***Use the corresponding value in ST02 for this transaction set***

Final

**IMPLEMENTATION**

**Functional Group Response Header**

**Usage:** REQUIRED

**Repeat:** 1

**Example:** AK1\*FR\*1~

**STANDARD**

**AK1** Functional Group Response

**Level:** Header

**Position:** 020

**Loop:** ----

**Requirement:** Mandatory

**Max Use:** 1

**Purpose:** To start acknowledgment of a functional group.

**Set Notes:** 1. AK1 is used to respond to the functional group header and to start the acknowledgment for a functional group. There shall be one AK1 segment for the functional group that is being acknowledged.

**Semantic:** 01 AK101 is the functional ID found in the GS segment (GS01) in the functional group being acknowledged.

02 AK102 is the functional group control number found in the GS segment in the functional group being acknowledged.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK101	479	Functional Identifier Code	R 2/2	M/Z ID 2/2
AK102	28	Group Control Number	R 1/9	M/Z N0 1/9

**ELEMENT SUMMARY**

**AK101** Functional Identifier Code  
 Code identifying a group of application related Transaction Sets.

CODE	DEFINITION
FR	Invoice Transaction Set

**AK102** Group Control Number  
 Assigned number originated and maintained by the sender.

**IMPLEMENTATION**

**Transaction Set Response Header**

**Loop:** TRANSACTION SET RESPONSE HEADER **Repeat:** 999999  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** AK2\*810\*0005~

**STANDARD**

**AK2** Transaction Set Response

**Level:** Header  
**Position:** 030  
**Loop:** AK2 **Repeat:** 999999  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To start acknowledgment of a single transaction set.  
**Set Notes:** 1 AK2 is used to start the acknowledgment of a transaction set within the received functional group. The AK2 segments shall appear in the same order as the transaction sets in the functional group that has been received and is being acknowledged.  
**Semantic:** 01 AK201 is the transaction set ID found in the ST segment (ST01) in the transaction set being acknowledged.  
 02 AK202 is the transaction set control number found in the ST segment in the transaction set being acknowledged.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK201	143	Transaction Set Identifier Code	R 3/3	M/Z ID 3/3
AK202	329	Transaction Set Control Number	R 4/9	M/Z N0 4/9

**ELEMENT SUMMARY**

**AK201** Transaction Set Identifier Code  
 Code uniquely identifying a Transaction Set.

<u>CODE</u>	<u>DEFINITION</u>
810	Invoice

**AK202** Transaction Set Control Number  
 Identifying control number that must be unique within the transaction set functional group assigned by the originator of a transaction set.

**IMPLEMENTATION**

**Data Segment Note**

**Loop:** DATA SEGMENT NOTE      **Repeat:** 999999  
**Usage:** OPTIONAL  
**Repeat:** 1

**Example:** AK3\*NM1\*37~

**STANDARD**

**AK3** Data Segment Note

**Level:** Header  
**Position:** 040  
**Loop:** AK2/AK3      **Repeat:** 999999  
**Requirement:** Optional  
**Max Use:** 1  
**Purpose:** To report errors in a data segment and to identify the location of the data segment.  
**Set Notes:** 1. The data segments of this standard are used to report the results of the syntactical analysis of the functional groups of transaction sets; they report the extent to which the syntax complies with the standards for transaction sets and functional groups. They do not report on the semantic meaning of the transaction sets (for example, on the ability of the receiver to comply with the request of the sender).

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK301	721	Segment ID Code	R 2/3	M ID 2/3
AK302	719	Segment Position in Transaction Set	R 1/6	M N0 1/6
AK303	447	Loop Identifier Code	O 1/4	O AN 1/4
AK304	720	Segment Syntax Error Code	O 1/3	O ID 1/3

**ELEMENT SUMMARY**

**AK301** Segment ID Code  
 Code defining the segment ID of the data segment in error. See Appendix A - Number 77.

*This is the 2 or 3 characters which occur at the beginning of a segment.*

**AK302** Segment Position in Transaction Set  
The numerical count position of this data segment from the start of the transaction set; the transaction set header is count position 1.

*This is a data count, not a segment position in the standard description.*

**AK303** Loop Identifier Code  
The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE.

*Code identifying a loop within the transaction set which is bounded by the related LS and LE segments (corresponding LS and LE segments must have the same value for loop identifier). (Note: The loop ID number given on the transaction set diagram is recommended as the value for this data element in the segments LS and LE).*

**AK304** Segment Syntax Error Code  
Code indicating error found based on the syntax editing of a segment.

<u>CODE</u>	<u>DEFINITION</u>
1	Unrecognized Segment ID
2	Unexpected Segment
3	Mandatory Segment Missing
4	Loop Occurs Over Maximum Times
5	Segment Exceeds Maximum Use
6	Segment Not in Defined Transaction Set
7	Segment Not in Proper Sequence
8	Segment Has Data Element Errors

**IMPLEMENTATION**

**Data Element Note**

**Loop:** DATA SEGMENT NOTE  
**Usage:** OPTIONAL  
**Repeat:** 99

**Example:** AK4\*1\*98\*7~

**STANDARD**

**AK4** Data Element Note

**Level:** Header  
**Position:** 050  
**Loop:** AK2/AK3  
**Requirement:** Optional  
**Max Use:** 99  
**Purpose:** To report errors in a data element and to identify the location of the data element.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK401	C030	Position in Segment	R	M
AK401-1	722	Element Position in Segment	R 1/2	M N0 1/2
AK401-2	1528	Component Data Element Position in Composite	O 1/2	O N0 1/2
AK402	725	Data Element Reference Number	O 1/4	O N0 1/4
AK403	723	Data Element Error Code	R 1/3	M ID 1/3
AK404	724	Copy of Bad Data Element	O 1/99	O AN 1/99

**ELEMENT SUMMARY**

**AK401**      **Position in Segment**  
 Code indicating the relative position of a simple data element, or the relative position of a composite data structure combined with the relative position of the component data element within the composite data structure, in error; the count starts with 1 for the simple data element or composite data structure immediately following the segment ID.

**AK401-1**    **Element Position in Segment**  
 This is used to indicate the relative position of a simple data element, or the relative position of a composite data structure with the relative position of the component within the composite data structure, in error; in the data segment the count starts with 1 for the simple data element or composite data structure immediately following the segment ID.

**AK401-2**    **Component Data Element Position in Composite**  
 To identify the component data element position within the composite that is in error.

**AK402**      **Data Element Reference Number**  
 Reference number used to locate the data element in the Data Element Dictionary.

***The Data Element Reference Number for this data element is 725. All reference numbers are found with the segment descriptions in this guide.***

**AK403**      **Data Element Syntax Error Code**  
 Code indicating the error found after syntax edits of a data element.

<u>CODE</u>	<u>DEFINITION</u>
1	Mandatory Data Element Missing
2	Conditional Required Data Element Missing
3	Too Many Data Elements
4	Data Element Too Short
5	Data Element Too Long
6	Invalid Character in Data Element
7	Invalid Code Value
8	Invalid Date
9	Invalid Time
10	Exclusion Condition Violated

**AK404**    **Copy of Bad Data Element**  
 This is a copy of the data element in error.

**IMPLEMENTATION**

**Transaction Set Response Trailer**

**Loop:** DATA SEGMENT NOTE  
**Usage:** REQUIRED  
**Repeat:** 1

**Example:** AK5\*E\*5~

**STANDARD**

**AK5** Transaction Set Response Trailer

**Level:** Header  
**Position:** 060  
**Loop:** AK2  
**Requirement:** Mandatory  
**Max Use:** 1  
**Purpose:** To acknowledge acceptance or rejection and to report errors in a transaction set.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK501	717	Transaction Set Acknowledgment Code	M 1/1	M ID 1/1
AK502	718	Transaction Set Syntax Error Code	O 1/3	O ID 1/3
AK503	718	Transaction Set Syntax Error Code	O 1/3	O ID 1/3
AK504	718	Transaction Set Syntax Error Code	O 1/3	O ID 1/3
AK505	718	Transaction Set Syntax Error Code	O 1/3	O ID 1/3
AK506	718	Transaction Set Syntax Error Code	O 1/3	O ID 1/3



## ELEMENT SUMMARY

---

**AK501** Transaction Set Acknowledgment Code  
Code indicating accept or reject condition based on the syntax editing of the transaction set.

<u>CODE</u>	<u>DEFINITION</u>
A	Accepted (ADVISED)
E	Accepted But Errors Were Noted
R	Rejected (ADVISED)

**AK502** Transaction Set Syntax Error Code  
Code indicating error found based on the syntax editing of a transaction set.

*This element is required if an error exists*

<u>CODE</u>	<u>DEFINITION</u>
1	Transaction Set Not Supported
2	Transaction Set Trailer Missing
3	Transaction Set Control Number in Header and Trailer Do Not Match
4	Number of Included Segments Does Not Match Actual Count
5	One or More Segments in Error
6	Missing or Invalid Transaction Set Identifier
7	Missing or Invalid Transaction Set Control number
23	Transaction Set Control Number Not Unique within the Functional Group

**AK503** Transaction Set Syntax Error Code  
Code indicating error found based on the syntax editing of a transaction set.

*Use the same codes that were listed in AK502.*

**AK504** Transaction Set Syntax Error Code  
Code indicating error found based on the syntax editing of a transaction set.

*Use the same codes that were listed in AK502.*

**AK505** Transaction Set Syntax Error Code  
Code indicating error found based on the syntax editing of a transaction set.

*Use the same codes that were listed in AK502.*

**AK506** Transaction Set Syntax Error Code  
Code indicating error found based on the syntax editing of a transaction set.

*Use the same codes that were listed in AK502.*

**IMPLEMENTATION**

**Functional Group Response Trailer**

**Usage:** REQUIRED

**Repeat:** 1

**Example:** AK9\*A\*2\*2\*2~

**STANDARD**

**AK9** Functional Group Response Trailer

**Level:** Header

**Position:** 070

**Loop:** -----

**Requirement:** Mandatory

**Max Use:** 1

**Purpose:** To acknowledge acceptance or rejection of a functional group and report the number of included transaction sets from the original trailer, the accepted sets, and the received sets in this functional group.

**Comments:** A If AK901 is 'A' or 'E', then the transmitted functional group is accepted. If AK901 is 'R', then the transmitted group is rejected.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
AK901	715	Functional Group Acknowledge Code	R 1/1	M ID 1/1
AK902	97	Number of Transaction Sets Included	R 1/6	M N0 1/6
AK903	123	Number of Received Transaction Sets	R 1/6	M N0 1/6
AK904	2	Number of Accepted Transaction Sets	R 1/6	M N0 1/6
AK905	716	Functional Group Error Code	O 1/3	O ID 1/3
AK906	716	Functional Group Error Code	O 1/3	O ID 1/3
AK907	716	Functional Group Error Code	O 1/3	O ID 1/3
AK908	716	Functional Group Error Code	O 1/3	O ID 1/3
AK909	716	Functional Group Error Code	O 1/3	O ID 1/3

## ELEMENT SUMMARY

**AK901** Functional Group Acknowledge Code  
Code indicating accept or reject condition based on the syntax editing of the functional group.

<u>CODE</u>	<u>DEFINITION</u>
A	Accepted ADVISED
E	Accepted, But Errors Were Noted
P	Partially Accepted, At Least One Transaction Set Was Rejected ADVISED
R	Rejected ADVISED

**AK902** Number of Transaction Sets Included  
Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element.

*This is the value of the original GE01.*

**AK903** Number of Received Transaction Sets  
Number of Transaction Sets received.

**AK904** Number of Accepted Transaction Sets  
Number of accepted Transaction Sets in a Functional Group.

**AK905** Functional Group Syntax Error Code  
Code indicating error found based on the syntax editing of the functional group header and/or trailer.

<u>CODE</u>	<u>DEFINITION</u>
1	Functional Group Not Supported
2	Functional Group Version Not Supported
3	Functional Group Trailer Missing
4	Group Control Number in the Functional Group Header and Trailer Do Not Agree
5	Number of Included Transaction Sets Does Not Match Actual Count
6	Group Control Number Violates Syntax

**AK906** Functional Group Syntax Error Code  
Code indicating error found based on the syntax editing of the functional group header and/or trailer.

*Use the same codes that were listed in AK905.*

**AK907** Functional Group Syntax Error Code  
Code indicating error found based on the syntax editing of the functional group header and/or trailer.

*Use the same codes that were listed in AK905.*

**AK908** Functional Group Syntax Error Code  
Code indicating error found based on the syntax editing of the functional group header and/or trailer.

*Use the same codes that were listed in AK905.*

**AK909** Functional Group Syntax Error Code  
Code indicating error found based on the syntax editing of the functional group header and/or trailer.

*Use the same codes that were listed in AK905.*

Final

**IMPLEMENTATION**

**Transaction Set Trailer**

**Usage:** REQUIRED

**Repeat:** 1

**Example:** SE\*67\*0001~

**STANDARD**

**SE** Transaction Set Trailer

**Level:** Header

**Position:** 080

**Loop:** ----

**Requirement:** Mandatory

**Max Use:** 1

**Purpose:** To indicate the end of a transaction set and to provide a count of the transmitted segments.

**Comment:** 1 SE is the last segment of each transaction set.

**DIAGRAM**

Seq. No.	Ref. No.	ASC X12 Name	SF Req.	ASC X12 Attributes
SE01	096	Number of Included Segments	R 1/10	M N0 1/10
SE02	329	Transaction Set Control Number	R 4/9	M AN 4/9

**ELEMENT SUMMARY**

**SE01** Number of Included Segments  
Total number of segments included in a transaction set including ST and SE segments

**SE02** Transaction Set Control Number  
Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set

*The Transaction Set Control Numbers in ST02 and SE02 must be identical. The number is assigned by the originator and must be unique within a functional group (GS-GE). The number also aids in error resolution research. For example, start with the number 0001 and increment from there.*

## **C Code Lists and External Code Sources**

### **4 ABA Routing Number**

#### **SIMPLE DATA ELEMENT REFERENCE**

20

#### **SIMPLE CODE REFERENCE**

66/13 506/01 647/806

#### **SOURCE**

Key to American Bankers Association Routing Numbers

#### **AVAILABLE FROM**

Rank McNally & Company  
P.O. Box 7600  
Chicago, IL 60680

#### **ABSTRACT**

Contains the Federal Reserve Routing Codes. The first four digits identify the Federal Reserve District, the next four the Institution, and the last is a check digit.

### **5 Countries, Currencies and Funds**

#### **SIMPLE DATA ELEMENT/CODE REFERENCES**

235/CH, 26, 100

#### **SOURCE**

Codes for Representation of Names of Countries, ISO 3166-(Latest Release)  
Codes for Representation of Currencies and Funds, ISO 4217-(Latest Release)

#### **AVAILABLE FROM**

American National Standards Institute  
11 West 42nd Street, 13th Floor  
New York, NY 10036

#### **ABSTRACT**

This international standard provides a two-letter alphabetic code for representing the names of countries, dependencies, and other areas of special geopolitical interest for the purposes of international exchange and general directions for the maintenance of the code. The standard is intended for use in any application requiring expression of entities in coded form. Most currencies are those of geopolitical entities that are listed in ISO 3166, Codes for the Representation of Names of Countries. The code may be a three-character alphabetic or three-digit numeric. The two leftmost characters of the alphabetic code identify the currency authority to which the code is assigned (using the two character alphabetic code from ISO 3166, if applicable). The rightmost character is a mnemonic derived from the name of the major currency unit of fund. For currencies not associated with a single geographic entity, a specially- allocated two-character alphabetic code, in the range XA to XZ identifies the currency authority. The rightmost character is derived from the name of the geographic area concerned, and is mnemonic to the extent possible. The numeric codes are identical to those assigned to the geographic entities listed in ISO 3166. The range 950-998 is reserved for identification of funds and currencies not associated with a single entity listed in ISO 3166.

## 22 States and Outlying Areas of the U.S.

### **SIMPLE DATA ELEMENT/CODE REFERENCES**

66/SJ, 771/009, 235/A5, 156

### **SOURCE**

National Zip Code and Post Office Directory

### **AVAILABLE FROM**

U.S. Postal Service  
National Information Data Center  
P.O. Box 2977  
Washington, DC 20013

### **ABSTRACT**

Provides names, abbreviations, and codes for the 50 states, the District of Columbia, and the outlying areas of the U.S. The entities listed are considered to be the first order divisions of the U.S. Microfiche available from NTIS (same as address above). The Canadian Post Office lists the following as "official" codes for Canadian Provinces: AB - Alberta BC - British Columbia MB - Manitoba NB - New Brunswick NF - Newfoundland NS - Nova Scotia NT - North West Territory ON - Ontario PE - Prince Edward Island PQ - Quebec SK - Saskatchewan YT - Yukon

## 51 ZIP Code

### **SIMPLE DATA ELEMENT/CODE REFERENCES**

66/16, 309/PQ, 309/PR, 309/PS, 771/010, 116

### **SOURCE**

National ZIP Code and Post Office Directory, Publication 65

### **AVAILABLE FROM**

U.S. Postal Service  
Washington, DC 20260

### **ABSTRACT**

The ZIP Code is a geographic identifier of areas within the United States and its territories for purposes of expediting mail distribution by the U.S. Postal Service. It is five or nine numeric digits. The ZIP Code structure divides the U.S. into ten large groups of states. The leftmost digit identifies one of these groups. The next two digits identify a smaller geographic area within the large group. The two right-most digits identify a local delivery area. In the nine-digit ZIP Code, the four digits that follow the hyphen further subdivide the delivery area. The two leftmost digits identify a sector which may consist of several large buildings, blocks or groups of streets, a floor of a building, or a cluster of mailboxes. The USPS Domestic Mail Manual includes information on the use of the new 11-digit zip code.

## **D Change Summary**

This is the first Invoice Implementation Guide (IG) for the 810. In future guides, this section will contain a summary of all changes since the previous guide.

Final