



CSX EDI 997 Functional Acknowledgment

X12/V5030/997: 997 Functional Acknowledgment

Version: 5030

Questions about the CSX EDI 997 Implementation Guide should be directed to:

**877-SHIPCSX option 2
Monday – Friday: 7:00 AM – 6:00 PM**

Publication: September 2007

Table of Contents

997	Functional Acknowledgment	3
ISA	Interchange Control Header	5
GS	Functional Group Header	7
ST	Transaction Set Header	9
AK1	Functional Group Response Header	10
AK2	Loop AK2	11
AK2	Transaction Set Response Header	12
AK3	Loop AK3	13
AK3	Data Segment Note	14
AK4	Data Element Note	15
AK5	Transaction Set Response Trailer	16
AK9	Functional Group Response Trailer	17
SE	Transaction Set Trailer	18
GE	Functional Group Trailer	19
IEA	Interchange Control Trailer	20

997

Functional Acknowledgment

Functional Group=FA

Purpose: This X12 Transaction Set 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.

Not Defined:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
	ISA	Interchange Control Header	M	1			Must use
	GS	Functional Group Header	M	1			Must use

Heading:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
0100	ST	Transaction Set Header	M	1		N1/0100	Must use
0200	AK1	Functional Group Response Header	M	1		N1/0200	Must use

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
	<u>LOOP ID - AK2</u>		-	-	<u>≥1</u>	<u>N1/0300L</u>	-
0300	AK2	Transaction Set Response Header	O	1		N1/0300	Used
	<u>LOOP ID - AK3</u>		-	-	<u>≥1</u>	<u>C1/0400L</u>	-
0400	AK3	Data Segment Note	O	1		C1/0400	Used
0500	AK4	Data Element Note	O	99			Used
0600	AK5	Transaction Set Response Trailer	M	1			Must use
0700	AK9	Functional Group Response Trailer	M	1			Must use
0800	SE	Transaction Set Trailer	M	1			Must use

Not Defined:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>	<u>Usage</u>
	GE	Functional Group Trailer	M	1			Must use
	IEA	Interchange Control Trailer	M	1			Must use

Notes:

- 1/0100 These acknowledgments shall not be acknowledged, thereby preventing an endless cycle of acknowledgments of acknowledgments. Nor shall a Functional Acknowledgment be sent to report errors in a previous Functional Acknowledgment.
There is only one Functional Acknowledgment Transaction Set per acknowledged functional group. Only one acknowledgement, either a single Transaction Set 997 or a single Transaction Set 999, should be generated for a functional group unless mutually agreed upon.
- 1/0200 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. The Functional Acknowledgment is generated at the point of translation, intended for the originator (not any intermediate parties).
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 application sender's code.
- 1/0300L 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.

1/0300 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.

Comments:

- 1/0400L 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 or proper subsets of 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).
- 1/0400 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 or proper subsets of 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).

ISA Interchange Control Header

Pos:	Max: 1
Not Defined - Mandatory	
Loop: N/A	Elements: 16

User Option (Usage): Must use

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

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
ISA01	I01	Authorization Information Qualifier Description: Code identifying the type of information in the Authorization Information All valid standard codes are used.	M	ID	2/2	Must use
ISA02	I02	Authorization Information Description: 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)	M	AN	10/10	Must use
ISA03	I03	Security Information Qualifier Description: Code identifying the type of information in the Security Information All valid standard codes are used.	M	ID	2/2	Must use
ISA04	I04	Security Information Description: 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)	M	AN	10/10	Must use
ISA05	I05	Interchange ID Qualifier Description: Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified All valid standard codes are used.	M	ID	2/2	Must use
ISA06	I06	Interchange Sender ID Description: 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	M	AN	15/15	Must use
ISA07	I05	Interchange ID Qualifier Description: Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified All valid standard codes are used.	M	ID	2/2	Must use
ISA08	I07	Interchange Receiver ID Description: 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	M	AN	15/15	Must use
ISA09	I08	Interchange Date Description: Date of the interchange	M	DT	6/6	Must use
ISA10	I09	Interchange Time Description: Time of the interchange	M	TM	4/4	Must use
ISA11	I65	Repetition Separator Description: Type is not applicable; the repetition separator is a delimiter and not a data element; this field provides the delimiter used to separate repeated occurrences of a simple data element or a composite data structure; this value must be different than the data element separator, component element separator, and the segment terminator	M		1/1	Must use

ISA12	I11	Interchange Control Version Number	M	ID	5/5	Must use
		Description: Code specifying the version number of the interchange control segments All valid standard codes are used.				
ISA13	I12	Interchange Control Number	M	N0	9/9	Must use
		Description: A control number assigned by the interchange sender				
ISA14	I13	Acknowledgment Requested	M	ID	1/1	Must use
		Description: Code indicating sender's request for an interchange acknowledgment All valid standard codes are used.				
ISA15	I14	Interchange Usage Indicator	M	ID	1/1	Must use
		Description: Code indicating whether data enclosed by this interchange envelope is test, production or information All valid standard codes are used.				
ISA16	I15	Component Element Separator	M		1/1	Must use
		Description: Type is not applicable; the component element separator is a delimiter and not a data element; 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				

GS Functional Group Header

Pos:	Max: 1
Not Defined - Mandatory	
Loop: N/A	Elements: 8

User Option (Usage): Must use

Purpose: To indicate the beginning of a functional group and to provide control information

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
GS01	479	Functional Identifier Code	M	ID	2/2	Must use
		Description: Code identifying a group of application related transaction sets				
		<u>Code</u>		<u>Name</u>		
		FA		Functional or Implementation Acknowledgment Transaction Sets (997, 999)		
GS02	142	Application Sender's Code	M	AN	2/15	Must use
		Description: Code identifying party sending transmission; codes agreed to by trading partners				
GS03	124	Application Receiver's Code	M	AN	2/15	Must use
		Description: Code identifying party receiving transmission; codes agreed to by trading partners				
GS04	373	Date	M	DT	8/8	Must use
		Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year				
GS05	337	Time	M	TM	4/8	Must use
		Description: 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	28	Group Control Number	M	N0	1/9	Must use
		Description: Assigned number originated and maintained by the sender				
GS07	455	Responsible Agency Code	M	ID	1/2	Must use
		Description: Code identifying the issuer of the standard; this code is used in conjunction with Data Element 480				
		All valid standard codes are used.				
GS08	480	Version / Release / Industry Identifier Code	M	AN	1/12	Must use
		Description: 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>Name</u>		
		005030		Standards Approved for Publication by ASC X12 Procedures Review Board through October 2005		

Semantics:

- GS04 is the group date.
- GS05 is the group time.
- 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:

1. 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.

ST Transaction Set Header

Pos: 0100	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 2

User Option (Usage): Must use

Purpose: To indicate the start of a transaction set and to assign a control number

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
ST01	143	Transaction Set Identifier Code	M	ID	3/3	Must use
		Description: Code uniquely identifying a Transaction Set				
		<u>Code</u>		<u>Name</u>		
		997		Functional Acknowledgment		
ST02	329	Transaction Set Control Number	M	AN	4/9	Must use
		Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set				

Semantics:

1. The transaction set identifier (ST01) is used by the translation routines of the interchange partners to select the appropriate transaction set definition (e.g., 810 selects the Invoice Transaction Set).
2. The implementation convention reference (ST03) is used by the translation routines of the interchange partners to select the appropriate implementation convention to match the transaction set definition. When used, this implementation convention reference takes precedence over the implementation reference specified in the GS08.

AK1 Functional Group Response Header

Pos: 0200	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 3

User Option (Usage): Must use

Purpose: To start acknowledgment of a functional group

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK101	479	Functional Identifier Code	M	ID	2/2	Must use
		Description: Code identifying a group of application related transaction sets All valid standard codes are used.				
AK102	28	Group Control Number	M	NO	1/9	Must use
		Description: Assigned number originated and maintained by the sender				
AK103	480	Version / Release / Industry Identifier Code	O	AN	1/12	Used
		Description: 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 All valid standard codes are used.				

Semantics:

1. AK101 is the functional ID found in the GS segment (GS01) in the functional group being acknowledged.
2. AK102 is the functional group control number found in the GS segment in the functional group being acknowledged.
3. AK103 is the version release industry identifier code in the GS segment (GS08) in the functional group being acknowledged.

Loop AK2

Pos: 0300 Repeat: >1
 Optional
 Loop: AK2 Elements: N/A

User Option (Usage): Used

Purpose: To start acknowledgment of a single transaction set

Loop Summary:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Usage</u>
0300	AK2	Transaction Set Response Header	O	1		Used
0400		Loop AK3	O		>1	Used
0600	AK5	Transaction Set Response Trailer	M	1		Must use

AK2 Transaction Set Response Header

Pos: 0300	Max: 1
Heading - Optional	
Loop: AK2	Elements: 3

User Option (Usage): Used

Purpose: To start acknowledgment of a single transaction set

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK201	143	Transaction Set Identifier Code	M	ID	3/3	Must use
		Description: Code uniquely identifying a Transaction Set All valid standard codes are used.				
AK202	329	Transaction Set Control Number	M	AN	4/9	Must use
		Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set				
AK203	1705	Implementation Convention Reference	O	AN	1/35	Used
		Description: Reference assigned to identify Implementation Convention				

Semantics:

1. AK201 is the transaction set ID found in the ST segment (ST01) in the transaction set being acknowledged.
2. AK202 is the transaction set control number found in the ST segment in the transaction set being acknowledged.
3. AK203 is the implementation convention reference, if any, found in the ST segment (ST03) in the transaction set being acknowledged.

Loop AK3

Pos: 0400 Repeat: >1
 Optional
 Loop: AK3 Elements: N/A

User Option (Usage): Used

Purpose: To report errors in a data segment and identify the location of the data segment

Loop Summary:

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Usage</u>
0400	AK3	Data Segment Note	O	1		Used
0500	AK4	Data Element Note	O	99		Used

AK3 Data Segment Note

Pos: 0400	Max: 1
Heading - Optional	
Loop: AK3	Elements: 4

User Option (Usage): Used

Purpose: To report errors in a data segment and identify the location of the data segment

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK301	721	Segment ID Code	M	ID	2/3	Must use
Description: Code defining the segment ID of the data segment in error (See Appendix A - Number 77)						
AK302	719	Segment Position in Transaction Set	M	N0	1/10	Must use
Description: The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1						
AK303	447	Loop Identifier Code	O	AN	1/4	Used
Description: The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE						
AK304	720	Segment Syntax Error Code	O	ID	1/3	Used
Description: Code indicating error found based on the syntax editing of a segment						

<u>Code</u>	<u>Name</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

AK4 Data Element Note

Pos: 0500	Max: 99
Heading - Optional	
Loop: AK3	Elements: 4

User Option (Usage): Used

Purpose: To report errors in a data element or composite data structure and identify the location of the data element

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK401	C030	Position in Segment	M	Comp		Must use
		Description: Code indicating the relative position of the simple data element or composite data structure in error within a segment, count beginning with 1 for the position immediately following the segment ID; additionally indicating the relative position of a repeating structure in error, count beginning with 1 for the position immediately following the preceding element separator; additionally indicating the relative position of a component of a composite data structure in error, count beginning with 1 for the position following the preceding element or repetition separator				
	722	Element Position in Segment	M	N0	1/2	Must use
		Description: 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				
AK402	725	Data Element Reference Number	O	N0	1/4	Used
		Description: Reference number used to locate the data element in the Data Element Dictionary				
AK403	723	Data Element Syntax Error Code	M	ID	1/3	Must use
		Description: Code indicating the error found after syntax edits of a data element				
		<u>Code</u>		<u>Name</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	724	Copy of Bad Data Element	O	AN	1/99	Used
		Description: This is a copy of the data element in error				

Semantics:

1. In no case shall a value be used for AK404 that would generate a syntax error, e.g., an invalid character.

AK5 Transaction Set Response Trailer

Pos: 0600	Max: 1
Heading - Mandatory	
Loop: AK2	Elements: 2

User Option (Usage): Must use

Purpose: To acknowledge acceptance or rejection and report errors in a transaction set

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK501	717	Transaction Set Acknowledgment Code	M	ID	1/1	Must use

Description: Code indicating accept or reject condition based on the syntax editing of the transaction set

<u>Code</u>	<u>Name</u>
A	Accepted
E	Accepted But Errors Were Noted
R	Rejected

AK502	718	Transaction Set Syntax Error Code	O	ID	1/3	Used
-------	-----	-----------------------------------	---	----	-----	------

Description: Code indicating error found based on the syntax editing of a transaction set

<u>Code</u>	<u>Name</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

AK9 Functional Group Response Trailer

Pos: 0700	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 5

User Option (Usage): Must use

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

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
AK901	715	Functional Group Acknowledge Code	M	ID	1/1	Must use

Description: Code indicating accept or reject condition based on the syntax editing of the functional group

<u>Code</u>	<u>Name</u>
A	Accepted
E	Accepted, But Errors Were Noted.
P	Partially Accepted, At Least One Transaction Set Was Rejected
R	Rejected

AK902	97	Number of Transaction Sets Included	M	N0	1/6	Must use
-------	----	--	---	----	-----	----------

Description: Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element

AK903	123	Number of Received Transaction Sets	M	N0	1/6	Must use
-------	-----	--	---	----	-----	----------

Description: Number of Transaction Sets received

AK904	2	Number of Accepted Transaction Sets	M	N0	1/6	Must use
-------	---	--	---	----	-----	----------

Description: Number of accepted Transaction Sets in a Functional Group

AK905	716	Functional Group Syntax Error Code	O	ID	1/3	Used
-------	-----	---	---	----	-----	------

Description: Code indicating error found based on the syntax editing of the functional group header and/or trailer

<u>Code</u>	<u>Name</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

Comments:

1. If AK901 contains the value "A" or "E", then the transmitted functional group is accepted.

SE Transaction Set Trailer

Pos: 0800	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 2

User Option (Usage): Must use

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)

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
SE01	96	Number of Included Segments	M	NO	1/10	Must use
		Description: Total number of segments included in a transaction set including ST and SE segments				
SE02	329	Transaction Set Control Number	M	AN	4/9	Must use
		Description: Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set				

Comments:

1. SE is the last segment of each transaction set.

GE**Functional Group Trailer**

Pos:	Max: 1
Not Defined - Mandatory	
Loop: N/A	Elements: 2

User Option (Usage): Must use**Purpose:** To indicate the end of a functional group and to provide control information**Element Summary:**

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
GE01	97	Number of Transaction Sets Included	M	N0	1/6	Must use
		Description: Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element				
GE02	28	Group Control Number	M	N0	1/9	Must use
		Description: Assigned number originated and maintained by the sender				

Semantics:

1. The data interchange control number GE02 in this trailer must be identical to the same data element in the associated functional group header, GS06.

Comments:

1. 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.

IEA Interchange Control Trailer

Pos:	Max: 1
Not Defined - Mandatory	
Loop: N/A	Elements: 2

User Option (Usage): Must use

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

Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>	<u>Usage</u>
IEA01	I16	Number of Included Functional Groups	M	N0	1/5	Must use
Description: A count of the number of functional groups included in an interchange						
IEA02	I12	Interchange Control Number	M	N0	9/9	Must use
Description: A control number assigned by the interchange sender						