
SAP Schema Documentation

SAP Business Network for Logistics

Message Implementation Guide | Public

ANSI_X12_997 (FC and GTT)

Message Type: 997

Document Version: 1.2 – 2023-12-09



TABLE OF CONTENTS

1	OVERVIEW HEADER	3
2	DETAILS HEADER	5
3	OVERVIEW MESSAGE	14
4	DETAILS MESSAGE	16
5	COPYRIGHT STATEMENTS	22

1 OVERVIEW HEADER

General Information

Name	ANSI X12 Interchange headers and trailers
Direction	Out
Status	Active
Message Type	Interchange Structure
External Category	Message

Documentation

Definition The Interchange Envelope, often referred to as the “outer envelope,” is the wrapper for all the data to be sent in one transmission. It can contain multiple Functional Groups. This characteristic means that transactions of different types can be included in the Interchange Envelope, with each type of transaction stored in a separate Functional Group. The Interchange Envelope is defined by the header and trailer; the Interchange Control Header (designated ISA) appears at the beginning, and the Interchange Control Trailer (designated IEA) appears at the end. While the typical pattern from Enterprise Systems is to create one Functional Group (GS/GE) within an Interchange Group (ISA/IEA), the X12 enveloping supports one or more Functional Groups (GS/GE) within an Interchange Group (ISA/IEA).

1.1 Structure

The following table shows the complete structure.

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
S_ISA — Interchange Control Header	1 .. 1				
D_I01 — Authorization Information Qualifier	1 .. 1	String		2 .. 2	D_I01
D_I02 — Authorization Information	1 .. 1	String		10 .. 10	
D_I03 — Security Information Qualifier	1 .. 1	String		2 .. 2	D_I03
D_I04 — Security Information	1 .. 1	String		10 .. 10	
D_I05_1 — Interchange ID Qualifier	1 .. 1	String		2 .. 2	D_I05
D_I06 — Interchange Sender ID	1 .. 1	String		15 .. 15	
D_I05_2 — Interchange ID Qualifier	1 .. 1	String		2 .. 2	D_I05
D_I07 — Interchange Receiver ID	1 .. 1	String		15 .. 15	
D_I08 — Interchange Date	1 .. 1	String		6 .. 6	
D_I09 — Interchange Time	1 .. 1	String		4 .. 4	
D_I10 — Interchange Control Standards Identifier	1 .. 1	String		1 .. 1	
D_I11 — Interchange Control Version Number	1 .. 1	String		5 .. 5	D_I11
D_I12 — Interchange Control Number	1 .. 1	String		9 .. 9	
D_I13 — Acknowledgment Requested	1 .. 1	String		1 .. 1	D_I13
D_I14 — Interchange Usage Indicator	1 .. 1	String		1 .. 1	D_I14
D_I15 — Component Element Separator	1 .. 1	String		1 .. 1	
FunctionalGroup — Functional Group	1 .. 1				
S_GS — Functional Group Header	1 .. 1				
D_479 — Functional Identifier Code	1 .. 1	String		2 .. 2	D_479
D_142 — Application Sender's Code	1 .. 1	String		2 .. 15	
D_124 — Application Receiver's Code	1 .. 1	String		2 .. 15	
D_373 — Date	1 .. 1	String		8 .. 8	
D_337 — Time	1 .. 1	String		6 .. 6	
D_28 — Group Control Number	1 .. 1	String		9 .. 9	
D_455 — Responsible Agency Code	1 .. 1	String		1 .. 1	D_455
D_480 — Version / Release / Industry Identifier	1 .. 1	String		6 .. 6	D_480
Code					
S_GE — Functional Group Trailer	1 .. 1				
D_97 — Number of Transaction Sets Included	1 .. 1	String		1 .. 1	
D_28 — Group Control Number	1 .. 1	String		9 .. 9	
S_IEA — Interchange Control Trailer	1 .. 1				
D_I16 — Number of Included Functional Groups	1 .. 1	String		1 .. 1	
D_I12 — Interchange Control Number	1 .. 1	String		9 .. 9	

2 DETAILS HEADER

2.1 Interchange — Interchange Structure

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
├ S_ISA — Interchange Control Header	1 .. 1				
├ FunctionalGroup — Functional Group	1 .. 1				
└ S_IEA — Interchange Control Trailer	1 .. 1				

Documentation

Definition The Interchange Envelope, often referred to as the “outer envelope,” is the wrapper for all the data to be sent in one transmission. It can contain multiple Functional Groups. This characteristic means that transactions of different types can be included in the Interchange Envelope, with each type of transaction stored in a separate Functional Group. The Interchange Envelope is defined by the header and trailer; the Interchange Control Header (designated ISA) appears at the beginning, and the Interchange Control Trailer (designated IEA) appears at the end. While the typical pattern from Enterprise Systems is to create one Functional Group (GS/GE) within an Interchange Group (ISA/IEA), the X12 enveloping supports one or more Functional Groups (GS/GE) within an Interchange Group (ISA/IEA).

Properties

Identifier Interchange
Name Interchange Structure
Cardinality min: 1 max: 1

2.2 S_ISA — Interchange Control Header

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
S_ISA — Interchange Control Header	1 .. 1				
D_I01 — Authorization Information Qualifier	1 .. 1	String		2 .. 2	D_I01
D_I02 — Authorization Information	1 .. 1	String		10 .. 10	
D_I03 — Security Information Qualifier	1 .. 1	String		2 .. 2	D_I03
D_I04 — Security Information	1 .. 1	String		10 .. 10	
D_I05_1 — Interchange ID Qualifier	1 .. 1	String		2 .. 2	D_I05
D_I06 — Interchange Sender ID	1 .. 1	String		15 .. 15	
D_I05_2 — Interchange ID Qualifier	1 .. 1	String		2 .. 2	D_I05
D_I07 — Interchange Receiver ID	1 .. 1	String		15 .. 15	
D_I08 — Interchange Date	1 .. 1	String		6 .. 6	
D_I09 — Interchange Time	1 .. 1	String		4 .. 4	
D_I10 — Interchange Control Standards Identifier	1 .. 1	String		1 .. 1	
D_I11 — Interchange Control Version Number	1 .. 1	String		5 .. 5	D_I11
D_I12 — Interchange Control Number	1 .. 1	String		9 .. 9	
D_I13 — Acknowledgment Requested	1 .. 1	String		1 .. 1	D_I13
D_I14 — Interchange Usage Indicator	1 .. 1	String		1 .. 1	D_I14
D_I15 — Component Element Separator	1 .. 1	String		1 .. 1	

Documentation

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

Properties

Identifier S_ISA
Name Interchange Control Header
Cardinality min: 1 max: 1

Syntax Type Related

External Category Element

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
D_I01 Authorization Information Qualifier	Code identifying the type of information in the Authorization Information Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 2 External Category Element Data Type xsd:string <hr/> Codelist Id D_I01 Type System Customer_TS Version Mode Local Version 1.1
D_I02 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)	Cardinality min: 1 max: 1 Primitive Type String Length min: 10 max: 10 External Category Element Data Type xsd:string
D_I03 Security Information Qualifier	Code identifying the type of information in the Security Information Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 2 External Category Element Data Type xsd:string <hr/> Codelist Id D_I03

		Type System Customer_TS Version Mode Local Version 1.1
D_I04 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)	Cardinality min: 1 max: 1 Primitive Type String Length min: 10 max: 10 External Category Element Data Type xsd:string
D_I05_1 Interchange ID Qualifier	Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 2 External Category Element Data Type xsd:string <hr/> Codelist Id D_I05 Type System Customer_TS Version Mode Local Version 1.1
D_I06 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 Usage 1 This field contains the sender LBN ID. Constraint 1 For EDI 997 message type the LBN ID is always "LBN" as the message will be generated by the network.	Cardinality min: 1 max: 1 Primitive Type String Length min: 15 max: 15 External Category Element Data Type xsd:string
D_I05_2 Interchange ID Qualifier	Code indicating the system/method of code structure used to designate the sender or receiver ID element being qualified Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 2 External Category Element Data Type xsd:string <hr/> Codelist Id D_I05 Type System Customer_TS Version Mode Local Version 1.1
D_I07 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 Usage 1 This field contains the receiver LBN ID.	Cardinality min: 1 max: 1 Primitive Type String Length min: 15 max: 15 External Category Element Data Type xsd:string
D_I08 Interchange Date	Date of the interchange	Cardinality min: 1 max: 1 Primitive Type String Length min: 6 max: 6 External Category Element Data Type xsd:string
D_I09 Interchange Time	Time of the interchange	Cardinality min: 1 max: 1 Primitive Type String Length min: 4 max: 4 External Category Element Data Type xsd:string
D_I10 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	Cardinality min: 1 max: 1 Primitive Type String Length min: 1 max: 1 External Category Element Data Type xsd:string

D_I11 Interchange Control Version Number	Code specifying the version number of the interchange control segments Selected Values All Values in Codelist	<table border="0"> <tr> <td>Cardinality</td> <td>min: 1 max: 1</td> </tr> <tr> <td>Primitive Type</td> <td>String</td> </tr> <tr> <td>Length</td> <td>min: 5 max: 5</td> </tr> <tr> <td>External Category</td> <td>Element</td> </tr> <tr> <td>Data Type</td> <td>xsd:string</td> </tr> </table> <hr/> <table border="0"> <tr> <td>Codelist Id</td> <td>D_I11</td> </tr> <tr> <td>Type System</td> <td>Customer_TS</td> </tr> <tr> <td>Version Mode</td> <td>Local</td> </tr> <tr> <td>Version</td> <td>1.1</td> </tr> </table>	Cardinality	min: 1 max: 1	Primitive Type	String	Length	min: 5 max: 5	External Category	Element	Data Type	xsd:string	Codelist Id	D_I11	Type System	Customer_TS	Version Mode	Local	Version	1.1
Cardinality	min: 1 max: 1																			
Primitive Type	String																			
Length	min: 5 max: 5																			
External Category	Element																			
Data Type	xsd:string																			
Codelist Id	D_I11																			
Type System	Customer_TS																			
Version Mode	Local																			
Version	1.1																			
D_I12 Interchange Control Number	A control number assigned by the interchange sender	<table border="0"> <tr> <td>Cardinality</td> <td>min: 1 max: 1</td> </tr> <tr> <td>Primitive Type</td> <td>String</td> </tr> <tr> <td>Length</td> <td>min: 9 max: 9</td> </tr> <tr> <td>External Category</td> <td>Element</td> </tr> <tr> <td>Data Type</td> <td>xsd:string</td> </tr> </table>	Cardinality	min: 1 max: 1	Primitive Type	String	Length	min: 9 max: 9	External Category	Element	Data Type	xsd:string								
Cardinality	min: 1 max: 1																			
Primitive Type	String																			
Length	min: 9 max: 9																			
External Category	Element																			
Data Type	xsd:string																			
D_I13 Acknowledgment Requested	Code indicating sender's request for an interchange acknowledgement Selected Values All Values in Codelist	<table border="0"> <tr> <td>Cardinality</td> <td>min: 1 max: 1</td> </tr> <tr> <td>Primitive Type</td> <td>String</td> </tr> <tr> <td>Length</td> <td>min: 1 max: 1</td> </tr> <tr> <td>External Category</td> <td>Element</td> </tr> <tr> <td>Data Type</td> <td>xsd:string</td> </tr> </table> <hr/> <table border="0"> <tr> <td>Codelist Id</td> <td>D_I13</td> </tr> <tr> <td>Type System</td> <td>Customer_TS</td> </tr> <tr> <td>Version Mode</td> <td>Local</td> </tr> <tr> <td>Version</td> <td>1.1</td> </tr> </table>	Cardinality	min: 1 max: 1	Primitive Type	String	Length	min: 1 max: 1	External Category	Element	Data Type	xsd:string	Codelist Id	D_I13	Type System	Customer_TS	Version Mode	Local	Version	1.1
Cardinality	min: 1 max: 1																			
Primitive Type	String																			
Length	min: 1 max: 1																			
External Category	Element																			
Data Type	xsd:string																			
Codelist Id	D_I13																			
Type System	Customer_TS																			
Version Mode	Local																			
Version	1.1																			
D_I14 Interchange Usage Indicator	Code indicating whether data enclosed by this interchange envelope is test, production or information Selected Values All Values in Codelist	<table border="0"> <tr> <td>Cardinality</td> <td>min: 1 max: 1</td> </tr> <tr> <td>Primitive Type</td> <td>String</td> </tr> <tr> <td>Length</td> <td>min: 1 max: 1</td> </tr> <tr> <td>External Category</td> <td>Element</td> </tr> <tr> <td>Data Type</td> <td>xsd:string</td> </tr> </table> <hr/> <table border="0"> <tr> <td>Codelist Id</td> <td>D_I14</td> </tr> <tr> <td>Type System</td> <td>Customer_TS</td> </tr> <tr> <td>Version Mode</td> <td>Local</td> </tr> <tr> <td>Version</td> <td>1.1</td> </tr> </table>	Cardinality	min: 1 max: 1	Primitive Type	String	Length	min: 1 max: 1	External Category	Element	Data Type	xsd:string	Codelist Id	D_I14	Type System	Customer_TS	Version Mode	Local	Version	1.1
Cardinality	min: 1 max: 1																			
Primitive Type	String																			
Length	min: 1 max: 1																			
External Category	Element																			
Data Type	xsd:string																			
Codelist Id	D_I14																			
Type System	Customer_TS																			
Version Mode	Local																			
Version	1.1																			
D_I15 Component Element Separator	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	<table border="0"> <tr> <td>Cardinality</td> <td>min: 1 max: 1</td> </tr> <tr> <td>Primitive Type</td> <td>String</td> </tr> <tr> <td>Length</td> <td>min: 1 max: 1</td> </tr> <tr> <td>External Category</td> <td>Element</td> </tr> <tr> <td>Data Type</td> <td>xsd:string</td> </tr> </table>	Cardinality	min: 1 max: 1	Primitive Type	String	Length	min: 1 max: 1	External Category	Element	Data Type	xsd:string								
Cardinality	min: 1 max: 1																			
Primitive Type	String																			
Length	min: 1 max: 1																			
External Category	Element																			
Data Type	xsd:string																			

2.3 FunctionalGroup — Functional Group

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
FunctionalGroup — Functional Group	1 .. 1				
S_GS — Functional Group Header	1 .. 1				
S_GE — Functional Group Trailer	1 .. 1				

Documentation

Definition Functional Groups, often referred to as the “inner envelope,” are made up of one or more Transaction Sets. One Functional Group Envelope must include transaction of all of the same type, which can be batched together into one transmission. The Functional Group is defined by the header and trailer segments.

Properties

Identifier FunctionalGroup

Name Functional Group

Cardinality min: 1 max: 1

Syntax Type Related

External Category Element

2.4 S_GS — Functional Group Header

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
FunctionalGroup — Functional Group	1 .. 1				
S_GS — Functional Group Header	1 .. 1				
D_479 — Functional Identifier Code	1 .. 1	String		2 .. 2	D_479
D_142 — Application Sender's Code	1 .. 1	String		2 .. 15	
D_124 — Application Receiver's Code	1 .. 1	String		2 .. 15	
D_373 — Date	1 .. 1	String		8 .. 8	
D_337 — Time	1 .. 1	String		6 .. 6	
D_28 — Group Control Number	1 .. 1	String		9 .. 9	
D_455 — Responsible Agency Code	1 .. 1	String		1 .. 1	D_455
D_480 — Version / Release / Industry Identifier	1 .. 1	String		6 .. 6	D_480
Code					

Documentation

Definition To indicate the beginning of a functional group and to provide control information 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. Semantic Notes: 1. GS04 is the group date. 2. GS05 is the group time. 3. The data interchange control number GS06 in this header must be identical to the same data element in the associated functional group trailer, GE02.

Properties

Identifier S_GS
Name Functional Group Header
Cardinality min: 1 max: 1

Syntax Type Related

External Category Element

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
D_479 Functional Identifier Code	Code identifying a group of application related transaction sets Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 2 External Category Element Data Type xsd:string <hr/> Codelist Id D_479 Type System Customer_TS Version Mode Local Version 1.1
D_142 Application Sender's Code	Code identifying party sending transmission; codes agreed to by trading partners	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 15 External Category Element Data Type xsd:string
D_124 Application Receiver's Code	Code identifying party receiving transmission; codes agreed to by trading partners	Cardinality min: 1 max: 1 Primitive Type String Length min: 2 max: 15 External Category Element Data Type xsd:string
D_373 Date	Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year	Cardinality min: 1 max: 1 Primitive Type String Length min: 8 max: 8 External Category Element

		Data Type xsd:string
D_337 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)	Cardinality min: 1 max: 1 Primitive Type String Length min: 6 max: 6 External Category Element Data Type xsd:string
D_28 Group Control Number	Assigned number originated and maintained by the sender	Cardinality min: 1 max: 1 Primitive Type String Length min: 9 max: 9 External Category Element Data Type xsd:string
D_455 Responsible Agency Code	Code identifying the issuer of the standard; this code is used in conjunction with Data Element 480 Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 1 max: 1 External Category Element Data Type xsd:string <hr/> Codelist Id D_455 Type System Customer_TS Version Mode Local Version 1.1
D_480 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 Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type String Length min: 6 max: 6 External Category Element Data Type xsd:string <hr/> Codelist Id D_480 Type System Customer_TS Version Mode Local Version 1.1

2.5 S_GE — Functional Group Trailer

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
├ FunctionalGroup — Functional Group	1 .. 1				
│ └ S_GE — Functional Group Trailer	1 .. 1				
│ │ └ D_97 — Number of Transaction Sets Included	1 .. 1	String		1 .. 1	
│ │ └ D_28 — Group Control Number	1 .. 1	String		9 .. 9	

Documentation

Definition To indicate the end of a functional group and to provide control information 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. Semantic Notes: 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.

Properties

Identifier S_GE
Name Functional Group Trailer
Cardinality min: 1 max: 1

Syntax Type Related

External Category Element

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
D_97 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	Cardinality min: 1 max: 1 Primitive Type String Length min: 1 max: 1 External Category Element Data Type xsd:string
D_28 Group Control Number	Assigned number originated and maintained by the sender	Cardinality min: 1 max: 1 Primitive Type String Length min: 9 max: 9 External Category Element Data Type xsd:string

2.6 S_IEA — Interchange Control Trailer

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
Interchange — Interchange Structure	1 .. 1				
└ S_IEA — Interchange Control Trailer	1 .. 1				
└┘ D_I16 — Number of Included Functional Groups	1 .. 1	String		1 .. 1	
└┘ D_I12 — Interchange Control Number	1 .. 1	String		9 .. 9	

Documentation

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

Properties

Identifier S_IEA
Name Interchange Control Trailer
Cardinality min: 1 max: 1

Syntax Type Related

External Category Element

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
D_I16 Number of Included Functional Groups	A count of the number of functional groups included in an interchange	Cardinality min: 1 max: 1 Primitive Type String Length min: 1 max: 1 External Category Element Data Type xsd:string
D_I12 Interchange Control Number	A control number assigned by the interchange sender	Cardinality min: 1 max: 1 Primitive Type String Length min: 9 max: 9 External Category Element Data Type xsd:string

3 OVERVIEW MESSAGE

General Information

Name	SAP_LBN_ANSI_X12_997
Direction	Out
Status	Draft
Message Type	Functional Acknowledgment
Type System	ASC_X12
Version	004010
External Category	Transaction Set

Documentation

Summary	997 is a functional ACK.
Definition	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.

Notes

Usage 1	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. 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. There is only one Functional Acknowledgment Transaction Set per acknowledged functional group.
Usage 2	The EDI 997 message is triggered by SAP Business Network for Logistics as a response to acknowledge receipt of a file that the Carrier sends out. Hence, in this case, the Interchange Sender ID in the Header segment is always LBN instead of the Shipper LBN ID.
Usage 3	AK1 is used to respond to the functional group header and to start the acknowledgement for a functional group. There shall be one AK1 segment for the functional group that is being acknowledged.
Usage 4	AK2 is used to start the acknowledgement 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.
Comment 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).

3.1 Structure

The following table shows the complete structure.

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
├ ST — Transaction Set Header	1 .. 1		010		
└ 143 — Transaction Set Identifier Code	1 .. 1	Token	01	3 .. 3	143
└ 329 — Transaction Set Control Number	1 .. 1	String	02	4 .. 9	
├ AK1 — Functional Group Response Header	1 .. 1		020		
└ 479 — Functional Identifier Code	1 .. 1	Token	01	2 .. 2	479
└ 28 — Group Control Number	1 .. 1	Integer	02	1 .. 9	
├ AK9 — Functional Group Response Trailer	1 .. 1		070		
└ 715 — Functional Group Acknowledge Code	1 .. 1	Token	01	1 .. 1	715
└ 97 — Number of Transaction Sets Included	1 .. 1	Integer	02	1 .. 6	
└ 123 — Number of Received Transaction Sets	1 .. 1	Integer	03	1 .. 6	
└ 2 — Number of Accepted Transaction Sets	1 .. 1	Integer	04	1 .. 6	
└ SE — Transaction Set Trailer	1 .. 1		080		
├ 96 — Number of Included Segments	1 .. 1	Integer	01	1 .. 10	
└ 329 — Transaction Set Control Number	1 .. 1	String	02	4 .. 9	

4 DETAILS MESSAGE

4.1 997 — Functional Acknowledgment

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
├ ST — Transaction Set Header	1 .. 1		010		
├ AK1 — Functional Group Response Header	1 .. 1		020		
├ AK9 — Functional Group Response Trailer	1 .. 1		070		
└ SE — Transaction Set Trailer	1 .. 1		080		

Properties

Identifier 997
 Name Functional Acknowledgment
 Cardinality min: 1 max: 1

4.2 ST — Transaction Set Header

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
├ ST — Transaction Set Header	1 .. 1		010		
└ 143 — Transaction Set Identifier Code	1 .. 1	Token	01	3 .. 3	143
└ 329 — Transaction Set Control Number	1 .. 1	String	02	4 .. 9	

Documentation

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

Properties

Identifier ST
Name Transaction Set Header
Cardinality min: 1 max: 1

Syntax Type Related

External Category Segment
Position 010
Level 2

Notes

Usage 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).

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
143 Transaction Set Identifier Code	Code uniquely identifying a Transaction Set Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type Token Length min: 3 max: 3 External Category Simple Data Element Data Type ID Position 01 <hr/> Codelist Id 143 Type System ASC_X12 Version Mode Current Version 004010
329 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	Cardinality min: 1 max: 1 Primitive Type String Length min: 4 max: 9 External Category Simple Data Element Data Type AN Position 02

4.3 AK1 — Functional Group Response Header

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
├ AK1 — Functional Group Response Header	1 .. 1		020		
└ 479 — Functional Identifier Code	1 .. 1	Token	01	2 .. 2	479
└ └ 28 — Group Control Number	1 .. 1	Integer	02	1 .. 9	

Documentation

Definition To start acknowledgment of a functional group

Properties

Identifier AK1
Name Functional Group Response Header
Cardinality min: 1 max: 1

Syntax Type Related

External Category Segment
Position 020
Level 2

Notes

- Usage 1** AK101 is the functional ID found in the GS segment (GS01) in the functional group being acknowledged.
Usage 2 AK102 is the functional group control number found in the GS segment in the functional group being acknowledged.

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
479 Functional Identifier Code	Code identifying a group of application related transaction sets Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type Token Length min: 2 max: 2 External Category Simple Data Element Data Type ID Position 01 <hr/> Codelist Id 479 Type System ASC_X12 Version Mode Current Version 004010
28 Group Control Number	Assigned number originated and maintained by the sender	Cardinality min: 1 max: 1 Primitive Type Integer Length min: 1 max: 9 Fraction Digits 0 Total Digits 9 External Category Simple Data Element Data Type N0 Position 02

4.4 AK9 — Functional Group Response Trailer

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
├ AK9 — Functional Group Response Trailer	1 .. 1		070		
│ └ 715 — Functional Group Acknowledge Code	1 .. 1	Token	01	1 .. 1	715
│ └ 97 — Number of Transaction Sets Included	1 .. 1	Integer	02	1 .. 6	
│ └ 123 — Number of Received Transaction Sets	1 .. 1	Integer	03	1 .. 6	
│ └ 2 — Number of Accepted Transaction Sets	1 .. 1	Integer	04	1 .. 6	

Documentation

Definition 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

Properties

Identifier AK9
Name Functional Group Response Trailer
Cardinality min: 1 max: 1

Syntax Type Related

External Category Segment
Position 070
Level 2

Notes

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

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
715 Functional Group Acknowledge Code	Code indicating accept or reject condition based on the syntax editing of the functional group Selected Values All Values in Codelist	Cardinality min: 1 max: 1 Primitive Type Token Length min: 1 max: 1 External Category Simple Data Element Data Type ID Position 01 <hr/> Codelist Id 715 Type System ASC_X12 Version Mode Current Version 004010
97 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	Cardinality min: 1 max: 1 Primitive Type Integer Length min: 1 max: 6 Fraction Digits 0 Total Digits 6 External Category Simple Data Element Data Type N0 Position 02
123 Number of Received Transaction Sets	Number of Transaction Sets received	Cardinality min: 1 max: 1 Primitive Type Integer Length min: 1 max: 6 Fraction Digits 0 Total Digits 6 External Category Simple Data Element Data Type N0 Position 03

2 Number of Accepted Transaction Sets	Number of accepted Transaction Sets in a Functional Group	Cardinality min: 1 max: 1 Primitive Type Integer Length min: 1 max: 6 Fraction Digits 0 Total Digits 6 External Category Simple Data Element Data Type N0 Position 04
--	--	--

4.5 SE — Transaction Set Trailer

Structure

Node	Card.	Prim.Type	Pos.	Length	Codelists
997 — Functional Acknowledgment	1 .. 1				
└ SE — Transaction Set Trailer	1 .. 1		080		
└┘ 96 — Number of Included Segments	1 .. 1	Integer	01	1 .. 10	
└┘┘ 329 — Transaction Set Control Number	1 .. 1	String	02	4 .. 9	

Documentation

Definition To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)

Properties

Identifier SE
Name Transaction Set Trailer
Cardinality min: 1 max: 1

Syntax Type Related

External Category Segment
Position 080
Level 2

Notes

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

Leaf Elements

Identifier/Name	Description/Notes/Code Values	Properties
96 Number of Included Segments	Total number of segments included in a transaction set including ST and SE segments	Cardinality min: 1 max: 1 Primitive Type Integer Length min: 1 max: 10 Fraction Digits 0 Total Digits 10 External Category Simple Data Element Data Type N0 Position 01
329 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	Cardinality min: 1 max: 1 Primitive Type String Length min: 4 max: 9 External Category Simple Data Element Data Type AN Position 02

5 COPYRIGHT STATEMENTS

5.1 Copyright Statement for MIG

See also: <https://www.sap.com/corporate/en/legal/copyright.html>

5.2 Copyright Statement for Type System ASC X12

Copyright (c) 2017, Accredited Standards Committee X12 Incorporated, Format (c) 2017 Washington Publishing Company. Exclusively published by the Washington Publishing Company. No part of this publication may be distributed, posted, reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior written permission of the copyright owner. See also:

<http://members.x12.org/policies-procedures/adp06-intellectual-property-rights-policy-statement.pdf>

5.3 Copyright Statement for Type System UN/EDIFACT

Copyright (c) United Nations 2000-2008. All rights reserved. None of the materials provided on this web site may be used, reproduced or transmitted, in whole or in part, in any form or by any means, electronic or mechanical, including photocopying, recording or the use of any information storage and retrieval system, except as provided for in the Terms and Conditions of Use of United Nations Web Sites, without permission in writing from the publisher. To request such permission and for further enquiries, contact the Secretary of the Publications Board, United Nations, New York, NY, 10017, USA (pubboard@un.org; Telephone: (+1) 212-963-4664; Facsimile: (+1) 212-963-0077). See also:

http://www.unece.org/legal_notice/copyrightnotice.html

5.4 Copyright Statement for Type System ISO Codelists

Copyright (c) 2017, ISO All ISO content is copyright protected. The copyright is owned by ISO. Any use of the content, including copying of it in whole or in part, for example to another Internet site, is prohibited and would require written permission from ISO. All ISO publications are also protected by copyright. The copyright ownership of ISO is clearly indicated on every ISO publication. Any unauthorized use such as copying, scanning or distribution is prohibited. Requests for permission should be addressed to the ISO Central Secretariat or directly through the ISO member in your country. See more:

<https://www.iso.org/privacy-and-copyright.html>

5.5 Copyright Statement for Type System UN/CEFACT

Copyright (c) United Nations 2000-2008. All rights reserved. None of the materials provided on this web site may be used, reproduced or transmitted, in whole or in part, in any form or by any means, electronic or mechanical, including photocopying, recording or the use of any information storage and retrieval system, except as provided for in the Terms and Conditions of Use of United Nations Web Sites, without permission in writing from the publisher. To request such permission and for further enquiries, contact the Secretary of the Publications Board, United Nations, New York, NY, 10017, USA (pubboard@un.org; Telephone: (+1) 212-963-4664; Facsimile: (+1) 212-963-0077). See also:

http://www.unece.org/legal_notice/copyrightnotice.html

www.sap.com/contactsap

© 2023 SAP SE or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company. The information contained herein may be changed without prior notice.

Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product affiliate may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliate companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies.

Please see <https://www.sap.com/about/legal/trademark.html> for additional trademark information and notices.

