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# 997 Functional Acknowledgment

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## Functional Group=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.

### Notes:

1/010 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.

1/020 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.

1/030 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.

### Introduction:

*This section defines the format and content of ASC X12.20, Transaction Set 997 (Version 4, Release 1): Functional Acknowledgment - as adopted by the Rail Industry. The Functional Acknowledgment provides for notification by the ultimate receiver that the sender's transmission has been received and is syntactically correct or incorrect.*

*The Rail Industry requires acknowledgment of all transmissions initiated by a railroad and intends to acknowledge all which originate with its supplier. (The obvious exception is that Functional Acknowledgments are not acknowledged.)*

*The following explains the use of the various segments:*

*If all documents within the group are accepted, only segments AK1 and AK9 are required (with AK901 = "A");*

*If the group is rejected because of problems with the GS or GE information, only AK1 and AK9 are sent. In this case AK901 = "R";*

*If the information in the GS segment is correct, but one or more documents are rejected, AK901 = "R" or "P", and an occurrence of AK2/AK5 is sent for each document rejected.*

*The documentation which follows was developed to facilitate the interchange of Functional Acknowledgments at mutual benefit to the railroads and the suppliers. Each participant is strongly encouraged to bring to the attention of the Subcommittee on Information Standards any areas in which further agreement among the railroads can reduce implementation or operating costs.*

**Heading:**

<u>Pos</u>	<u>Id</u>	<u>Segment Name</u>	<u>Req</u>	<u>Max Use</u>	<u>Repeat</u>	<u>Notes</u>
010	ST	Transaction Set Header	M	1		N1/010
020	AK1	Functional Group Response Header	M	1		N1/020
<b>LOOP ID - AK2</b>					<b>999999</b>	
030	AK2	Transaction Set Response Header	O	1		N1/030
<b>LOOP ID - 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		

# ST Transaction Set Header

Pos: 010	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 2

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

## Semantics:

- 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).

## Element Summary:

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

# AK1 Functional Group Response Header

Pos: 020	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 2

To start acknowledgment of a functional group

## Semantics:

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

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>																				
AK101	479	<b>Functional Identifier Code</b> <b>Description:</b> Code identifying a group of application related transaction sets <b>Notes:</b> <i>Functional ID code as found in the GS segment of the transmission being acknowledged.</i>	M	ID	2/2																				
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AK102	28	<b>Group Control Number</b> <b>Description:</b> Assigned number originated and maintained by the sender <b>Notes:</b> <i>Data interchange control number as found in the GS segment of the transmission being acknowledged.</i>	M	N0	1/9																				

# AK2 Transaction Set Response Header

Pos: 030	Max: 1
Heading - Optional	
Loop: AK2	Elements: 2

To start acknowledgment of a single transaction set

## 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.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>
AK201	143	<b>Transaction Set Identifier Code</b> <b>Description:</b> Code uniquely identifying a Transaction Set	M	ID	3/3
AK202	329	<b>Transaction Set Control Number</b> <b>Description:</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set	M	AN	4/9

# AK3 Data Segment Note

Pos: 040	Max: 1
Heading - Optional	
Loop: AK3	Elements: 4

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>
AK301	721	<b>Segment ID Code</b> <b>Description:</b> Code defining the segment ID of the data segment in error (See Appendix A - Number 77) <b>Notes:</b> <i>See Segment Directory.</i>	M	ID	2/3
AK302	719	<b>Segment Position in Transaction Set</b> <b>Description:</b> The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1	M	N0	1/6
AK303	447	<b>Loop Identifier Code</b> <b>Description:</b> The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE	O	AN	1/6
AK304	720	<b>Segment Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a segment	O	ID	1/3

# AK4 Data Element Note

Pos: 050	Max: 99
Heading - Optional	
Loop: AK3	Elements: 4

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

## Semantics:

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

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>
AK401	C030	<b>Position in Segment</b> <b>Description:</b> 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	M	Comp	
	722	<b>Element Position in Segment</b> <b>Description:</b> 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	M	N0	1/2
	1528	<b>Component Data Element Position in Composite</b> <b>Description:</b> To identify the component data element position within the composite that is in error	O	N0	1/2
AK402	725	<b>Data Element Reference Number</b> <b>Description:</b> Reference number used to locate the data element in the Data Element Dictionary	O	N0	1/4
AK403	723	<b>Data Element Syntax Error Code</b> <b>Description:</b> Code indicating the error found after syntax edits of a data element	M	ID	1/3
AK404	724	<b>Copy of Bad Data Element</b> <b>Description:</b> This is a copy of the data element in error	O	AN	1/99

# AK5 Transaction Set Response Trailer

Pos: 060	Max: 1
Heading - Mandatory	
Loop: AK2	Elements: 6

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>								
AK501	717	<b>Transaction Set Acknowledgment Code</b> <b>Description:</b> Code indicating accept or reject condition based on the syntax editing of the transaction set	M	ID	1/1								
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A	Accepted												
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R	Rejected												
AK502	718	<b>Transaction Set Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a transaction set <b>Notes:</b> <i>This data element is repeated in positions AK503, AK504, AK505, and AK506.</i>	O	ID	1/3								
AK503	718	<b>Transaction Set Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a transaction set	O	ID	1/3								
AK504	718	<b>Transaction Set Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a transaction set	O	ID	1/3								
AK505	718	<b>Transaction Set Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a transaction set	O	ID	1/3								
AK506	718	<b>Transaction Set Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of a transaction set	O	ID	1/3								



# AK9 Functional Group Response Trailer

Pos: 070	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 9

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:

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

## Notes:

See additional information in the introduction.

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>										
AK901	715	<b>Functional Group Acknowledge Code</b> <b>Description:</b> Code indicating accept or reject condition based on the syntax editing of the functional group	M	ID	1/1										
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A	Accepted														
E	Accepted, But Errors Were Noted.														
P	Partially Accepted, At Least One Transaction Set Was Rejected														
R	Rejected														
AK902	97	<b>Number of Transaction Sets Included</b> <b>Description:</b> Total number of transaction sets included in the functional group or interchange (transmission) group terminated by the trailer containing this data element	M	N0	1/6										
AK903	123	<b>Number of Received Transaction Sets</b> <b>Description:</b> Number of Transaction Sets received	M	N0	1/6										
AK904	2	<b>Number of Accepted Transaction Sets</b> <b>Description:</b> Number of accepted Transaction Sets in a Functional Group	M	N0	1/6										
AK905	716	<b>Functional Group Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of the functional group header and/or trailer <b>Notes:</b> This data element is repeated in positions AK906, AK907, AK908, and AK909.	O	ID	1/3										
AK906	716	<b>Functional Group Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of the functional group header and/or trailer	O	ID	1/3										
AK907	716	<b>Functional Group Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of the functional group header and/or trailer	O	ID	1/3										
AK908	716	<b>Functional Group Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of the functional group header and/or trailer	O	ID	1/3										

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>
AK909	716	<b>Functional Group Syntax Error Code</b> <b>Description:</b> Code indicating error found based on the syntax editing of the functional group header and/or trailer	O	ID	1/3

# SE Transaction Set Trailer

<b>Pos: 080</b>	<b>Max: 1</b>
<b>Heading - Mandatory</b>	
<b>Loop: N/A</b>	<b>Elements: 2</b>

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

## Comments:

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

## Element Summary:

<u>Ref</u>	<u>Id</u>	<u>Element Name</u>	<u>Req</u>	<u>Type</u>	<u>Min/Max</u>
SE01	96	<b>Number of Included Segments</b> <b>Description:</b> Total number of segments included in a transaction set including ST and SE segments	M	N0	1/10
SE02	329	<b>Transaction Set Control Number</b> <b>Description:</b> Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set <b>Notes:</b> <i>Must be identical to the transaction set control number in the ST segment.</i>	M	AN	4/9