997 Functional Acknowledgment

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:

1/0100 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.
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.

1/0200 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.

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.

Introduction:

This section defines the format and content of ASC X12.20, Transaction Set 997 (Version 4, Release 3): 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 infor-mation, 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 Subcom-mittee on Information Standards any areas in which further agreement among the railroads can reduce implementation or operating costs.

Heading:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes
0100	ST	Transaction Set Header	M	1		N1/0100

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes
0200	AK1	Functional Group Response Header	M	1		N1/0200
LOOP ID - AK2					**999999**	
0300	AK2	Transaction Set Response Header	O	1		N1/0300
LOOP ID - AK3					**999999**	
0400	AK3	Data Segment Note	O	1		
0500	AK4	Data Element Note	O	99		
0600	AK5	Transaction Set Response Trailer	M	1		
0700	AK9	Functional Group Response Trailer	M	1		
0800	SE	Transaction Set Trailer	M	1		

ST Transaction Set Header

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

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

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.

Element Summary:

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

AK1 Functional Group Response Header

Pos: 0200   Max: 1
Heading - Mandatory
Loop: N/A   Elements: 2

To start acknowledgment of a functional group

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.

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max
AK101	479	**Functional Identifier Code**	M	ID	2/2

Description: Code identifying a group of application related transaction sets

Notes: *Functional ID code as found in the GS segment of the transmission being acknowledged.*

Code	Name
AG	Application Advice (824)
IN	Invoice Information (810)
PO	Purchase Order (850)
PR	Purchase Order Acknowledgment (855)
RA	Payment Order/Remittance Advice (820)
RC	Receiving Advice/Acceptance Certificate (861)
RS	Order Status Information (869, 870)
SC	Price/Sales Catalog (832)
SH	Ship Notice/Manifest (856)

Ref	Id	Element Name	Req	Type	Min/Max
AK102	28	**Group Control Number**	M	N0	1/9

Description: Assigned number originated and maintained by the sender

Notes: *Data interchange control number as found in the GS segment of the transmission being acknowledged.*

AK2   Transaction Set Response Header

<table>
<tr><td>Pos: 0300   Max: 1
Heading - Optional
Loop: AK2   Elements: 2</td></tr>
</table>

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:

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

AK3   Data Segment Note

Pos: 0400   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:

Ref	Id	Element Name	Req	Type	Min/Max
AK301	721	**Segment ID Code**	M	ID	2/3

Description: Code defining the segment ID of the data segment in error (See Appendix A - Number 77)

Notes: *See Segment Directory.*

Ref	Id	Element Name	Req	Type	Min/Max
AK302	719	**Segment Position in Transaction Set**	M	N0	1/6

Description: The numerical count position of this data segment from the start of the transaction set: the transaction set header is count position 1

Ref	Id	Element Name	Req	Type	Min/Max
AK303	447	**Loop Identifier Code**	O	AN	1/6

Description: The loop ID number given on the transaction set diagram is the value for this data element in segments LS and LE

Ref	Id	Element Name	Req	Type	Min/Max
AK304	720	**Segment Syntax Error Code**	O	ID	1/3

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

AK4   Data Element Note

> **Pos: 0500   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:

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

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max
AK401	C030	**Position in Segment**	M	Comp	

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

Ref	Id	Element Name	Req	Type	Min/Max
	722	**Element Position in Segment**	M	N0	1/2

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

Ref	Id	Element Name	Req	Type	Min/Max
	1528	**Component Data Element Position in Composite**	O	N0	1/2

Description: To identify the component data element position within the composite that is in error

Ref	Id	Element Name	Req	Type	Min/Max
	1686	**Repeating Data Element Position**	O	N0	1/4

Description: To identify the specific repetition of a data element that is in error

Ref	Id	Element Name	Req	Type	Min/Max
AK402	725	**Data Element Reference Number**	O	N0	1/4

Description: Reference number used to locate the data element in the Data Element Dictionary

Ref	Id	Element Name	Req	Type	Min/Max
AK403	723	**Data Element Syntax Error Code**	M	ID	1/3

Description: Code indicating the error found after syntax edits of a data element

Ref	Id	Element Name	Req	Type	Min/Max
AK404	724	**Copy of Bad Data Element**	O	AN	1/99

Description: This is a copy of the data element in error

AK5 Transaction Set Response Trailer

Pos: 0600 **Max: 1**
Heading - Mandatory
Loop: AK2 **Elements: 6**

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

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max
AK501	**717**	**Transaction Set Acknowledgment Code**	**M**	**ID**	**1/1**

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

Code	Name
A	Accepted
E	Accepted But Errors Were Noted
R	Rejected

Ref	Id	Element Name	Req	Type	Min/Max
AK502	**718**	**Transaction Set Syntax Error Code**	**O**	**ID**	**1/3**

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

Notes: *This data element is repeated in positions AK503, AK504, AK505, and AK 506.*

Ref	Id	Element Name	Req	Type	Min/Max
AK503	**718**	**Transaction Set Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK504	**718**	**Transaction Set Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK505	**718**	**Transaction Set Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK506	**718**	**Transaction Set Syntax Error Code**	**O**	**ID**	**1/3**

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

AK9 Functional Group Response Trailer

Pos: 0700   **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:

Ref	Id	Element Name	Req	Type	Min/Max
AK901	**715**	**Functional Group Acknowledge Code**	**M**	**ID**	**1/1**

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

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

Ref	Id	Element Name	Req	Type	Min/Max
AK902	**97**	**Number of Transaction Sets Included**	**M**	**N0**	**1/6**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK903	**123**	**Number of Received Transaction Sets**	**M**	**N0**	**1/6**

Description: Number of Transaction Sets received

Ref	Id	Element Name	Req	Type	Min/Max
AK904	**2**	**Number of Accepted Transaction Sets**	**M**	**N0**	**1/6**

Description: Number of accepted Transaction Sets in a Functional Group

Ref	Id	Element Name	Req	Type	Min/Max
AK905	**716**	**Functional Group Syntax Error Code**	**O**	**ID**	**1/3**

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

Notes: *This data element is repeated in positions AK906, AK907, AK908, and AK 909.*

Ref	Id	Element Name	Req	Type	Min/Max
AK906	**716**	**Functional Group Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK907	**716**	**Functional Group Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK908	**716**	**Functional Group Syntax Error Code**	**O**	**ID**	**1/3**

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

Ref	Id	Element Name	Req	Type	Min/Max
AK909	**716**	**Functional Group Syntax Error Code**	**O**	**ID**	**1/3**

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

SE Transaction Set Trailer

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

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:

Ref	Id	Element Name	Req	Type	Min/Max
SE01	96	**Number of Included Segments**	M	N0	1/10

Description: Total number of segments included in a transaction set including ST and SE segments

Ref	Id	Element Name	Req	Type	Min/Max
SE02	329	**Transaction Set Control Number**	M	AN	4/9

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

Notes: *Must be identical to the transaction set control number in the ST segment.*