



Plex Systems

IMPLEMENTATION GUIDELINES FOR
ANSI X12 EDI CONVENTIONS

830 TRANSACTION SET
MATERIAL RELEASE

Version 004010

Revised January 15, 2019

830 Material Release

Functional Group ID=**PS**

Introduction:

This Standard contains the format and establishes the data contents of the Planning Schedule with Release Capability Transaction Set (830) for use within the context of an Electronic Data Interchange (EDI) environment. The transaction set can be used to provide for customary and established business practice relative to the transfer of forecasting/material release information between organizations. The planning schedule transaction may be used in various ways or in a combination of ways, such as: (1) a simple forecast; (2) a forecast with the buyer's authorization for the seller to commit to resources, such as labor or material; (3) a forecast that is also used as an order release mechanism, containing such elements as resource authorizations, period-to-date cumulative quantities, and specific ship/delivery patterns for requirements that have been represented in "buckets," such as weekly, monthly, or quarterly. The order release forecast may also contain all data related to purchase orders, as required, because the order release capability eliminates the need for discrete generation of purchase orders.

Heading:

	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
M	010	ST	Transaction Set Header	M	1		
M	020	BFR	Beginning Segment for Planning Schedule	M	1		
	130	DTM	Date/Time Reference	O	10		
LOOP ID - N1						200	
M	230	N1	Name	M	1		
M	250	N3	Address Information	M	2		
M	260	N4	Geographic Location	M	1		
	280	PER	Administrative Communications Contact	O	2		

Detail:

	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
LOOP ID - LIN						>1	
M	010	LIN	Item Identification	M	1		
	020	UIT	Unit Detail	O	1		
	080	PID	Product/Item Description	O	1000		
	150	PER	Administrative Communications Contact	O	3		
	230	ATH	Resource Authorization	O	20		
	678	SDP	Ship/Delivery Pattern	M	1		
LOOP ID - FST						>1	
	410	FST	Forecast Schedule	O	1		n1
LOOP ID - SHP						25	

470	SHP	Shipped/Received Information	O	1
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Summary:

	<u>Pos. No.</u>	<u>Seg. ID</u>	<u>Name</u>	<u>Req. Des.</u>	<u>Max.Use</u>	<u>Loop Repeat</u>	<u>Notes and Comments</u>
M	010	CTT	Transaction Totals	M	1		n2
M	020	SE	Transaction Set Trailer	M	1		

Transaction Set Notes

1. At least one occurrence of segment FST is required, either in the FST loop or within the SDP loop. These two loops are mutually exclusive.
2. Number of line items (CTT01) is the accumulation of the number of LIN segments. If used, hash total (CTT02) is the sum of the values of the quantities (FST01) for each FST segment.

Revision History	
Date	Change
01/15/2019	Added CTT02 option

Segment:	ST Transaction Set Header
Position:	010
Loop:	
Level:	Heading
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the start of a transaction set and to assign a control number
Syntax Notes:	
Semantic Notes:	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).
Comments:	

Data Element Summary			
<u>Ref.</u>	<u>Data</u>	<u>Name</u>	<u>Attributes</u>
<u>Des.</u>	<u>Element</u>		
ST01	143	Transaction Set Identifier Code	M ID 3/3
		Code uniquely identifying a Transaction Set	
		830 Planning Schedule with Release Capability	
ST02	329	Transaction Set Control Number	M AN 4/9
		Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set	

Segment:	BFR Beginning Segment for Planning Schedule
Position:	020
Loop:	
Level:	Heading
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the beginning of a planning schedule transaction set; whether a ship or delivery based forecast; and related forecast envelope dates
Syntax Notes:	1 At least one of BFR02 or BFR03 is required.
Semantic Notes:	1 If BFR01 contains the value "04" (Net Change), BFR09 is required. 2 BFR02 is the identifying number for a forecast assigned by the orderer/purchaser. 3 BFR06 is the forecast horizon start date: The date when the forecast horizon (envelope) begins. 4 BFR07 is the forecast horizon end date: The date when the forecast horizon (envelope) ends. 5 BFR08 is the date forecast generated: The date the forecast data was generated. 6 BFR09 is the date forecast updated: The date the forecast was updated with "net change" data. (Used only when data element 353 in BFR01 contains the value "04", meaning net change.)
Comments:	

Data Element Summary

Ref. Des.	Data Element	Name	Attributes ANSI
BFR01	353	Transaction Set Purpose Code Code identifying purpose of transaction set 05 Replace	M ID 2/2
BFR02	127	Reference Identification Reference information as defined for a particular Transaction Set or as specified by the Reference Identification Qualifier If a release number is not used this field is mandatory - either BFR02 or BFR03 must be used	X AN 1/30
BFR03	328	Release Number Number identifying a release against a Purchase Order previously placed by the parties involved in the transaction If a Reference ID is not used this field is mandatory - either BPR02 or BPR03 must be used	X AN 1/30
BFR04	675	Schedule Type Qualifier Code identifying the type of dates used when defining a shipping or delivery time in a schedule or forecast DL Delivery Based SH Shipment Based	M ID 2/2
BFR05	676	Schedule Quantity Qualifier Code identifying the type of quantities used when defining a schedule or forecast A Actual Discrete Quantities C Cumulative Quantities	M ID 1/1
BFR06	373	Date Date expressed as CCYYMMDD	M DT 8/8

BFR07	373	Forecast start date		
		Date	M	DT 8/8
		Date expressed as CCYYMMDD		
BFR08	373	Ending forecast date		
		Date	M	DT 8/8
		Date expressed as CCYYMMDD		
BFR09	373	Forecast generation date		
		Date	O	DT 8/8
		Date forecast updated		
BFR11	324	Purchase Order Number	O	AN 1/22
		Purchase order		

Segment: DTM Date/Time Reference

Position: 130
Loop:
Level: Heading
Usage: Optional
Max Use: 10
Purpose: To specify identifying information
Syntax Notes:
Semantic Notes:
Comments:

Data Element Summary

Ref.	Data	Attributes
<u>Des.</u>	<u>Element</u> <u>Name</u>	<u>ANSI</u>
DTM01	374 Date/Time Qualifier Date Code 168 Release	M ID 3/3
DTM02	373 Date CCCCMMDD	X DT 8/8
DTM03	337 Time HHMMSS	X TM 6/6

Segment:	N1 Name
Position:	230
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To identify a party by type of organization, name, and code
Syntax Notes:	<ol style="list-style-type: none"> 1 At least one of N102 or N103 is required. 2 If either N103 or N104 is present, then the other is required.
Semantic Notes:	
Comments:	<ol style="list-style-type: none"> 1 This segment, used alone, provides the most efficient method of providing organizational identification. To obtain this efficiency the "ID Code" (N104) must provide a key to the table maintained by the transaction processing party. 2 N105 and N106 further define the type of entity in N101.

Data Element Summary

Ref.	Data		Attributes
Des.	Element	Name	ANSI
N101	98	Entity Identifier Code	M ID 4/4
		Code identifying an organizational entity, a physical location, property or an individual	
		MI Planning Schedule/Material Release Issuer	
		ST Ship To	
		SU Supplier/Manufacturer	
		SF Ship From	
N102	93	Name	X AN 1/60
		Free-form name	
N103	66	Identification Code Qualifier	X ID 1/2
		Code designating the system/method of code structure used for Identification Code (67)	
		1 D-U-N-S Number, Dun & Bradstreet	
		92 Assigned by Buyer or Buyer's Agent	
N104	67	Identification Code	X AN 2/80
		Code identifying a party or other code	

Segment: **N3** **Address Information**
Position: 250
Loop: N1 Optional
Level: Heading
Usage: Optional
Max Use: 2
Purpose: To specify the location of the named party
Syntax Notes:
Semantic Notes:
Comments:

Data Element Summary

Ref.	Data		Attributes
<u>Des.</u>	<u>Element</u>	<u>Name</u>	ANSI
N301	166	Address Information	M AN 1/55
		Address information	
N302	166	Address Information	O AN 1/55
		Address information	

Segment:	N4 Geographic Location
Position:	260
Loop:	N1 Optional
Level:	Heading
Usage:	Optional
Max Use:	1
Purpose:	To specify the geographic place of the named party
Syntax Notes:	1 If N406 is present, then N405 is required.
Semantic Notes:	
Comments:	<p>1 A combination of either N401 through N404, or N405 and N406 may be adequate to specify a location.</p> <p>2 N402 is required only if city name (N401) is in the U.S. or Canada.</p>

Data Element Summary

Ref.	Data	Attributes
<u>Des.</u>	<u>Element</u> <u>Name</u>	<u>ANSI</u>
N401	19 City Name Free-form text for city name	O AN 2/30
N402	156 State or Province Code Code (Standard State/Province) as defined by appropriate government agency	O ID 2/2
N403	116 Postal Code Code defining international postal zone code excluding punctuation and blanks (zip code for United States)	O ID 3/15
N404	26 Country Code Code identifying the country	O ID 2/3

Segment: PER Administrative Communications Contact

Position: 060
Loop: N1
Level: Heading
Usage: Optional
Max Use: 2
Purpose: To identify a person or office to whom administrative communications should be directed.
Syntax Notes:

- 1 If either PER03 or PER04 is present, then the other is required.
- 2 If either PER05 or PER06 is present, then the other is required.
- 3 If either PER07 or PER08 is present, then the other is required.

Semantic Notes:

Comments:

Data Element Summary

Ref. Des.	Data Element	Name	Attributes ANSI
PER03	365	Communication Number Qualifier Code identifying the type of communication number. FX Facsimile TE Telephone	M ID 2/2
PER04	364	Communication Number Complete communications number including country or area code when applicable.	M AN 1/15

Segment:	LIN Item Identification
Position:	010
Loop:	LIN Mandatory
Level:	Detail
Usage:	Mandatory
Max Use:	1
Purpose:	To specify basic item identification data
Syntax Notes:	<ol style="list-style-type: none"> 1 If either LIN04 or LIN05 is present, then the other is required. 2 If either LIN06 or LIN07 is present, then the other is required. 3 If either LIN08 or LIN09 is present, then the other is required. 4 If either LIN10 or LIN11 is present, then the other is required. 5 If either LIN12 or LIN13 is present, then the other is required. 6 If either LIN14 or LIN15 is present, then the other is required. 7 If either LIN16 or LIN17 is present, then the other is required. 8 If either LIN18 or LIN19 is present, then the other is required. 9 If either LIN20 or LIN21 is present, then the other is required. 10 If either LIN22 or LIN23 is present, then the other is required. 11 If either LIN24 or LIN25 is present, then the other is required. 12 If either LIN26 or LIN27 is present, then the other is required. 13 If either LIN28 or LIN29 is present, then the other is required. 14 If either LIN30 or LIN31 is present, then the other is required.
Semantic Notes:	1 LIN01 is the line item identification
Comments:	<ol style="list-style-type: none"> 1 See the Data Dictionary for a complete list of IDs. 2 LIN02 through LIN31 provide for fifteen different product/service IDs for each item. For example: Case, Color, Drawing No., U.P.C. No., ISBN No., Model No., or SKU.

Data Element Summary

Ref.	Data	Attributes
Des.	Element Name	ANSI
LIN 01	350 Assigned Identification	O AN 1/20
	Not Used	
LIN02	235 Product/Service ID Qualifier	M ID 2/2
	Code identifying the type/source of the descriptive number used in Product/Service ID (234)	
	BP Buyer's Part Number	
LIN03	234 Product/Service ID	M AN 1/80
	Identifying number for a product or service	
LIN04	235 Product/Service ID Qualifier	X ID 2/2
	Code identifying the type/source of the descriptive number used in Product/Service ID (234)	
	PO Purchase Order Number	
LIN05	234 Product/Service ID	X AN 1/48
	Identifying number for a product or service	

LIN06	235	Product/Service ID Qualifier	
		EC	Engineering Change Level
LIN07	234	Product/Service ID	
		Identifying number for product	
LIN08	235	Product/Service ID Qualifier	X ID 2/2
		Code identifying the type/source of the descriptive number used in Product/Service ID (234)	
		VP	Vendor Product Number
LIN09	234	Product/Service ID	X AN 1/80
		Identifying number for a product or service	

Segment: **UIT** Unit Detail
Position: 020
Loop: LIN Mandatory
Level: Detail
Usage: Optional
Max Use: 1
Purpose: To specify item unit data
Syntax Notes: 1 If UIT03 is present, then UIT02 is required.
Semantic Notes:
Comments:

Data Element Summary

Ref.	Data		Attributes
<u>Des.</u>	<u>Element</u>	<u>Name</u>	ANSI
UIT01	355	Unit or Basis for Measurement Code	M ID 2/2
		Code specifying the units in which a value is being expressed, or manner in which a measurement has been taken	
		CH Container	
		DZ Dozen	
		EA Each	
		FT Foot	
		GA Gallon	
		LB Pound	
		PR Pair	
		ST Set	
		UN Unit	
		YD Yard	

Segment: **PID** **Product/Item Description**
Position: 080
Loop: LIN Mandatory
Level: Detail
Usage: Optional
Max Use: 1000
Purpose: To describe a product or process in coded or free-form format
Syntax Notes:
Semantic Notes:
Comments:
Notes:

Data Element Summary

Ref.	Data		Attributes
<u>Des.</u>	<u>Element</u>	<u>Name</u>	ANSI
PID01	349	Item Description Type	M ID 1/1
		Code indicating the format of a description	
		F Free-form	
PID05	352	Description	X AN 1/80
		A free-form description to clarify the related data elements and their content	

Segment:	ATH	Resource Authorization
Position:	230	
Loop:	LIN	Mandatory
Level:	Detail	
Usage:	Optional	
Max Use:	20	
Purpose:	To specify resource authorizations (i.e., finished labor, material, etc.) in the planning schedule	
Syntax Notes:	<ol style="list-style-type: none"> 1 At least one of ATH02 or ATH03 is required. 2 If ATH03 is present, then ATH05 is required. 3 If ATH04 is present, then ATH05 is required. 	
Semantic Notes:	<ol style="list-style-type: none"> 1 ATH02 is the resource authorization through date: The date through which the buyer authorizes the seller to commit the resource defined in element ATH01. 2 ATH03 is the current cumulative requirements quantity: The cumulative quantity that has been authorized to date from the cumulative start date (ATH05) through the resource authorization through date (ATH02). 3 ATH05 is the cumulative start date: The date where the cumulative quantity count starts. This date might be the start date of a contract period, a calendar or fiscal year, or other. 	
Comments:	<ol style="list-style-type: none"> 1 It is imperative that negotiations defining financial commitment have previously occurred and are agreed to by both buyer and seller. 2 ATH04 is the maximum cumulative requirements quantity: The maximum cumulative quantity that has been authorized to date from the cumulative start date (ATH05) through the resource authorization through date (ATH02). This is a high water mark. If the forecast decreases, the current cumulative requirements quantity also decreases, but the maximum cumulative requirements quantity does not decrease. 	

Data Element Summary			
Ref.	Data	Name	Attributes
Des.	Element		
ATH01	672	Resource Authorization Code	M ID 3/3
		Code identifying the resource which the buyer is authorizing the seller to commit to	
		FI Finished (Labor, Material, and Overhead/Burden)	
		MT Material	
		PQ Previous Quantity Authorized	
ATH02	373	Date	X DT 8/8
		Date expressed as CCYYMMDD	
		Authorization through date	
ATH03	380	Quantity	X R 1/15
		Numeric value of quantity	
		Authorization cumulated quantity	
ATH05	373	Date	X DT 8/8
		Date expressed as CCYYMMDD	
		Start date for cumulative quantity authorization	

Segment: SDP Ship/Delivery Pattern

Position: 678
Loop: LIN/SDP Mandatory
Level: Detail
Usage: Mandatory
Max Use: 1000
Purpose: To identify specific ship/delivery requirements
Syntax Notes:
Semantic Notes:
Comments:
Notes:

Data Element Summary

Ref.	Data	Name	Attributes
<u>Des.</u>	<u>Element</u>		ANSI
SDP01	678	Ship/Delivery Code	M ID 1/2
		Code which specifies the delivery pattern	
		N As Directed	
SDP02	679	Ship/Delivery Code	M ID 1/2
		F As Directed	

Segment:	FST Forecast Schedule
Position:	410
Loop:	LIN/SDP Optional
Level:	Detail
Usage:	Optional
Max Use:	1
Purpose:	To specify the forecasted dates and quantities
Syntax Notes:	<ol style="list-style-type: none"> 1 If either FST06 or FST07 is present, then the other is required. 2 If either FST08 or FST09 is present, then the other is required.
Semantic Notes:	<ol style="list-style-type: none"> 1 If FST03 equals "F" (indicating flexible interval), then FST04 and FST05 are required. FST04 would be used for the start date of the flexible interval and FST05 would be used for the end date of the flexible interval.
Comments:	<ol style="list-style-type: none"> 1 As qualified by FST02 and FST03, FST04 represents either a discrete forecast date, the first date of a forecasted bucket (weekly, monthly, quarterly, etc.) or the start date of a flexible interval. 2 FST06 qualifies the time in FST07. The purpose of the FST07 element is to express the specific time of day in a 24-hour clock to satisfy "just-in-time" requirements. As an alternative, the ship/delivery pattern segment (SDP) may be used to define an approximate time, such as a.m. or p.m.

Data Element Summary

Ref.	Data	Attributes
<u>Des.</u>	<u>Element</u> <u>Name</u>	ANSI
FST01	380 Quantity Numeric value of quantity	M R 1/15
FST02	680 Forecast Qualifier Code specifying the sender's confidence level of the forecast data or an action associated with a forecast A Immediate C Firm D Planning	M ID 1/1
FST03	681 Forecast Timing Qualifier Code specifying interval grouping of the forecast C Daily D Discrete F Flexible Interval (from Date X through Date Y) W Weekly Bucket M Monthly Bucket (Calendar Months)	M ID 1/1
FST04	373 Date Date expressed as CCYYMMDD Scheduled date	M DT 8/8
FST05	373 Date Date expressed as CCYYMMDD Not Used	O DT 8/8
FST06	374 Date/Time Qualifier Code specifying type of date or time	M ID 1/1

Not used

FST07	337	Time	X	TM 4/8
		Time expressed in 24-hour clock time as follows: HHMM, or HHMMSS, or HHMMSSD, or HHMMSSDD, where H = hours (00-23), M = minutes (00-59), S = integer seconds (00-59) and DD = decimal seconds; decimal seconds are expressed as follows: D = tenths (0-9) and DD =hundredths (00-99) Not Used		
FST08	128	Reference Identification Qualifier	X	ID 2/3
		Code qualifying the Reference Identification DO Delivery Order Number/RAN		
FST09	127	Reference Identification	X	AN 1/30
		Reference information as specified by the Reference Identification Qualifier		

Segment: SHP Shipped/Received Information

Position: 470
Loop: SHP
Level: Detail
Usage: Used
Max Use: 2
Purpose: To specify shipment and/or receipt information.
Syntax Notes:
Semantic Notes:
Comments:
Notes:

Data Element Summary

Ref.	Data	Attributes
<u>Des.</u>	<u>Element</u> <u>Name</u>	ANSI
SHP01	673 Quantity Qualifier Code which specifies the type of quantity 01 Discrete Quantity 02 Cumulative Quantity	O ID 2/2
SHP02	380 Quantity Numeric Value of Quantity	X R 1/15
SHP03	374 Date/Time Qualifier Code which specifies the type of date. 011 Shipped 051 Cumulative Quantity Start	X ID 3/3
SHP04	373 Date Date received (011) or Cumulative Quantity Start Date (CCYYMMDD)	O DT 8/8
SHP06	373 Date Cumulative Quantity End Date (CCYYMMDD)	O DT 8/8

Segment: REF Reference Numbers

Position: 480
Loop: SHP
Level: Detail
Usage: Used
Max Use: 2
Purpose: To specify indentifying information
Syntax Notes:
Semantic Notes:
Comments:
Notes:

Data Element Summary

<u>Ref.</u> <u>Des.</u>	<u>Data</u> <u>Element</u>	<u>Name</u>	Attributes ANSI
REF01	128	Reference Qualifier Code qualifying the reference ID SI Shipper ID	M ID 2/3
REF02	127	Reference ID	X AN 1/30

Segment:	CTT Transaction Totals
Position:	010
Loop:	
Level:	Summary
Usage:	Optional
Max Use:	1
Purpose:	To transmit a hash total for a specific element in the transaction set
Syntax Notes:	1 If either CTT03 or CTT04 is present, then the other is required. 2 If either CTT05 or CTT06 is present, then the other is required.
Semantic Notes:	
Comments:	1 This segment is intended to provide hash totals to validate transaction completeness and correctness.

Data Element Summary			
Ref.	Data		
<u>Des.</u>	<u>Element</u>	<u>Name</u>	<u>Attributes</u>
CTT01	354	Number of Line Items	M N0 1/6
		Total number of line items in the transaction set	
		Total number of LIN segments	
CTT02	347	Hash Total	O R 1/10

Segment:	SE Transaction Set Trailer
Position:	020
Loop:	
Level:	Summary
Usage:	Mandatory
Max Use:	1
Purpose:	To indicate the end of the transaction set and provide the count of the transmitted segments (including the beginning (ST) and ending (SE) segments)
Syntax Notes:	
Semantic Notes:	
Comments:	1 SE is the last segment of each transaction set.

Data Element Summary			
Ref.	Data		
<u>Des.</u>	<u>Element</u>	<u>Name</u>	<u>Attributes</u>
SE01	96	Number of Included Segments	M N0 1/10
		Total number of segments included in a transaction set including ST and SE segments	
SE02	329	Transaction Set Control Number	M AN 4/9
		Identifying control number that must be unique within the transaction set functional group assigned by the originator for a transaction set	

Sample:

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ISA*00*      *00*      *ZZ*ACME      *ZZ*SUPPLIER      *130916*0200*U*00401*000000112*0*T*<~
GS*PS*ACME*SUPPLIER*20130916*0200*112*X*004010~
ST*830*0001~
BFR*05**20130916*DL*A*20130916*20131125*20130916~
DTM*168*20130916*020002~
N1*MI*ACME MANUFACTURING*92*ACME1~
N1*SU*SUPPLIER*1*123456789~
N1*SF*SUPPLIER*1*123456789~
N1*ST*ACME*92*ACME1~
N3*ACME PRODUCTS INC.~
N4*ALBUQUERQUE*NM*48329~
LIN**BP*ACME PART NO*EC*BD*PO*000330~
UIT*PC~
PID*F****LX GRAB HANDLE SWITCH~
ATH*PQ*20130916*8161**20121231~
ATH*FI**14129**20121231~
ATH*MT**14129**20121231~
SDP*N*F~
FST*50*C*W*20130916~
FST*0*D*W*20130917~
FST*0*D*W*20130918~
FST*0*D*W*20130919~
FST*0*D*W*20130920~
FST*200*D*W*20130923~
FST*0*D*W*20130924~
FST*0*D*W*20130925~
FST*0*D*W*20130926~
FST*0*D*W*20130927~
FST*0*D*W*20130930~
SHP*01*500*011*20120410~
SHP*02*8161*051*20121231**20120410~
REF*SI*123123~
LIN**BP*111-W5W*EC*AA*PO*000330~
UIT*PC~
PID*F****BULB 5 W~
ATH*PQ*20130916*2500**20121231~
ATH*FI**2756**20121231~
ATH*MT**2756**20121231~
SDP*N*F~
FST*56*D*W*20130916~
FST*0*D*W*20130917~
FST*0*D*W*20130918~
FST*0*D*W*20130919~
FST*0*D*W*20130920~
FST*0*D*W*20130923~
FST*95*D*W*20130924~
FST*0*D*W*20130925~
FST*0*D*W*20130926~
FST*0*D*W*20130927~
FST*0*D*W*20130930~
FST*190*D*W*20131007~
SHP*01*500*011*20100314~
SHP*02*2500*051*20121231**20100314~
REF*SI*741~
CTT*2~
SE*69*0001~

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