EDI

Business To Business Integration

Two Primary EDI Standards

ANSI X.12
An EDI standard maintained by the American National Standards Institute (ANSI). Commonly used in North America.

UN/EDIFACT
An international EDI standard maintained by the United Nations and approved by the International Standards Organization (ISO).

Example EDI Message: X12 856

```
ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJKLMNO*ZZ*123456789012345*101127*1719*U*00400*000003438*0*P*>'
GS*SH*4405197800*999999999*20200612*1045*49*X*004060'
ST*856*0008'
BSN*14*829716*20200612*142428*0002'
HL*1**S'
TD1*PCS*2****A3*60.310*LB'
TD5**2*XXXX**XXXX'
REF*BM*999999-001'
REF*CN*5787970539'
DTM*011*20200612'
N1*SH*SHIPPER NAME'
N3*7620 FLIGHT AVENUE'
N4*LOS ANGELES*CA*90045'
N1*CN*CONSIGNEE NAME'
N3*895 SPRING CREEK COURT'
N4*ELK GROVE VILLAGE*IL*60007'
HL*2*1*O'
PRF*99999817**20200512'
HL*3*2*I'
LIN*1*VP*87787D*UP*999999310145'
SN1*1*24*EA'
PO4*1*24*EA'
PID*F****POWER ADAPTER'
HL*4*2*I'
LIN*2*VP*99887D*UP*999999311746'
SN1*2*6*EA'
PO4*1*6*EA'
PID*F****GAME CONSOLE'
CTT*4*30'
SE*31*0008'
GE*1*49'
IEA*1*000000049'
```

Segment Identifiers

ISA*01*0000000000*

GS*SH*4405197800*9

ST*856*0008

BSN*14*829716*2020

HL*1**S

TD1*PCS*2****A3*60

TD5**2*XXXX**XXXX

REF*BM*999999-001

Terminators

```
ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJK
GS*SH*4405197800*999999999*20200612*1045*49*X*
ST*856*0008'
BSN*14*829716*20200612*142428*0002'
HL*1**S'
TD1*PCS*2****A3*60.310*LB'
TD5**2*XXXX**XXXX'
REF*BM*999999-001'
REF*CN*5787970539'
DTM*011*20200612'
N1*SH*SHIPPER NAME'
N3*7620 FLIGHT AVENUE'
N4*LOS ANGELES*CA*90045'
```

Segment Terminators

Element Terminators

Message Headers

ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJKLMNO*ZZ*123456789012345*101127*1719*U*00400*000003438*0*P*>'
GS*SH*4405197800*999999999*20200612*1045*49*X*004060'
ST*856*0008'

ISA – Interchange Control Header

ISA Header

```
ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJKLM
NO*ZZ*123456789012345*101127*1719*U*00400*000003
438*0*P*>'
```

Terminators used in message

X12 Syntax Version

Message Headers

```
ISA*01*0000000000*01*0000000000*ZZ*ABCDEFGHIJKLMNO*ZZ*123456789012345*101127*1719*U*00400*000003438*0*P*>'
GS*SH*4405197800*999999999*20200612*1045*49*X*004060'
ST*856*0008'
```

ISA – Interchange Control Header

GS – Functional Group Header

ST – Transaction Set Header

Message Trailers

```
SE*31*0008'
GE*1*49'
IEA*1*000000049'
```

SE – Transaction Set Trailer

GE – Functional Group Trailer

IEA – Interchange Control Trailer

Message Trailer - Counts
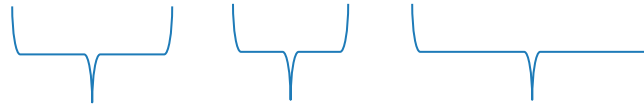
```
SE*31*0008'
GE*1*49'
IEA*1*000000049'
```

 # Segments in the Transaction

# of Transactions in the Functional Group

# of Functional Groups in the Interchange

Elements

REF*DP*3001'

Segment Identifier   REF01   REF02

| REF01 | Reference Identification Qualifier | DP is the X12 code for department number |
| REF02 | Reference Identification | 3001 is the department number |

Code Qualifier Examples

BM Bill of Lading Number
REF*BM*21046721

2I Tracking Number
REF*2I*1Z318D201236121924

PRT Product Type
REF*PRT*IC

CO Customer Order Number
REF*CO*1900121-1

DB Buyer's Debit Memo
REF*DB*4656

ZZ Mutually Defined
REF*ZZ*Shipped via air freight

Segment Loops

First loop for
the shipper

N1*SH*SHIPPER NAME'
N3*7620 FLIGHT AVENUE'
N4*LOS ANGELES*CA*90045'

Second loop for
the shipper

N1*CN*CONSIGNEE NAME'
N3*895 SPRING CREEK COURT'
N4*ELK GROVE VILLAGE*IL*60007'

Qualifier specifies purpose of Name and Address Loop

850 Purchase Order

Functional Group=PO

Purpose: This Draft Standard for Trial Use contains the format and establishes the data contents of the Purchase Order Transaction Set (850) 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 and industry practice relative to the placement of purchase orders for goods and services. This transaction set should not be used to convey purchase order changes or purchase order acknowledgment information.

Not Defined:

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

Heading:

Pos	Id	Segment Name	Req	Max Use	Repeat	Notes	Usage
010	ST	Transaction Set Header	M	1			Must use
020	BEG	Beginning Segment for Purchase Order	M	1			Must use
050	REF	Reference Information	O	>1			Must use
060	PER	Administrative Communications Contact	O	3			Must use
LOOP ID - SAC					**25**		
120	SAC	Service, Promotion, Allowance, or Charge Information	O	1			Must use
130	ITD	Terms of Sale/Deferred Terms of Sale	O	>1			Must use
150	DTM	Date/Time Reference	O	10			Must use
LOOP ID - AMT					**>1**		
287	AMT	Monetary Amount Information	O	1			Must use
LOOP ID – N9					**1000**		
295	N9	Reference Identification	M	1			

EDI Message Implementation Guides

BEG — **Beginning Segment for Purchase Order**

Pos: 0200	Max: 1
Heading - Mandatory	
Loop: N/A	Elements: 4

User Option (Usage): Must use
Purpose: To indicate the beginning of the Purchase Order Transaction Set and transmit identifying numbers and dates

Element Summary:

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BEG01	353	Transaction Set Purpose Code	M	ID	2/2	Must use

Description: Code identifying purpose of transaction set

CodeList Summary (Total Codes: 66, Included: 1)

Code	Name
00	Original

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BEG02	92	Purchase Order Type Code	M	ID	2/2	Must use

Description: Code specifying the type of Purchase Order

CodeList Summary (Total Codes: 76, Included: 1)

Code	Name
SA	Stand-alone Order

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BEG03	324	Purchase Order Number	M	AN	1/22	Must use

Description: Identifying number for Purchase Order assigned by the orderer/purchaser

Ref	Id	Element Name	Req	Type	Min/Max	Usage
BEG05	373	Date	M	DT	8/8	Must use

Description: Date expressed as CCYYMMDD where CC represents the first two digits of the calendar year

Semantics:

1. BEG05 is the date assigned by the purchaser to purchase order.

EDI Message Implementation Guides

850 – DC Purchase Order Example v4010:

```
ISA*00*       *00*       *ZZ*CVS       *01*Supplier ID   *090909*1608*U*00401*000010952*0*P*^~
GS*PO*CVSD*Supplier ID *20090909*1608*5850*X*004010~
ST*850*179960~
BEG*00*SA*2551146**20090825~
REF*VR*19999~
PER*BD*ELISA BEAN~
SAC*A*F050*ZZ*ZZ**1*.9*****01***OTHER~
ITD*01*15*2**25**26***100~
DTM*002*20090901~
AMT*BAP*86772~
N9*L1*PO COMMENTS~
MSG*THIS PO SUBJECT TO THE TERMS AND CONDITIONS FOUND ON CVS SUPPLIERS WEBSTE~
N1*ST**54*I101~
N3*2800 ENTERPRISE ST~
N4*INDIANAPOLIS*IN*46219~
PO1**32*CA*93.6**UI*12337001382*UA*031127001382*PI*123264~
PAM*01*2995*ZZ~
PO4*144~
PO1**30*CA*131.04**UI*12337001423*UA*025137001423*PI*123269~
PAM*01*3931*ZZ~
PO4*12~
PO1**40*CA*51.6**UI*12337001447*UA*012137001445*PI*123928~
PAM*01*2064*ZZ~
PO4*12~
PO1**31*CA*131.04**UI*12337001584*UA*038137001584*PI*123950~
PAM*01*4062*ZZ~
PO4*12~
PO1**32*CA*98.4**UI*12337001617*UA*012137001617*PI*123610~
PAM*01*3149*ZZ~
PO4*24~
PO1**26*CA*98.4**UI*12337001619*UA*015137002366*PI*123609~
PAM*01*2558*ZZ~
PO4*24~
PO1**18*CA*92.16**UI*12337001642*UA*023137001642*PI*123269~
PAM*01*1659*ZZ~
PO4*144~
```

Acknowledgements

Confirming Receipt

When trading partners are exchanging data using EDI, it's important for the receiver to acknowledge to the sender that the interchange was successfully received

Transport-level Acknowledgement
Built into the transmission protocol like FTP, HTTP, or AS2.

Message Disposition Notifications (MDM)
Specific to AS2 protocol. Confirms to the sender that the receiver successfully decrypted and read the message.

Functional Acknowledgements
An EDI message like a X12 997 which is sent from the recipient to the sender to confirm receipt of a message.

Business-level Acknowledgements
Confirms the recipient has taken some action in response to receiving an EDI message. For example confirming an Order.

Popular X12 Messages

850 – Purchase Order
Allows a buyer to send a purchase order to a seller of goods or services.

855 – PO Acknowledgement
Acknowledge a purchase order previously sent in an 850

856 – Advance Shipment Notice
Provide details about a shipment

861 – Receiving Advice
Confirms receipt of a shipment

810 - Invoice
Used to send a billing invoice to the buyer

827 – Remittance Advice
Used by the buyer to provide payment details back to the seller

997 – Functional Acknowledgements