



## EDI Reference

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EDI stand for Electronic Data Interchange, and is being used for over 30 years in different industries all over the world. When EDI first started there was not internet and communication between computer devices was limited mainly to phone line. Companies from the Food Industries began using EDI due to the time and man power saving, and also in order to reduce errors that human usually makes when they create data. EDI is made of files and is basically a way to transfer files in a structures format agreed on by some standards (**X12, EDIFACT**) between different companies.

Each file has a file format/structure and that format called document or Transaction Set , and the whole goal of these file formats is that the receiver will know how to read the file when he gets it. There are many document types. The most popular **EDI documents** for **X12** are:

- \* **850** which is a Purchase Order
- \* **810** which is an Invoice
- \* **997** Acknowledgment.

In order for a company to send Purchase order to the Supplier/Vendor, both companies, sometimes called Trading Partner need to setup their EDI System to recognize the sender. Each sender is begin recognize by a unique ID that the company and it Trading Partner agree on, for example DUNS Number, and then they can start sending EDI documents to each other. The way it work is that the sender/buyer will send an EDI 850 document to the supplier. After the supplier receive the document purchase order, the supplier EDI automatically send back to the sender an 997 Acknowledgment document so the sender will know that his order was received successfully. After the supplier fill in the order he send another EDI document, but this time this is an EDI 810 documents which is an Invoice. When the Sender/Buyer receive the Invoice his EDI system send automatically an Acknowledgment using the EDI 997 document that they got the Invoice Successfully. Since today this all done electronically without any human intervention, the Purchase Order and the Invoice are less likely to have errors. Some companies today, connect their EDI system to their ERP system, so every Purchase order that they get, immediately goes into the ERP system, Accounting system, update the warehouse items future inventory, something that may eliminate double orders by mistakes, and eliminate losing the paper purchase order and Invoice.

There are also different EDI standards. EDI standards are basically different file format for the same document regulated by different organization. Today the most used standard is X12 and is being used all over the world especially in the U.S. and Canada. In addition there is the EDIFACT that is just like the X12 but has its own file format for the same type of documents (i.e. Purchase Order and Invoice) but is mostly used in Europe. The most

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popular EDI documents for EDIFACT are: \* **ORDERS**

\* **INVOIC** (this is not a mistake, its really spelled without an 'E' at the end!)

Hopefully one day they will be united into one standard that is accepted all over the world. Every Year there is new EDI version that comes out and published by the parent organization which is **ASC X12** and usually there are minor changes to existing documents and sometimes new documents, so if your going to pick an EDI solution, make sure that comply with all the previous version or at least all the version that you use + all the versions that your trading partner uses. Because most changes are minor, even if you use older version, your EDI software should be able to process the documents it was configured initially to process, but in some cases you might get error messages about invalid file format or invalid segment or invalid element.

EDI X12 file structure is made of four levels:

1. **ISA - Interchange Segment**
2. **GS - Group Segment**
3. **ST - Segment Transaction**
4. **Transaction Segments for specific ST**

So what we got here is a tree view that look like this:

```
ISA
  GS
    ST
      G50
      G72
    SE
  GE
ISE
```

ST has multiple segments

GS may have one or more Transactions

ISA may have one or more Group segments

ISA, IEA GS, GE ST and SE are being called Control Segments where all the segments inside the ST being called Data Segments.

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Sample of EDI 810 document:

```
ISA*00* 00* 08*9251730000 *12*7142569388T *050215*1514*U*00401*000005132*0*P*>~
GS*IN*2137279234*7142569388*040713*1514*000000001*X*004010UCS~
ST*810*0001~
BIG*040713*1001*040625*P89320~
N1*BT*ACME DISTRIBUTING COMPANY~
N3*P.O. BOX 33327~
N4*ANYTOWN*NJ*44509~
N1*ST*THE CORNER STORE~
N3*601 FIRST STREET~
N4*CROSSROADS*MI*48106~
N1*RI*SMITH CORPORATION~
N3*900 EASY STREET~
N4*BIG CITY*NJ*15455~
PER*AD*C.P.JONES*TE*6185558230~
ITD*01*3*2**10~
IT1**3*CA*12.75**VC*6900~
IT1**12*EA*.475**VC*P450~
IT1**4*EA*.94**VC*1640Y~
IT1**1*DZ*3.4**VC*1507~
TDS*5111*~
CAD*M****CONSOLIDATED TRUCK~
CTT*4*20~
SE*21*0001~
GE*1*000000001~
IEA*1*000005132~
```

A closer look at one of the Data Segments:

```
BIG*040713*1001*040625*P89320~
```

Each part between the asterisk sign called Element and the asterisk separates the elements from each other. In other cases, there could be a different character that separates the Element from each other. The same goes for the ~ which is the Segment Terminator.

The ~ sign tells the EDI system when the segment ends.

The first tokens, BIG, tells the EDI what this segments is all about, in this case BIG tell the system that this is 'Beginning Segment Invoice'

The second token, 040713, is the Invoice date formatted as YYMMDD, which is Year Month and Day, so in this case the Invoice Date would be July 13 2004

The third token 1001, is the Invoice Number.

The fourth element 040625, the date assigned by the purchaser to purchase order.

The fifth element P89320, Purchase Order Number for that Invoice.

The BIG data segment has more elements, but not all of them must be used. The ASC X12 define specifically which element are mandatory and which are optional.

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