Decoding BARCODES

There are several barcodes related to products and information on products. UPC, EAN 13, and GTIN 14 barcodes identify products but do not contain any other information about a product such as vendor, date and weight information. These barcodes are useful for Point of Sale (POS) scanning, and simple data collection.

UPC is a twelve digit code used primarily in North America and is the type of barcode that would be scanned at a POS as it represents the smallest packaging unit of an item

EAN 13 is a thirteen digit code used primarily outside of North America. The first two digits are the country of where the item was produced. This is a type of barcode that would be scanned at a POS as it represents the smallest packaging unit of an item
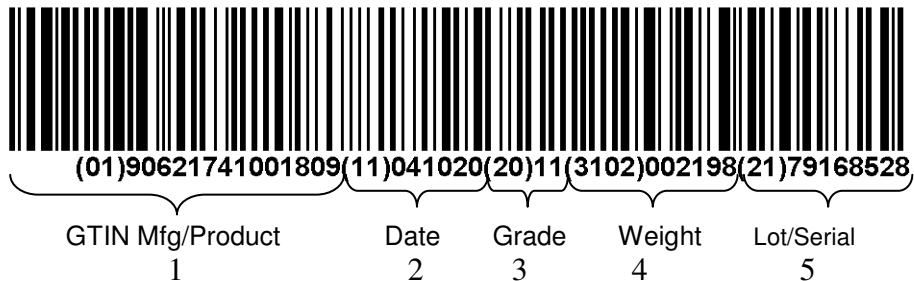

GTIN (Global Trade Identification Number) is a fourteen digit barcode, the 14th character is a packaging level indicator (i.e., item or case). This barcode usually goes on a case and is normally not scanned at a POS as it contains sub units. This code is made up of the company's registration prefix (assigned upon registration with the UCC) and the item reference number.

Of particular importance in the food production and distribution business is the ability to embed critical product information into the barcode. This is done by appending pre-defined application identifiers (AI's) to the GTIN. The AI definitions important to the food industry are batch/lot numbers, dates for production, expiry, serial numbers, weight units, etc. In UCC/EAN 128 symbology all Application Identifiers (AI's) are pre-defined as to content and structure. If product is labeled in compliance with this universal standard, Trading Partners can receive inventory and read data from Manufacturer's or Vendors Barcode labels, and track meaningful data without having to re-label product upon receiving.

UCC/EAN 128 Barcode   Example :

(01)90621741001809(11)041020(20)11(3102)002198(21)79168528

GTIN Mfg/Product	Date	Grade	Weight	Lot/Serial
1	2	3	4	5

1) AI (01) Global Trade Identification Number (GTIN) - fixed format uniquely identifies Company of Origin & Product.

2) AI (11) Production date (YY/MM/DD) fixed format – date product was produced, used to track & age product. Other dates can be used to identify (12) Due date, (13) Packaging date, (15) Best Before date, (17) Expiry date etc.

3) AI (20) Product Variant (nn) – fixed 2 digit segment – May be used for Grade, Farm #, etc. – User discretion

4) AI(3102) Weight in KG to 2 decimal places (nnnnnn) fixed 6 digit – stores actual weight.

5) AI(21) Serial # or lot # (an..20) variable length to uniquely identify the product. ** Note : Variable length data fields are normally last in the barcode.