

# UPC A Barcode Size Standards

**Of the many varieties of barcodes, the UPC (Universal Product Code) is the most common.**

The UPC A barcode represents the GTIN-12, which consists of 12 numbers that identify an individual product. The UPC can be reduced to 80% and can be increased up to 200% without significantly jeopardizing reliable scanning. The "clear zone" or "clear area" to the left and right of the code is necessary to prevent scanners from erroneously picking up background artifacts that can cause scanning failures. It is always best to print barcodes as 100% black on a white field. Other color combinations can work but the precise color combination should be thoroughly tested in retail scanning environment before proceeding. If you are not sure of the precise scanning environment, stick with black on white. Never print a BARCODE in red, it will not be recognized by many types of scanners.

NOTE: Many companies are choosing to convert their domestic UPC A format to the International EAN13 standard. Please ask for Dion conversion documentation to determine if this is the right path for your company.

If your company needs to obtain a certified manufacturing code or you seek additional information regarding the process, please go to: <http://www.gs1us.org/> or <http://www.barcodehq.com/upcnumber.html>

## RECOMMENDED CLEAR AREA

**100% UPC A  
MINIMUM CLEAR ZONE**

(1.5"w x 1.06"h)



**100% UPC A  
MINIMUM CLEAR ZONE &  
MAXIMUM TRUNCATION\***

(1.5"w x .5"h)



**100% UPC A  
RECOMMENDED CLEAR ZONE**

(1.675"w x 1.06"h)



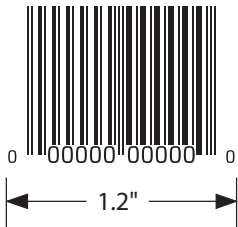
**100% UPC A  
RECOMMENDED CLEAR ZONE &  
MAXIMUM TRUNCATION\***

(1.5"w x .5"h)



**80% UPC A  
MINIMUM CLEAR ZONE**

(1.2"w x .85"h)



**80% UPC A  
MINIMUM CLEAR ZONE &  
MAXIMUM TRUNCATION\***

(1.2"w x .5"h)



**80% UPC A  
RECOMMENDED CLEAR ZONE**

(1.375"w x .85"h)



**80% UPC A  
RECOMMENDED CLEAR ZONE &  
MAXIMUM TRUNCATION\***

(1.2"w x .5"h)



\*Barcodes may be truncated to a reduced height. We do not recommend less than .5" high.

The width should remain as shown above in "suggested clear zone" and never less than the "minimum clear zone".

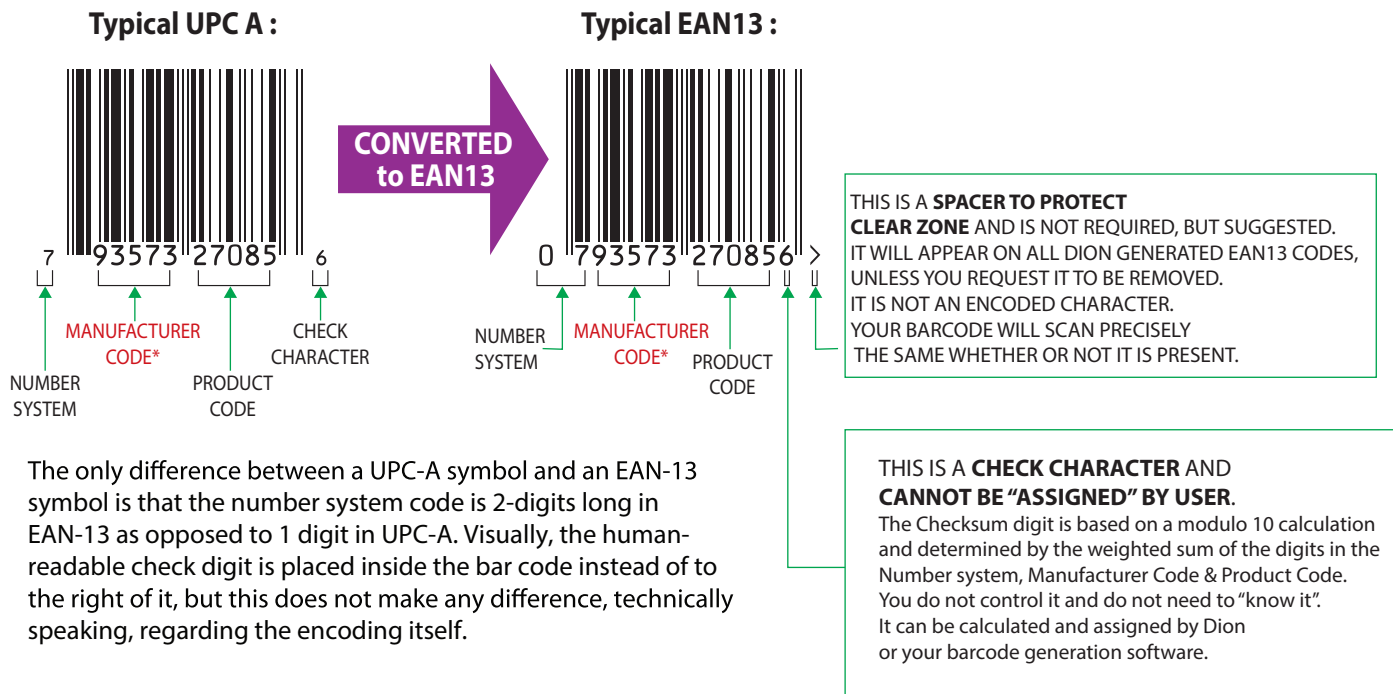


# Converting UPC A to EAN13 International Standard

## The EAN13 format is required for international applications

EAN-13, based upon the **UPC-A** standard, was implemented by the International Article Numbering Association (EAN) in Europe. This standard was implemented mostly because the UPC-A standard was not well designed for international use. EAN-13 is a superset of UPC-A. This means that any software or hardware capable of reading an EAN-13 symbol will automatically be able to read a UPC-A symbol. The only difference between EAN-13 and UPC-A is that the number system code in UPC-A is a single digit from 0 through 9 whereas an EAN-13 number system code consists of two digits ranging from 00 through 99, which is essentially a country code. Each country has a numbering authority which assigns manufacturer codes to companies within its jurisdiction. The manufacturer code is still five digits long, as is the product code, and the check digit is calculated in exactly the same way.

**NOTE:** Since EAN-13 is a superset of UPC-A and requires very little additional effort to handle than a UPC-A code, it is recommended that all new designs implement EAN-13 rather than UPC-A. As already mentioned, this guarantees compatibility with UPC-A but also will make your software/hardware appealing to the international community. Otherwise your design will be restricted to the U.S. and Canada. Additionally, the UCC Council has announced that as of January 1, 2005, all bar code systems in the U.S. and Canada must be able to handle EAN-13 bar codes so that international manufacturers do not have to worry about printing a different bar code for their products destined for North America.



The only difference between a UPC-A symbol and an EAN-13 symbol is that the number system code is 2-digits long in EAN-13 as opposed to 1 digit in UPC-A. Visually, the human-readable check digit is placed inside the bar code instead of to the right of it, but this does not make any difference, technically speaking, regarding the encoding itself.

\*The Manufacturer Code is a unique code assigned to each manufacturer by the numbering authority. It is not uncommon to receive a "variable-length manufacturer code" if the numbering authority determines that you do not have many products. In short, your manufacturer code may extend into the first few characters of the "product code". Since the Manufacturer Code is static, you may have fewer than five characters for individual product numbers. Always verify your complete manufacturer code and number system before beginning individual product assignment.

If your company needs to obtain a certified manufacturing code or you seek additional information regarding the process, please go to: <http://www.gs1us.org/> or <http://www.barcodehq.com/upcnumber.html>

# EAN13 International Country Codes (Number System)

**Number System:** The number system consists of two digits (sometimes three digits) which identify the country (or economic region) numbering authority which assigned the manufacturer code. Any number system which starts with the digit **0** is a UPC-A bar code. The valid number system codes are presented in the following table:

If your company needs to obtain a certified manufacturing code or you seek additional information regarding the process, please go to: <http://www.gs1us.org/> or <http://www.barcodehq.com/upcnumber.html>

00-13: USA & Canada	20-29: In-Store Functions	30-37: France
40-44: Germany	45: Japan (also 49)	46: Russian Federation
471: Taiwan	474: Estonia	475: Latvia
477: Lithuania	479: Sri Lanka	480: Philippines
482: Ukraine	484: Moldova	485: Armenia
486: Georgia	487: Kazakhstan	489: Hong Kong
49: Japan (JAN-13)	50: United Kingdom	520: Greece
528: Lebanon	529: Cyprus	531: Macedonia
535: Malta	539: Ireland	54: Belgium & Luxembourg
560: Portugal	569: Iceland	57: Denmark
590: Poland	594: Romania	599: Hungary
600 & 601: South Africa	609: Mauritius	611: Morocco
613: Algeria	619: Tunisia	622: Egypt
625: Jordan	626: Iran	64: Finland
690-692: China	70: Norway	729: Israel
73: Sweden	740: Guatemala	741: El Salvador
742: Honduras	743: Nicaragua	744: Costa Rica
746: Dominican Republic	750: Mexico	759: Venezuela
76: Switzerland	770: Colombia	773: Uruguay
775: Peru	777: Bolivia	779: Argentina
780: Chile	784: Paraguay	785: Peru
786: Ecuador	789: Brazil	80 - 83: Italy
84: Spain	850: Cuba	858: Slovakia
859: Czech Republic	860: Yugoslavia	869: Turkey
87: Netherlands	880: South Korea	885: Thailand
888: Singapore	890: India	893: Vietnam
899: Indonesia	90 & 91: Austria	93: Australia
94: New Zealand	955: Malaysia	977: International Standard Serial Number for Periodicals (ISSN)
978: International Standard Book Numbering (ISBN)	979: International Standard Music Number (ISMN)	980: Refund receipts
981 & 982: Common Currency Coupons	99: Coupons	