





4.0 Carton Bar-Coding & Labeling



Note: on January 1, 2007, ISBN numbers for the book industry changed from 10 digits to 13 digits—the same number used for the unit Bookland EAN number.

Example of 13-digit ISBN

Line1	→	TITLE: HEARTS, CUPIDS + RED ROSES CL			
Line2a	→	AUTHOR: BARTH		TITLE: 111026	← Line2 b
Line3a	→	PUBLISHER: HOUGHTON MIFFLIN		www.hmco.com	← Line3b

PPON: 401127	PTG #: 01-03	
		← Line 4
(251) 401127	(10) 01-03	

CTN QTY: 40	COVER PRICE: \$ 16.00 USD	
		← Line 5
(30) 40	(90120) 16.00 USD	

ISBN #: 978-0-618-06789-3	CTN WGT: 28.4 LBS	
		← Line 6
0119780618067890	(3401) 000284	

SHLBL34

Line 7 →

Made in USA

Label Size: 4" X 6" in. or 4" X 12" in. wrap-around

All product bar coding and labeling information is to be on two labels measuring 4" x 6" each or one wrap-around label measuring 4" x 12". Labels should be placed on an adjacent side and end of the carton with the bars perpendicular to the natural bottom of the carton ("picket fence" orientation). The label should be placed no closer than 1 ¼" from any carton edge, unless using a wrap-around label. For wrap-around labels, bar codes must be no closer than 1 ¼" from any carton edge. The bottom edge of the label should be 1 ¼" to 3" from the bottom edge of the carton. The name and address of the supplier are not to appear on the cartons. Labels are to be placed level on cartons. Labels with more than a 10-degree tilt are unacceptable.

- Line 1: Title Name from Purchase Order**
- Line 2 (A): Author Name (or Editor)**
- Line 2 (B): Title number**
- Line 3 (A): Publisher or Houghton Mifflin Harcourt Division name**

Line 3 (B): www.hmhpublish.com

Line 4: **Purchase Order Number (ten digits represented by NNNNNNNNNN)**

- a. Human readable, above barcode: PO#
- b. UCC/EAN-128 barcode, AI = 251
- c. Human readable, under barcode: (251) (*PO# = 10 digits*)

Printing (represented by PPYY)

- a. Human readable, above barcode: PTG #: *PP-YY*
- b. UCC/EAN –128 barcode, AI = 10, format of barcode is the following:
PP-YY; where
PP = the numeric printing number
YY = the last two digits of the year printed
- c. Human readable, under barcode: (10) *PP-YY*

Line 5: **Carton Quantity (six digits represented by QQQQQQ)**

- a. Human readable, above barcode: CNT QTY
- b. UCC/EAN –128 barcode, AI = 30
- c. Human readable, under barcode: (30) (*carton quantity*)

Cover Price (six digits represented by PPPPPP)

- a. Human readable, above barcode: COVER PRICE
- b. UCC/EAN –128 barcode, AI = 9012Q, price with two decimal places implied, ending with USD. This is a fixed field. The number of leading zeros will depend on value.
Example-(9012Q)001600USD
- c. Human readable, under barcode: (9012Q) (*price*) USD

Note: all educational products should use a default cover price of “USD NET”
Please continue to use both the 10- and 13-digit ISBNs for **all** Trade & Reference titles. For clarification on reference titles, please contact purchaser. Carton labels must include country of origin.

Line 6: **ISBN (13 digits represented by NNNNNNNNNNNN)**

- a. Human readable, above barcode: ISBN #: NNN-N-NNN-NNNNN-N (Equal to unit EAN number as it appears on back of book)
- b. UCC/EAN –128 barcode, AI = 01, format of barcode is the following:
n2+n14
n2 = 01
n14 = P+ISBN+C; where
P=1 (used to identify case EAN from unit EAN)
ISBN = first twelve digits of ISBN/ Bookland EAN for the unit
C = Mod-10 check digit of preceding 13 numbers

Note: Do not use parenthesis in barcode

Click [here](#) for UC-Council Check Digit Calculator

- c. Human readable, under barcode: (01) 1 NNNNNNNNNNNN C
 - **Line 6-A equals the unit EAN or ISBN**
 - **Line 6- B. & C. equal the case EAN**

Carton Weight (six digits represented by WWWWW.W)

- a. Human readable, above barcode: CNT WGT
- b. UCC/EAN –128 barcode, AI = 3401, weight in pounds with one decimal place implied.
This is a fixed field. The number of leading zeros will depend on weight. However, the

number of zeros should never be less than three since the carton weight should not exceed 45 lbs.

Example (3401)000284 –designates 28.4 pounds

c. Human readable, under barcode: (3401) (Carton Weight=6 digits)

Line 7: Country of origin

The country of origin must be in the bottom right corner of the label

The information below is provided as a reference only. It is not intended to be a tutorial on barcoding or the UCC/EAN-128 symbology.

Click [here](#) for information about the UCC/EAN-128 Barcode (adapted from the Uniform Code Council, "UCC/EAN-128 APPLICATION IDENTIFIER STANDARD," Revised July 1995)

A. The UCC/EAN-128, A Subset of Code 128

Today, many shipping containers already have bar codes applied to them by the manufacturer or distributor for in-house identification and routing. The data encoded in these bar codes can take any form and usually have meaning only within the company or facility where they were applied. Because someone may later mistake these random data for **industry standard code formats**, the UCC and EAN chose a symbology that can be uniquely identified from these other bar codes.

Code 128 is defined with the FNC1 character following the start character as uniquely identifying the symbol as UCC/EAN-128. This allows a scanning system to ignore other symbols that might be on the shipping container.

The selection of UCC/EAN-128 provides the users of this standard very high security against errors. Not only is the symbology secure against decoding errors, but the system virtually eliminates the possibility of misinterpretation of data from other bar codes as UCC/EAN code format.

B. Basic Bar Code Structure For All UCC/EAN-128 Symbols

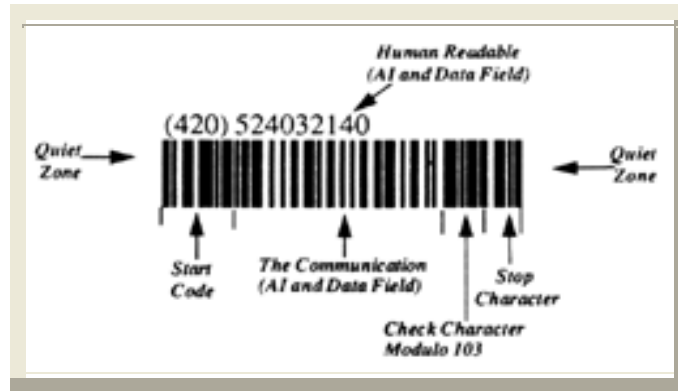
This section explains how the information that is to be communicated is placed in the bar code: the bar code structure.

All applications based upon the UCC/EAN-128 symbology share a similar bar code structure. Each UCC/EAN-128 bar code is composed of the nine structural elements that follow:

1. The start code
2. The communication (AI and data)
3. The symbol check character
4. The stop character
5. The quiet zones – ½” on both sides (left and right) of the barcode need to be blank. If using corner-wrap labels, there still needs to be ½” quiet zone on each side of the barcode (not wrapped around the edge).
6. The barcode type needs to be 15 mil—this results in a 2” length for the case EAN, which is the lower left barcode in the example (the ISBN section).

<http://www.coridian.com/Newsletter/Times1102/dpi.htm>

7. The barcode needs to be ½" in height.
8. Bar-code readability must be "A", "B", or "C" quality (using a bar-code verifier). "D" or "F" quality labels will be rejected.
9. The label must have less than 10 degrees tilt from the horizontal position.



C. 2.3.2.1 Start Code

The UCC/EAN-128 symbology has special double character start patterns consisting of:

Start (A or B or C) and FNC1

It is these special start characters that differentiate UCC/EAN-128 symbols from the more generalized Code 128 symbols specified by AIM USA. In other words, a Code 128 symbol that begins with one of the UCC/EAN-128 start patterns is always a UCC/EAN standard bar code. A Code 128 symbol that does not begin with such a start pattern is never a UCC/EAN bar code.

- Start A, FNC1 begins the UCC/EAN-128 data encodation according to code set A.
- Start B, FNC1 begins the UCC/EAN-128 data encodation according to code set B.
- Start C, FNC1 begins the UCC/EAN-128 data encodation according to code set C. You should always use Start C when the data, inclusive of the Application Identifier, begins with four or more numeric characters.

Most bar code label printing software will generate a start character A, B, or C and the FNC1 automatically, once the UCC/EAN-128 symbology is selected. They make the choice of start characters to minimize the length of the bar code.

D. Human Readable Characters

You must show the human readable translation of the data in the bar code below the bar code symbol. The start character, the FNC1 character, the symbol check character, and the stop character are not part of the data and are not shown in human readable format. The characters should be clearly legible

and the AIs should be clearly recognizable. Separation of the AIs with the use of parentheses is the convention chosen to accomplish this. You should only show the parentheses in the human readable interpretation of the symbol and must not encode them in the actual bar code.