

ISBN bar-codes

The number

From 1 January 2007, new ISBNs issued by existing publishers have thirteen digits (rather than ten). These ISBNs include the additional prefix 978- (so that the thirteen-digit ISBN, including the re-calculated check digit, becomes identical to the GTIN-13 product number—the number used in the bar-code). All new publisher prefixes issued after 1 January 2007 begin with 978- or 979-.

To convert the ten-digit ISBN of a book still in print to the thirteen-digit number, prefix 978- and then use the enclosed spreadsheet to calculate the new check digit. (If you really want to calculate the check digit yourself, multiply the first twelve digits by 1 and 3 alternately, add the products, then subtract this sum from the next-higher multiple of 10, and the remainder is the check digit, except that if the remainder is 10 the check digit is 0.)

The bar-code

To create bar-codes, the GTIN-13 system uses three different patterns, called character sets A, B, and C, to encode the numerals 0 to 9. Each character consists of a different pattern of black and white bars. The left-hand half of the bar-code uses a particular mixture of sets A and B, depending on the first digit; the right-hand half uses only set C.

The font

The accompanying Opentype font, “Valida,” was fully tested on GNU/Linux and Macintosh computers, and it ought to work properly with Windows computers also. Please let me know if you have any problems with it.

A bar-code image made with this font and in accordance with the following instructions will conform fully to the official specification, i.e. international standard ISO/IEC 15420 (though the specification itself contains a number of contradictions). However, I strongly recommend that you make a test print and have it verified with a scanner before you apply any bar-code to a product.

Creating your bar-code

The enclosed Libreoffice spreadsheet (ISBN.ods) carries out the complex calculations and automatically creates a bar-code image. This image can then be copied and pasted into another application. If you are using an application that accepts the bar-code only as text, rather than as a graphic, just copy and paste the text from the result cell, set the font to Valida, and set the size to 72 point.

The character > is usually added at the end of a bar-code; this reminds the designer or the printer to leave enough white space (the “quiet zone”) to the right of the image. (The leading numeral creates a similar space at the left.) In the spreadsheet, if nothing is entered in the second entry panel a bar-code is created that has the character > attached; if a number is entered in the second panel, thus creating the five-digit extension, this character is suppressed but the corresponding character is added to the extension. You can remove this character if it is not needed.

The five-digit extension

In the United States and Canada a five-digit extension to the bar-code is used to encode the price of the book, in which case the first digit represents the currency, as follows:

- 5 American dollar
- 6 Canadian dollar

The remaining digits are the price multiplied by 100: for example, the code 52250 represents \$22.50.

Price extensions were formerly used in some other countries, with the following currency codes:

- 0, 1 English pound
- 3 Australian dollar
- 4 New Zealand dollar

These extensions should no longer be used.

Extensions beginning with 9 are mainly reserved for internal use by publishers; but 90000 is a special code signifying that no price is specified. This extension can therefore be used to meet the conflicting requirements that books sold in North America should have a five-digit extension but in other countries such an extension should not be used to encode a price.

Completion

You should now add the ordinary (“human-readable”) ISBN above the bar-code, preceded by “ISBN” and with hyphens between the number groups. It is sometimes recommended that the typeface OCR-A be used for this line; but it is a better idea to use the same typeface here as the one used for the numerals incorporated in the bar-code. OCR-B is generally used for this (and this is the one incorporated in the Valida font), but any other clearly legible typeface will do. (The human-readable numbers are not scanned, and the use of OCR-A or OCR-B for these elements is merely a convention.) With a standard OCR-B font a nominal size of 12 point will produce numerals of approximately the same size as those incorporated in the bar-code, though this is not a requirement. A free OCR-B font made by Matthew Skala is available from <http://ansuz.sooke.bc.ca/page/fonts>. There is no recommendation regarding the alignment of this line.

The bar-code should be printed in the bottom right-hand corner of the back cover or jacket. It is permissible to reduce the image slightly, to a limit of 80 per cent, though reduced bar widths can create problems for scanners. On the other hand it is safe to “truncate” the bar-code considerably, i.e. to reduce the height of the image, without reducing the width of the bars.

Distribution

The font (Valida.otf), the spreadsheet (ISBN.ods) and these notes are distributed free of charge, may be used freely, and may be further circulated. However, the copyright remains with the person who created them, and they are distributed on condition that you abide by the following terms: that you will not alter them in any way, or rename them; that you will not attempt to obtain payment for them; and that you will not pass them off as your own work or the work of anyone other than the person who created them.

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