

UPCTools version 5.0

UPCTools is a collection of fonts that allows you to create UPC, EAN, Bookland (ISBN), and ISSN bar codes from within your favorite Microsoft Windows applications, including databases, spreadsheets, word processors, desktop publishing programs, or your own custom applications.

The UPC/EAN fonts in UPCTools are in both TrueType and Type 1 PostScript format. The setup program installs the TrueType fonts by default. We encourage you to install one format or the other but it is unnecessary to install both. When properly installed, the UPC/EAN fonts will be available from within any Microsoft Windows application.

UPCTools creates several different related bar codes:



UPC version A
retail items in the US & Canada



UPC version E
retail items in the US & Canada



EAN-13/JAN-13
retail items in Europe/Japan



EAN-8
retail items in Europe/Japan



Bookland
books based on ISBN number

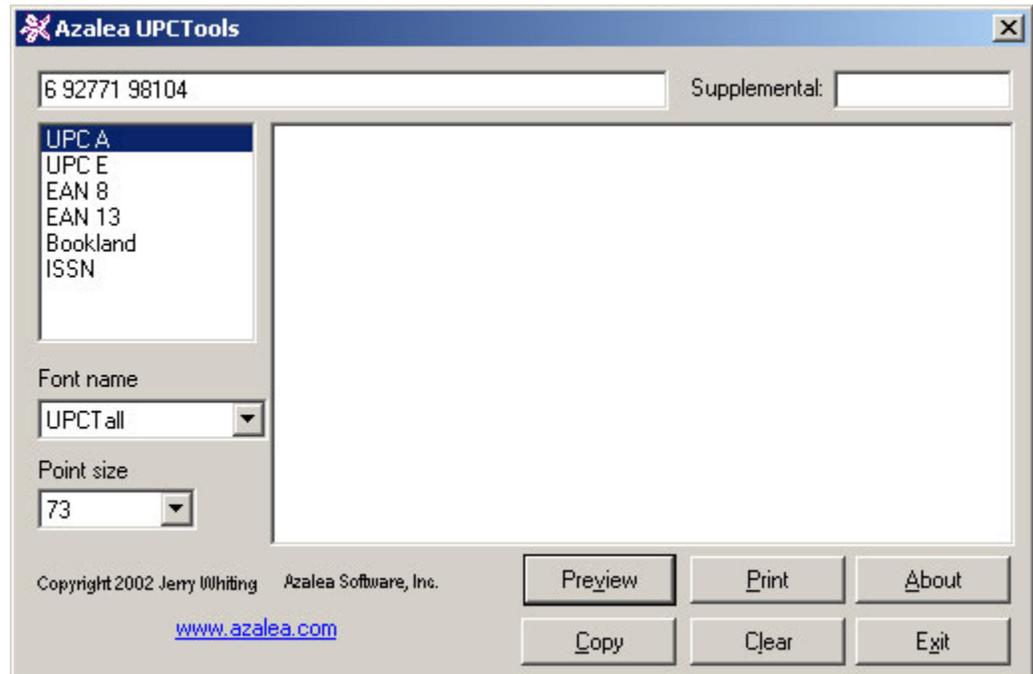


ISSN
periodicals outside the US

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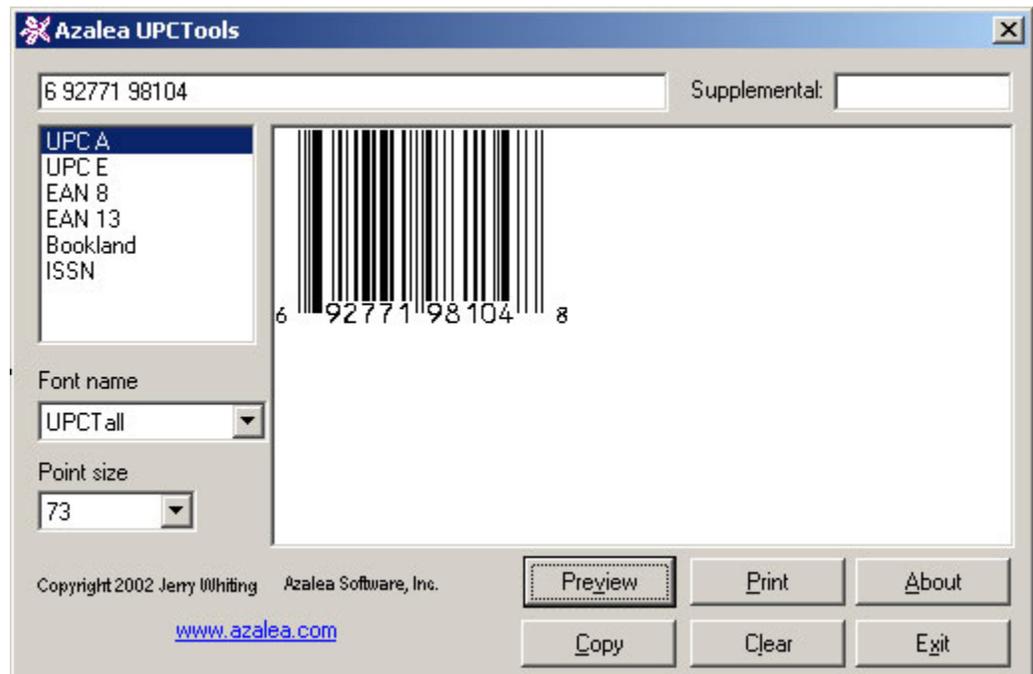
You can *not* simply type directly in the fonts and create a valid symbol. You *must* use the UPCTools utility or the supplied sample code otherwise a bar code scanner won't recognize what you printed as a valid bar code. The UPCTools utility is great for making one or two symbols at a time. Creating UPC and EAN bar codes using the UPCTools utility is easy. The utility adds the start and stop bars, calculates the necessary check digit(s), and maps into the fonts' character set.

1. Select which type of bar code you want to create (UPC version A, UPC version E, EAN-8/JAN-8, EAN-13/JAN-13, Bookland, ISSN)



2. Type the numbers required to create your selected style of bar code.

Click the Preview button to display your bar code.



3. After you've selected all of your options, click the Copy button, switch to your target application and then paste in your bar code. In many applications the string will be pasted in with the correct UPC font applied. If not, select the text and change to one of the UPC fonts.

UPCTools contains a number of different fonts. While they can all be used to create symbols, they are designed with specific needs in mind. The font names provide clues about the various characteristics.

The **Tall** fonts (Upc-Tall-Regular, Upc-TallNarrow-Regular, etc.) create full-sized symbols and the **Half** fonts (Upc-Half-Regular, Upc-HalfNarrow-Regular, etc.) create half-height truncated bar code symbols.

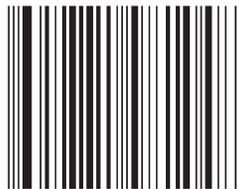


The **Narrow** fonts' bars are pre-narrowed .002" and the **Thin** fonts' bars .004" to compensate for ink spread on the printing press. If you are creating camera-ready artwork, talk with your printer about anticipated ink spread. When in doubt, consider using the narrower fonts.

The **Music** fonts create symbols with the left and right notches, but without human-readable characters. Why? Because the human-readable characters in a music bar code don't line up under their respective bars. Simply use the OCR-B-Music font to make the human-readable characters manually. The Music fonts are pre-narrowed .004".



The **Bars** fonts (Upc-HalfBarsThin-Regular and UpcTallBarsThin-Regular) create just the bar codes without human-readable characters and without the notches. Use them when you want bar codes for labels, not on packaging. The Bars fonts are pre-narrowed .004".



The ISBN number is often printing above or below **Bookland** bar codes in OCR-A. We've included an OCR-A-Book font with UPCTools so that you can create the ISBN number itself.

Format your strings at 73 points to make full-size bar codes. Symbols other than Bookland can be scaled from 80-200%. This translates to 58.4 to 146 points.

If space is at a premium, consider using a truncated, half-height symbol to save space. You can also create a UPC version E bar code instead of a UPC version A. Do *not* make bar codes smaller than 80% of the normal size.



We suggest using our free sample code and application add-ins if you will be calling our fonts from within an application: www.azalea.com/SampleCode The sample code and plug-ins add the start and stop bars, calculates the check digit(s), and maps into the fonts' character set. This sample code can be incorporated into your application as long as the copyright notice is left intact. Redistribution of Azalea Software's fonts requires a separate licensing fee. While we are more than happy to provide you with sample code to get you started we are not prepared to write or debug your applications for you.

There are routines for UPC version A, UPC version E, EAN-13/JAN-13, EAN-8/JAN-8, Bookland, and ISSN, as well as the 2- and 5-digit supplemental codes. The various routines were installed when you ran UPCTools' setup program.

When using any of the sample functions, pass in your data and then format the output using one of Azalea Software's UPC fonts. For example:

```
yourContainer.text = AzaleaUPC(yourString)
```

Before you begin making UPC bar codes, you must obtain a manufacturer's number from the Uniform Code Council (www.uc-council.org). You can not begin using numbers of your own choosing.

The UCC assigns a six-digit manufacturer number. The first digit is the number system and the last 5 digits are the actual manufacturer number. You then assign a unique 5-digit product number to each of your items. The check digit is based on these 11 digits.

In this example, the **6** in the lower left corner is the number system, **92771** is the manufacturer number, **98104** is the product number, and **8** is the check digit.



A bar code with 5 as the number system is often used as the coupon for a given product. (Note that this is different than an extended coupon bar code.)

Bar codes on CD's, cassettes, etc. are different. The format for the human readable digits is 4 digits-5 digits-1 digit. The single digit is the configuration number: 1 for a 12" LP, 2 for a CD, 4 for a cassette, 7 for a 7" single, 8 for an 8-track, and 0 for the mysterious "other".

Bookland bar codes are based on the ISBN number for the main bar code and the retail price for the supplemental code to the right. The retail price is prepended by a 5 for US dollars or a 6 for Canadian dollars etc. If the price isn't 4 digits long, add leading zero's to make it 4-digits. For example, if the price is US\$4.95, the supplemental code will be 50495. If it's US\$1995, it will be 51995. If you do not want to encode the retail price, you can use 90000. For more information, consult the Book Industry Study Group, Inc. (www.bisg.org).

Note that the check digit for an ISBN number (the last digit) and the check digit for the corresponding Bookland bar code are different. They will rarely, if ever, be the same. A ">" is sometimes used at the top, right edge of a Bookland symbol to preserve the right clear zone. Simply append "@" to the end of a Bookland text string when using one of the Tall fonts.

Avoid truncating or scaling a Bookland symbol. Use the full-sized.

The 2-digit supplemental for an ISSN symbol is usually the issue date (01 Jan, 02 Feb, etc.)

The Half fonts don't have human readables above the supplemental bars.

If you are preparing camera-ready artwork for a service bureau remember to either embed the fonts in your output file or take the fonts to the service bureau with your job. Otherwise you will get Courier printing out. Another option is to create the bar code in Adobe Illustrator or Macromedia FreeHand and convert the text to paths. Remember to use no stroke and a solid black fill. Do not convert the bar code to a bitmap in Adobe PhotoShop. Keep text as text.

In some applications, you won't be able to paste into a file until after you've selected the text tool and clicked an insertion point on the page.

The fonts include some additional characters that you may find of use:

- } the human readable character for number system 3 when creating bar codes for pharmaceutical items ("N" above a "3"). UPCTOOLS uses this character by default for basic UPC symbols.
- W the human readable for number system 3 without the "N" (scaled for UPC symbols).
- { the version A, version E, and EAN/JAN right guard bar without the .117" symbol-to-supplemental-bars gap.
- _ (underscore) is a space the width of the symbol-to-supplemental-bars gap. You may want to take advantage of "_" when you are scaling a symbol and the supplemental bars but want to preserve the .117" gap between them. Substitute "x_" for "z" in the text string and then format all of the characters in the text string except "x_" at a size other than 73 points (36 points for a Half font) but leave the "x_" formatted at 73 (or 36) points.

To get your own manufacturer number, contact:

Uniform Code Council, Inc.
www.uc-council.org

For information on EAN symbols, contact:

International Article Numbering Association (EAN)
www.ean.be

Article Numbering Association (ANA)
www.ana.org.uk

For information on JAN symbols, contact:

Japanese Standards Association
www2.jsa.or.jp

To get an ISBN number for a book assigned to you, contact:

ISBN Agency
www.bowker.com/standards/home/isbn/us/isbnus.html

Book Industry Study Group, Inc.
www.bisg.org

To get an ISSN number for a periodical assigned to you, contact:

National Serials Data Program
www.issn.org

Or your country's national library

For specifications on other bar codes, contact:

Automatic Identification Manufacturers (AIM USA)
www.aimusa.org

American National Standards Institute (ANSI)
www.ansi.org

International Organization for Standardization (ISO)
www.iso.ch