ELFRING FONTS

CODABAR FONT SET

This package includes 12 versions of the Rationalized Codabar font in the TrueType and PostScript formats plus a Windows utility, Codabar.exe, that helps you make bar codes. Codabar was developed in 1972 and is used in libraries, blood banks, and air parcel services. These fonts install in seconds in Windows 11 - 7, XP, Server 2022/19/16. You get true WYSIWYG bar codes for any Windows application. There are two basic versions of Codabar font in this set: standard Codabar and a human readable Codabar. Each of these two versions comes in six different aspect ratios. The different aspect ratios let you print bar codes with the same height, but at different horizontal character densities.

	Standard Codabar	Codabar Human Readable
Codabar Samples		

INSTALLATION

Our Barcdbar.exe program will install this package and font set in your copy of Windows. The fonts will be installed into the proper Windows font folder automatically. Our bar code utility program, Codabar.exe, this documentation, and matching files will also be installed. The bar code fonts will appear in all Windows font menus. You can select any one of the bar code just as you normally select any other font in your application. For help in building bar codes, run the Codabar.exe utility program. To access the utility program or the documentation, click on Start, Programs, Codabar, and select the program or documentation item you want to view.

USER ACCESSIBLE FILES

In Windows 11 - 7 users are not allowed to access any files stored in the Programs folder. The Visual Basic macros, label templates, and sample Excel spread sheet are placed into a folder named "Codabar" in each user's Documents area. You can find these files as follows:

Windows XP: My Documents\ Codabar

Windows 7:   Libraries\Documents\ Codabar

Windows 8:   Libraries\Documents\ Codabar

Windows 10:   Libraries\Documents\ Codabar

Windows 11:   Libraries\Documents\ Codabar

BAR CODE BASICS

A bar code is made up of a series of parallel vertical bars and spaces. Bar codes are designed to convey information in a machine-readable format. In addition, some bar codes include a human readable portion so that a person can easily understand the bar code. Bar codes always start with a special character, or symbol, that tells the machine scanning that bar code to start the reading process. *(This Start character will also tell the reader what bar code symbology is being used.)* A bar code always ends with a special character, or symbol, that tells the reader that this is the end of the bar code *(the Stop character).*
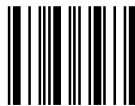
The bar codes in this package are implemented as TrueType fonts. Each character in the font corresponds to a specific bar code pattern. To create a printable bar code, select one of the bar code fonts, enter the bar code Start character, the data that you need to encode, followed by the Stop character. Windows will display this data as a bar code on screen and will print a bar code on virtually any printer connected to Windows. For examples of how to do this, run the Codabar program.

TrueType fonts are scaled by changing their height. The character's width is altered proportionate to the change in height. You can pick virtually any font height by changing the point size. *(There are 72 points to the inch.)* Unfortunately, when printing bar codes you frequently want to control both the bar height and its width, independent of each other. *(Printers and scanners can only handle a fixed range of print densities.)*

To overcome this limitation, our scalable Codabar fonts set includes six different aspect ratios. These different aspect ratios let you vary both the height of the characters and their width independent of each other. If you need thicker bars, which print at the same height, you use a shorter Codabar font at a bigger point size. If you need thinner bars, which print at the same height, you use a taller Codabar font at a smaller height. By switching between the six different versions of the same bar code font, you should be able to print these bar codes at both the height and the width you need.

BAR CODE FONTS

This package contains two different versions of the Codabar font. They include a standard Codabar and a human readable Codabar with text below the bar code. Each version has six separate variations, so you can control bar code height and width *(or the aspect ratio)* independent of each other. This bar code set thus contains a total of 12 TrueType fonts.

Typeface Name	Codabar a	Codabar b	Codabar c	Codabar d	Codabar e	Codabar f
Standard Codabar						
Typeface Name	Codabar a HR	Codabar b HR	Codabar c HR	Codabar d HR	Codabar e HR	Codabar f HR
Human Readable Codabar	A 1 2 B	A 1 2 B	A 1 2 B	A 1 2 B	A 1 2 B	A 1 2 B

CODABAR UTILITY PROGRAM

The Codabar utility program was automatically added to your system when you ran our install program. You can access the Codabar utility from the Desktop icon, or by clicking on: Start, Programs, Elfring Codabar, Utility program. This program lets you enter your data and build a bar code from it. You can print a sample page of the resulting bar code, or transfer that bar code to another Windows program.
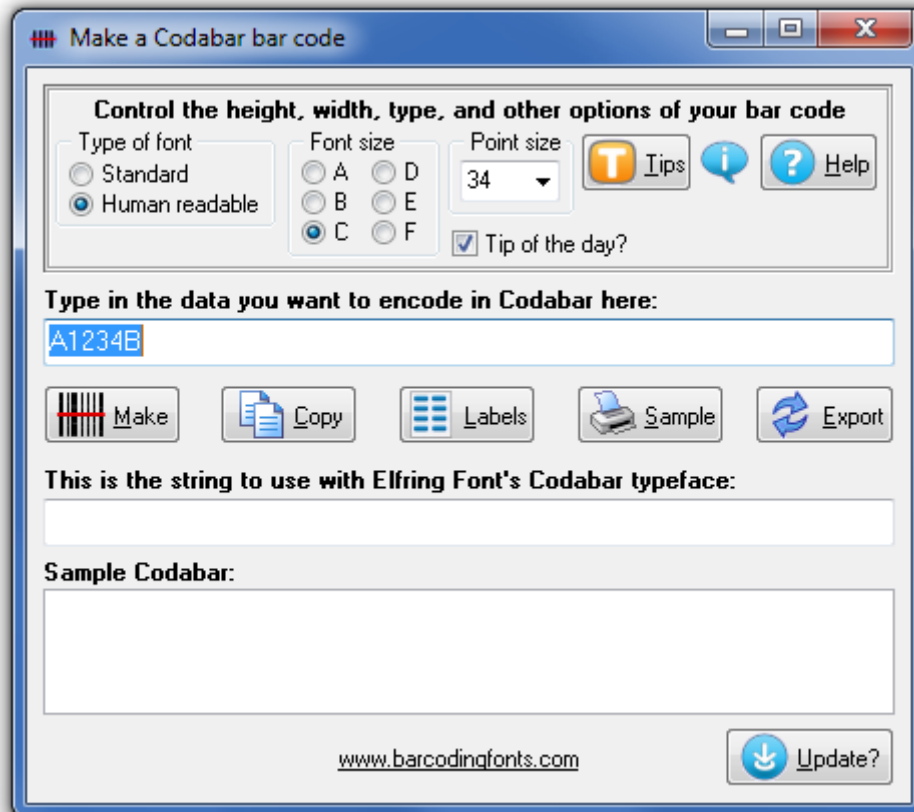
This program lets you enter your data and build a bar code from it. You can optionally select standard or the human readable bar codes, the font size *(A-F),* and the point size of the font copied to the clip board using the radio buttons at the top left of the screen.

Initially the data entry area is blank. Enter your data here, or select data you previously entered to change it to whatever else you want to encode. If you try to enter a character that is not supported in Codabar, the program will display an error message**: Error: Illegal character x in bar code.** If you enter data without including both a Start and a Stop code (A-D), the program will display an error message**: Error: Missing start or stop code.**

Once you have entered the text you want to encode, click on the "**Make**" button. The window below your text will show the actual string you need to generate a bar code with our fonts. The bottom window will show an actual bar code sample. You can copy that bar code string to the clipboard, by clicking on the "**Copy**" button. Once this data is in the clipboard, you can paste it into any Windows application. If you want to print bar code labels you can use the "**Labels**" button to select a label size

and then open the label template in your word processor. The next button, **"Sample"** will print a copy of that bar code in a number of different point sizes. The final button, **"Export"** will build a copy of your bar code as a graphic image in bmp, gif, jpg, or png formats.

Finally, if you have an active internet connection, the Codabar utility can check to see if a newer version of the program has been released. Just click on the **"Update"** button in the lower right corner of the program Window, or the version number in the About box. Your internet browser will start and a web page will tell you whether or not you have the latest version of the program.

EMBEDDING BAR CODE FONTS IN PDF FILES

The fonts in this bar code set are not embeddable. When you embed a font in a PDF document, you are actually distributing a copy of that font with every single PDF file you generate. Your PDF generator glues a copy of the bar code font to the end of each PDF file it builds. This font is then installed on every computer that views the PDF document.

Embeddable versions of these fonts are available, at additional cost. Pricing for this add-on font set is based on how many computers the embeddable fonts will be installed on and how many people will view the PDF files. When your purchase an embeddable add-on font set you receive a new version of these fonts, and the new fonts will embed in PDF files. You must contact Elfring Fonts to order an embeddable add-on font set.

RATIONALIZED CODABAR

These different aspect ratios let you vary both the height of the characters and their width, or print density, independently of each other.

Codabar is a simple bar code format. It does not require a checksum, and you can only represent the characters shown in Table 1. The characters A, B, C, and/or D *(or a, b, c, & d),* function as both Start and Stop codes. All Codabar bar codes must start with one of the letters A-D and end with one of the letters A-D. Codabar bar codes can vary in length.

Table 1

ASCII		ASCII
0		-
1		$
2		:
3		/
4		.
5		+
6		A
7		B
8		C
9		D

To print a bar code of the data 012345, you need to add a Start character to the beginning of the string, and a Stop character at the end of the string. Depending on your system, you can use any character from A-D to start the bar code and any character from A-D to end the bar code. If you want to use Access, Excel, or Word to print bar codes, see the section on Visual Basic macro functions in this documentation. So a sample string to print might be a012345b. This becomes the bar code:

a012345b   standard codabar

a012345b   human readable codabar

ASPECT RATIOS

The wide to narrow ratio for these bar code fonts is 3.0. This Codabar font set includes 6 different aspect ratios of each bar code: .25 *(A)*, .5 *(B)*, .75 *(C)*, 1.0 *(D)*, 1.5 *(E)*, and 2.0 *(F)*. When you are building a bar code, start with the D version of the bar code font. Once you have the bar code length set to what you want, you can vary the bar code height, without changing the bar code length, by changing the font to one of the A, B, C, E, or F versions. The B version will print a bar code of exactly the same length as the D, but at .5 times the bar height. The E version will print a bar code of exactly the same length as the D, but at 1.5 times the bar height. Maximum print density *(not including Start/Stop codes)* is about 8.33 characters/inch on 300 dpi printers, or 16.6 CPI on 600 dpi printers. If you exceed this print density, your bar code scanner may not be able to read the bar codes you print.

PRINTING SHEETS OF LABELS

This bar code font set adds the ability to print bar codes to other, existing Windows programs. It does not print bar code labels all by itself. It uses label templates to lay out label sheets in your existing word processor. A template tells your word processor how to arrange information to fit specific sheets of labels. Once you have a template you can use any word processor to build your own labels with bar codes. The bar codes do not have to be identical and you can also include other text or graphics on each label. Our utility will let you create a bar code and then automatically open up the label template of your choice in your word processor.

Just click on *Labels*, select a label size, and click *Print*. Your word processor will open and display the label template. Put the cursor in the first label and paste your bar code there. Adjust the size of the bar code to fit the label by changing the font name and point size.

This package includes label templates in RTF format *(compatible with virtually all word processors)* for most popular label styles. You can open any of these templates in your word processor to lay out a label. To locate these files using your word processor click on Open and then select the "Libraries\Documents" folder. Look for a new subfolder with the name: \Codabar.

Template	Label Size	Labels/Sheet
ef167.rtf	1.75 x 0.50	80
ef570.rtf	1.75 x 1.25	32
ef060.rtf	2.625 x 1.00	30
ef161.rtf	4.00 x 1.00	20
ef162.rtf	4.00 x 1.33	14
ef163.rtf	4.00 x 2.00	10
ef197.rtf	4.00 x 1.50	12
ef164.rtf	4.00 x 3.33	6

Our Codabar utility also lets you create your own custom label template. See your word processor manual for details on how to create a template, or download one from your label supplier. Once you have your own custom template, save the template file *(in rich text format)* in the My Documents/Codabar folder with the file name "custom.rtf". Our Codabar utility can directly access that template to let you easily print labels.

Visual Basic FUNCTIONS FOR ACCESS, EXCEL, AND WORD

This package contains macros/functions that let you automatically build Codabar strings in Excel, Access, and indirectly in Word. This set includes the following functions:

Table 2

Function	Details
Codabar(Text)	Converts the input text data into a complete Codabar string. The function verifies the Start code, throws away all characters that aren't in standard Codabar, appends the data, and verifies the Stop code at the end. This result must be formatted with one of the following typefaces: Codabar a, Codabar a HR, Codabar b, Codabar b HR, Codabar c, Codabar c HR, Codabar d, Codabar d HR, Codabar e, Codabar e HR, Codabar f, Codabar f HR.

| Codabarss(Text, Start, Stop) | Converts the input text data into a complete Codabar string. The function verifies and then adds the passed the Start code, throws away all characters that aren't in standard Codabar, appends the data, and verifies and adds the passed Stop code at the end. This result must be formatted with one of the following typefaces: Codabar a, Codabar a HR, Codabar b, Codabar b HR, Codabar c, Codabar c HR, Codabar d, Codabar d HR, Codabar e, Codabar e HR, Codabar f, Codabar f HR. |

Warning!

Unlike our utility program, *Codabar*, these Visual Basic functions do **very** limited error checking. You must make sure that the data you send to the function is correct! If you send bad data, your bar codes may be unreadable or they may not encode the data you think they have. Please use the *Codabar* utility program to verify that your data is correct before using these Visual Basic functions to mass produce bar codes.

Using Visual Basic Functions in Excel

Open the spread sheet you want to add Codabar functions to *(or create a new spread sheet)*. Click on Tools, Macros, Visual Basic Editor. In the Visual Basic Editor tool, click on File, Import File, and select both the drive and folder where you installed our Codabar package *(probably Codabar)*. The Visual Basic file **VBcodbar.bas** should appear there. Select this file and open it. This will add a new module, EFCODBAR, to your spread sheet. This module adds the two functions *(see Table 2)* to your spread sheet and is saved along with it.

These bar code functions can be used in any formula or cell to build working bar codes. For example, if cell H9 is defined as a text cell *(Format, Cell, Number, Text)* and cell I9 has the formula, =Codabarss(H9,"A","B"), then any text entered in cell H9 will be converted into a bar code string in cell I9. Note that you also need to select the proper typeface for that bar code type, using Format, Cell, Font. See Chart 1 for applicable font names.

Using Visual Basic functions in Access

Open the database you want to add Codabar functions to *(or create a new database)*. Under your database Objects, click on Modules, then click on the New icon at the top of the box. This will bring up the Visual Basic Editor tool. Click on File, Import File, and select the drive and folder where you installed our Codabar package *(probably Codabar)*. The Visual Basic file **VBcodbar.bas** should appear there. Select this file and open it. This will add a new module, EFCODBAR, to your database. This module adds the two functions to your database and is saved along with it. Table 2 lists these functions.

These bar code functions can be used in a report to build working bar codes. To use these functions, pass data to them from your table fields and return the result by entering a formula = Codabar ([table.field]) in the control source field of the report. Note that you need to select the proper typeface for that bar code subset. See Chart 1 for a complete listing of font names.

Using Visual Basic functions in Word

Word does not have the ability to directly use Visual Basic functions. You can, however, combine Word and Excel to print Codabar! The basic idea is to keep your data in Excel, and to have Excel format the data for bar code printing. You then do a mail merge in Word, selecting the formatted string from Excel as the data source.

Place your data in Excel in a specific column. Then apply one of our bar code functions to the data in that column, producing a second column that contains the formatted string. This second column is passed to Word in the mail merge. You must make sure to select the proper subset typeface for your mail merge field. See Chart 1 for a complete list of font names. Also note that the on-screen display of the bar code will not look correct. Only the data printed by the mail merge will be in the correct Codabar format.

Glossary

Application Program: a computer program that performs useful work not related to the computer itself. Examples are word processors, spreadsheets, accounting systems, and engineering programs.

ASCII: American Standard Code for Information Interchange – a standard code for representing characters as numbers that is used on most microcomputers, computer terminals, and printers.

Aspect ratio: the ratio of height to width.

Character string: a sequence of characters stored in a computer and treated as a single data item.

Checksum: a number that accompanies data transferred from one place to another and helps to ensure that the data was transferred correctly.

Clipboard: a holding area to which information can be copied in order to transfer it from one application to another.

CPI: characters per inch.

DPI: dots per inch: the number of pixels or printer dots per linear inch.

Font: a complete collection of characters, in a consistent style and size. This includes upper and lower case letters, numerals, punctuation, ligatures, and reference marks.

Modulo: a mathematical operation that gives the remainder when one number is divided by another.

Pixels: one of the individual dots that make up a graphical image.

Radio button: small circles in a dialog box, only one of which can be chosen at a time. Choosing any button with the mouse causes all the other buttons in the set to be cleared.

Scalable: able to be used on a large or small scale without major changes.

Scalable font: a font that can be used to print characters of any size. Many newer laser printers include scalable fonts.

Symbology: a method of representing information by printed characters.

TrueType Font: an outline typeface that can be scaled or sized to practically any size.

Scanner: a device that enables a computer to read printed or handwritten page.

Start Code: the leading character of a bar code that identifies what kind of bar code it is.

Stop Code: the last character of a bar code that tells the bar code reader when it has reached the end of the code.

Utility: a program that assists in the operation of a computer but does not do the main work for which the computer was bought.

Visual Basic Macros: a small program written in Visual Basic and used in products like Excel, Access, or Word to help create bar codes.