

C39Tools version 5

C39Tools is a collection of fonts that allows you to create Code 39 (Code 3 of 9) bar codes from within your favorite Microsoft Windows applications, including databases, spreadsheets, word processors, desktop publishing programs, or your own custom applications.

The fonts in C39Tools 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 Code 39 fonts will be available from within any Microsoft Windows application.

There are three things to remember when creating a Code 39 bar code using C39Tools:

1. Your string *must* begin and end with an asterisk (*), which is used as the start and stop bar in Code 39. Without the asterisk, bar code scanners won't recognize the bar code.

Therefore, to encode **1234** format ***1234*** in one of the Code 39 fonts.

2. Your string *must* include only the characters in the Code 39 character set. The standard 44 character version of Code 39 includes:

0-9, A-Z (uppercase only), the space character, \$ % + - . /

* (reserved for the start and stop bar)

The space character is mapped to the underscore character (_) in our fonts. To create a symbol for **APPLE PIE** format ***APPLE _PIE*** in any of the fonts.

If you need to create characters outside of the standard 44 character version, read the section on Full ASCII symbols.

3. The point size you use determines the height of the bars. If you format a string of text at 36 points, the bars will be 1/2" tall and if you format the same string at 18 points, the bars will be 1/4" tall.

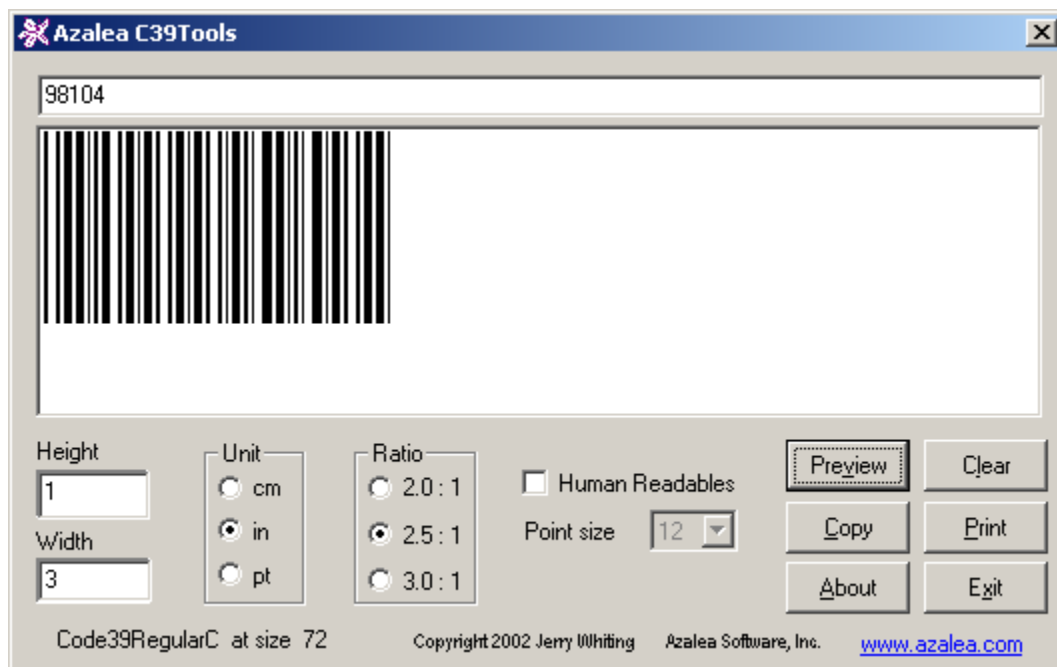
The overall width of the symbol depends on which of the fonts you use. Some fonts create wider or narrower symbols than others. Simply change among the various fonts to see which one works best for you.

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There are three families of fonts in C39Tools: Narrow, Regular and Wide. Each font family has a different wide bar to narrow bar ratio. The Narrow fonts have a 2:1 wide:narrow ratio, the Regular fonts have a 2.5:1 ratio, and the Wide fonts have a 3:1 ratio.

Within each of the three font families, there are nine different individual fonts. These nine fonts have different overall height to width ratios. For example, Code39Regular-5 is 50% wider than Code39Regular-4. Code39Regular-6 is twice as wide as Code39Regular-4.

The utility bundled with C39Tools can be used as a calculator to determine what fonts to use and/or how large a given symbol will be.



Type your input into the text box. Choose what wide:narrow ratio you want to use. When you click the Preview button, the utility will display the font and point size to be used in the lower left corner. In the example above, you would use Code39RegularC at 72 points to make a symbol 1 inch tall and 3 inches wide.

After creating your bar code, click the Copy button to put the string on the Clipboard, switch to your target application, and then paste the string into your file. The font information should come across. If not, simply change to one of the Code 39 fonts and set the point size.

If you are not using our bundled utility but are calling the fonts directly, you can use the table on the next page to help choose a font that creates a bar code the size and shape you need. When in doubt, don't be afraid to try several fonts until you determine which one works best for you.

Code39Narrow, 2:1

	narrow/wide	units
Code39NarrowA	15/30	62.5
Code39NarrowB	18/36	75
Code39NarrowC	24/48	100
Code39NarrowD	30/60	125
Code39NarrowE	36/72	150
Code39NarrowF	48/96	200
Code39NarrowG	60/120	250
Code39NarrowH	72/144	300
Code39NarrowI	90/180	375

Code39Regular, 2.5:1

	narrow/wide	units
Code39RegularA	6/15	25
Code39RegularB	12/30	50
Code39RegularC	18/45	75
Code39RegularD	24/60	100
Code39RegularE	36/90	150
Code39RegularF	48/120	200
Code39RegularG	72/180	300
Code39RegularH	96/240	400
Code39RegularI	120/300	500

Code39Wide, 3:1

	narrow/wide	units
Code39WideA	3/9	12.5
Code39WideB	6/18	25
Code39WideC	12/36	50
Code39WideD	18/54	75
Code39WideE	24/72	100
Code39WideF	36/108	150
Code39WideG	48/144	200
Code39WideH	72/216	300
Code39WideI	96/288	400

If you will be calling our fonts from within your own application we suggest using our free sample code and application add-ins : www.azalea.com/SampleCode The sample code and plug-ins add the necessary start and stop bars. 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.

When using any of the sample functions, pass in your data and then format the output using one of the Code 39 fonts. For reference purposes, here is a simple Microsoft Visual Basic routine:

```
Attribute VB_Name = "AzaleaCode39Functions"
```

```
Option Explicit
```

```
Declare Sub BarcodeC39 Lib "barcode.dll" (ByVal OutputString As String, ByVal InputString As String)
Declare Sub BarcodeC39B Lib "barcode.dll" (ByVal OutputString As String, ByVal InputString As String,
InputLength As Integer)
```

```
Function AzaleaCode39(ByVal C39 As String) As String
```

```
' C39Tools v5.0 2002 yazel
```

```
' Copyright 2002 Jerry Whiting. All rights reserved.
```

```
' Azalea Software, Inc. info@azalea.com 1 206 341.9500
```

```
' The input, C39, is a string consisting of the 44-character version
```

```
' of Code 39 without the start and stop bars (*).
```

```
' Format the output, AzaleaCode39, using Azalea Software, Inc.'s Code 39 fonts.
```

```
Dim outBuff As String
```

```
' Make our buffer twice as big, plus 2 for start and stop bars
```

```
outBuff = Space(Len(C39) * 2 + 2)
```

```
BarcodeC39 outBuff, C39
```

```
AzaleaCode39 = outBuff
```

```
End Function
```

```
Function AzaleaCode39ASCII(ByVal C39 As String) As String
```

```
Dim outBuff As String
```

```
' Make our buffer twice as big, plus 2 for start and stop bars
```

```
outBuff = Space(Len(C39) * 2 + 2)
```

```
BarcodeC39B outBuff, C39, Len(C39)
```

```
AzaleaCode39ASCII = outBuff
```

```
End Function
```

Full ASCII Code 39

Code 39's standard character set includes 44 characters. C39Tools also supports Full ASCII Code 39 symbols. Full ASCII Code 39 is used to create the lower 128 ASCII characters. This is done by using pairs of characters to create the characters outside of the standard 44. Make sure that your scanner supports Full ASCII (most do). You may have to reconfigure your scanner.



A+Z+A+L+E+A

0	NUL	%U	44	comma	/L	88	X	X
1	SOH	\$A	45	hyphen	-	89	Y	Y
2	STX	\$B	46	period	.	90	Z	Z
3	ETX	\$C	47	slash2	/0	91	leftBracket	%K
4	EOT	\$D	48	0	0	92	backwardL	%L
5	ENQ	\$E	49	1	1	93	rightBracket	%M
6	ACK	\$F	50	2	2	94	upArrow	%N
7	BEL	\$G	51	3	3	95	underScore	%O
8	BS	\$H	52	4	4	96	accentGrave	%W
9	HT	\$I	53	5	5	97	a	+A
10	LF	\$J	54	6	6	98	b	+B
11	VT	\$K	55	7	7	99	c	+C
12	FF	\$L	56	8	8	100	d	+D
13	CR	\$M	57	9	9	101	e	+E
14	SO	\$N	58	colon	/Z	102	f	+F
15	SI	\$O	59	semiColon	%F	103	g	+G
16	DLE	\$P	60	lessThan	%G	104	h	+H
17	DC1	\$Q	61	equalSign	%H	105	i	+I
18	DC2	\$R	62	greaterSign	%I	106	j	+J
19	DC3	\$S	63	questionMark	%J			
20	DC4	\$T	64	atSign	%V			
21	NAK	\$U	65	A	A	107	k	+K
22	SYN	\$V	66	B	B	108	l	+L
23	ETB	\$W	67	C	C	109	m	+M
24	CAN	\$X	68	D	D	110	n	+N
25	EM	\$Y	69	E	E	111	o	+O
26	SUB	\$Z	70	F	F	112	p	+P
27	ESQ	%A	71	G	G	113	q	+Q
28	FS	%B	72	H	H	114	r	+R
29	GS	%C	73	I	I	115	s	+S
30	RS	%D	74	J	J	116	t	+T
31	US	%E	75	K	K	117	u	+U
32	<space>	<space>*	76	L	L	118	v	+V
33	exclaim	/A	77	M	M	119	w	+W
34	doubleQuotes	/B	78	N	N	120	x	+X
35	poundSign	/C	79	O	O	121	y	+Y
36	dollarSign	/D	80	P	P	122	z	+Z
37	percent	/E	81	Q	Q	123	leftCurly	%P
38	ampersand	/F	82	R	R	124	verticalBar	%Q
39	singleQuote	/G	83	S	S	125	rightCurly	%R
40	leftParen	/H	84	T	T	126	tilde	%S
41	rightParen	/I	85	U	U	127	DEL1	%T,%X,%Y,%Z
42	asterisk	/J	86	V	V			
43	plusSign	/K	87	W	W			