

PrecisionID Code 39 Barcode Font User Manual

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Code 39 Symbology Overview.....	1
Product Overview.....	1
Installation.....	2
Microsoft Windows.....	2
Macintosh OS X.....	2
Other Operating Systems.....	2
Using the Fonts to Create Bar Codes.....	2
Tutorials for Specific Applications.....	2
Microsoft Access.....	3
Microsoft Excel.....	3
Microsoft Word Mail-merge.....	4
Crystal Reports.....	4
Creating Check Digits in other Applications.....	5
Combining Multiple Fields in a Single Barcode.....	5
Specifications.....	6
Font Point Sizes and X Dimension (Narrow Bar Width).....	6
Font Names and Bar Code Height.....	6
The Extended Code 39 Chart.....	7

Code 39 Symbology Overview

Code 39 is also referred to as Code 3 of 9 and Logmars. Code 39 can encode uppercase letters, numbers and a few special characters such as the minus, period, space, asterisk, dollar sign, forward slash, plus and percent. Code 3 of 9 is a self-checking barcode type, which means that a check digit is not required in the barcode for the scanner to read it. All barcodes require start and stop characters. As a standard, Code 39 uses the asterisks as the start and stop character.

Product Overview

This Code 39 Barcode Font Package contains 6 sizes of TrueType and PostScript fonts, each supplied in normal and text readable format. The package also contains complete documentation, specifications and implementation examples. Some implementations of Code 3 of 9 (such as Logmars) require a check digit. For this purpose, we provide PrecisionID Font Formatting Components TM which include a Crystal Reports UFL, Microsoft VBA module for Excel and Access and Visual Basic source code which may also be used as a guide for conversion to other languages.

Installation

Microsoft Windows

Decompress the fonts in the supplied ZIP file with a decompression utility, such as Winzip. Our fonts are compatible with all 32 bit versions of Windows. We recommend using the supplied **Setup.exe** file to install the fonts automatically in Windows. If you wish to manually install the fonts in Windows, open Control Panel and choose Fonts; then choose Install New Font and browse to the folder that contains the fonts with the TTF extension you extracted from the zip file.

Macintosh OS X

Our fonts are compatible with all versions of Macintosh OS Version 10.1 and greater (OSX). Decompress the fonts in the supplied ZIP file with a decompression utility such as Stuffit Expander. Drag the files with the TTF extension to the Library/Fonts folder of your hard drive. To activate the fonts, restart the application; some applications may require a restart of the computer.

Other Operating Systems

We supply Windows TrueType (TTF) fonts as well as Binary (PFB) and ASCII (PFA) versions of PostScript fonts. Consult the documentation for your operating system about instructions and which font to install.

Using the Fonts to Create Bar Codes

Our Code 3 of 9 Barcode Fonts are designed to be easily implemented in your application. In our implementation of Code 39 as a font, we also place the start and stop characters in the parenthesis. Another uniqueness about our fonts is that an actual space will not usually create a space but a barcode representing a space. Some applications will be unable to print a barcode representing a space for the space character; these applications should use the underscore to print the space character. For example: (TEST_1234).

After installing the fonts, follow the steps below to start creating barcodes:

1. Format the text you wish to barcode by appending an asterisk before and after that data to be included in the barcode. For example, to format the text for 1234, you would need *1234*. This can be easily automated in many applications with the formula of "*" & Field & "*". If you are using a text readable font (one of the fonts with T in the name with text below the bars), and you do not wish to have the asterisks appear in the text, use the parenthesis instead of the asterisks. For example, (1234) instead of *1234*.
2. Once the text is formatted, select the formatted text and choose one of the PrecisionID fonts. If you are not sure which font to use, we recommend [PrecisionID C39 T08](#).
3. With the text still selected, choose the point size of 12 for the bar code font, which is the size that works best for most scanners. If your scanner supports it, you may choose another appropriate size from the specification chart on Page 5.
4. You are now ready to print your barcode.

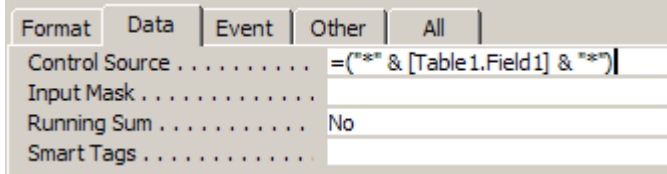
Tutorials for Specific Applications

The results for the following tutorials are saved in the [examples](#) folder of the product zip file. We encourage you to examine the examples provided in this folder.

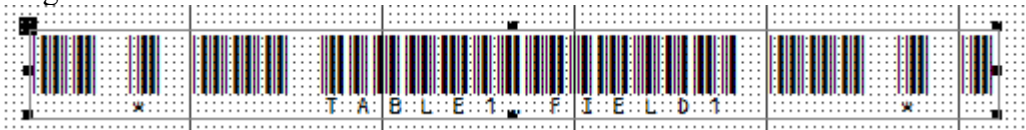
Microsoft Access

To create a barcode in a Microsoft Access report:

1. When you are in design view, add a text box to your report.
2. Right click on the text box and choose properties.
3. Place the formula `=("*" & [Table1.Field1] & "*")` in the control source property of the text box where Table1 is the table and Field1 is the field that contains the data you want to barcode.



4. With the text box selected, choose one of the PrecisionID fonts such as [PrecisionID C39 T08](#) and choose 12 for the point size of the font. You must select the appropriate font for the formula you are using. For example, if you have a formula for a Code 39 barcode, you must use the Code 39 Font.
5. Size the text box so it is large enough to contain the entire barcode. You will need to adjust the height and width.



6. Save and run your report. You should see the barcode appear in the text box.



Microsoft Excel

1. In this example we will create a barcode in cell B10 using the data from cell A10 for the barcode.

9	Text Data	Barcode
10	TEST1234	

2. In cell B10, enter the formula `= "*" & A10 & "*" & " "` which will append the start/stop character to the data.

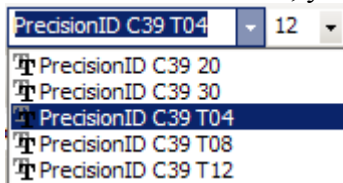
	A	B
9	Text Data	Barcode
10	TEST1234	<code>= "*" & A10 & "*" & " "</code>

3. You should now see that the text is formatted for the barcode in the spreadsheet with asterisks before and after the text from column A10.

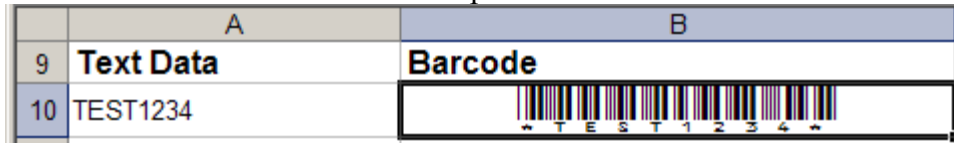
	A	B
9	Text Data	Barcode
10	TEST1234	*TEST1234*

4. With cell B10 selected, choose the [PrecisionID C39 T04](#) font which is specifically formatted for use in Microsoft Excel and choose 12 for the point size. We also recommend centering the text in this cell so the barcode will contain white space before and after the barcode. You must select the appropriate font for the formula you are using. For example, if you have a formula

for a Code 39 barcode, you must use the Code 39 Font.



- After selecting the bar code font, you should see the barcode appear. Size the width of the column so that there is some white space before and after the bars of the barcode.



- To create an entire column of barcodes, choose Edit – Copy with cell B10 selected.
- Highlight cells you wish to add barcodes to and choose Edit - Paste. The formula will automatically adjust.

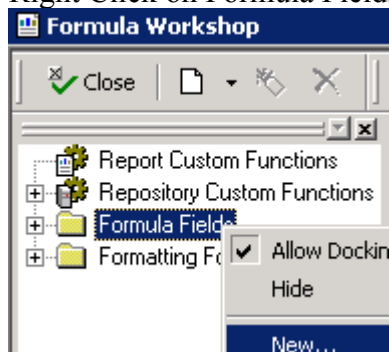
Microsoft Word Mail-merge

- Open the mail merge document.
- Place the parenthesis characters around the brackets for the merge field(s) you want to barcode. For example: (<FirstName>). You can combine merge fields to create a single barcode from them. To do this you may place a space between them, using the underscore. For example, here we place the “(” before and “)” after: (<FirstName>_<LastName>)
- Carefully select only the parenthesis and everything in between them and choose the **PrecisionID C39 T12** font. Make the font 12 points in size:
- After the PrecisionID font is chosen, if there are more than 5 bars in the barcode after the last >> symbol, highlight that area after the 4 bars and change the font to a text font. It is necessary to do this because a space or a return command will produce an extra barcode character.

Crystal Reports

This example was created in Crystal Reports version 8. Implementation in other versions of Crystal Reports is very similar if not identical. The fonts are compatible with Crystal version 7 and above.

- Open your Crystal Report and switch to design mode. In version 8, choose Insert – Formula Field or in version 9 and above choose Report – Formula Workshop.
- Right Click on Formula Fields and choose New.



- Give your formula field a name, in this example we will name it **PrecisionID_C39**. In versions 9 and above, you are asked to use the editor or the expert, choose Use Editor.
- Enter the formula of **"*" & {Table1.Field1} & "*" & {Table1.Field2} & {Table1.Field3} & {Table1.Field4} & {Table1.Field5} & {Table1.Field6} & {Table1.Field7} & {Table1.Field8} & {Table1.Field9} & {Table1.Field10} & {Table1.Field11} & {Table1.Field12} & {Table1.Field13} & {Table1.Field14} & {Table1.Field15} & {Table1.Field16} & {Table1.Field17} & {Table1.Field18} & {Table1.Field19} & {Table1.Field20} & {Table1.Field21} & {Table1.Field22} & {Table1.Field23} & {Table1.Field24} & {Table1.Field25} & {Table1.Field26} & {Table1.Field27} & {Table1.Field28} & {Table1.Field29} & {Table1.Field30} & {Table1.Field31} & {Table1.Field32} & {Table1.Field33} & {Table1.Field34} & {Table1.Field35} & {Table1.Field36} & {Table1.Field37} & {Table1.Field38} & {Table1.Field39} & {Table1.Field40} & {Table1.Field41} & {Table1.Field42} & {Table1.Field43} & {Table1.Field44} & {Table1.Field45} & {Table1.Field46} & {Table1.Field47} & {Table1.Field48} & {Table1.Field49} & {Table1.Field50} & {Table1.Field51} & {Table1.Field52} & {Table1.Field53} & {Table1.Field54} & {Table1.Field55} & {Table1.Field56} & {Table1.Field57} & {Table1.Field58} & {Table1.Field59} & {Table1.Field60} & {Table1.Field61} & {Table1.Field62} & {Table1.Field63} & {Table1.Field64} & {Table1.Field65} & {Table1.Field66} & {Table1.Field67} & {Table1.Field68} & {Table1.Field69} & {Table1.Field70} & {Table1.Field71} & {Table1.Field72} & {Table1.Field73} & {Table1.Field74} & {Table1.Field75} & {Table1.Field76} & {Table1.Field77} & {Table1.Field78} & {Table1.Field79} & {Table1.Field80} & {Table1.Field81} & {Table1.Field82} & {Table1.Field83} & {Table1.Field84} & {Table1.Field85} & {Table1.Field86} & {Table1.Field87} & {Table1.Field88} & {Table1.Field89} & {Table1.Field90} & {Table1.Field91} & {Table1.Field92} & {Table1.Field93} & {Table1.Field94} & {Table1.Field95} & {Table1.Field96} & {Table1.Field97} & {Table1.Field98} & {Table1.Field99} & {Table1.Field100}** where Table1.Field1 is the table and field of your database.

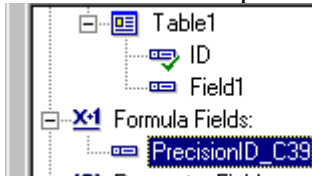
NOTE: In the event you need a check digit in your barcode, you will need to use the formula

of [PrecisionID_C39M43 \(Table1.Field1\)](#) where Table1.Field1 is the table and field of your database. The U25PrecisionID.dll UFL file must be installed before you can use this formula or you will receive an error. This UFL file is installed by running the Setup.exe file in the font package. The U25PrecisionID.dll file is also provided in the Crystal DLL folder of the Zip file. To manually install it, copy it to the Windows System directory or the directory where the Crystal DLLs are located. When the U25PrecisionID.dll file is installed and active, the PrecisionID formulas will appear in the Formula Workshop under Additional Functions.

5. The tables and fields should be visible above in your database connection. Choose Save and Close.



6. From the Field Explorer, drag the [PrecisionID_C39](#) Formula Field to the report.



7. Choose File – Print Preview. You should see that the formula field formatted the data from the database and appended the proper characters (asterisks) at the beginning and ending of the text.
8. Switch back to design mode, select the formula field and choose the [PrecisionID C39 T08](#) font. You must select the appropriate font for the formula you are using. For example, if you have a formula for a Code 39 barcode, you must use the Code 39 Font.
9. Size the formula field so it is large enough to contain the entire barcode. You will need to adjust both the height and width. Be sure to leave some extra space to the right and left of the barcode.



10. The barcode should now be visible when you run your report.



Creating Check Digits in other Applications

The easiest method of creating source code for a check digit in a custom application is to use our supplied [PrecisionID_C39_Module.bas](#) module as a guide. The module was written to be compatible with Visual Basic 6 and Microsoft Office VBA and may be viewed with a text editor.

Combining Multiple Fields in a Single Barcode

Multiple fields may be combined in a single barcode if desired. When doing this, it is usually necessary to encode a function between the fields. To encode a function such as a tab or return in the symbol between fields, you need to (1) enable extended Code 39 in your scanner and (2) use \$I for a tab and \$M for a return according to the Extended Code 39 Chart on Page 6. Below, we include a few examples of formulas that insert a tab between the fields in common applications:

Microsoft Access Report: ="*" & [Table1.Field1] & "\$I" & [Table1.Field2] & "*")

Microsoft Excel: ="*" & C10 & "\$I" & D10 & "*"

Microsoft Word Mail-Merge: (<FirstName>\$I<LastName>)

Crystal Reports: "*" & {Table1.Field1} & "\$I" & {Table1.Field2} & "*"

Specifications

Font Point Sizes and X Dimension (Narrow Bar Width)

Our fonts are designed to print with precision on high resolution printers as well as low resolution printers such as 203 dpi thermal barcode printers. When printing at 203 dpi, the point size chosen should be a multiple of 6. When printing at 300 dpi, the point size chosen should be a multiple of 4.

Font point size	X Dimension (narrow bar width) measured in mils (1/1000 of an inch)
6	5
8	7
12 (recommended)	10
16	13
20	16
24	20
36	30

Font Names and Bar Code Height

The numbers at the end of the font name is to identify the height of the font in mm when printed at 12 points. Fonts with the letter "T" before the number are text fonts that have a text representation of the bars printed below the barcode. The text fonts have the same height as the fonts that do not have text.

Font Name	Approximate Font Height at 12 points
PrecisionID C39 04	.18" or 04mm
PrecisionID C39 08	.30" or 08mm
PrecisionID C39 12	.45" or 12mm
PrecisionID C39 16	.62" or 16mm
PrecisionID C39 20	.84" or 20mm
PrecisionID C39 30	1.2" or 30mm

The Extended Code 39 Chart

If extended Code 3 of 9 is enabled in your scanner, the following character combinations can be used:

ASCII	Code39	ASCII	Code39	ASCII	Code39	ASCII	Code39
NU	%U	SP	_	@	%V	`	%W
SH	\$A	!	/A	A	A	a	+A
SX	\$B	"	/B	B	B	b	+B
EX	\$C	#	/C	C	C	c	+C
ET	\$D	\$	/D	D	D	d	+D
EQ	\$E	%	/E	E	E	e	+E
AK	\$F	&	/F	F	F	f	+F
BL	\$G	'	/G	G	G	g	+G
BS	\$H	(	/H	H	H	h	+H
HT	\$I	)	/I	I	I	i	+I
LF	\$J	*	/J	J	J	j	+J
VT	\$K	+	/K	K	K	k	+K
FF	\$L	,	/L	L	L	l	+L
CR	\$M	-	/M	M	M	m	+M
SO	\$N	.	/N	N	N	n	+N
SI	\$O	/	/O	O	O	o	+O
DL	\$P	0	0	P	P	p	+P
D1	\$Q	1	1	Q	Q	q	+Q
D2	\$R	2	2	R	R	r	+R
D3	\$S	3	3	S	S	s	+S
D4	\$T	4	4	T	T	t	+T
NK	\$U	5	5	U	U	u	+U
SY	\$V	6	6	V	V	v	+V
EB	\$W	7	7	W	W	w	+W
CN	\$X	8	8	X	X	x	+X
EM	\$Y	9	9	Y	Y	y	+Y
SB	\$Z	:	/Z	Z	Z	z	+Z
ESC	%A	;	%F	[	%K	{	%P
FS	%B	<	%G	\	%L	|	%Q
GS	%C	=	%H	]	%M	}	%R
RS	%D	>	%I	^	%N	~	%S
US	%E	?	%J	_	%O	DEL	%T