

PrecisionID

Data Matrix Barcode Font

User Manual



[PrecisionID Data Matrix Barcode Font](#)

Limitations of the Demo Version:

To provide the quickest implementation, consider licensing this product instead of using the demo. The licensed version is provided with a 30 day money back satisfaction guarantee. The demo version of this product includes a fully functional 2D font and is designed only for the purpose of testing the font in various applications and point sizes. To generate dynamic symbols, a font encoder is required to format the data being encoded into the 2D symbol. Only static data can be provided for the encoders in the demo version, because providing a working encoder would reveal the complete source code, which is only available in the licensed version of the [Data Matrix Barcode Font](#).

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Notice: When you use this product you agree to the End User License Agreement (EULA). The EULA is provided as a file in the package for this product. To view the license online, please visit <http://www.precisionid.com/licenses/>

Installation

Microsoft Windows

PrecisionID recommends using the supplied **exe** file to install the fonts automatically in Windows. To manually install a font in Windows, extract the font file from the compressed ZIP folder, right click on the TrueType font with the TTF extension and choose Install.

Mac

Extract the Barcode Font from the provided ZIP file. Double click the font file and choose the "Install font" button at the bottom of the preview dialog. Alternatively, you can also install fonts by dragging the font files into /Library/Fonts (for all users), or into /Users/Your_username/Library/Fonts (for you only).

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 type to install.

Font Encoders and Application Tutorials

PrecisionID supplies several Font Encoders to format data to the font. Refer to the Examples folder of the product zip file and the [Font Encoders](#) section of the website for a complete selection.

Generating GS1 Symbols (Encoding the FNC1)

GS1-Data Matrix barcodes may be generated according to the [GS1 General Specifications](#) when the following are true in any encoder:

- The encoding mode parameter is set to ASCII or the number “3”.
- ProcessTilde parameter is True or “1”.
- The symbol begins with “~1” where each “~1” encoded is an FNC1 character.
- After the first FNC1, additional FNC1s should only be inserted after variable length AIs (application identifiers). For example: ~10110614141543219103456789~1213456789012 encodes the GS1 data of (01)10614141543219(10)3456789(21)3456789012. Since the AI of (10) is variable, an additional FNC1 needs to be inserted to encode the third AI of (21).

Implementation Examples

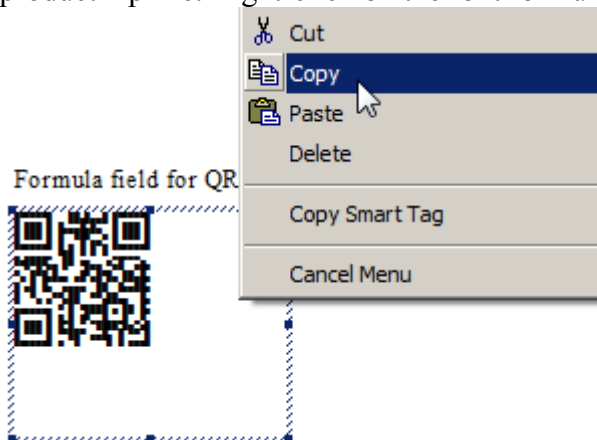
This product is designed to be used in any application that can process a script and apply it to a font. Only a few implementations are provided in this manual as an example of how the font and encoders may be used. With the purchase of any Developer License, PrecisionID will provide the source code to several additional types of [font encoders](#) by request to support a variety of other applications and development environments. The following tutorials are saved in the examples folder of the product zip file. Refer to the examples provided in this folder for quick and accurate implementation.

Crystal Reports

This example was created in Crystal Reports version 9. Implementation methods in other versions are very similar if not identical. This example shows the [QR Code Font](#); the implementation of [Data Matrix](#) is exactly the same process.

1. **Copy the formula object to the clipboard.**

Extract and open the “Crystal Reports Font Formulas.rpt” file that is in the \examples\ folder of the product zip file. Right-click on the font formula and choose Copy.



2. **Paste the object into your report.**

Open your Crystal Report and switch to design mode. Choose Edit – Paste or CTRL-V where the object is needed and size it appropriately to contain the entire symbol.



3. **Change the data source in the formula of the object.**

Right-click on the object and choose Edit – Formula. Modify DataToEncode= to connect to the data source; for example: DataToEncode = ({Table.Field})

If an error such as "A string is required" appears, the data will need to be converted to a string with a VB crystal function such as ToText or cStr.

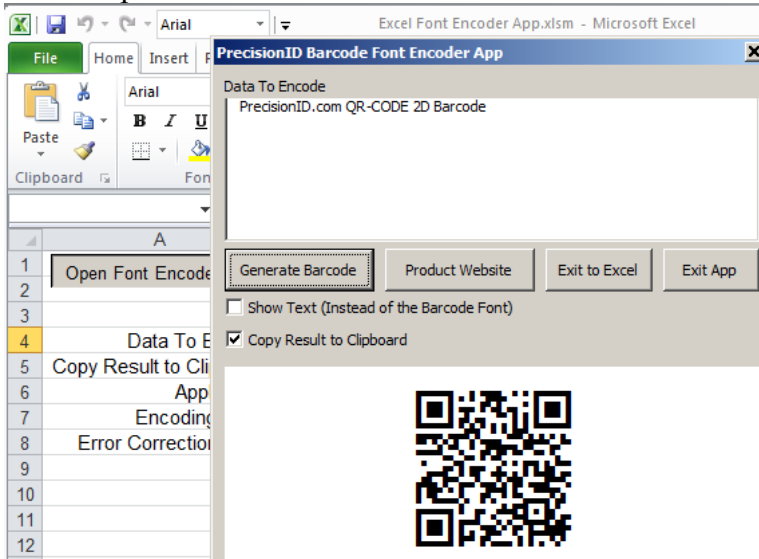
For example: DataToEncode = ToText({Table.Field})

4. The barcode should now be visible when you run the report. Faint white lines may appear in the symbol because of low screen resolution; however, these will not appear when the report is printed.

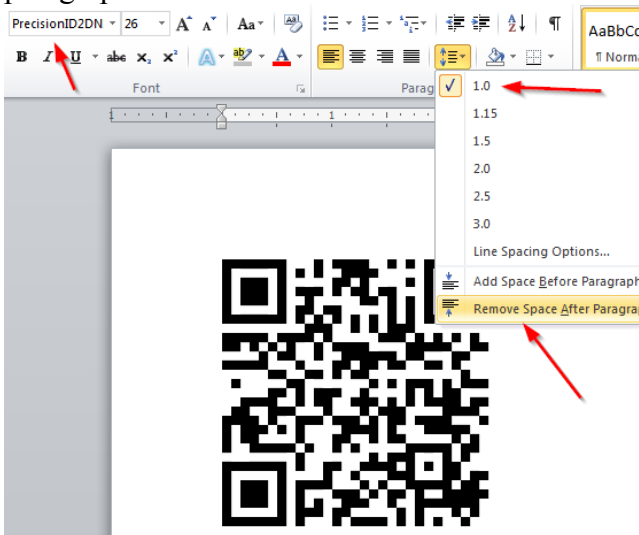
Font Encoder App for Excel

The Font Encoder App for Excel is an Excel user form that allows users an easy method to copy and paste barcodes into applications. It is compatible with Excel on Windows 2010 and greater and Excel on Mac 2016 and greater. It is also compatible with local installations of Office 365. This example shows the [QR Code Font](#); the implementation of [Data Matrix](#) is exactly the same process.

1. To copy a barcode to the clipboard, open the app, enter the data to encode, and choose the “Generate Barcode” button, which will copy the result to the clipboard. The application generates text that will create a correct symbol when combined with the PrecisionID2D font. To view this text, choose the “Show Text” option, which changes the font from the barcode font to a text font. It is provided as the file “Excel Font Encoder App.xlsm” in the examples folder of the download.

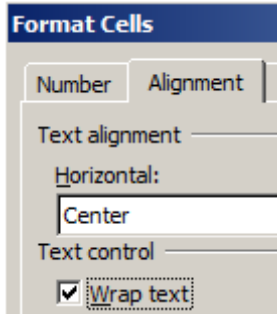


2. Open the application the barcode will be pasted into and choose the PrecisionID2D font and choose the paste option. The barcode symbol should appear. If it is distorted, make sure the line spacing is set to “1” and the also make sure the application is not adding a space after each paragraph.

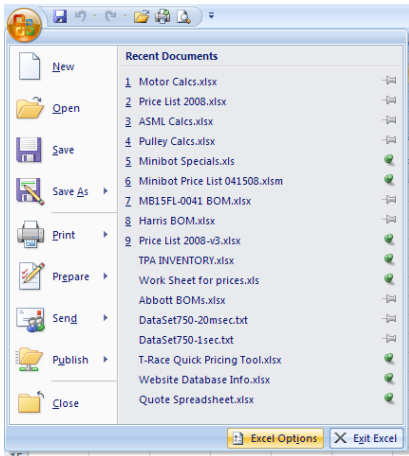


Microsoft Excel

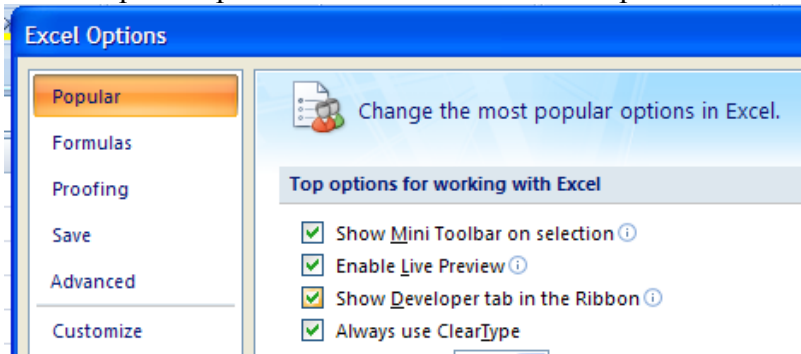
1. NOTE: the [PrecisionID2D XLS](#) font is formatted specifically for use in Microsoft Excel. Other fonts will not work properly. White lines may appear in the symbol, however, the scanner will still be able to properly decode the printed symbol. The symbol is only formed properly when the cell it resides in is formatted to "Wrap Text". The VBA encoder is compatible with Excel on Windows 2010 and greater and Excel on Mac 2016 and greater. It is also compatible with local installations of Office 365.



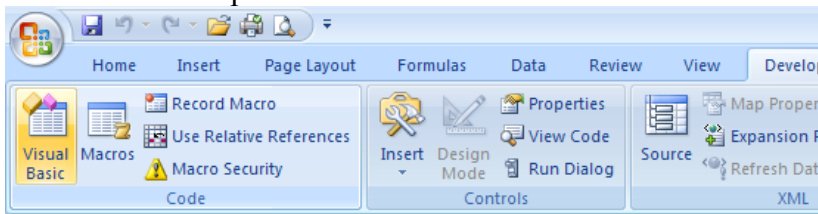
2. In this example we will create a barcode in cell **B8** using the data from cell **A8** for the barcode.
3. Extract the [PrecisionID_DM_FontEncoder.bas](#) file from the package and place it in a folder of your choice.
4. Before creating Data Matrix barcodes in Excel, you must enable the Developer Menu to import the required module so it will run. In Excel, click the Office Button and select Excel Options at the bottom.



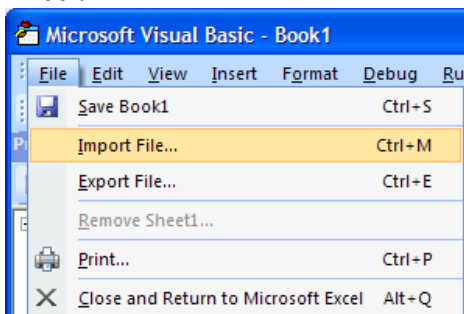
5. In the Popular Options check the "Show Developer Tab in the Ribbon". Click OK.



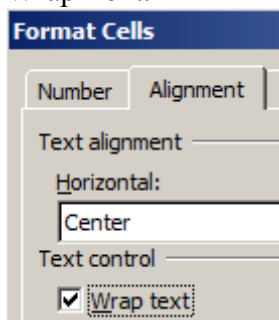
6. Select the Developer Tab and click the Visual Basic Icon.



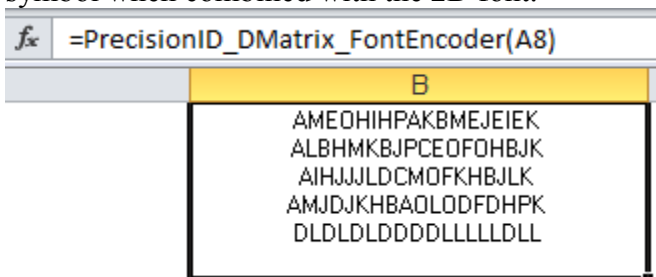
7. Choose File – Import File and navigate to the PrecisionID_DM_FontEncoder.bas file. After this module is imported, it will be visible in the list of modules. Choose File – Close and return to Excel.



8. Select all Cell(s) that will contain the barcode symbols and choose Format Cells - Alignment - Wrap Text.

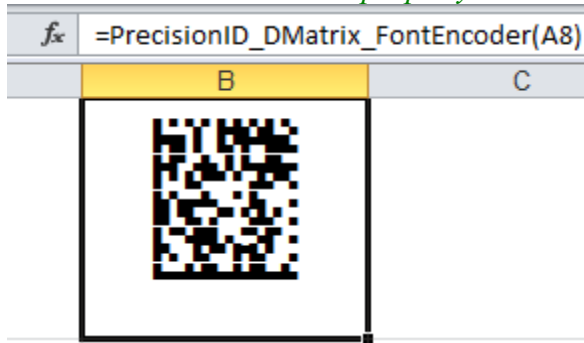


9. In cell B8, enter the formula = PrecisionID_DMatrix_FontEncoder (A8) which is required to format the data to the font.
10. Notice that the formula changed the data from cell A8 to characters that will generate a correct symbol when combined with the 2D font.



11. With cell B8 selected, choose the PrecisionID2D XLS font, which is specifically formatted for use in Microsoft Excel, and choose 8 for the point size. PrecisionID also recommends centering the text in this cell so the barcode will contain the required white space around the symbol.
12. After selecting the bar code font, the barcode will appear. Size the width of the column so that there is some white space around the barcode. *White lines may appear in the symbol, however, the*

scanner will still be able to properly decode the printed symbol.

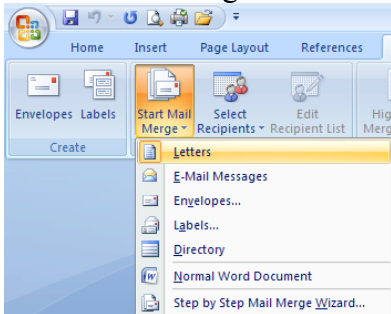


13. To create an entire column of barcodes, choose Edit – Copy with cell B8 selected.
14. Highlight cells you wish to add barcodes to in column B and choose Edit - Paste. The formula will automatically adjust for the other cells.
15. To generate barcodes from Excel without the white lines, it is suggested to use the Microsoft Access or Word mail-merge option. Because of the way Excel formats fonts, it is not possible to produce 2D symbols without the tiny white lines in the symbol.

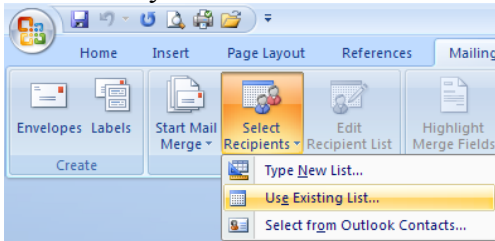
Microsoft Word Mail Merge

This example shows the [QR Code Font](#); the implementation of [Data Matrix](#) is exactly the same process.

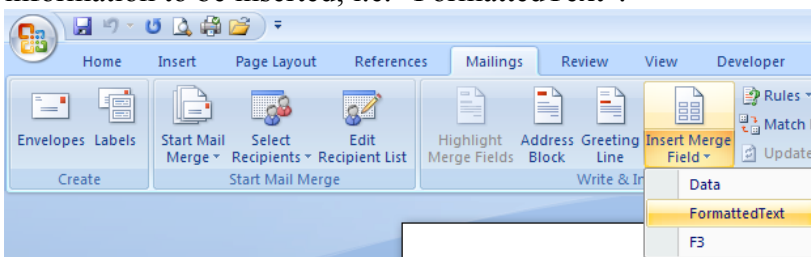
1. Open the mail merge document.
2. To create a barcode in a Word mail merge, insert a merge field from a data source that has already formatted the text for the barcode font. In this example, Excel is used as the data source from the “Word Mailmerge Source.xlsm” file. The Excel spreadsheet data source must already be setup with barcodes just like the Excel Tutorial in this document.
3. If you are not using the “Word Mailmerge Source.xlsm” file for your merge process, make sure that the NewLineCharacter is set to vbLf and not the default of vbCrLf in the data source. This is set as a parameter in Excel for the VBA function.
4. Select the Mailings menu item, click Start Mail Merge and select the type of document to create.



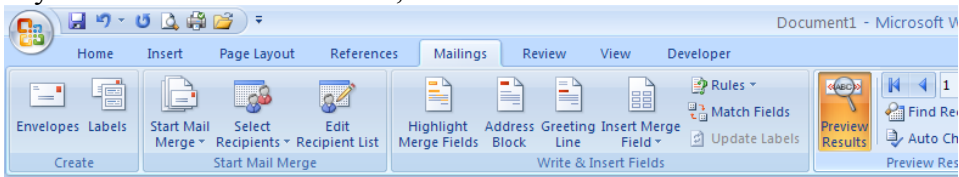
5. Click Select Recipients and select Use Existing List. Navigate to the spreadsheet with the barcode data. Finally select the Worksheet within the Workbook with the data, i.e. “sheet1”.



6. Place the cursor at the location for the barcode and click Insert Merge Field and select the information to be inserted; i.e. “FormattedText”.



7. If you click “Preview Results”, the text formatted for the barcode from the data source appears.



8. Select the text in the merged data and choose the [PrecisionID2D](#) font. Make the font 8 points in size. The symbol is generated with multiple lines which can make it difficult to place unless it is generated with the merge field in a table, as demonstrated in the example included with this product.

Text being encoded:

«Data»

Text formatted to barcode font:

«FormattedText»

2D Barcode Font:

«FormattedText»

2D Barcode Font in a Table:

<i>PrecisionID.com</i>	«FormattedText»
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Merge Preview:

Text formatted to barcode font:

AHEEEHAPFLAJCANNAPAHEEEHAP
BNFFFNBPJCNHAPMPFPBNFFFNBP
EKCPPNFBOGNAFJBGMPPAOKFPAP
FFLHGDFPMCHFJAICPFCOGPDBP
EFNFNFEHJGDGANAOAHFHAGJDEP
APBBBPAPNOJNPCHBAEGGBOPJFP
HHHHHHHPHHPHHHPHHPHPPHP

2D Barcode Font:



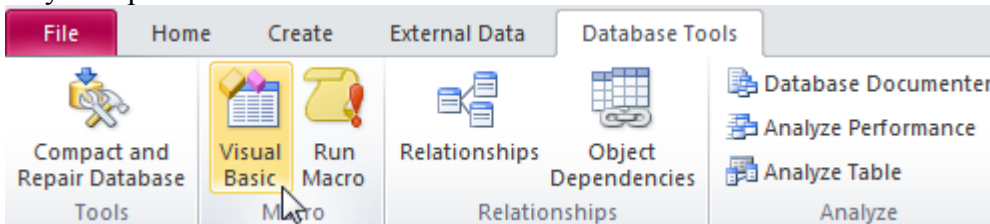
2D Barcode Font in a Table:

<i>PrecisionID.com</i>	
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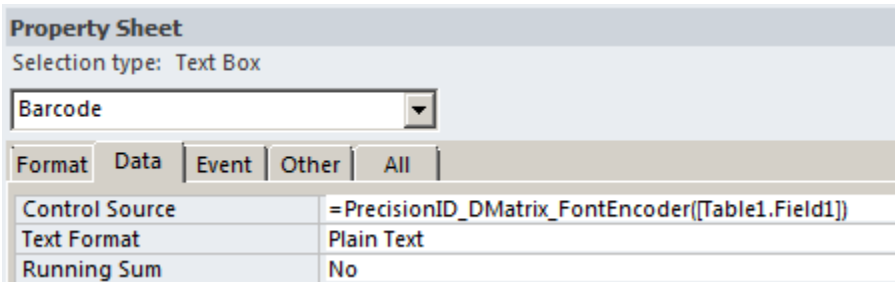
For additional help, refer to Word Help or use the Mail Merge Wizard under Mailings - Start Mail Merge.

Microsoft Access

1. Open the Access database.
2. Extract the [PrecisionID_DM_FontEncoder.bas](#) file from the package and place it in a folder of your choice.
3. Before creating Data Matrix barcodes in Access, you must enable the Developer Menu to import the required module so it will run. To enable the developer Tab in Excel 2010 and 2016, click on the File menu and select "Options" at the end of the menu. In the new window that pops up, click on "Customize Ribbon" and check the option labeled "Developer" on the right hand pane. Click OK.
4. Select the Developer Tab and click the Visual Basic Icon. As a shortcut to steps 3 and 4 here, you may also press ALT-F11 in most versions of Access.



5. Choose File – Import File and navigate to the PrecisionID_DM_FontEncoder.bas file. After this module is imported, it will be visible in the list of modules. Choose File – Close and return to Access.
6. Open the report in design view. Place a text box on the report where the barcode is needed. Size it to be as large as possible to contain the symbol. Open the properties dialog for the field and modify the control source to be
`=PrecisionID_DMatrix_FontEncoder([Table1.Field1])`
 where Table1 is the table in the database and Field1 is the field that need to be encoded.



7. Run the report and verify that font encoded text appears as uppercase characters.

Barcode:

AOAIGJDLCPFKFNFKAMDPFJBIGIHPDOFK
 AKCFMJLMDLFOADKAMICIFKOFHKFEAMK
 AIPLPGHPHKDICGBKAODADCGNMGDMAKK
 AECKIKEAGMECOEEKAMMKCGMGEEGEMCOK
 AOHIFNALELBIHJHKANAMGKHMEPCPDJAK
 AMOPKDNAGGADEIGKAGICNNFNODFBDCMK
 AKMLPPJCBEILKPAKAEIELCPKPGNCNKBK
 AGMOOKMOGCACAMKKAEMAIMOACIMKGICK

5. Open the report again in design view and change the font of that field to the PrecisionID2D font and set the point size to 8 points. Faint white lines may appear in the symbol because of low screen resolution; however, these will not appear when the report is printed.

Barcode:



Other Implementations

A font encoder is required to modify the data being encoded to the barcode font. With the purchase of any Developer License, PrecisionID will provide the source code to several types of [developer font encoders](#) by request. These font encoders may be also converted into any language necessary.

Another possible implementation is to run the font encoder in another application, as is done in the mail merge example, which is generated from Excel and presented in Word.

2D Font Specifications

The PrecisionID 2D font is designed to be printed on 203 or greater dpi printers or displayed on the screen of any computer, tablet or phone. On low resolution devices, such as the screen of a PC or Mac, the point size may have to be adjusted so that the symbol does not contain any horizontal or vertical white lines.

Font Size	Approximate X Dimensions	
	MILS (<i>1/1000 of an inch</i>)	CM
2	3	0.007
3	5	0.012
4	6	0.015
6	10	0.025
8	12	0.030
10	16	0.040
11	18	0.045
12	20	0.050
16	24	0.060
20	33	0.083
22	36	0.091