PrecisionID EAN & UPC Barcode Font User Manual

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Limitations of the demo version: The demo version of this product may be used for evaluation purposes only. In the demo version, some of the bars in the bar-code contain the demo watermark. All other characters and symbols are exactly the same as the purchased version. If you are using the demo version and you would like to order, please visit: http://www.precisionid.com/

EAN & UPC Symbology Overview

The EAN & UPC Font Package is designed to print only UCC-12, UPC-A, UPC-E, EAN-8 and EAN-13 barcode types. UPC-A is also referred to as UCC-12. Any other type of UCC or EAN barcode is usually created with the Code 128 Fonts. EAN & UPC barcodes can only encode numbers of certain lengths according to the chart in Fig 1 below. For UPC-A and EAN-13, an optional add-on barcode can also encode 2 or 5 more characters. To encode the add-on in the barcode, simply append this number to the end of the primary number.

Fig 1; data lengths for EAN & UPC Barcode Types

Barcode type	Length of digits to create	Function to use in VBA
EAN-8	7 or 8	PrecisionID_EAN8
EAN-13	12 or 13	PrecisionID_EAN13
UPC-A	11 or 12	PrecisionID_UPC_A
UPC-E	11 or 12*	PrecisionID_UPC_E

* UPC-E is a compressed version of UPC-A, therefore all 11 or 12 digits of the UPC-A are necessary to perform the compression.

Product Overview

Print Requirements: To create a correctly sized barcode with the EANUPC fonts, they need to be printed between 18 and 36 points (20 points is recommended). These fonts also need to be printed on a printer with 300 dpi or greater resolution.

EAN & UPC is a more complex bar-code type because it requires a check digit calculation and other number pairing functions. Our PrecisionID Font Formatting Components ™ are provided with this package to simplify this process and make printing barcodes with our fonts an easy task. The PrecisionID Font Formatting Components ™ 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. This package also provides working examples for Word, Access, Excel and Crystal Reports.

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

When creating barcodes with our fonts, we recommend using the PrecisionID Font Formatting Components ™ which automatically perform the required calculations and simply return the text that is formatted to the barcode font. When this text is printed with our barcode font, a correct barcode is created.

To calculate the check digit manually, we suggest following the Visual Basic source code we provide. This code is located in the Examples\VB Module folder of the package.

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 refer to the examples provided in this folder.

Microsoft Access
To create a barcode in a Microsoft Access report:

1. Run the Setup program to install the fonts and Access Example file.
2. Before we can create barcodes in Access, we must import the required module. Choose Modules – Import and select the Access Example.mdb file, which will be located in the Program Files\Precision ID EANUPC Font Package folder.
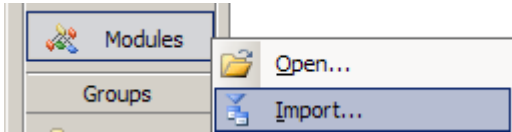
3. Choose the module to import from the other database; this module should be named PrecisionID_ EANUPC_Module. After it is properly imported, it will appear as one of the modules in the database.
4. Open a report in design view and add a text box to your report. The text box will be modified to contain a barcode.
5. Right click on the text box and choose properties.
6. Place the formula =PrecisionID_UPC_A([Table1.Field1]) (*or, to create another barcode type choose the correct function from Fig 1*) 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.
7. Run the report. You should see that the numbers from the data are converted into other characters; this is normal and indicates the product is working properly.
   V(b23456*RSTKLm(W
8. Open a report in design view, select the text box and choose one of the PrecisionID fonts such as PrecisionID EANUPC T12 and choose 20 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 the EAN or UPC barcode, you must select the EANUPC Font.
9. Size the text box 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 on the report. Generally, you need about 3 times the space to the left and right of the barcode as the thickest bar in the bar code.
10. Save and run your report. You should see the barcode appear in the text box.

Microsoft Excel

1. NOTE: the PrecisionID EANUPC T09 font is formatted specifically for use in Microsoft Excel. Other fonts may work but may not format properly in the cells.
2. In this example we will create a barcode in cell B10 using the data from cell A10 for the barcode.
3. Extract the PrecisionID_EANUPC_Module.bas file from the package and place it in the "My Documents" folder.
4. Before we can create barcodes in Excel, we must import the required module and change the security setting so it will run. In Excel, choose Tools – Macro – Security and set the security level to Medium. Choose Tools – Macro – Visual Basic Editor.
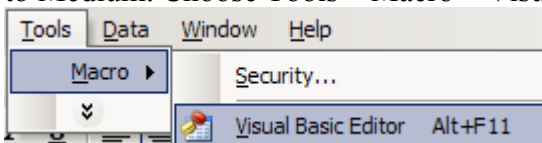
5. Choose File – Import File and select the PrecisionID_EANUPC_Module.bas file from the list of files. After this module is imported, it will be visible in the list of modules. Choose File – Close and return to Excel.
6. In cell B10, enter the formula of =PrecisionID_UPC_A(A8) (*or, to create another barcode type choose the correct function from Fig 1*) which is required to format the data to the font.
7. You should notice that the formula changed the data from the spreadsheet and appended additional characters at the beginning and ending of the text. You may notice that numbers from the data are

compressed into other characters, this is normal when you are using EAN & UPC Auto and the barcode contains 4 or more consecutive number characters.

8. With cell B10 selected, choose the PrecisionID EANUPC T09 font, which is specifically formatted for use in Microsoft Excel, and choose **18** or greater 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 the EAN & UPC barcode, you must use the EANUPC Font.

9. 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.

10. To create an entire column of barcodes, choose Edit – Copy with cell B10 selected.

11. Highlight cells you wish to add barcodes to and choose Edit - Paste. The formula will automatically adjust for the other cells.

Microsoft Word Mail-Merge

1. Open the mail merge document.
2. To create a barcode in a Word mail-merge, we must insert a merge field from a data source that already formatted the text to the barcode font. In this example, we use Excel as the data source. The Excel spreadsheet data source must already be setup with barcodes just like the Excel Tutorial in this document.
3. In Word, Choose Tools – Letters and Mailings – Mail Merge and select the Excel spreadsheet for your data source. Be sure to select the columns and range for the cells that contain the data formatted to the barcode font. You may have to go through the Word mail-merge tutorial for assistance if you are unsure of how to connect to a data source or perform a mail-merge.
4. When connected to the data source, we insert the merge field of <FormattedText> into the document. When we choose the "View Merged Data" option, we see the text formatted to the barcode font from the data source appear.
V(b23456*RSTKLm(W
5. Select the text in the merged data and choose the PrecisionID EANUPC T12 font. Make the font 20 points in size.

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 and UFL are compatible with Crystal version 7 and above.

1. 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.
2. Right Click on Formula Fields and choose New.
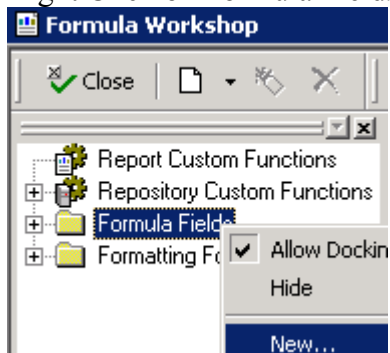
3. Give your formula field a name, in this example we will name it PrecisionID_Barcode1. In versions 9 and above, if you are asked to use the editor or the expert, choose Use Editor.

4. In the Formula Editor, choose Functions - Additional Functions and select the PrecisionID_UPC_A() function (*or, to create another barcode type choose the correct function from Fig 1*). 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. Place the cursor between the parentheses in the formula and select the field you wish to encode in the barcode from the Report Fields area in the Formula Editor. A correct formula will appear something like PrecisionID_UPC_A ({Table1.Field1}) where Table1.Field1 is the table and field of your database.
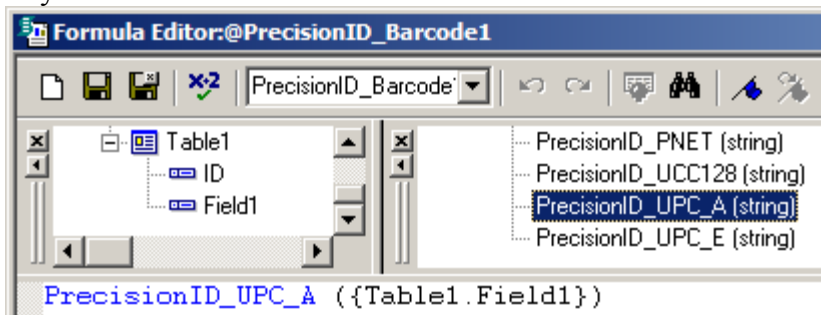
6. The tables and fields should be visible above in your database connection. Choose Save and Close.
7. From the Field Explorer, drag the PrecisionID_Barcode1 Formula Field to the report.
8. Choose File – Print Preview. You should see that the formula field formatted the data from the database and appended additional characters at the beginning and ending of the text. You may notice that the numbers from the data are converted into other characters; this is normal when you are using EAN & UPC Fonts.
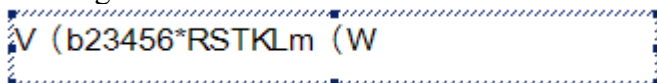
9. Select the formula field and choose the PrecisionID EANUPC T12 font. Set the point size to 18 points or greater (we recommend 20 points). You must select the appropriate font for the formula you are using.
10. Size the formula field so it is large enough to contain the entire barcode. You will need to adjust both the height and width. Be sure to leave some extra space to the right and left of the barcode on the report. Generally, you need about 3 times the space to the left and right of the barcode as the thickest bar in the barcode.

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

Specifications

Font Point Sizes and Magnification Factor

These fonts need to be printed on a printer with 300 dpi or greater resolution at a magnification factor of 80% to 200% to meet UPC and EAN requirements. Because 22 points is a magnification factor of exactly 1, the point size you choose should be between 18 to 36 points. Try using 20 points first if it is possible, because at 20 points the symbol is best reproduced on 300 dpi printers.

Font Names and Bar Code Height

The numbers at the end of the font name is to identify the height of the font in millimeters (mm) when printed at 20 points. Specifications developed in the 1970s call for a height of 22 mm, however, with modern scanners the barcode can still be read with font heights as short at 9 mm.

Font Name	Approximate Font Height at 20 points
PrecisionID EANUPC T09	09 mm (use in Excel)
PrecisionID EANUPC T12	12 mm
PrecisionID EANUPC T15	15 mm
PrecisionID EANUPC T18	18 mm
PrecisionID EANUPC T22	22 mm (Use for UPC-A and EAN-13)