FeneVision® Best Practice

Image to ZPL Code Conversion (BP0127)

Revision	Date	Description of Change	Revised By
A	5/22/2018	Initial Document	LR

Introduction

This document covers the steps to convert a digital image to ZPL code for use with Zebra Label Printers. This process is necessary to print any image using ZPL. Common applications of images are for NFRC and Energy Star logos and maps, or for company logos.

Converting a Company Logo

The steps outlined in this document cover the entire process of converting images to ZPL, including the resizing, converting, and testing the image data.

Step 1 – Image Editor

Install your preferred image editing software. Paint.net is used in this document, and any screenshots will be from paint.net, however other image editing software can be used.

Step 2 – ZebraNet Bridge Enterprise Install

Install ZebraNet Bridge Enterprise onto your laptop. The install file is shared in the following directory:
\\fenstore\Software_BackedUpToAzure\Zebra\Zebranet Bridge\

Alternatively, the ZebraNet Bridge software can be downloaded from Zebra website.

After the installation is complete and you go to open the software for the first time, a window will open asking for a serial number. Just press “Cancel” and the window will close, and you can continue to use the software like normal.

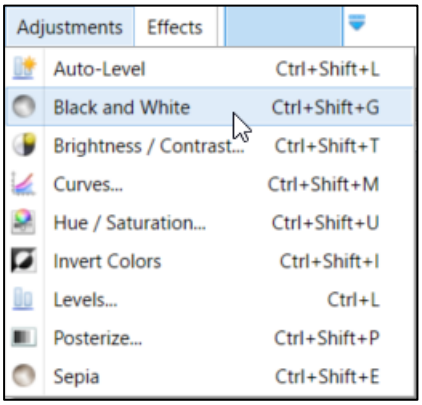
Step 3 – Backup & Copy

Make sure all original images have been backed up. If any mistakes are made during the image editing process, there should be a backup copy of each file.

Step 4 – Black & White

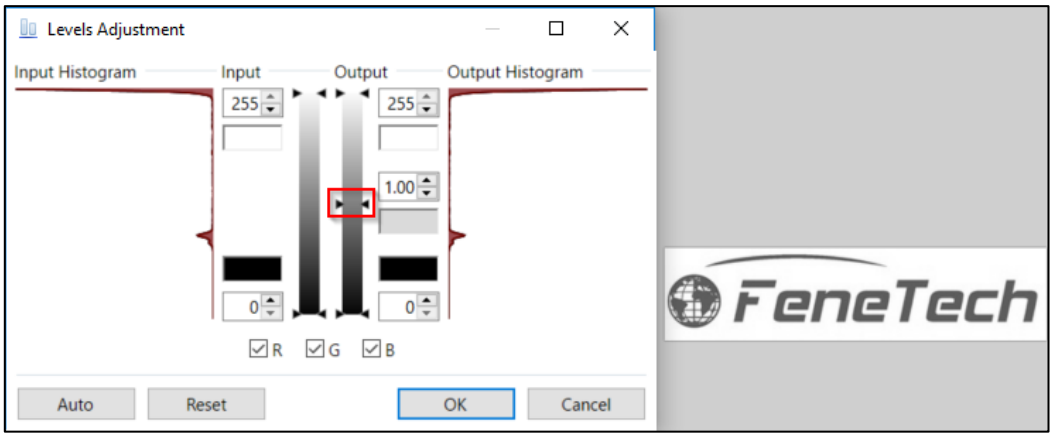
Note: Label template “lblpr41” will be used during the tutorial, however other templates can be used. Sizing will be for the “lblpr41” template.

1. Open image in image editor.
2. Click “Adjustments -> Black and White”

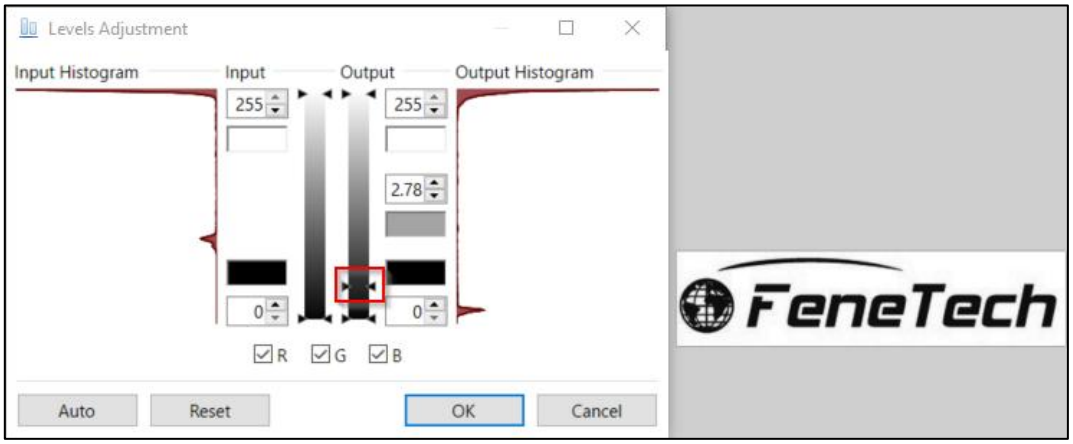


3. Click “Adjustments -> Levels”
4. In the new window, drag the middle set of arrows under the “Output” column down until the image turns black and white, instead of grey and white.

Before:

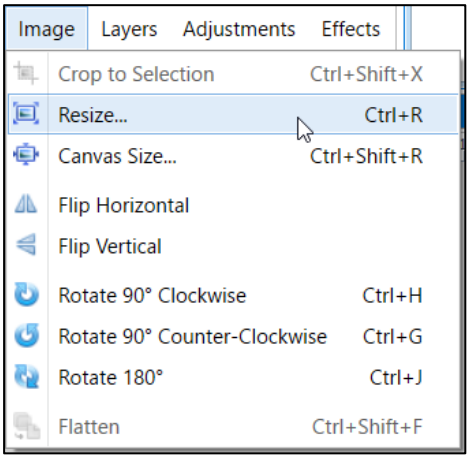


After:



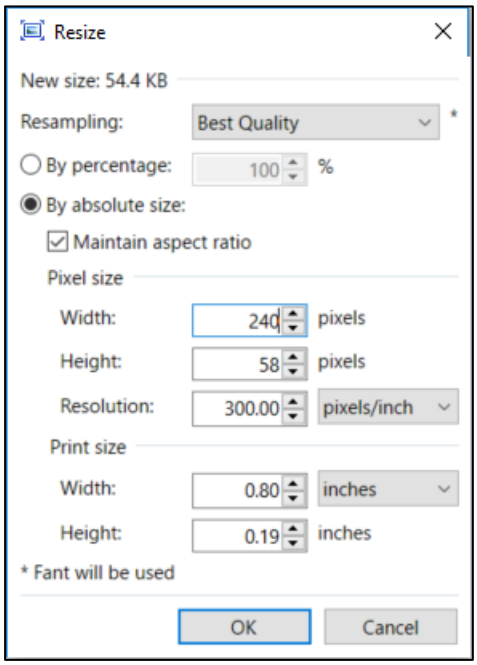
Step 5 – Resizing

1. Select “Image -> Resize” from the toolbar.



2. In the new window that opens, choose “By absolute size:” under resampling, and make sure “Maintain aspect ratio” is checked.
    a. Change “Resolution” to 300 pixels/inch.

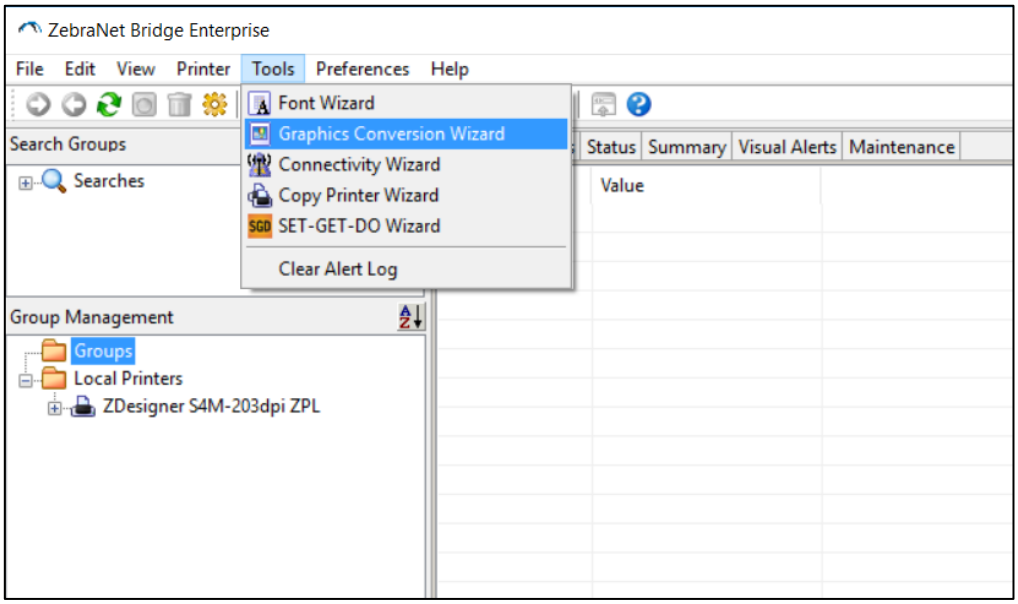
3. After setting the resolution, change the “Width” and “Height” options under the “Pixel size” category to the desired size based on the chosen label template.
    a. Do not change the “Width” and “Height” options under the “Print size” category.



4. Select “OK”, and the window will close, resizing the image.
5. Save the image as a JPEG by clicking “File -> Save As” and selecting JPEG from the drop-down menu underneath the name of the file.

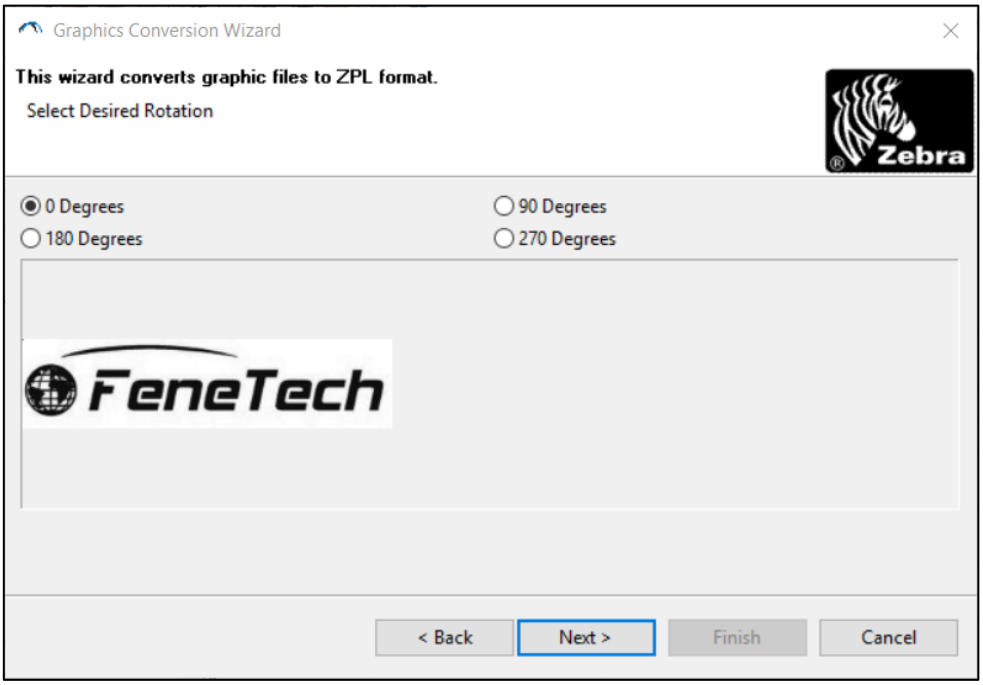
Step 6 – ZebraNet Bridge Enterprise Usage

1. Open ZebraNet Bridge Enterprise, and select from the toolbar, “Tools -> Graphics Conversion Wizard”.

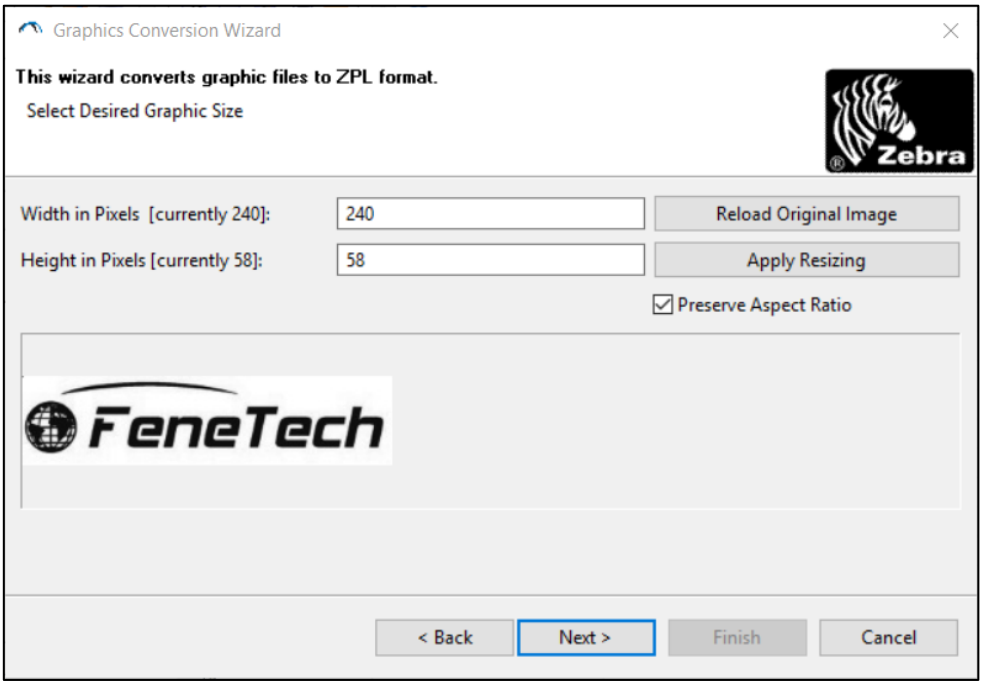


2. In the new window that opens, select “Browse” and find the image you resized. Then click “Next”.

3. Change the orientation of the image on the label if needed. Click “Next” if the orientation is already correct.

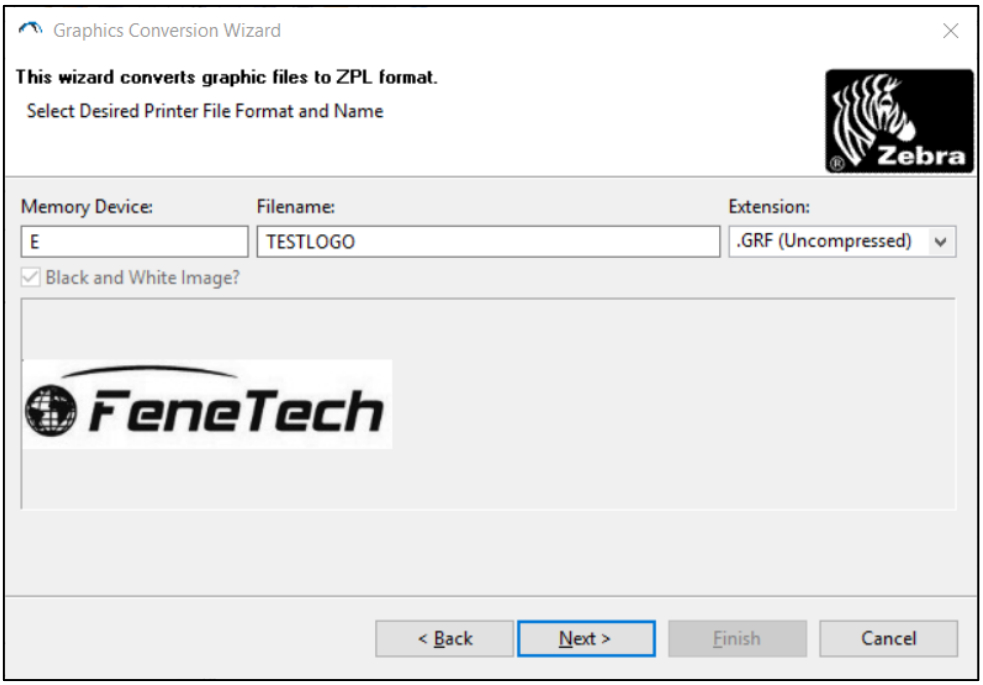


4. Resize the image if necessary. Click “Next” when finished.
    a. If the image was already resized in an image editing software, then this step can be ignored.
    b. If not, the desired height and width of the image, in pixels, must be known for the chosen resolution.

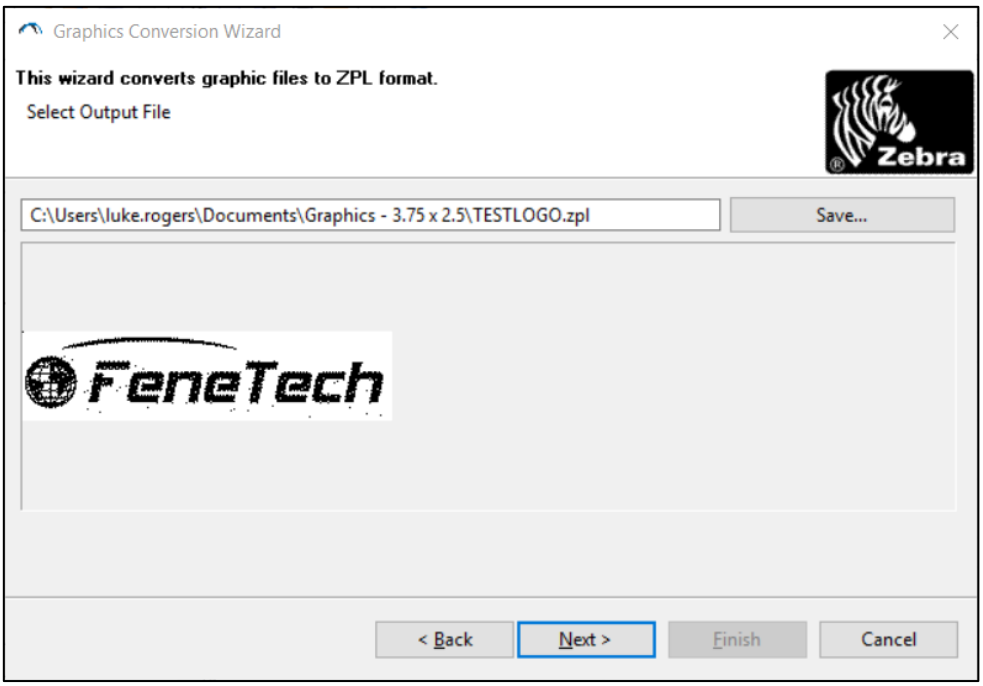


5. Choose the Memory Device and the Filename.
    a. For the Memory Device section type “E” (**Note**: If the Memory Device is set to R instead of E, the image will not print from the Templates already created).

b. For the Filename section type the filename.
c. Make sure the Extension is set to ".GRF (Uncompressed)".
d. Hit "Next" once Memory Device and Filename have been filled in.

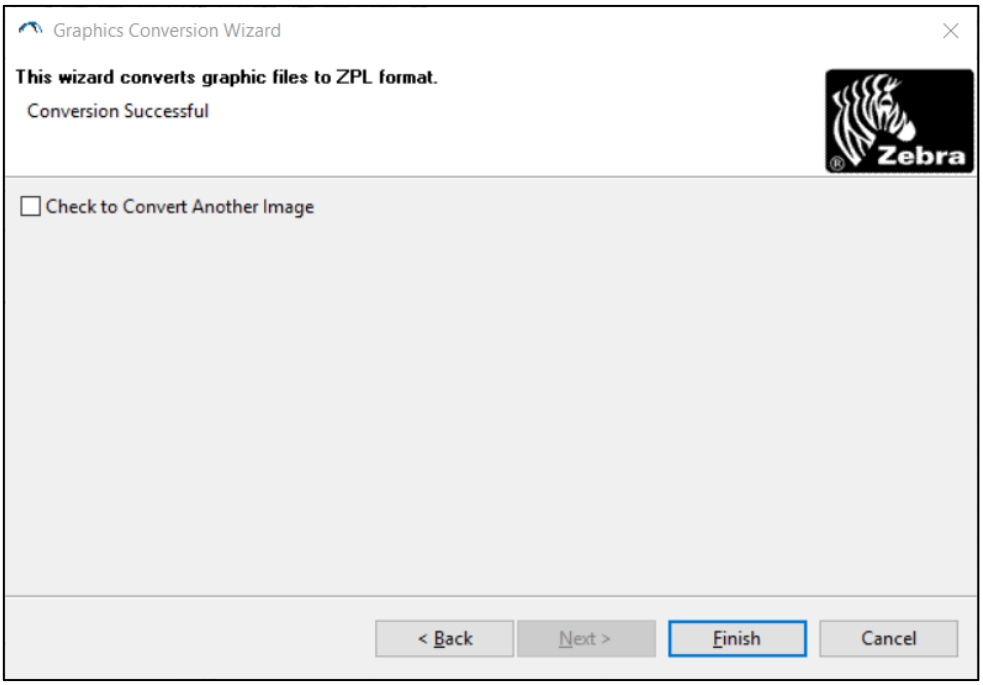


6. Save the ZPL code by clicking "Save" and navigating to an easily accessible location. When finished, click "Next".



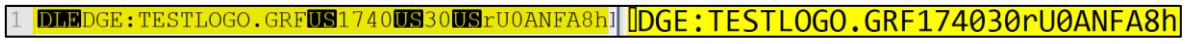
7. Choose to convert another image or end the process.

a. To convert another image, click the check box, and select “Finish”, and the window will close and reopen at Step 2.
b. To end the process, just click “Finish”.



Step 7 – Text Editor

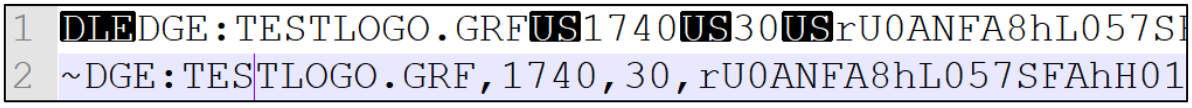
1. Open the ZPL file in a text editor. Notepad ++ will be used for this tutorial, and any screenshots will be from Notepad ++, however other text editing software can be used.
    a. **Note:** Make sure that the ZPL code is opened in an actual text editor not Windows Notepad. Items that need to be changed will only show up in the text editor.



    b. The leftmost line is in Notepad ++ whereas the rightmost line is in Windows Notepad. The two highlighted lines are the same, however certain symbols only appear on the leftmost line.

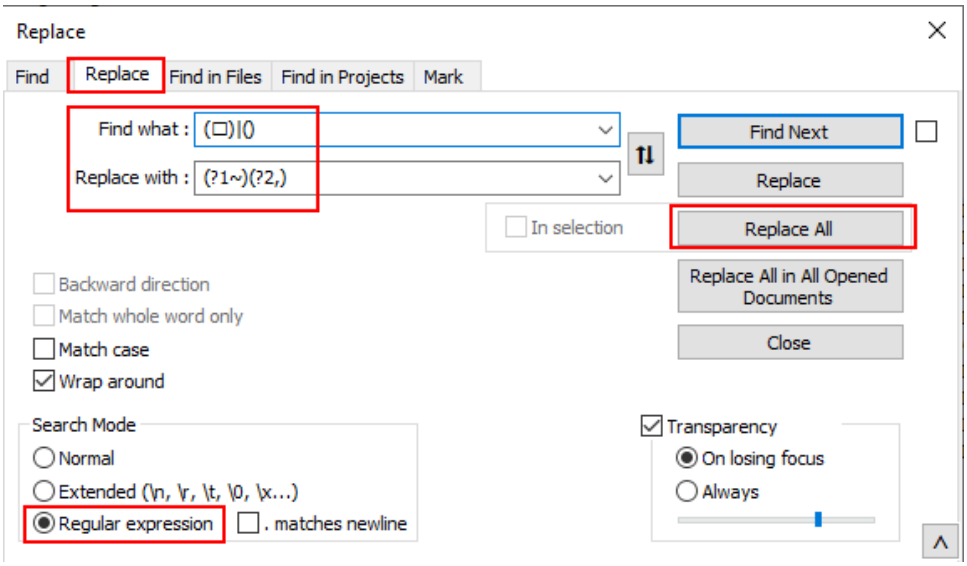
2. Change the two symbols appearing below.
    a. Change DLE -> **~ (tilde)**
    b. Change US -> **, (comma)**

The file will start out looking like line 1 below. Modify it to look like line 2.



Note: If using Notepad++ you can use the “Find and Replace” to replace both characters at once.
1. Search Mode = “Regular Expression”
1. Find = (DLE)|(US)

1. Replace = (?1~)(?2,)



a. Add the following lines of code to the bottom of the ZPL code for testing.

```
^XA

^LH10,10
^CF0,30,30

^FX***COLUMN ONE***^FS
^FO0,0^FB200,^FD!PRODDATE!^FS
^FO0,30^FB200^FD!PARTNO,15!^FS
^FO0,60^FB200^FDLine #: !LINEITEM!^FS
^FO0,90^FB200^FDSched: !SCHEDID!^FS
^FO0,125^XGE:TESTLOGO.GRF^FS

^FX***COLUMN TWO***^FS
^FO250,0^FB350^FD!ORDERNO!^FS
^FO250,30^FB350^FD!DIMENSIONS,25!^FS
^FO250,60^FB350^FD!XOFY!^FS
^FO250,90^FB350^FDBatch: !BATCHID!^FS

^FX***COLUMN THREE***^FS
^FO600,0^FB200,1^FD!CUSTOMER,10!^FS
^FO600,30^FB200^FD!OPTIONS,10!^FS
^FO600,60^FB200^FD!PTANDATTR,10!^FS
^FO600,90^FB200^FDBin: !BIN!^FS

^FX***BARCODE***^FS
^FO250,120^BCN,30,N,N,N^FD!BARCODE!^FS

^XZ
```

b. Replace "**TESTLOGO.GRF**" with the name of the ZPL file.

```
^XA


^LH10,10
^CF0,30,30

^FX***COLUMN ONE***^FS
^FO0,0^FB200,^FD!PRODDATE!^FS
^FO0,30^FB200^FD!PARTNO,15!^FS
^FO0,60^FB200^FDLine #: !LINEITEM!^FS
^FO0,90^FB200^FDSched: !SCHEDID!^FS
^FO0,125^XGE:TESTLOGO.GRF^FS

^FX***COLUMN TWO***^FS
^FO250,0^FB350^FD!ORDERNO!^FS
^FO250,30^FB350^FD!DIMENSIONS,25!^FS
^FO250,60^FB350^FD!XOFY!^FS
^FO250,90^FB350^FDBatch: !BATCHID!^FS

^FX***COLUMN THREE***^FS
^FO600,0^FB200,1^FD!CUSTOMER,10!^FS
^FO600,30^FB200^FD!OPTIONS,10!^FS
^FO600,60^FB200^FD!PTANDATTR,10!^FS
^FO600,90^FB200^FDBin: !BIN!^FS

^FX***BARCODE***^FS
^FO250,120^BCN,30,N,N,N^FD!BARCODE!^FS

^XZ
```

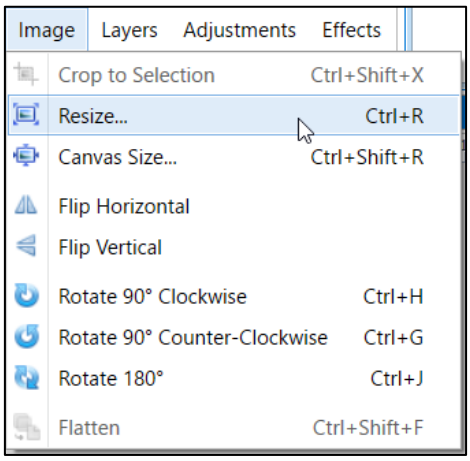
Converting Energy Star Images

Step 1 – Backup & Copy

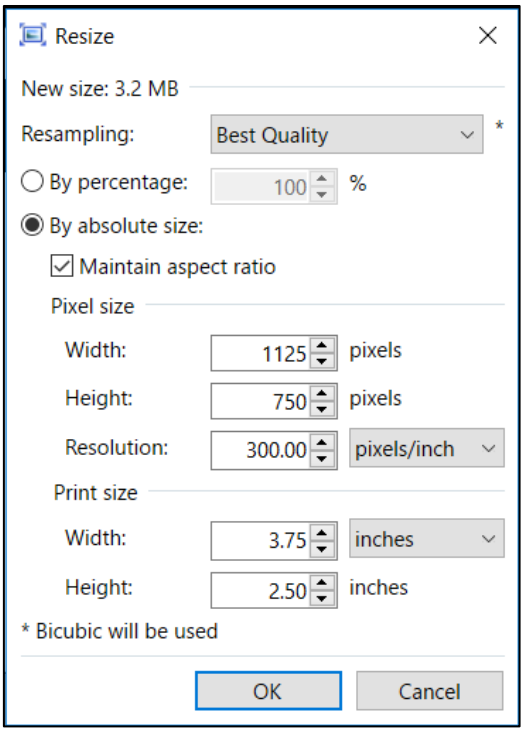
Make sure all original images have been backed up. If any mistakes are made during the image editing process, there should be a backup copy of each file.

Step 2 – Resizing the Image

1. Open the image in the image editor.
2. Select “Image -> Resize” from the toolbar.



3. In the new window that opens, choose “By absolute size:” under resampling, and make sure “Maintain aspect ratio” is checked. There are two options to choose from for the resolution based on the final DPI (Dots per Inch) required.
    a. The first option is to change “Resolution” to 203 pixels/inch for a 200 DPI print.
    b. The second option is to change “Resolution” to 300 pixels/inch for a 300 DPI print.



4. Do not change the “Width” and “Height” options under the “Pixel size” category. Just change the “Width” and “Height” options under the “Print size” category to the desired size.
5. Select “OK”, and the window will close, resizing the image..
6. Save the image as a JPEG by clicking “File -> Save As” and selecting JPEG from the drop-down menu underneath the name of the file.

Step 3 – ZebraNet Bridge Enterprise

See Step 6 under Converting a Company Logo.

Step 4 – Text Editor

1. Open the ZPL file in a text editor.
2. Change the two symbols appearing below.
    a. Change DLE -> **~ (tilde)**
    b. Change US -> **, (comma)**

    The file will start out looking like line 1 below. Modify it to look like line 2.

```
1  DLEDGE:TEST.GRFUS48768US96USoPF80oPF80oPF80oPF8
2  ~DGE:TEST.GRF,48768,96,oPF80oPF80oPF80oPF80oPF80
```

3. Add the following lines of code to the bottom of the ZPL code for testing.
   a. **For 200 dpi:**
      ^XA
      ^LH15,800
      ^FO10,5^XGE:!MAP!^FS
      ^XZ
   b. **For 300 dpi:**
      ^XA
      ^LH15,800
      ^FO30,5^XGE:!MAP!^FS
      ^XZ
   c. **Replace !MAP! with the name of the ZPL file.**

200 dpi

TEST.zpl

```
1  ~DGE:TEST.GRF,48768,96,oPF80oPF80oPF80o
2
3  ^XA
4  ^LH15,800
5  ^FO10,5^XGE:TEST.GRF^FS
6  ^XZ
```

300 dpi

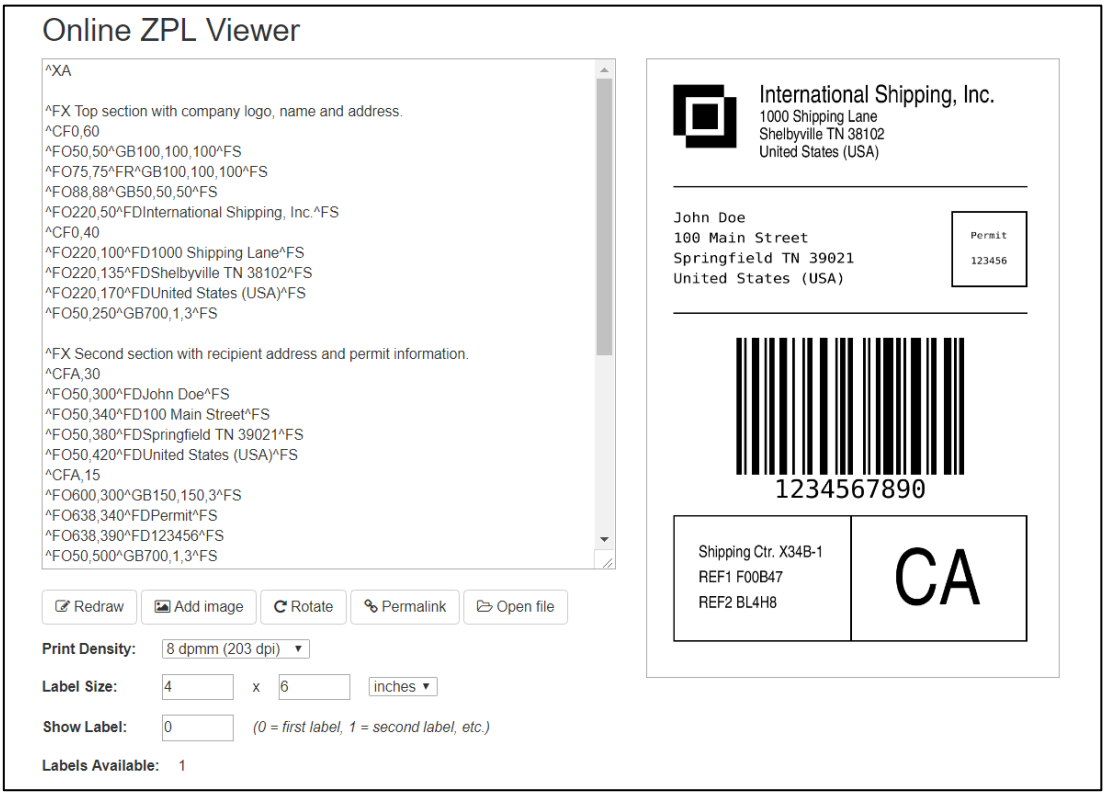
TEST.zpl

```
1  ~DGE:TEST.GRF,48768,96,oPF80oPF80oPF80
2
3  ^XA
4  ^LH15,800
5  ^FO30,5^XGE:TEST.GRF^FS
6  ^XZ
```

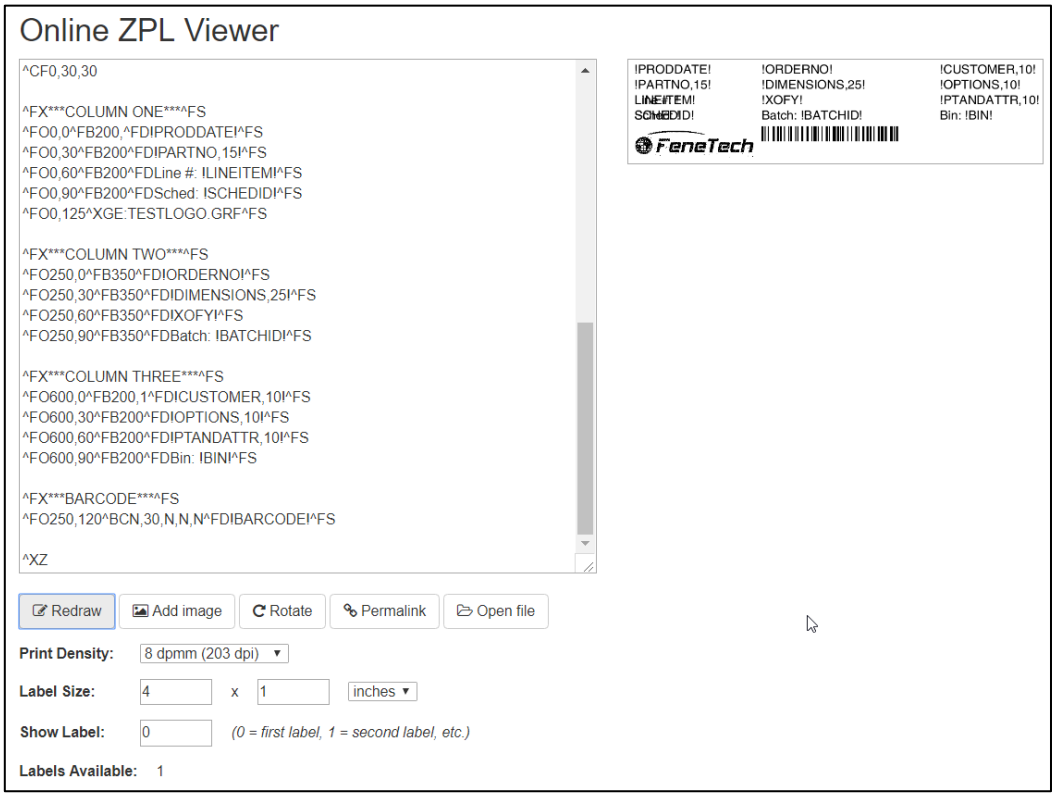
Testing the ZPL Code

Company Logo

1. Go to http://labelary.com/viewer.html to test the ZPL code.



2. Navigate to the ZPL code made in the text editor.
3. Select everything and then copy all the code.
4. Go back to the website mentioned in step 1 and delete the current code inside the viewer.
5. Paste the copied ZPL code into the box, and press “Redraw” to view the image.
    a. Set the “Print Density” to 8 dpmm (203) dpi
    b. Set the label size to 4 x 1 inches.



Energy Star Image

1. Go to http://labelary.com/viewer.html.
2. Navigate to the ZPL code made in the text editor.
3. Select everything and then copy all the code.
4. Go back to the website mentioned in step 1 and delete the current code inside the viewer.
5. Paste the copied ZPL code into the box, and press “Redraw” to view the image.
    a. Make sure to check what “Print Density” the viewer is set for, either 8 dpmm (203 dpi) or 12 dpmm (300 dpi), based on the resolution chosen earlier in the tutorial.
    b. For 200 dpi, change the label size to 4 x 7 inches.

Deployment

General

1. Open FeneVision CORE.
2. Navigate to “Setup -> System -> Settings” and look for “Reports_GlobalDirectory”.
3. Navigate to the folder listed to the left of “Reports_GlobalDirectory”.

Company Logo

1. Open the appropriate label template.
2. Navigate to the folder with the newly created ZPL code.
3. Open the new code and copy the image data only. Do not copy the print commands.
4. Go back to the label template and create a few blank lines above the ^XA.
5. Paste the image code into those lines.
6. Add the following line of code into the previous print commands so that the image will be displayed.
    a. ^FO0,125^XGE:!MAP!^FS

   b. **Be sure to replace !MAP! with the ZPL code filename.**
7. The locations defined in the previous line of code will need to be adjusted so that the image can be placed in the correct location.
8. Save the file.

Energy Star

1. Open “EStarImageTemplate”.
2. Navigate to the folder with the newly created ZPL code.
3. Open the new code and copy the image data only. Do not copy the print commands.
4. Go back to “EStarImageTemplate” and find the image that is being replaced with the new code.
5. Delete the old image code and paste in the new code in the same place.
   a. The locations defined in “EStarGenTemplate” may need to be adjusted so the image is placed in the correct location.
6. Repeat this process for all images being replaced.
7. Save the “EStarImageTemplate”.