Converting a PowerPoint Slideshow for use on µEZ GUI Products

Summary:

All µEZ GUIs come with one of two demonstration applications that both have a slideshow program. One of these applications will only read bitmap images, and the other will only read uncompressed targa images. The µEZ GUIs that are purchased as a standalone module (models ending with -BA) require uncompressed targa files. The µEZ GUI development kits require bitmap files.

This procedure will explain the steps for converting a PowerPoint slideshow to a series of bitmap images for use with the µEZ GUI Demonstration Slideshow application. It also describes the steps for converting the bitmaps to targa files and for converting 24-bit bitmaps into 8-bit bitmaps to save storage space. You will need to know which µEZ GUI is to be used in order to get the correct details of the screen.

Requirements:

- PowerPoint 2013 or later
- µEZ GUI Target information (screen details) – **Table 1** below

Screen Detail Data:

Table 1 below provides the horizontal and vertical size needed when re-sizing the presentation along with the resolutions for each µEZ GUI model. The minimum recommended font size for text within the presentation is listed for each screen size. This font size is the minimum size for easy readability of the presentation on the screen size. You 'can' use smaller font, but readability will decrease.

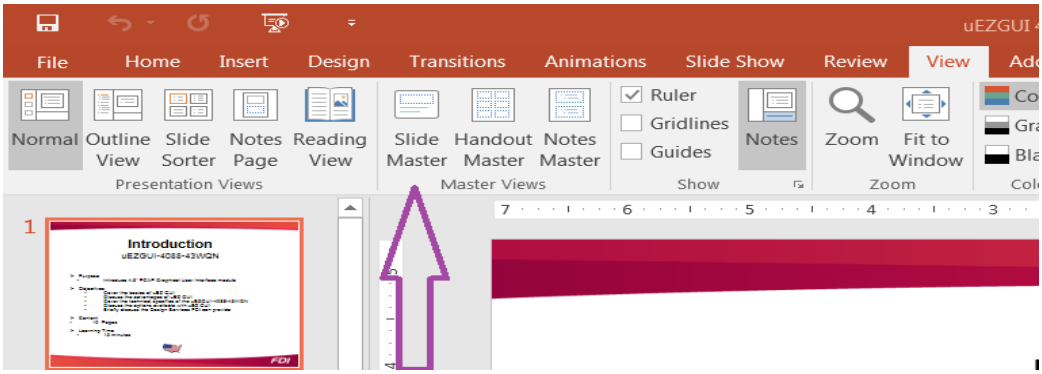
Table 1 – Product Specifications

µEZ GUI Model	Screen Size Diag	Horizontal Size (Width)	Vertical Size (Height)	Horizontal Resolution	Vertical Resolution	Min Legible Font	Base Name
uEZGUI-1788-43WQR	4.3"	5"	2.83"	480	272	11	WQSLID
uEZGUI-4088-43WQN	4.3"	5"	2.83"	480	272	11	WQSLID
uEZGUI-4357-50WVN	5.0"	8.33"	5"	800	480	11	WVSLID
uEZGUI-1788-70WVT	7.0"	8.33"	5"	800	480	11	WVSLID
uEZGUI-1788-70WVM	7.0"	8.33"	5"	800	480	11	WVSLID

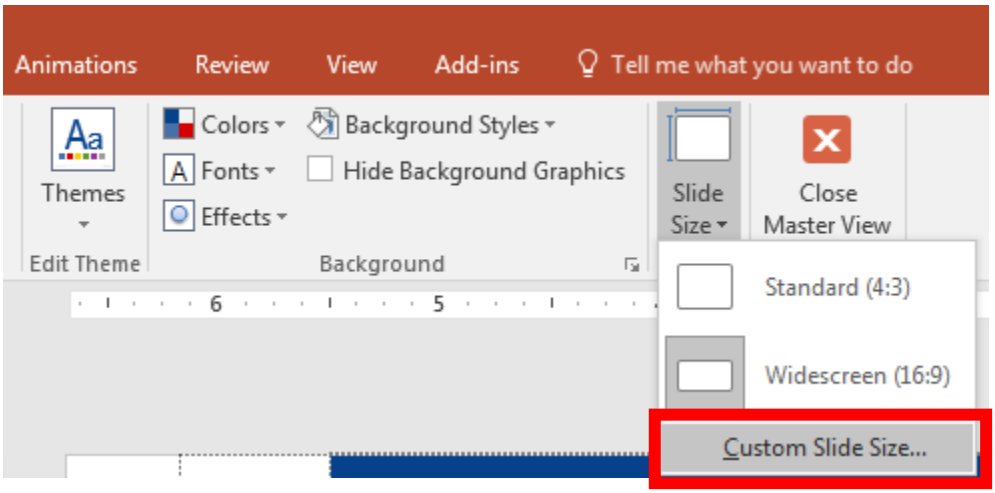
Contents

1. *Converting Slideshows into Bitmap Files*

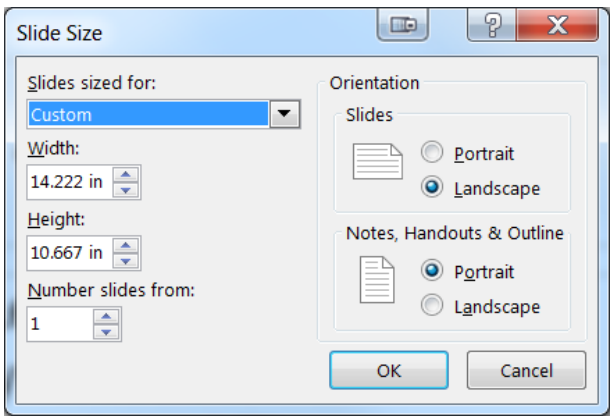
1. Open the desired PowerPoint slideshow.
2. Select **View** from the menu bar.
3. Select **Slide Master**.



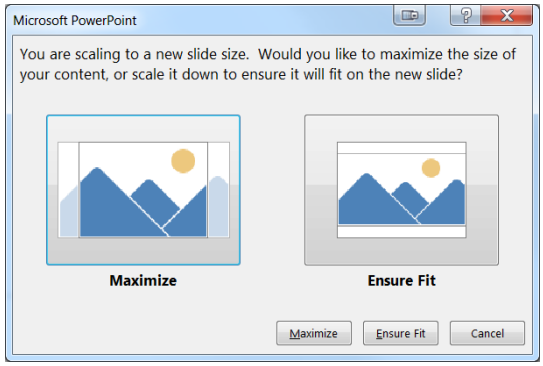
4. Select **Slide Size >> Custom Slide Size**.



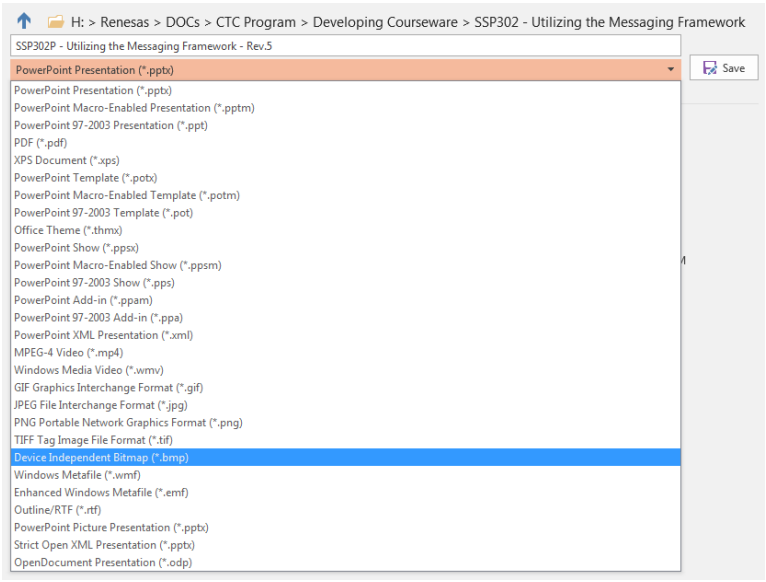
5. In the dialog that opens, enter the **Width** and **Height** information from **Table 1** for the specific µEZ GUI that is being used. No other changes are necessary.



6. Select **OK**.
7. In the dialog that pops up, select **Ensure Fit**.



8. The master slide will be re-sized to the dimensions entered.
9. Select **Close Master View** to return to the original slide show, adjusted to the new dimensions.
10. Review the slides to make sure they all look right.
11. Select **File > Save As…**
12. For the file type, select **Device Independent Bitmap**.



13. Select **Save**.
14. When prompted, select **All Slides** to convert the entire presentation into bitmap files.

2. Preparing the Bitmap files for µEZ GUI

The slideshow application on the µEZ GUI demo looks for the Bitmap files to be named a specific way. Each of the files exported from PowerPoint will be named **Slide#** where the # is replaced by the slide number. The µEZ GUI requires that the image names are either **WQSLID##** or **WVSLID##** depending on the model of µEZ GUI being used. Refer to **Table 1** to determine which naming scheme to use.

Rename the slides before continuing.

3. Converting Bitmap files to Uncompressed Targa files (SWIM Demo Only)

Future Designs, Inc. has included a command line utility along with a script for using it that converts all the *.BMP files within a given folder to *.TGA format.

1. Place the provided files, **convert.bat** and **convert.exe**, into the same folder as the images that need to be converted.
2. Double click **convert.bat** to run the batch script. This converts the images to TGA format.

4. Optimizing Bitmap files for µEZ GUI (Optional)

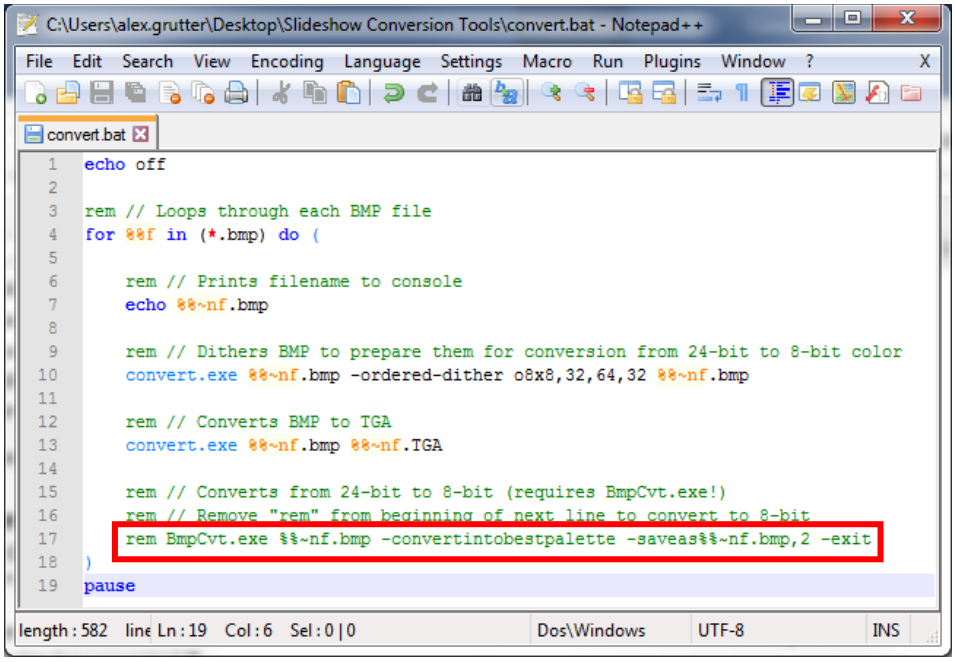
The bitmap files that were created from the PowerPoint are by default 24-bit images. These images can waste space on the SD card or take longer to load when switching slides. Follow the steps below to convert the images from 24-bit to 8-bit.

Table 2 – Size Difference between 24-bit and 8-bit images

Resolution	24-bit Image Size	8-bit Image Size
480 x 272	383 KB	129 KB
800 x 480	1,126 KB	377 KB

1. Download BmpCvt.exe from http://www.nxp.com/pages/emwin-graphics-library:EMWIN-GRAPHICS-LIBRARY?fpsp=1&tab=Design_Tools_Tab. Download the latest **Board Support Package** from that page.
2. Install the package to the default location.
3. Navigate to the directory created for the installer, which should be C:\nxp\emWin\NXP_LPC1788_emWin516_BSP.zip\NXP_emWin516_BSP\Start\Tools.
4. Copy the application **BmpCvt.exe** to the folder containing your image files.
5. Open **convert.bat** for editing.

6. Remove **rem** from the following line and save the file:

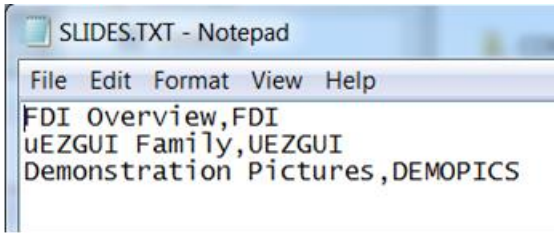


7. Double-click **convert.bat** to run the script. This converts the BMP images from 24-bit to 8-bit color. Notice the dramatic difference in file size.

5. Preparing the µEZ GUI SD Card

The µEZ GUI SD Card has a folder dedicated for slideshows. In the root of the SD Card, locate the **SLIDES** folder.

1. Open the **SLIDES** folder.
2. Create a folder for the new slideshow to be added. The folder name must be all CAPS and 8 characters or fewer.
3. Copy the image files that were created into this new folder.
4. Back in the **SLIDES** folder, add an entry to the **SLIDES.TXT** file to add the new slideshow to the application list.



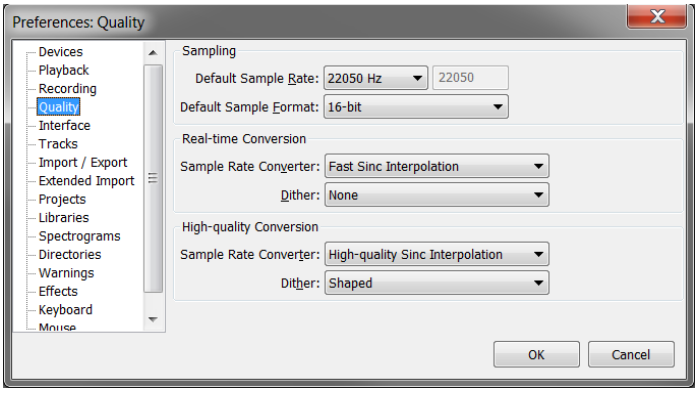
5. Entries are in the format “Description”, then “Directory”. The “Description” will be shown in the list of the slideshow menu, while the “directory” tells the application where your images are. The last entry MUST have a newline character for the slideshow player to read it properly. (leave a blank line at the end of the document).

6. Creating Audio Files

The slideshow demo supports playing audio files or speaker notes, when the appropriate audio files are available on the micro SD card. Follow the steps below to create audio files and add them to the SD card for a given slide show:

1. Download and install the latest version of Audacity.
2. Change the project settings of Audacity to match the format needed by the slideshow demo.
   a. Select **Edit > Preferences…**

b. In the dialog that appears, select **Quality** from the pane on the left.

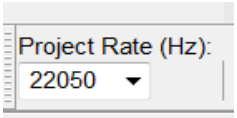


c. Change the **Default Sample Rate:** to **22050 Hz**.

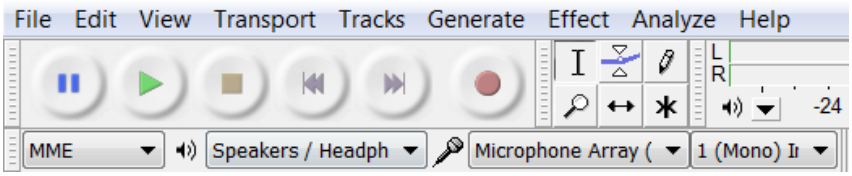
d. Change the **Default Sample Format:** to **16-bit**.

e. Click **OK**.

3. In the bottom left corner of Audacity, change the **Project Rate (Hz)** to **22050**.



4. Change the number of channels to **1 (Mono)**.



5. Record the audio.

6. Once the track is finished, 1 track per slide, export the file as a WAV file.

a. Click **File > Export Audio…**

b. Navigate to the folder where the slide images are stored.

c. Enter the file name following the same naming convention as the slideshow images except for the extension, which in this case is ***.wav**.

d. For **Save as type:**, make sure **WAV (Microsoft) signed 16bit PCM** is selected.

e. Click **Save**.

f. Repeat steps a - e for each slide that needs audio.

7. Website and Support

Documentation:

- µEZ Library Online Documentation https://fdiwebdocs.s3.us-east-2.amazonaws.com/2024/uez/docs/index.html
- emWin Documentation..... https://www.segger.com/emWin.html
- emWin 5.30 user's manual ..... https://ww1.microchip.com/UM03001_emWin5.pdf

Support & Downloads:

- FDI Support Home Page ..... https://www.TeamFDI.com/support
- FDI Forums .....https://www.teamfdi.com/forum
- emWin FAQs ..... https://www.segger.com/emWin-faqs.html
- µEZ Source w/ Project Maker (v2.08 or later)..... http://sourceforge.net/projects/uez/files/