HotBox Custom Image Creation Guide

By Pair. Designs

Introduction:

The HotBox line of voltmeters from Pair. Designs are the first high speed, high accuracy, user customizable voltmeters. HotBox users may use the HotBox Customizer software to connect with their voltmeter and customize features. Some of these features include images that can be uploaded to the voltmeter. Although we have a large database of free images ready for use online we want our users to be able to make their own images as well. This guide will walk you through the process to create your own custom images to be uploaded to your HotBox.

Required Software:

- GIMP (Gnu Image Manipulation Program) is a free, open-source Photoshop alternative that is available for all operating systems. An install guide can be found here: https://www.wikihow.com/Install-GIMP
- HotBox Customizer is free software used to connect to and customize your voltmeter. The download and information can be found here: https://pairdesigns.net/

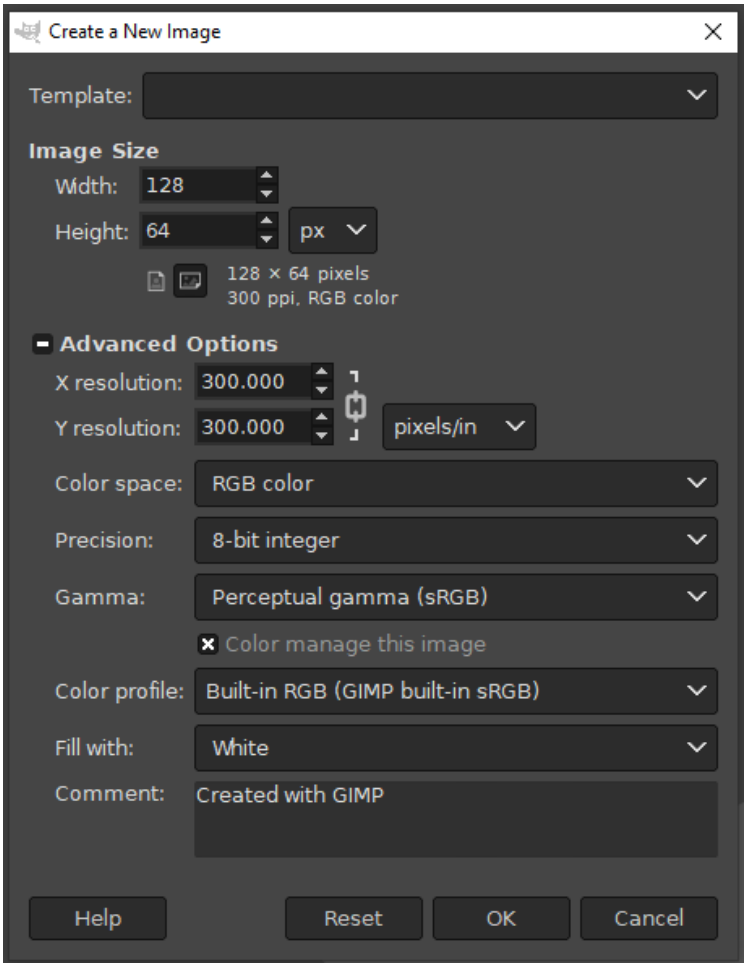
Designing Custom Images:

Once the required software is installed you may start designing your custom image. The specifications for the custom images are as follows:

- Loading Screen (Large image displayed at startup)
  - Size: 128px by 64px
  - Format: BMP 32bit color depth and no compression
  - Colors: Black and white
- Banner (Smaller image displayed above voltage)
  - Size: 128px by 16px
  - Format: BMP 32bit color depth and no compression
  - Colors: Black and white

1.) Now you may start GIMP. You should see a screen similar to below.

2.) Now go to “File -> New”. A window that looks like this will appear.



3.) Here you may fill in the “Width” and “Height” of the image you want to create. For the voltmeter it will be 128 x 64 or it will be 128 x 16. Here you should also expand the “Advanced Options” and set the “Fill With” field to “White” as shown. Press “Ok” once this window is filled out.

4.) You should now see a small white rectangle on your screen. This is your canvas to draw on. We recommend changing the zoom in the bottom left corner of the screen to 800% since it is a very small image on most displays.

5.) From this point you can begin making your image using any tools offered in GIMP. Just remember to keep the image black and white. (On the meter black will be the illuminated pixels). We recommend using the “Pencil” and “Text” tools as they will allow you to create most designs quickly and cleanly on the small image.

Once you have completed the image you may have something that looks like this:

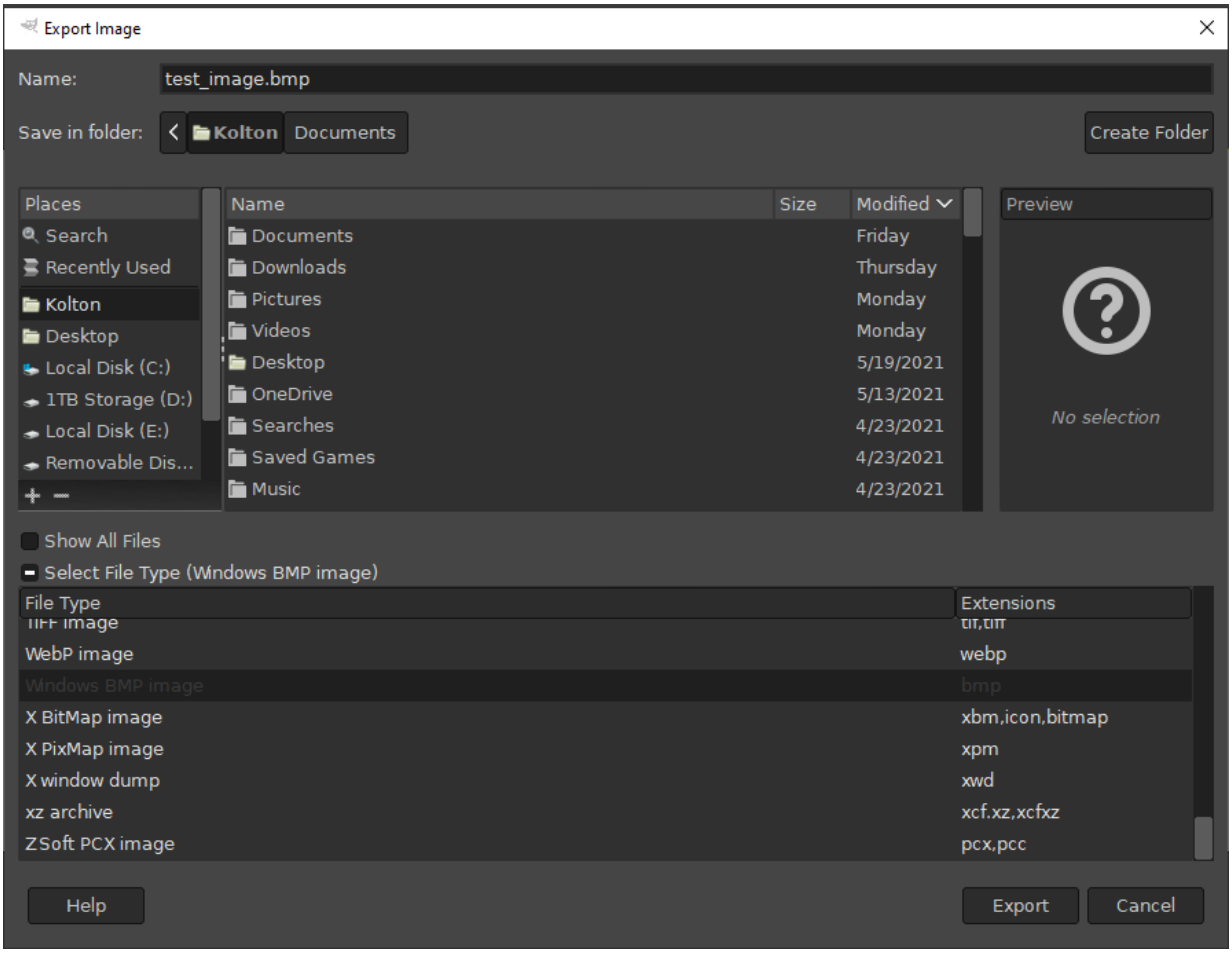
6.) This is a very simple image but highlights some issue we need to address. For one this is not a pure black and white image. It will still work on the voltmeter but it may not create the image you were hoping for. In order to fix this we need to do two things.

1. Merge all of our layers together so we can work on them as a whole.
2. Replace the grey pixels with black and white intyelligently.

7.) To merge the layers together in the top toolbar press “Image -> Merge Visible Layers”. This will condense all of our layers into one. Next we need to go to “Colors -> Brightness-Contrast”. In the “Brightness and Contrast” window lower the brightness a bit before applying max contrast. This convert all of the pixels to either black or white. Varying the brightness setting before applying contrast will yeild different results. In our test case this is what we landed on:

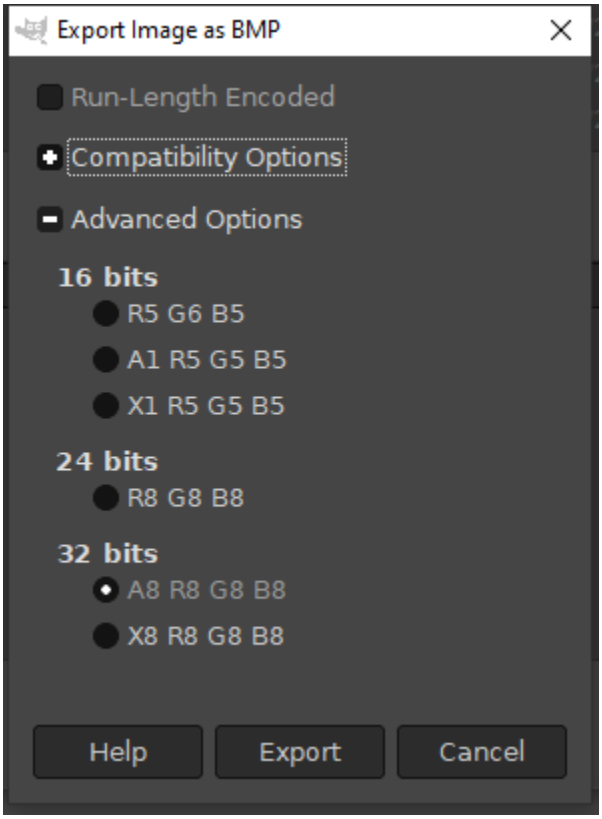
8.) If you are happy with how the adjsutment dealt with your image you are now ready to save it. If you are not happy with how it was converted you may go through and manually tweak the iamge using the “Pencil” tool.

9.) Once you are ready to save go to “File -> Export As”. You should see a window like below:



10.) In this window click on the “Select File Type” field. This will display a list of image file types. Scroll to the bottom and select “Windows BMP image”. This is the only image format that the voltmeters currently support!

11.) Now press “Export” and one more window will pop up that looks like below:



12.) In this window make sure under advanced options the same 32 bit option is selected that is shown. Once you have checked this you may press “Export”. Now the image has been saved as a BMP to the location you selected!

13.) You may now open the Hotbox Customizer software and use it to upload the image to your voltmeter! For detailed instructions on this process check the manual for the Customizer software available for free on: https://pairdesigns.net/