

# Printing Histology and other 4x6 inch Images Using the HP PhotoSmart Printers

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(Edited/updated by Dr. Dave McShaffrey, who introduced all the errors)

The HP PhotoSmart printers use inkjet technology, spraying microscopic droplets of red, blue, yellow and black ink (and in the case of the HP 7350 2 more colors) onto the paper. Compared to the Sony UP-D2500 printer, the HP Photosmart printers produce a larger, but less sharp image. These instructions apply to both the HP 1115 and HP7350 printers located in the Research Lab.



The big difference between the two printers is that the HP7350 has two color ink cartridges for a total of 6 colors. This slightly improves the tonality of pictures, but the 1115 also makes a great print. There are also differences in paper handling. You should only use standard copy paper or HP photo paper in these printers.

Both printers allow you to insert memory cards (including the compact flash cards used in both the Canon D60 and Nikon Coolpix 4500 digital cameras) directly into the printer. From there, the images can be printed directly, or they can be downloaded onto the computer. The slots for this are on the right front of the 7350 and on the right side of the 1115. It is recommended that the photos always be loaded onto a computer and viewed in Photoshop or another program before printing. This helps to avoid wasting paper on poor quality images.

## Preparing to print

### 1) Sizing the image

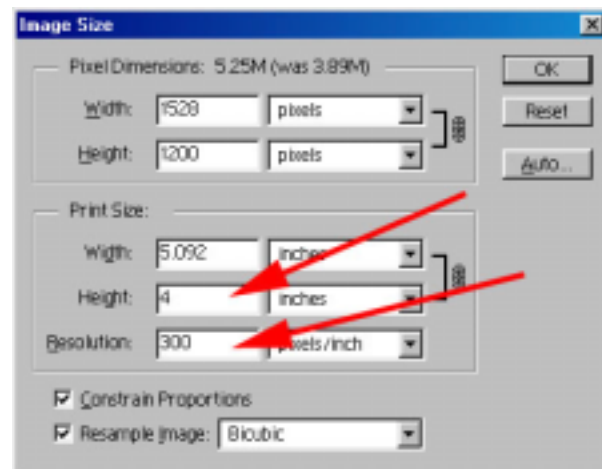
In PhotoShop, under the Image menu, select the 'image size' option.

There are two ways to resize the image. The first is simple and straightforward, and usually gives good results:



Simple Image Size Adjustment:

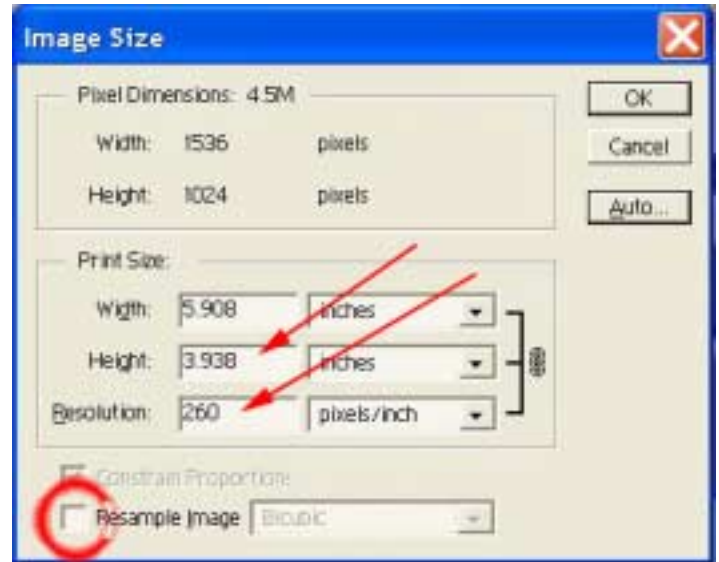
- A. Make sure the two boxes – Constrain Proportions and Resample Image – at the bottom of the page are checked.
- B. Set the image height to 4 inches wide.
- C. Set the resolution at 300 dpi.
- D. The height will default to about 5 inches.



### Advanced Image Size Adjustment:

Sometimes, the simple image size adjustment shown above will produce a poor image. This depends on the nature of the image itself. If your image, after printing, is not very good, try this:

- A. Uncheck the Resample Image box (circle in figure to right).
- B. Set the height to 4 inches. The width should be near to 6 inches unless you have changed the aspect of the image when you cropped it (i.e. turned a rectangle into a square).
- C. If the resolution is between 200 and 400 pixels/inch, proceed.
- D. If the resolution is less than 200 or more than 400 pixels/inch, set the resolution somewhere in that range. When you change the resolution, you change the image size; be sure it stays within the size of the paper. By unchecking the Resample Image box, you have limited the computer's ability to rescale the image to fit the paper, but sometimes it is this resampling that degrades image quality. If you cannot find a reasonable compromise between resolution and image size, recheck the Resample Image box and select another sampling method.



## Setting up the printer

Under the File menu select 'print'  
(error message about image size  
may appear -- ignore it)

**Do not change any settings other than those  
you are directed to in these directions!**



### Printer Options Window

The Print Options window should  
appear as shown here.

Click on 'Setup'



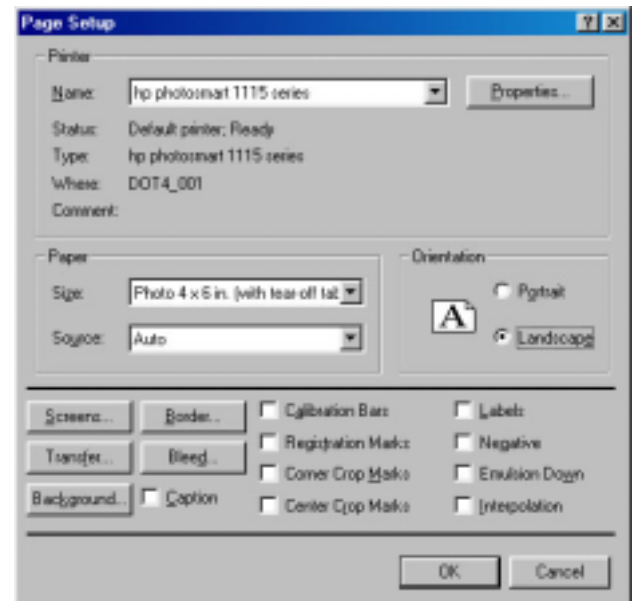
### Printer Setup Window

The printer setup window should appear as shown  
here.

Be sure the correct printer is chosen in the Name  
field. If not, select the correct printer.

Paper size should be 'Photo 4 x 6 in'; the Orientation  
should be "Landscape"

Click on the 'Properties' button.



Click on the 'Setup' tab

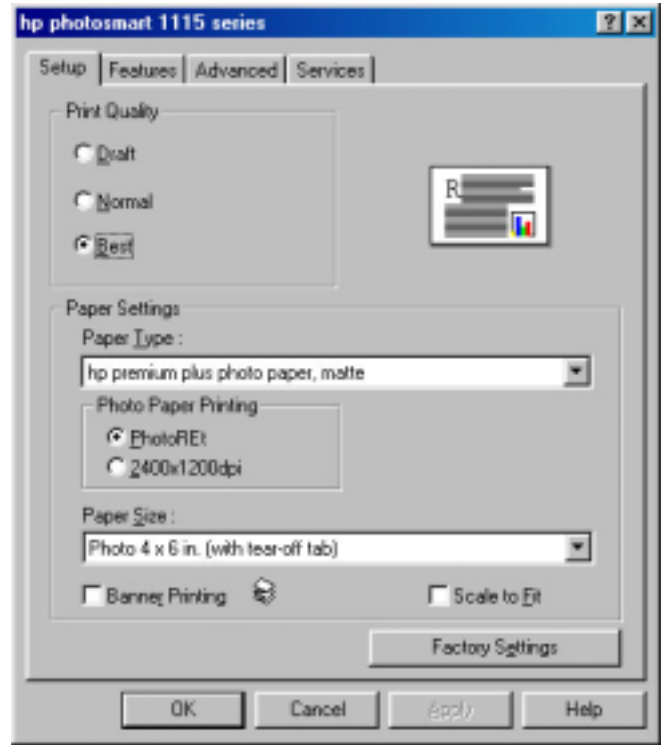
### Printer Properties Setup Window

The printer setup window should appear as shown here.

Print quality should be 'Best'

The paper type should be a premium photo paper. Selecting glossy or matte doesn't seem to make much difference on the 1115, but be sure to select the correct surface when using the 7350.

Click on the 'Advanced' tab

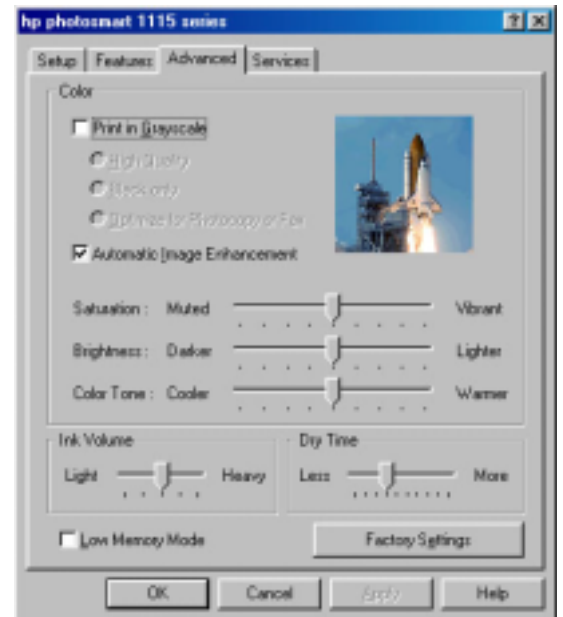


### Printer Properties Advanced Window

Click on the 'Factory Settings' button to restore factory settings in case they have been altered.

## Printing

Click on 'OK' in this window and then 'OK' in the other windows shown above and printing should begin.



### **What to do if the printed image appears too light or dark**

If, after printing an image, the image appears much lighter or darker than what you see in the Photoshop window, this can be adjusted for using the 'Brightness' slider control in the Printer Properties Advanced Window shown above.

Try adjusting the dark slider control half way in the desired direction. Obviously, the best value depends upon the image itself, but the overall change is not too dramatic.

### **Do not change any of the other adjustments in this window.**

Changing these settings will affect all images subsequently printed, so be sure to restore the factory settings before printing another image.

### **Printing other size images:**

Get permission before printing larger than 4x6 images as these can be expensive. You will have to alter the image size in Photoshop and select the correct paper size in the Printer Setup windows.