

Photoshop

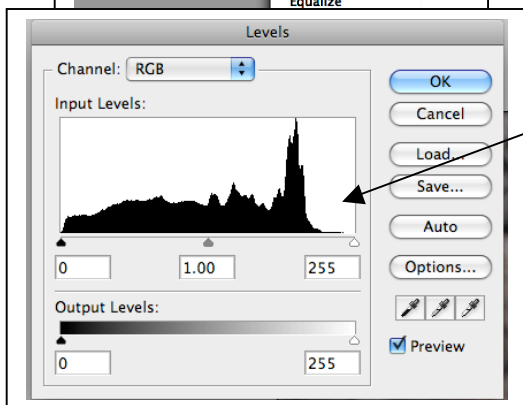
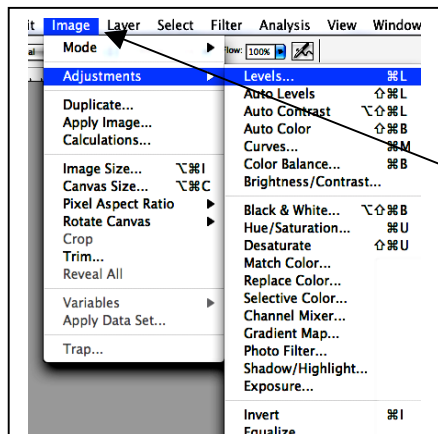
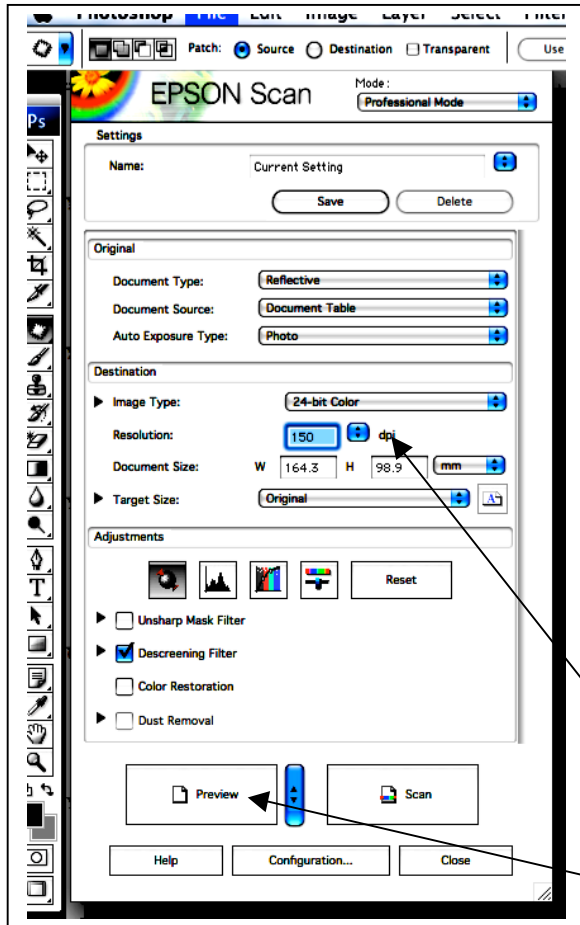
TUTORIAL GUIDE

1. THE BETTER SCAN

When you scan an image, you need to get a scan that has the full range of values present in the original. The key to these techniques is to get the best possible scan out of your scanner and then to adjust it slightly in Photoshop.

PLAN BEFORE YOU START!

1. Decide which printer you are going to print on or whether your image is just going to be seen on screen, (i.e. Powerpoint presentations, web pages)
2. What is the final size of your image in relation to its original?
3. Decide on the image resolution you will need and check whether all the settings are right.
4. Click 'Preview' and select the part you want to scan in the Preview window.
5. Scan your image.



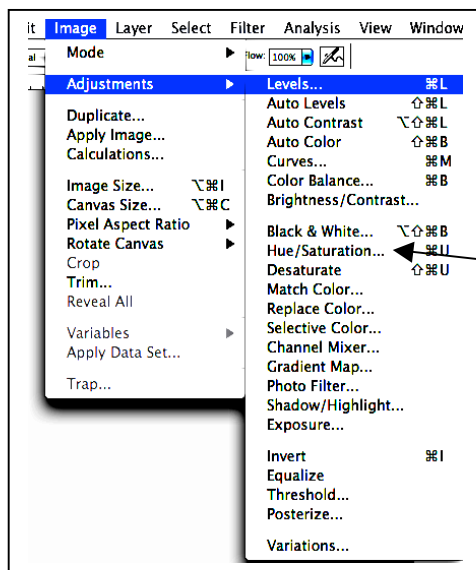
2. Next, you need to evaluate your scan. Crop any extra information from around the edges with the **crop tool**. Then, using **Levels (Image: Adjustments: Levels)** in Photoshop, look at the image. You want to crop any black or white borders before you look at the histogram because they distort the accuracy of the histogram.

Adjust the level sliders to give you more contrast or adjust the midtones of your image. Move the white slider (the highlights), the black slider (your shadow areas) and the mid-tone slider to give you the most definition.

If your scan is crap (for instance if your histogram shows a lot of gaps), experiment with the settings and rescan.

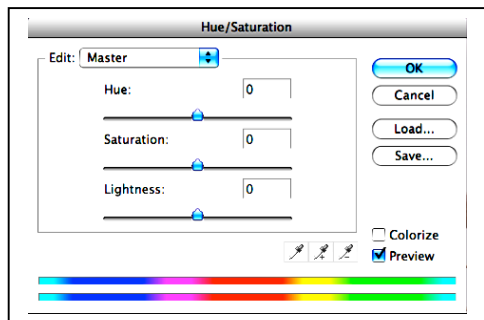
Note

Even very small adjustments to the Brightness, Contrast settings in the scanner software can really throw your values. It is often better to do all your adjustments in Photoshop with the more sophisticated tools.



3. Adjust the colours in your image with any Photoshop's sophisticated colour adjustment tools. Sometimes, however it is enough to just raise the Saturation slightly.

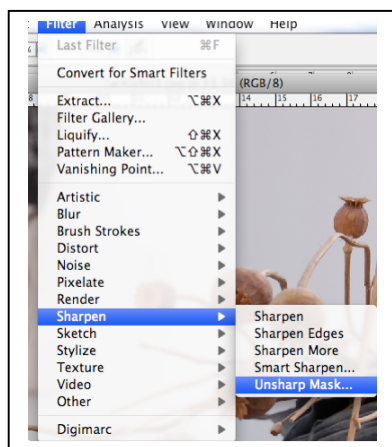
Image: Adjustments: Hue/Saturation



4. Finally, sharpen your image.

Filter: Sharpen: Unsharp Mask

(see attached sheet)



Unsharp Mask Filter

To enter the Unsharp Mask filter:

Filter menu: Sharpen: Unsharp Mask

The method for sharpening scanned photographs is called **Unsharp Masking**.

Unsharp Masking works by combining a slightly blurry (unsharp) version of an image with the original. This combination results in sharp details in high contrast areas (the edges, where adjacent light and dark samples are markedly different) without accenting tonal shifts in low contrast areas (areas of smooth gradation, where rapid tonal shifts would destroy the subtle transition).

Always enlarge your image to 100% to be able to see sufficient detail and to avoid over-sharpening.

How to determine the settings:

Radius

The first step in properly using unsharp masking is figuring out the Radius value.

Follow this simple rule: Resolution divided by 200. So, in our case you would probably never use more than a

Radius of 1.

Amount

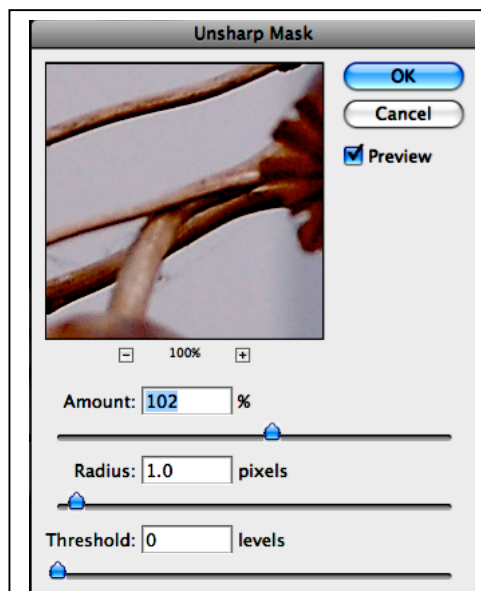
The amount setting is the volume or amplitude control.

If you use the settings described above for Radius, start with an amount setting of 100% to 200%, at least as a starting point. If the amount value is set too high, you can get strange artificial looks and 'halos'.

Threshold

The threshold value specifies how far apart adjacent tonal values have to be before the filter does anything to them. The threshold setting is the key to avoiding mottling, speckling and artifact related problems that sharpening can cause. It causes the filter to ignore those slightly out of place pixels, rather than accentuating them.

Low threshold values result in an overall sharper looking image (because fewer areas are excluded). High values result in less sharpening. I would recommend a setting of three or four for most images. Settings of 10 or above are not advisable, because they exclude so many areas as to reduce sharpening to near invisibility.



Resizing and Resolution Summary

Types of Resolution

Monitor resolution:	72dpi	
Printer resolution:	Epson printers:	360, 721 dpi
	B&w laser printer:	600 dpi
	Image setters:	2400 dpi (typically)
	Digital Textile printer:	720 dpi

Printer resolution is fixed and refers to the amount of 'dots' your printer places on the paper or fabric to create your image. It has an influence on the quality of your printed image, but thankfully you do not have to use these resolutions as your image resolution.

Image resolution

This is the resolution you set yourself and is determined by your output device (printer), the size of your original and the final image size.

As a guideline, the final resolution to aim for in relation to your output device:

Epson printers	between 240 dpi (photographic images) to 360 (very textured images) Personally, I find 300 dpi a perfect resolution for Epson printers.
600 dpi Laser printer (b&w)	150 dpi
Laser printer Colour	150 dpi
Digital Textiles printer	150 dpi We have not detected a huge difference, if any, between 150 dpi and 300 dpi images.
Service Bureau and professional Printing business	300dpi - 440 dpi Always check with your Service Bureau what resolution they want.
Images for the Web	72 dpi

Plan before you start: what printer are you aiming for?
what is the final size of your image in relation to its original?

Before you scan: Reset the scanner to '**Default**'.

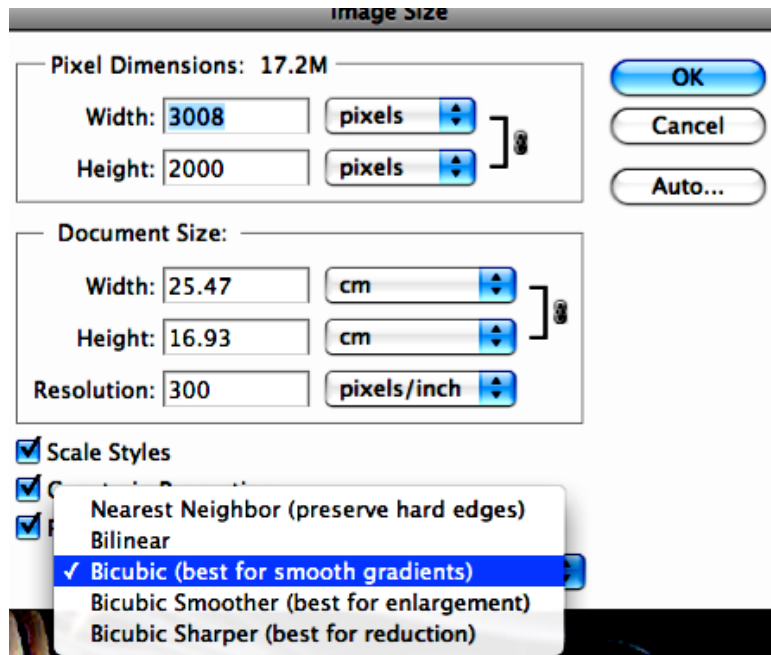
Set the resolution.

If your original image is smaller than your intended final image, either enlarge the original at the scanning stage by increasing the target size in the scanner software or by entering a higher resolution. You can then enlarge your image in Photoshop.

Interpolation

Photoshop uses a method called interpolation when making images bigger or smaller. This process is called resampling because you are taking the current image pixels and either adding more pixels or taking some away.

Go to **Image Menu: Image size**



You can change the width, height and resolution in this dialog box. However, you are also likely to deteriorate the quality of your image if you are adding pixels. Experiment with the Bicubic, Bicubic Smoother etc. settings. If you really need to, try running an Unsharp Mask filter after resampling to regain some of the sharpness.

You can also use this dialog box for resizing using the resolution by unchecking the '**Resample Image**' tick box.

Using the Crop Tool

The Crop tool is a versatile tool, not only for cropping, moving and rotating, but also for resizing in terms of size and resolution.

Crop or remove part of an image | CS6

1. From the toolbar, select the Crop Tool . Crop borders display on the edges of the image.
2. Draw a new cropping area or drag the corner and edge handles to specify the crop boundaries in your image.
3. (Optional) Specify the Crop options using the Control bar.



A. Active tool B. Size and proportions C. Rotate crop box D. Straighten image E. View F. Crop options G. Delete Cropped Pixels

Size and proportions

Choose a ratio or size for the crop box. You can also choose a preset, enter your own, or even define your own preset values for later use.

View

Choose a view to display overlay guides while cropping. Guides such as Rule of Thirds, Grid, and Golden Ratio are available. To cycle through all the options, press O.

Crop Options

Click the Settings menu to specify additional crop options.

Show Cropped Area

Enable this option to display the area that is cropped. If this option is disabled, only the final area is previewed.

Delete cropped pixels

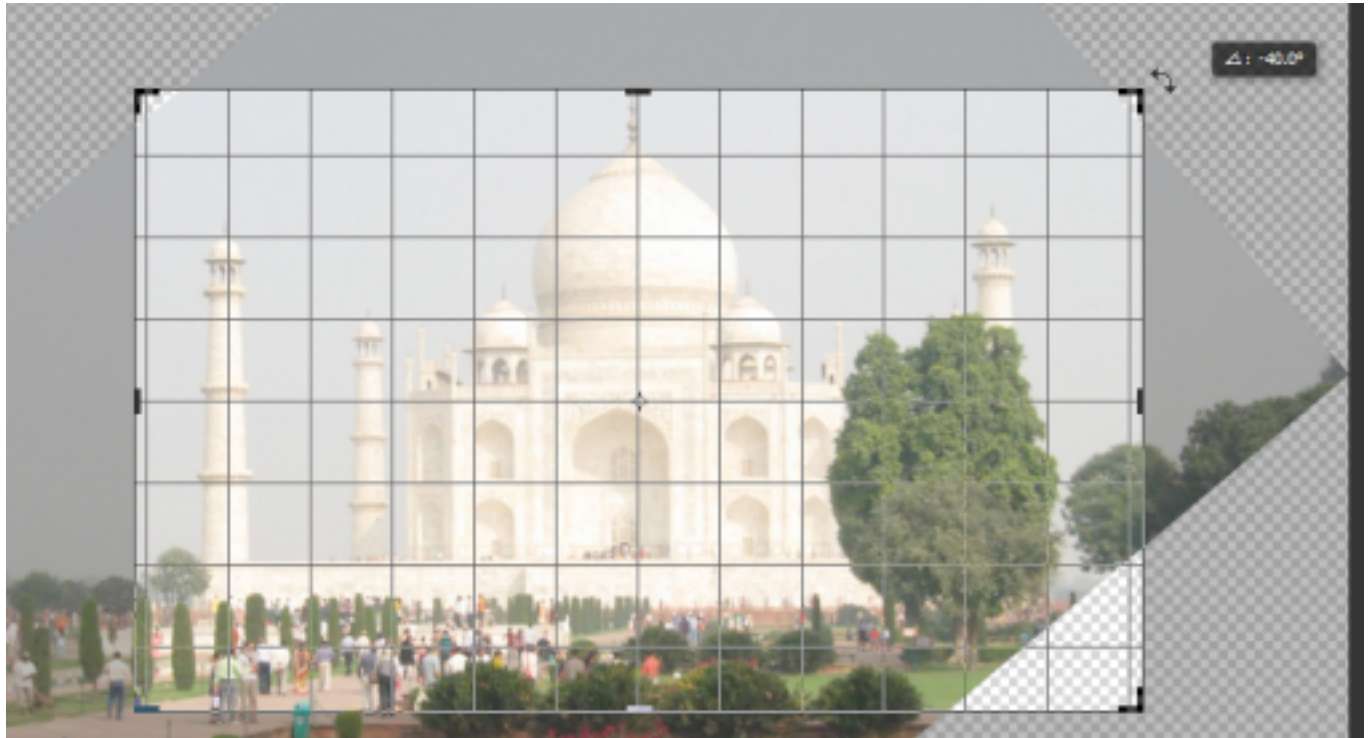
Disable this option to apply a non-destructive crop and retain pixels outside the crop boundaries. Non-destructive cropping does not remove any pixels. You can later click the image to see areas outside current crop borders.

Enable this option to delete any pixels that are outside the crop area. These pixels are lost and are not available for future adjustments.

4. **Press Return to crop the photo.**

Straighten an image | CS6

You can straighten an image while cropping. The image is rotated and aligned to straighten it. The image canvas is automatically resized to accommodate the rotated pixels.



Rotate the image using the crop tool to straighten it

- To straighten an image do one of the following:
 - Place the pointer a little outside the corner handles and drag to rotate the image. A grid displays inside the crop box and the image rotates behind it.
 - Click Straighten in the control bar and then using the Straighten tool, draw a reference line to straighten the photo. For example, draw a line along the horizon or an edge to straighten the image along it.

Transform perspective while cropping | CS6

The Perspective Crop tool lets you transform the perspective in an image while cropping. Use the Perspective Crop tool when working with images that contain *keystone distortion*. Keystone distortion occurs when an object is photographed from an angle rather than from a straight-on view. For example, if you take a picture of a tall building from ground level, the edges of the building appear closer to each other at the top than they do at the bottom.



Steps to transform perspective

A. Original image B. Adjust cropping marquee to match the object's edges C. Final image

1. To correct image perspective, hold down the **Crop** tool and select the **Perspective Crop** tool .
2. Draw a marquee around the distorted object. Match the edges of the marquee to the rectangular edges of the object.
3. Press Return to complete the perspective crop.

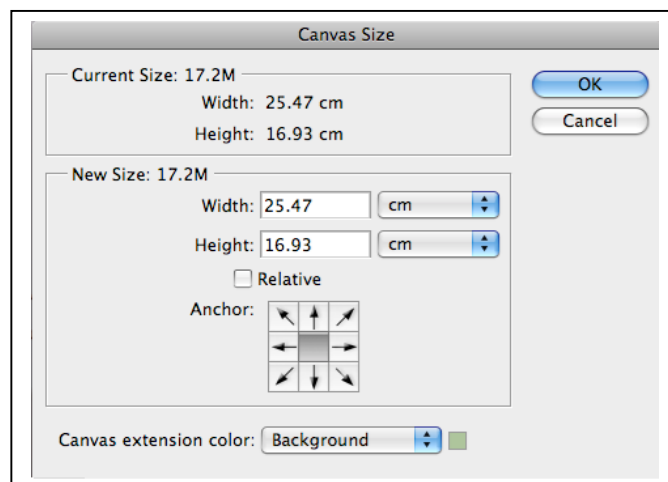
Resize the canvas using the Crop tool | CS6

You can use the Crop tool to resize the image canvas.

1. From the toolbar, select the Crop Tool . Crop borders display on the edges of the image.
2. Drag the crop handles outwards to enlarge the canvas. Use the Alt/Option modifier key to enlarge from all sides.
3. Press Return to confirm the action.

Or use

Image Menu: Canvas Size



You can also very quickly increase the canvas size by for example moving a layer and then choosing **Image menu: Reveal All**. Photoshop expands the canvas to accommodate all pixels in layers.

Overview of File Formats in Photoshop

Photoshop File Format

When you work on the same file in Photoshop between shutdowns of your computer, you should usually work on that file in Photoshop format. (It has the suffix .psd) It's the only format, which supports all of Photoshop's features, such as History, Layers, Adjustment Layers, guides, grids, Layer Masks etc.

TIFF

The most common file format that popular imaging applications support is TIFF and it is one of the most versatile formats.

Save your work in TIFF format if you want to place your files into QuarkXpress or want to use an outside bureau.

TIFF files are larger than Photoshop files, as Photoshop does use some compression in its own file format. The TIFF dialog box lets you choose LZW compression, which is a standard TIFF form of compression that typically takes longer to open and close than JPEG or Photoshop compression. It can save you about 1/3 of your file size. However, sometimes there are problems with this compression. If this does occur, resave your file without LZW compression.

Encapsulated Postscript (EPS)

The EPS format, now called Photoshop EPS is especially useful for communicating back and forth between Photoshop, Illustrator and QuarkXpress. It can save vector paths.

You can save a clipping path from Photoshop EPS format. You create a path within Photoshop and then select the path you want to use as a clipping path from the Paths palette pop-up menu when you save your file.

GIF and GIF89

The GIF format is used most often for images intended for use on the World Wide Web.

The GIF format is a lossless compression format for images of up to 8-bit colour. Photoshop can create GIF files from the Save dialog boxes if the file is in bitmap (black and white), grayscale or index colour (256 colours) format. You can select transparent areas.

PDF

You can use PDF format to send small versions of your files across networks or the internet. These files can be RGB, CMYK, index colour, Lab colour, grayscale or bitmap.

You are given the opportunity to compress your PDF files using either JPEG or ZIP compression.

However, the real value of PDF may be the capability to open and print PDF files from other sources, if you don't have a copy of Acrobat Reader.

JPEG Compression

JPEG is a great compression file format. You can make incredible savings in file size, but you will also eventually lose quality. It's best to use it when your images only need to be seen on screen.

RIFF

Painter saves in RIFF format