Scanning & Resolution

Always scan to produce the resolution you wish to output. The goal is for **input = output** since you cannot add pixels (quality) to a picture. If the required information is not there in the scan,the only option is to rescan. Doing a little homework before you scan will save you time and help you to produce professional results.

Example 1: You are scanning a slide that is 1 inch by 1 inch and you will want to use the scan in a printed page where the image is 8 by 8 inches. The page is going to be reproduced at the Bay Guardian on newsprint. They require 200 dpi for a good printout. Using our rule of input = output, you can figure out what resolution you need to scan at to get the required quality for decent output:

> **1 x 1** inch image scanned @ **?** ppi   =   **8 x 8** inch scan @ **200** dpi print

Since the output size is larger than input by a factor of 8, then the scan will have to be of a resolution 8 times higher than the output to yield the required number of pixels for decent output. In this case you would want to scan at 1600 dpi. That means you need a slide scanner since most flatbeds scan at a maximum **optical** resolution of 600 dpi. Slide scanners on the other hand can scan at resolutions of up to 2400 dpi.

Example 2: You want to print a 4 x 5 inch image in a glossy magazine like Artforum which requires 300 dpi for a good image. Your original image is 8 x 10. At what resolution should you scan the image?

> **8 x 10** inch image scanned @ **?** ppi   =   **4 x 5** inch scan @ **300** dpi print

Since the input size is larger than input by a factor of 2 (it is twice the size of the print to be output), then the resolution of the scan only needs to be one half of the output resolution. In this case the scan should be at a resolution of one half of 300 dpi, so a 150 dpi scan would yield the required number of pixels.

Scanning in Photoshop:
1. To import a scan directly into Photoshop, choose File Import > from the menu bar and then choose the appropriate scanner software from the sub menu. For Agfa scanners choose FotoLook, Umax: VistaScan, HP: Deskscan, Canon: CanoScan.

2. Scan in RGB mode even for Black + White images unless you are running out of room on your Zip. Then scan in greyscale. The images will be approximately 1/3 the size of RGB since they require only one channel (black) instead of RGBs three (red, green and blue) to record the pixel data.

3. Choose a resolution of approximately 72 - 300 dpi. (sufficient for most output).

4. Choose Reflective, Transparency or Negative based on your input image.

5. Descreen for magazines & newsprint to avoid unwanted moire patterns caused when the printed dots on the page are converted to pixels.

Generally, that is all you have to do. Although some scanners offer excellent control, any sharpening or color adjustments can be done in Photoshop. The only time you might want to tweak the settings is in an open lab environment where another user has customized the settings for their scans.