Resolution Terminology

DPI (Dots per Inch)

Dots per inch is a term of measurement that refers to the number of dots that can be imaged in a single row on output devices such as printers and film recorders. It is the reproduction capability of an output device. Even though manufacturers advertise scanners or digital cameras by referring to their DPI, this is actually a misuse of the term.

LPI (Lines per inch)

Lines per inch is a traditional printing term that refers to rows of dots in half tones or the frequency of the screen. Most newspapers print halftones at 85 lpi while a magazine or yearbook might use 130 lpi or higher. A 300 dpi laser printer is actually using a screen of 53 lpi. A 600 dpi laser printer has a halftone screen of 85 lpi.

PPI (Pixels per Inch)

Pixels per inch is a term that describes resolution for display purposes. Most Macintosh monitors are 72 ppi while the PC monitor standard is 96 ppi.

You need to know how your image will be used before you can determine how to get it into the computer and what resolution it needs to be. If you are going to only display it on monitors (for example, web page images) then 72 pixels per inch is the standard resolution. For an output device such as a laser printer or an imagesetter, the rule of thumb is one-and-a-half to two times the screen frequency, i.e. for a 300 dpi laserprinter, scan at 80-106 pixels per inch and for a 600 dpi laserprinter, scan the image at 130-150 pixels per inch.

Resolution Reference

These resolutions apply when using a flatbed scanner.

Use	*Resolution*	*Comments*
Web pages	72 dpi	Most images will be saved as JPG files with medium quality to keep the file size small (and speed up the download time.)
Newspaper	125-170 dpi	For graphics or images that will be reproduced on newsprint, your resolution should be $1^1/_2$ to 2 times the halftone line screen (lpi) of the final piece. Newspapers are generally printed at 85 lpi, but you should talk to your printer.
Yearbook/ Magazine	200-399 dpi	Magazines and yearbooks are usually printed at 133 or 150 lpi.
High-Quality Book	165-375 dpi	Coffee table photo books are a good example of the type of book printed at 175 to 200 lpi.
Laser printers	80-150 dpi	Apply the same guidelines as newspaper scans. Most 300 dpi laser printers use a screen frequency of 60 lpi while 600 dpi laser printers generally use a screen frequency of 80 lpi (which is the best screen frequency for "xeroxing" your print out.)