



## TOPIC: DPI, LPI, PPI...WTF?

### SO WHAT IS THE DIFFERENCE?

**DPI (DOTS PER INCH)**- A term used to describe the resolution, or density of dots, of printed material or bit-mapped (raster) image files. In a one-inch measure, it is the number of dots that fit horizontally and vertically. The higher the original DPI, generally the crisper the image will appear.

**LPI (LINE PER INCH)** - The number of lines (rows) of dots per inch that create a halftone image. The greater the LPI, the more detail there will be in the printed image.

**PPI (PIXELS PER INCH)** - The unit of measurement for determining the resolution of a computer or television display, printer, scanner or electronic bit-mapped (raster) file. PPI is determined by the number of pixels contained in a one square inch.

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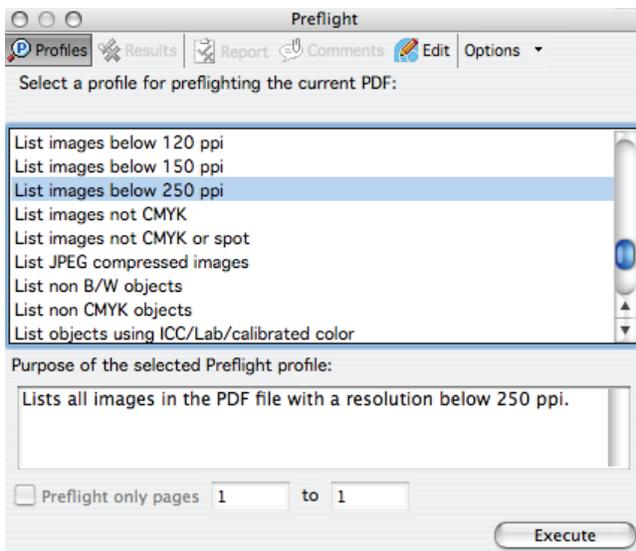
The following chart came from Adobe's documentation for Acrobat Distiller.

As seen an image that is set to 300 dpi will be interpreted as 120 ppi.

This is an important note in that Acrobat's Preflight measures in ppi not dpi.

The following table shows common types of printers and their resolution measured in dpi, their default screen ruling measured in lines per inch (lpi), and a resampling resolution for images measured in pixels per inch (ppi). For example, if you were printing to a 600-dpi laser printer, you would enter 170 for the resolution at which to resample images.

Printer resolution	Default line screen	Image resolution
300 dpi (laser printer)	60 lpi	120 ppi
600 dpi (laser printer)	85 lpi	170 ppi
1200 dpi (imagesetter)	120 lpi	240 ppi
2400 dpi (imagesetter)	150 lpi	300 ppi



### PREFLIGHT PRECAUTIONS

When using Preflight in Adobe Acrobat we can see that it lists it's profile checks in checking the PDF for images with a dpi less than 250.

The end result would be that Preflight flags all images with a dpi of 1200 or less a setting far above hi-res and created for imagesetter and platemaking software for offset presses.



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### THE MEANS TO A END

A commonly used Adobe Acrobat Distiller setting for the output of ads are the settings for the Washington Post Magazine. We can see here that the setting calls for a PDF created with it to have a resolution of 2400 dpi.

Also downsampling is used in order to create low resolution and emailable PDF (those being of a size of 5mbs or less in order to assure their ability to be sent by most email programs and not so large that they weight them down.)

The settings samples here downsample all color and greyscale images of greater than 338 pixels per inch to 300 pixels per inch. (a setting according to our previous chart that equates to 2400 dots per inch).

The compression is set to a High Resolution JPEG because JPEGs can be compressed further than TIFFs making the resulting PDF a size easier to send to the magazine.

