

# FILE SIZE AND RESOLUTION

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## File size

The *Filesize* is the working file size of the image, *not* the stored size

(Stored files can be compressed or have added information)

Each primary colour (RGB) is described by a number from 0 to 255 (256 levels)

The 256 levels represent 8 bits of binary information (1 byte)

An RGB file has 3 colour channels each with 256 levels, so there are 24 bits per pixel (3 bytes)

A CMYK file has 4 channels, and 32 bits per pixel (4 bytes)

## Resolution

Resolution is the number of pixels (or dots /lines /spots / samples) per inch

Printed output resolution is quoted in lpi (Lines per inch)

\* The exact requirement for commercial printing is 1.41 x printing resolution. ( x 2 is the standard rule of thumb allowing plenty of tolerance)

## Image Size

The Image Size is the viewing size - on screen or as printed output

You can change the *Image Size* while keeping the filesize the same

The number of pixels doesn't change - they just get larger or smaller

This changes the *Resolution* of the digital file

## Changing Filesize

You can *decrease the Filesize* by throwing away pixels. This is irreversible.

To increase Filesize re-scan or use interpolation (with care!)

## Defining Filesize

To define *Filesize* you need both Image Size and Resolution

## RULES OF THUMB - Useful approximations

### FILESIZE AND PIXELS

Filesize in Bytes = No. pixels x No. colour channels

Filesize in Megabytes = Filesize in bytes/ 1000,000

Digital Camera filesize (in MB) = No. Megapixels x 3  
(assuming 8 bit RGB)

### RESOLUTION FOR COMMERCIAL PRINTING

Supply a digital file which is 2 x the printer resolution  
(at the size required.)

Supply 300dpi for magazines printing at 150 lpi

### FILE SIZE RULE OF THUMB

For magazines printing at 150lpi

	<i>colour</i>	<i>BW</i>
Full page A4	24MB	8 MB
1/2 page	12 MB	4 MB
1/4 page	6 MB	2 MB

etc.....