



rip this page out

FILE DIMENSIONS	100PPI	150PPI	200PPI	230PPI	269PPI	320PPI	400PPI	650PPI	RES 30	RES 40	RES 50	RES 80
35mm	40k	89k	157k	208k	284k	402k	628k	1.815	2.49	4.433	6.923	17.7
6cm x 4.5cm	123k	276k	490k	648k	870k	1.23	1.92	5.063	6.953	12.375	19.35	49.425
6cm x 6cm (2.25" sq.)	164k	368k	653k	847.5k	1.163	1.635	2.558	6.743	9.3	16.5	25.725	65.925
6cm x 7cm	191k	429k	762k	982.5k	1.358	1.905	2.978	7.875	10.8	19.2	30.075	76.875
6cm x 9cm	245k	551k	960k	1.268	1.748	2.453	3.833	10.125	13.875	24.75	38.625	98.85
4" x 5"	586k	1.29	2.288	3.03	4.17	5.858	9.15	24.15	33.225	59.1	92.325	236.25
5" x 7"	1.005	2.25	4.005	5.295	7.298	10.275	16.05	42.3	58.125	103.35	161.55	413.475
8" x 10"	2.288	5.153	9.15	12.075	16.725	23.475	36.6	96.675	132.9	236.25	369.15	945.075
8.5" x 11"	2.678	6.023	10.725	14.175	19.5	27.375	42.825	113.025	155.325	276.15	431.475	1104.525
11" x 14"	4.41	9.9	17.625	23.325	32.1	45.15	70.5	186.15	255.825	454.8	710.625	NA
11" x 17"	5.348	12.075	21.375	28.275	39	54.825	85.575	226.05	310.65	552.3	862.95	NA
14" x 18"	7.208	16.2	28.875	38.175	52.575	73.8	115.35	304.65	418.65	744.225	1162.875	NA
16" x 20"	9.15	20.625	36.6	48.45	66.75	93.75	146.475	386.85	531.6	945.075	1476.675	NA
20" x 24"	13.725	30.9	54.9	72.675	100.125	140.625	219.75	580.2	797.4	1417.575	NA	NA
24" x 30"	20.625	46.35	82.425	108.975	150.15	210.975	329.625	870.3	1196.1	NA	NA	NA
30" x 40"	34.35	77.25	137.325	181.65	250.275	351.6	549.3	1450.575	NA	NA	NA	NA
36" x 48"	49.425	111.225	197.775	261.525	360.375	506.25	NA	NA	NA	NA	NA	NA
40" x 60"	68.7	154.5	274.65	363.225	500.55	703.125	NA	NA	NA	NA	NA	NA
48" x 96"	131.85	296.625	527.325	697.425	961.125	NA	NA	NA	NA	NA	NA	NA

An Overview of the Resolution Chart

By Andrew Darlow

This chart was created to help my students better understand resolution and file size requirements. Along the Y-axis (the left side of the chart) are common film and image sizes (file dimensions). Along the X-axis (across the top) are various PPI (pixels per inch) numbers, as well as some RES numbers. RES30, RES40 stands for Pixels Per Millimeter (ppm). Multiply the ppm (or RES number) times 25.4 to get the equivalent PPI.

To determine file size for a specific dimension and resolution (PPI), just choose a dimension, such as 11x14 inches, and follow the line across from 100–2032PPI to see how the file size changes. The yellow section, for example, shows that an 11 x 14-file at 200PPI will be approximately 17.625MB in size. It is important to note that this chart represents file sizes in 8-bit RGB color in TIFF format with no compression or extra layers. 16-bit files and/or layered files will be larger in file size. A grayscale file would be one-third the size shown in the chart since it has one instead of three channels. A CMYK file would be four times the grayscale file's size because it has four channels.

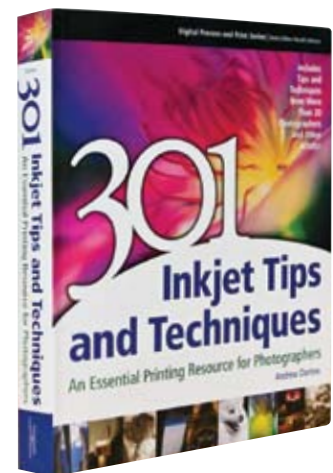
This chart can also be used to determine

at which PPI to scan an original. If you want to make an 11 x 14-print and need a 30MB file, you can then find that 30MB figure for a specific film size, such as 6x7cm. Using the chart, the scan would need to be at least 1270PPI if scanned at 100% to reach the 30MB file size.

What Resolution Should You Use?

The question of what PPI at what size is always a question that comes up. I always say, "Test, test, and then test again!" to see what works for your images. I print most of my work around 200–300PPI at final size to inkjet printers and continuous tone photo machines (like those found at pro labs). However, 150–200PPI or even lower has also worked well for me in many cases, especially when making larger prints. Your file's image quality, plus the paper, printer and final output size will all contribute to the final quality of your prints.

You can check just about any file size quickly in a variety of imaging programs. For example, you can choose File > New in Adobe Photoshop. Then enter the dimensions, PPI and Color Mode (for example, Grayscale, RGB, etc.) and you will see your file size appear at the top of the box.



[This article was partially excerpted from Andrew Darlow's book, *301 Inkjet Tips and Techniques: An Essential Printing Resource for Photographers* (Course PTR)—<http://www.inkjettips.com>.] CC

Andrew Darlow is a photographer and consultant based in the New York City area. He is editor of The Imaging Buffet (www.imagingbuffet.com), an online resource with news, reviews and interviews covering the subjects of digital photography and printing. For printing tips, free chapter downloads and Darlow's color management/printing workshop and lecture schedule, visit www.inkjettips.com.