

DIGITAL IMAGE RESOLUTION — SIZE VS. QUALITY

Every digital or printed image is made up of pixels or tiny dots that are packed tightly together to make form and color. An image's resolution or crispness can be measured as either pixels per inch (ppi) or, more commonly, dots per inch (dpi). The diagram shows a digital image and a small section scaled up to see the square pixels. The more pixels there are per inch, the higher the resolution and the better the image quality.

For example, the Texas Film Commission's digital location images have a dual purpose. We either make high-quality color printouts from high-resolution images or downsize the digital images for emailing to film or television productions.



DIGITAL IMAGE FILE FORMAT & COMPRESSION

Generally, two types of file formats for digital images are acceptable in the industry: JPEG (Joint Photographic Experts Group) and TIFF (Tagged Image File Format). JPEG images are more commonly used, but the majority of digital cameras have the capability to save images in either format. Digital cameras use the TIFF format for saving the largest/best images, while the JPEG format is used for the remaining image sizes and qualities.

The TIFF format preserves all the original image data, while the JPEG format sacrifices specific pixel data in order to keep the image file size low. This JPEG compression can be set to levels ranging from low to maximum.

DIGITAL IMAGE FILE SIZE

High-quality images generally run between 1-5 megabytes (MB). TIFF images will be larger in file size than JPEG images, because there is more image data to store. Determining the file size of an image will help ensure that it is of a high enough quality to print.

- On a PC using Microsoft Windows, the image file size can be determined by right-clicking with your mouse on the image file and selecting "properties." The size will be listed in kilobytes (KB), which can be converted to megabytes (MB).
- On a Mac, the image file size can be determined by clicking on the image file and pressing Command "I" on the keyboard to "get info." The file size listed may also need to be converted from kilobytes (KB) to megabytes (MB).
- 1024 kilobytes (KB) = 1 megabyte (MB)

DIGITAL CAMERA IMAGE SIZE/QUALITY SETTINGS

The charts below compare the five major digital camera brands. The first column lists what the different image settings are for each camera brand. The middle and right columns list the pixel and actual sizes of an image at each camera setting. NOTE: When taking digital photographs, the recommended settings (underlined and bold) will produce the highest quality photographs.

CANON – (Fine or Superfine Image Quality)		
Camera Setting	Camera Image Size	Actual Image Size (300 dpi)
<u>L (Large)</u>	<u>2272 x 1704 pixels</u>	<u>7.6" x 5.7"</u>
M1 (Medium 1)	1600 x 1200 pixels	5.3" x 4"
M2 (Medium 2)	1024 x 768 pixels	3.4" x 2.6"
S (Small)	640 x 480 pixels	2.1" x 1.6"

EPSON – (Image Quality = Image Size)		
Camera Setting	Camera Image Size	Actual Image Size (300 dpi)
<u>HyPict (★★★^H)</u>	<u>2544 x 1904 pixels</u>	<u>8.5" x 6.3"</u>
<u>Super Fine (★★★)</u>	<u>2048 x 1536 pixels</u>	<u>6.8" x 5.1"</u>
Fine (★★)	1600 x 1200 pixels	5.3" x 4"
Standard (★)	640 x 480 pixels	2.1" x 1.6"

HEWLETT-PACKARD – (Best or TIFF Image Quality)		
Camera Setting	Camera Image Size	Actual Image Size (300 dpi)
<u>Full Size</u>	<u>1600 x 1200 pixels</u>	<u>5.3" x 4"</u>
1/4	800 x 600 pixels	2.7" x 2"

NIKON – (Normal or Fine Image Quality)		
Camera Setting	Camera Image Size	Actual Image Size (300 dpi)
<u>Full</u>	<u>2560 x 1920 pixels</u>	<u>8.5" x 6.4"</u>
<u>UXGA</u>	<u>1600 x 1200 pixels</u>	<u>5.3" x 4"</u>
SXGA	1280 x 960 pixels	4.3" x 3.2"
XGA	1024 x 768 pixels	3.4" x 2.6"
VGA	640 x 480 pixels	2.1" x 1.6"

SONY – (Fine Image Quality & TIFF or Email Image Type)		
Camera Setting	Camera Image Size	Actual Image Size (300 dpi)
<u>2560</u>	<u>2560 x 1920 pixels</u>	<u>8.5" x 6.4"</u>
<u>2048</u>	<u>2048 x 1536 pixels</u>	<u>6.8" x 5.1"</u>
1280	1280 x 960 pixels	4.3" x 3.2"
640	640 x 480 pixels	2.1" x 1.6"