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Tech Talking

Resolution, Resolution

by Trudy Levy

The first thing to understand is that **digital resolution is expressed in two ways**,

- Amount of information
- Precision of information.

The second is that not all images require the same resolution for the same appearance

Amount of information is described as the number of Pixels captured. It is usually used in describing scanning devices, including digital cameras, and projected images including monitors. It defines how much information you actually have. Monitors and LCD projectors have resolutions of 640 pixels x 480 pixels, 800 x 600,1024 x 768, 1280 x1024, and ever more pixels. This is also referred too as VGA (800 x 600)and SVGA (1024 x 768). Digital Cameras now are described as producing 2 megapixel images (2 million total pixels) or about 1800 x1200 pixels

Precision of information is described as DPI or PPI with which most of you are very familiar, The greater the number of dots or pixels per inch the smaller the dot and so greater precision

These two expressions together define the printed size of an image - Amount / Precision = size of a published image. In other words the 2 megapixel image (1800x1200) will print a 12”x 8” image at 150 dpi. As in all good math equations it can also work backwards. If you scan a 3” x 5” photo at 200 dpi you get a 600 x 1000 pixel image

Why would you want to go backwards? Because monitors and projector define image size by amount of information. When you change the resolution on your monitor (in your display control panel) or projector from 640x480 to 800 x 1200 pixels, your full screen image of 640 x 480 pixels will no longer cover the whole screen but only 640 of the 1200 pixels and thus appear smaller. That is why when you are creating images for the web, you should be thinking pixels not dpi.

When choosing resolution it is also important to bear in mind that not all images require the same resolution for the same appearance. While greater precision improves the printed appearance of images such as those with hard edges as lines, text or solid fields of color, it does not greatly benefit photographic images with blended colors and transitions.

Rule of Thumb is:

Printing at 600 dpi

- Hard edge image - 300 -600 dpi
- Photographic image - 150 dpi

LCD capability and most web users

- 800 x 1200

Of course equally important for an accurate appearance, is color rendition. For those who know more about this, check out "Technical Feature:Image Capture Beyond 24-Bit RGB by Donald S. Brown in the RLG DigiNews. We will talk more about color in the next lesson.

Comments : We welcome yours or go see what others have said.