Preparing Your Digital Images for Juried Exhibition

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Introduction

Welcome to the wonderful (and sometimes) frustrating world of submitting your quilt and textile images to a juried show/exhibition. It's wonderful that you have designed a piece of work that you believe is worthy of submission; it can also be frustrating as a quilt/fiber artist that you are expected to both understand and follow through on different and often conflicting instructions and expectations.

Significant changes have occurred in a short time regarding juried submissions. Not so long ago, you delivered your images via slides to a juried show/exhibition; now, very few exhibitions want slides and instead request you send them some type of digital format (usually a CD or via an email attachment). In addition, almost every juried exhibition has minor to significantly different requirements in what and how they will accept your digital submissions and it can be overwhelming even for seasoned pros.

If you have comments, suggestions, want to add, edit, or contribute to this section, please contact gregory case / photos@gregorycase.com and use the subject line: "SAQA Preparing Your Digital Images for Juried Exhibitions"

As a sub-committee of the larger SAQA Exhibition Committee, we want to make your juried exhibition entries a simpler and more understandable process. To that effort, we have put together a variety of short tutorials to help you submit your digital images.

Part 1: The Basics

What Does A Particular Juried Exhibition Want?

It's critical to understand what each juried exhibition wants regarding their submission process. This is not the time to be creative and "do your own thing." While it can be tempting to ignore some of their rules and regulations, your only real choice is whether you want to follow their rules—to the letter—or not. One way you can guarantee you will NOT be accepted into an exhibition is by not reading and fully complying with their written requirements. As often as you find their rules complex (or not making any sense), the organizers and judges equally wonder why you can you can't read and follow their (simple) directions!

Every exhibition receives more entries than the number that will be finally accepted. Thus, one of the easiest way to reduce the overwhelming response they receive, is to toss out those entries who (a) did not read or follow ALL of the written submission rules or (b) whose photography is not at an acceptable level (e.g., wrong size, blurred, not cropped properly, poor color, etc.).
SAQA recommends professional-level photography of your submitted work. Poor photography is often cited as the main reason images are rejected from juried shows/exhibitions. In speaking to jurors from a variety of shows/exhibitions, a majority of entries are rejected because the work cannot be evaluated properly, due to bad photographs.

> **Technical Note**
> When you submit an image to a juried show/exhibition, your understanding should be that you are now considered a professional, and you are competing with like professionals, and your image is expected to be above an amateur's photographic standard. Taking a quick snapshot is not considered a professional image. If you do not have the equipment or knowledge to take professional-level photography, you should consider hiring someone who specializes in this type of photography.

Remember all that the jurors have to view in the jury room is your submission form and photographs of your work. They will not see your quilt UNTIL it has been accepted into the show/exhibition. They make all their judgments based on your written text and on your photographs.

But I'm An Artist, Not a Computer Guru!

The reality is, from a curator's or juror's point of view, you are expected to understand digital/computer terms and processes (found in popular image editing programs) when you choose to compete in juried shows/exhibitions.

Thus, as the sub-committee appointed in helping your juried submissions succeed, we'll do our best to keep the technical jargon and processes as uncomplicated as possible, but there are some digital/computer terms that you will need to add to your digital vocabulary to make the entire process easier.

Pixels/Megapixels

Every digital image—whether it originally came from a scanned film image, a slide, or was created by a digital camera, is made of up pixels that are square. The term "pixel" comes from the joining of two words: picture and element. Pixels are the smallest single element of a digital image. Needless to say, one pixel is very small. When you add one million pixels together, you have one megapixel. Not so many years ago, a three mega-pixel digital camera was considered state of the art, now you can easily find 14 – 21 megapixel cameras.

Most juried exhibitions will ask you to send them a digital image of a certain pixel size. How they ask for that digital image in a pixel size can be confusing. Some exhibitions will ask for 1,800 pixels for the longest side. Another exhibition may ask for 1,200 pixels on the long side. Alternatively, an exhibition might ask you to photograph with at least a 4 megapixel camera. Make sure you pay attention to the difference between a pixel (a single element of a digital image) and megapixels (one megapixel = one million individual pixels).

Information Storage: Bytes & More

While pixels and megapixels deal with digital image size only, Bytes, Kilobytes, Megabytes, and Gigabytes are related to measurement units (usually file size) of a computer or some form of information storage.

A byte (composed of eight bits), while not the smallest measurement unit of computer storage is a good starting point for our purposes. Adding slightly more than one thousand bytes together creates a kilobyte (kb) and thus a megabyte (MB) is equal to or slightly over one million bytes and following that, a gigabyte is equal to or slightly over one billion bytes. Most folders or files on your computer will be displayed in megabytes (MB) or kilobytes (kb), while most hard drives will display their information storage capacity in gigabytes ("x" GB).

Computer information storage, for our purposes, will be divided into two areas:

(1) What is the overall storage container size (typically on a hard drive, blank CD or DVD, or a USB/Firewire drive)—that is, how many gigabytes does your individual hard drive/disc have available for storage purposes?
(2) What is the size of each of your individual software programs, your individual folders on your hard drive, or what size is each individual file in your hard drive?

As far as your computer storage matters, it makes no difference to the computer if this storage is contained in software programs you've installed, images, iPod music, Word

documents, Excel spreadsheets, PowerPoint presentations, Acrobat PDFs, or something else. It's all seen as information that is stored on a particular medium (hard drive, CD/DVD, etc.)

So why is this computer storage information important to know? Some juried exhibitions will state they want your submitted digital files to be no larger than "x" megabytes. They are only interested in the SIZE of the digital file. For instance, they will not give you a specific pixel size (e.g., 1,800 pixels long side) but require the overall file size to be "x" megabytes—they want to limit the size of the file you will send them.

Resizing Your Image (AKA Resampling or Interpolation)

Typically, you will need to reduce the size of your image before submitting it to a particular juried show/exhibition. It might be that the longest side of an image's pixel length exceeds the maximum length or that the overall file size is larger than the exhibition requests.

What you want to do is to decrease the image/file size without introducing visual "fuzziness" or taking a sharp-looking image and making it look less sharp.

> **Technical Note**
> There really should not be any reason for you to increase your original image for a juried show either in requested pixels or in larger print sizes. If you follow what some juried exhibitions recommend—a minimum 4-megapixel camera—you will be fine. Most cameras sold today are much larger than 4-megapixels and so will easily surpass the typical web dimension of 1800 pixels (long side) or 6 inches @300 PPI print size requested for most juried shows/exhibitions.

Each software program has its own method or methods of reducing the pixel length of an image or the image's file size while keeping the image looking great. In this tutorial (Part 2) , we will show you how to select and resize images for both Web and print use based on the image editing software you own.

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Measurements: Pixels per Inch (PPI) & Dots per Inch (DPI)

In terms of measurement, the juried exhibitions and the public at large incorrectly use PPI (pixels per inch) and DPI (dots per inch) interchangeably. For an extended period, DPI or dots per inch terms were used as a measurement to both describe the resolution of an image displayed only on a computer monitor and an actual physical print.

However, Photoshop and other image editing programs correctly state that they don't produce dots of ink—only printing devices do. They only display pixels. Thus, image editing programs refer to their "print" measurements as displayed on a computer monitor as pixels per inch (PPI) not dots per inch. Print devices don't display "pixels" (the

smallest measurable unit of a digital image) but create droplets or dots of ink on paper (DPI).

The default pixel measurement used for Web viewing (via computer monitors) is 72 PPI (not DPI) and the default print measurement in using editing imaging software is 300 pixels per inch (PPI)—not the usual, but incorrect, term dots per inch (DPI).

Although publishing standards request a default 300 DPI (or more correctly PPI) arguably, a specified print size could range from 180 – 360 PPI and have similar visual results. Print sharpness is largely dependent on several factors: the print resolution (PPI), the physical size of the print, the amount of sharpening used, and the expected viewing distance. (A larger print is expected to be viewed from further away than a small print and will tend to look sharper from greater distance than with the viewer's nose pressed against the print.)

Technical Note

For the purposes of this tutorial, a requested print resolution of "x" PPI, (e.g., also known incorrectly as DPI) is an image editing software instruction given to a printing device on how large or small to make the individual pixels on a particular-sized printed page. The printer takes this software instruction and then prints dots on a page.

At 300 PPI each pixel is in a linear resolution of 300 pixels horizontally and 300 pixels vertically covering 1/300 of an inch. For an image to look like a photograph, the individual pixels (in the software program sending the image to the print device) need to be small enough that the viewer can't distinguish one droplet of ink from another neighbor droplet of ink) on the print. Thus, a higher print resolution (PPI) number produces more compact droplets of ink on the printed page and this compactness creates a "continuous tone" of printed dots that, for the viewer, creates a sense of seamless detail on the print.

Size Requirements: Pixels and Inches

Where juried exhibitions confuse the entrant is where they will ask for a specific *pixel* dimension (e.g., 1800 pixels long side) AND at the same time a *print* resolution (e.g., 300 DPI) in one image. They assume they are asking for the same thing; they are not.

When images are to be used exclusively for digital display (Web or computer monitor), only pixel measurements will be required. Images destined for print will be requested in inch dimensions and at a print resolution of "x" PPI (and not perpetuate the misuse of the term, DPI). If an image is requested for both Web display and print use, they will ask for two copies of the same image; one in a measurement of pixels and the other sized in inches at a specific print resolution.

Likewise, if the exhibition wants an image for print use (they have no plans to display the image on the Web or on a computer monitor) they would state what the image needs to be on longest size or the width and height in *inches* (e.g., 6" long side) AND a print resolution (e.g., 300 PPI). While digital images only need height and width in

pixel measurements, print images require inch measurements and a print resolution (PPI).

As a rule, whenever you see an exhibition request an image in "inches" they are requesting a *print* image. If they are requesting an image in "pixels," they are asking for a Web image. And what if the show wants both a Web image and a print image? They should ask for the same image in two different measurement units: (1) one image that has "x" pixels in height and/or width for the Web and (2) one image that is "x" inches in height and/or width at a specified print resolution (PPI) for a print.

When an exhibition asks you to provide an image whose longest side (that is, either the width OR the height) is "x" pixels or inches, they want it to be as close as possible to—but NOT MORE than—"x" pixels or inches long. The shorter side measurement in pixels or inches does not matter; they are only interested in the longest side measurement. You want to get as close to the requested long side as possible; don't be tempted to artificially increase the measurement length (known as up-resizing or re-sampling) to reach the specific maximum length requested. Finally, it's rare that an exhibition gives you a minimum number of pixels or inches in length but they will usually give you a maximum pixel or inch length.

Some exhibitions will ask for an image to fit a particular set of pixel or inch dimensions on all sides, perhaps to fit within certain Web page spaces or in a print catalog. For instance, they might ask you to fit your rectangle quilt image into a particular square space. Ideally, they will give you guidance on what color the background should be used (on the uneven sides). If not, you would generally choose a white or black background, but to be safe, it's best if you contact the exhibition office and ask them for clarification.

Alternatively, a particular juried exhibition may not specify what height or width in pixels or inches they want, but instead are interested only in the overall file size most commonly requested in megabytes, such as a image no larger than "3" MB in size. In that case, if they do not specify a particular pixel or print measurement, you have to use your best judgment. Typically, exhibitions are not interested in larger pixel measurements of 2100 or a print size of 5" x 7" @ 300 PPI. However, again it is best to contact the exhibition office and ask them for clarification.

In this tutorial (Part 2), we will show you how to select and resize images for both Web and print use based on the image editing software you own.

Exhibition Committee Note

This sub-committee and the Exhibition Committee have requested that SAQA follow the protocol as presented above. SAQA has agreed and thus one of the Exhibition Committee's mandates has been achieved—standardizing terms and instructions that are technically correct, accessible, and easy to follow for all its members.

Going forward, SAQA will ask that when members write an exhibition prospectus, solicit images for Web site or computer monitor display, or for print publications, that certain protocols be followed.

When images are to be used exclusively for digital display (Web or computer monitor), only pixel measurements will be required. Images destined for print will be requested in inch dimensions and at a print resolution of "x" PPI (and not perpetuate the use of DPI). If an image is requested for both Web display and print use, they will ask for two copies of the same image; one in a measurement of pixels and the other sized in inches at a specific print resolution.

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TIFF & JPEG File Formats

Typically, juried exhibitions will ask for one and sometimes two different *file formats*: "TIFF" (or TIF) (formerly known as Tagged Image File Format) and "JPEG" (Joint Photographic Experts Group). The most commonly requested format is JPEG.

To confuse further the issue, juried exhibitions are not describing pixels/megapixels or computer storage (megabytes), but how these pixels and/or megabytes are "housed," that is, what file container they are housed in.

To simplify these file container terms, TIFF files are primarily intended for use with prints. This file format is significantly larger (more megabytes) than are JPEGs. TIFF files take more computer storage space.

JPEG images are primarily used for images destined for Web/computer display, although some exhibitions will also ask for JPEG images to be used in prints as well.

While TIFF files can be opened and saved countless times with no loss of visual information, JPEG files can't. JPEG files are *always* smaller than TIFF files as they compress the file information and intelligently throw away up to a third of the file's visual or color data. This "lost" information, once discarded, cannot be recovered later.

While it sounds scary to discard permanently up a third of your data, you will usually not notice a significant difference on Web or computer monitor images. The real difference in visual quality can be seen more in prints, especially in "larger" prints. That said, if a JPEG is saved at the highest file quality/lowest level of compression (one time only) you might be hard pressed to see a difference when compared to a print saved as a TIFF.

Many image editing programs will show you a before/after comparison so you can make your changes based on what you see. For most juried shows/exhibitions, you should save your image (once) at a "high" quality/low compression level.

Technical Note

As you decrease the quality of a JPEG image, it becomes smaller as more information is compressed, but it can lead to a poorer visual result, even when seen on the Web or on a computer monitor. Part of the problem with JPEG files is that you won't see the "damage" of compression until you save it, close the file, and re-open it again.

Thus, for JPEG files *only*, it is important that you complete your photo editing at one time and then save the JPEG file—once. (The safer route is to make all your editing changes and save that edited image file as a TIFF file first and then secondarily save the image as a JPEG file.)

Again, it's important to remember that you don't want to open *and then save* your JPEG image more than once and certainly not numerous times—as each time you *save* your file, you've lost data that can't be recovered.

In this tutorial, (Part 2) we will show you how to select either/both Tiff and JPEG files based on the image editing software you own.

Color Profiles

Now that you have a better understanding of pixels/megapixels, megabytes, and TIFF and JPEG file formats, there are two final terms you need to know for submitting your digital files to juried shows/exhibitions.

As files can be saved in numerous "containers" (TIFF and JPEG), digital images need to be "housed" in a particular color profile containers. The two most popular choices for digital submissions to juried exhibitions are "Adobe RGB" and "sRGB."

Technical Note

Ideally, you capture the largest amount of color from your camera as possible. Currently, that would be shooting in "raw," processing your images in the color space of ProPhoto RGB (16-bit), and then converting the image files into Adobe RGB (8-bit) or sRGB. ProPhoto (16-bit) images contain a much wider variety and intensity of colors than in-camera, already processed, JPEG (8-bit) images. Additionally, 16-bit images contain a greater color range than 8-bit images. While TIFF files can hold either 8 or 16-bits, a JPEG image can only hold 8 bits of color information.

Virtually all digital SLR's and a limited amount of point and shoot cameras give you the ability to photograph in "raw." However, you will need a photo-editing software program (like Photoshop, Photoshop Elements, Photoshop Lightroom, or Apple's Aperture) to OPEN AND EDIT these raw files.

Unfortunately, the discussion of photographing your quilt or textile images using your in-camera already processed JPEG (8-bit) setting versus shooting "raw" and processing your image in a color space of ProPhoto (16-bit) and the need for a calibrated/profiled computer monitor to view properly your color images, is beyond the scope of this particular document. We hope in the future to address and expand on these issues in another paper.

A simple way to think of color profiles is to imagine a very large box of crayons. You start with the most crayons (all different colors) possible so you can make very sophisticated and very subtle color gradations. While all those amazing color combinations look great when using crayons, the reality is that even the most advanced printer and computer monitor can't even begin to display all of these billions of color combinations and they have to greatly reduce and squeeze all these colors into a much smaller container. The trick is they have to do this while attempting to keep as many of these subtle color gradations as they started with in the beginning. What usually suffers in color, when you reduce the container size, are saturated colors, particularly oranges, gelds, deep reds, and some darker blues and greens.

Color profiles allow all sorts of different colors to look consistent even in different settings, such as seen on various manufacture's monitors, on computers that run Windows or Macintosh software, and on different sets of inks, paper, and printers. Without these profiles, the same color could look identical, slightly off, or entirely different on different monitors or in prints. Starting from the largest to smallest color gamut used on the Web and in print, digital cameras will typically encompass a much larger color gamut than even a high-end computer monitor can produce and certainly more than is available on an inkjet or commercial print.

A high-end computer monitor can often display a larger color gamut than is possible in a high-end RGB (Red, Green, and Blue) inkjet printer. However, some high-end inkjet printers might be able to print certain colors that you can't display on a high-end monitor.

Inkjet prints (known in the early 1990's as giclée prints) will typically present colors that are deeper in saturation and more vibrant than found in commercial CMYK (Cyan, Magenta, Yellow, and Key (black)) printed material. The color gamut in an (Adobe RGB color space) inkjet print can easily exceed the variety of colors over what a typical book, catalog, magazine, or other printed media can produce using a 4-color/CMYK printer.

Even a low-end computer monitor, with a (limited) color space of sRGB can display more color combinations and richer and deeper colors than a typical commercial CMYK printed material can. That is why artists are often disappointed that their saturated and vibrant colors that they can produce on their inkjet prints look pale compared to their book/catalog/magazine image.

Typically, you would use the color profile of Adobe RGB for inkjet prints, sRGB for Web and viewing on computer monitors, and CMYK for commercial prints. (The use of digital camera, monitor, and print calibration and profiles and the use of editing/soft-proofing your images are beyond the scope of this paper but can indeed, give you a much more realistic display of what your final Web or print image will be.)

Color management then is all about difficult color trade-offs. As an artist, you want to produce faithfully the color, saturation, and vibrancy of your chosen quilt colors. You start with your eyes and then you often begin to subtract colors and color variations from your digital camera capture, possibly more color subtraction from your computer

monitor, then from your inkjet print, and even further color reduction from your Web image, and yes, possibly even more color reduction from that commercial CYMK printed book, catalog, brochure, or magazine. Your eyes will always produce the largest gamut possible and from there on, you are usually working in and viewing smaller and smaller amounts of color and color variation. Color management is then about how close in color can you get to the source, realizing that you will always come up short in color.

Technical Note 2

The less expensive image editing software programs may not allow you to change the color profile of your image.