

DIGITAL IMAGE FILE FORMATS

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Some photographers get so confused with all the options available in digital photography that they forget one of the first decisions to make – what file format to save the image in. Each one has its strengths and weaknesses. I will summarize the pros and cons of the different formats that are available in your digital camera and help you decide when to use them. For a more detailed discussion of the different formats as well as some examples of the differences please take a look at the full article at at <http://www.humanscape.com/page5.html>

JPEG – Joint Photographic Experts Group

Pros:

- File is small which means you can fit more images in a memory card.
- Fast saves to memory cards, which means you can take more images per second.
- Open standard format can be universally viewed by nearly any web browser, computer and image editing program.
- If the image is properly lit and the exposure is properly set, the image quality is quite good for prints similar to slide film.
- Option to set image quality to low, medium and high to control quality of image. High is the best image quality. (Some manufacturers use different names for the 3 quality settings.)

Cons:

- File is reduced to an 8 bit (or higher) per channel image which can only represent 256 shades for each (red, green, blue) color
- Image is compressed by taking pixels of similar color and making them the same color.
- Wrong format for images that will be heavily manipulated in a photo editing program.

When to use:

- Snapshots of family and friends that will not be edited beyond simple cropping and red eye reduction (use the high image quality setting).
- Images sent by e-mail (use medium or low image quality setting).
- Documenting through images like your furniture in case your home is damaged or robbed (use high image quality setting).
- If all the camera settings are on automatic, then chances are JPEG will be fine.
- I suggest that you make this your default file format.

TIFF - Tagged Image File Format

Pros:

- Open standard format can be universally viewed by nearly any web browser, computer and image editing program.
- No image data is lost.
- Better image quality than even the JPEG fine quality.
- More tolerant of poorly exposed images – similar to print film.

Saved at the camera's max color bit depth, which is probably 12 bit (or higher) per channel image which can represent 4096 shades for each (red, green, blue) color. (This is only important if you

- are doing a lot of digital manipulation of the image – it will not add any visible quality to the image.).

Cons:

- File size is very large, resulting in slow saving of image between shots.
- Still need to make sure that exposure, white balance and color saturation are properly set because fixing these in the photo editing program will degrade the image to a certain degree.
- Overkill for typical snapshots or to send by e-mail.

When to use:

- If you do not have RAW and are taking images that are important or will be heavily worked on in a photo editing program.
- Weddings and other once in a life time images.
- Fine art images.

RAW –Unprocessed camera image capturing data

Pros:

- No loss of data between what the camera sees and what is in the file.
- Exposure can be off by 3 stops or more and still be corrected in a photo editing program.
- Camera settings like white balance, color saturation, etc. can be changed post exposure. Analogous to taking 3 slide film exposures at 1 stop over and under metered reading.
- File size may be smaller than TIFF.
- Saved at the camera's max color bit depth which is probably 12 bit (or higher) per channel image which can represent 4096 shades for each (red, green, blue) color..
- Option to save RAW and JPEG which is the best of both worlds. You get the photo quality of RAW as well as a JPEG to quickly see what the image is.

Cons:

- Large file size means that it can take longer to save an image to the memory card.
- Difficult to work with images because they need to be converted to something else (like TIFF) before they can be easily shared and manipulated outside of high-end photo editing programs and the camera manufactures software.
- Proprietary file format that could become unsupported some time in the future.

When to use:

- Save as RAW + JPEG if the option is available on your camera. The JPEG image is just for you to quickly see what the image is before converting it or opening it. JPEG image quality, in this case, is not that important and low or medium quality should be more than adequate.
- Weddings and other once in a life time images.
- Fine art images.

Suggestions

Keep in mind that each file format has its strengths and weaknesses. It is a good idea to think about what you are planning on doing with the image. If it is to send to someone by e-mail or to print an 8x10 inch image, then JPEG will be adequate. If the image is something important and will be heavily edited in a photo editing program then select RAW (+ JPEG) if you have that option, otherwise select TIFF. In short just use JPEG unless it is very important.

Full Article at <http://www.humanscape.com/page5.html>

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