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RAW vs JPEG

*"**RAW**" refers to "raw data" captured by the sensor and saved to memory card, then processed IN COMPUTER.*

*Think of **RAW** as a "Digital Negative" which is not processed by the camera*

***RAW** image files are processed in computer*

*Think of **RAW** being like buying a STEAK at the store. It's uncooked. You then "process" it on the grill, adding ingredients, how much cooked, etc.*

***JPEG** is processed in camera, and is then compressed (pixels are lost) before saving to memory card.*

*A **RAW** file consists of the raw sensor data, plus list of any camera settings (WB, sharpening, saturation, contrast, special effects, etc) plus Metadata*

*A **JPEG** image consists of actual image pixels, white balance, exp. compensation, special effects, sharpening, etc. and is compressed.*

	JPEG	RAW
File Size	Smaller	Larger
Compatibility	Highly	Requires Compatible Software
Long-Term Compatibility	High	Questionable
"Process" Speed	Very Fast	Slower
Compression Artifacts	Visible in Large Prints Sufficient for Slideshows, Web and larger than 100 ppi prints	None, Zero, Zilch
Bit Depth	8 bits per channel	12 or 14 bits/channel (more editing latitude)
Editing Flexibility	Lower	High

*There are TWO camera controls to set image recording - **IMAGE SIZE** and **IMAGE QUALITY**.*

*I Recommend **LARGE** Image Size and Image Quality set to **RAW** for best results in a D-SLR!*

***IMAGE "SIZE"** = Pixel Dimensions*
IMAGE SIZES --> small, med, large

***IMAGE "QUALITY"** - choices are RAW, JPEG Fine, Normal, Basic plus RAW+JPEG (these are terms used by Nikon)*

***JPEG Fine** = Low Compression (good!)*

***JPEG Medium** = Moderate Compression*

***JPEG Basic** = High Compression (bad!)*

LOW COMPRESSION = HIGHEST QUALITY
HIGH COMPRESSION = LOWEST QUALITY

LOW COMPRESSION = LARGER FILE SIZE
HIGH COMPRESSION = SMALLER FILE SIZE

***RAW** -->>> NO COMPRESSION (some cameras offer **LOSSLESS** compression)*

***RAW** files are processed in Photoshop Lightroom and/or Adobe Camera Raw (part of Photoshop & PS Elements)*

***PRO's of RAW:** 1. The most flexible "digital negative," 2. Camera settings only are saved with raw data, more efficient, 3. No compression artifacts, 4. High Dynamic Range (HDR), 5. Non-destructive, 6. Allows for more flexibility and experimentation.*

***CON's of RAW:** 1. 4 to 5 times larger file size than JPEG, 2. Slows down camera functions (not so much on D-SLRs), 3. Time at the computer is needed, 4. It's not as universal a format as JPEG is.*

HOW I DECIDE WHICH FORMAT TO USE?
***I use RAW >>** When I want the most flexibility and the very best processing results - especially for 'fine art' photography, landscapes, HDR, panoramas and commercial shoots. **I use JPEG >>** 1. When I need extra speed, 2. When I'm running out of space,3 For quick-and-dirty "grab shots."*

NOTES

JPEG = Joint Photographic Experts Group

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