

A GLOSSARY OF PHOTO TERMS:

adapted from <http://www.bhphotovideo.com/explora/photography/buying-guide/glossary-digital-photography-terms>

Adobe RGB (Adobe RGB 1998)

A widely accepted color space that encompasses a wider range of color than the more commonly used sRGB color space. Adobe RGB is the preferred color space for images intended for prepress applications.

Anti Shake (Image Stabilization)

Also known as Image Stabilization (IS), Vibration Reduction (VR), or simply image stabilization, anti-shake technology is a method of reducing the effects of camera movement on the photographic image. Image stabilization can be achieved in the lens or in the camera body. In-camera Image Stabilization is achieved by mounting the camera sensor on a “floating” micro-gear stage that rapidly shifts the sensor in the opposite direction of the camera's movement, which effectively cancels out the image movement.

Aperture

The adjustable opening—or f-stop—of a lens determines how much light passes through the lens on its way to the film plane, or nowadays, to the surface of the camera's imaging sensor. “Faster” lenses have wider apertures, which in turn allow for faster shutter speeds. The wider the aperture is set, the shallower the depth of field of the image.

Wider apertures allow for selective focus, the ability to isolate your subject from background and foreground within the frame. Conversely, if you stop the lens aperture down to its smallest openings, you increase the depth of field, or the amount of focus from foreground to background. Generally speaking, most lenses display the highest level of resolving power when set to about three stops down from the widest aperture.

Note: The term “highest resolution” does not mean the greatest level of depth of field. It just means what is in focus cannot be rendered any sharper by that particular lens regardless of the image's depth of field.

ASA (ISO)

An abbreviation of the American Standards Association, ASA is the term used to describe the light-sensitivity levels of film and camera imaging sensors. The higher the number, the more sensitive—or faster—the film or sensor is. While traditional cameras don't have a specific ASA rating, most digital camera sensors have native, or basic ISO sensitivities of about 100, which depending on the make and model of your camera, can be extended upwards of 6400, 12800, with many top-tier DSLRs' ISO sensitivity levels upwards of 100,000-plus. That's about seven to eight times more sensitive than the human eye.

With few, if any, exceptions lower ratings offer better color, sharpness levels and tonal qualities, as well as less noise and grain. The terms ASA and ISO (International Standards Organization) are interchangeable.

Bit

A bit (binary digit) is the smallest unit of digital information. Eight bits equals one byte. Digital images are often described by the number of bits used to represent each pixel, i.e. a 1-bit image is monochrome; an 8-bit image supports 256 colors or grayscales; while 24 or 32-bit supports an even greater range of color.

Card Reader/Writer

A device that allows you to transfer data directly from a camera's removable memory card to the computer without the need to connect the camera to the computer.

CMYK Color (Cyan, Magenta, Yellow, Black)

CMYK is the color space used for commercial offset printing. CMYK is also a common working color space for inkjet, laser, dye-sublimation and wax thermal printers.

Color Management

A system of coordinating and calibrating the color spaces of digital cameras, scanners, monitors and printers to ensure that the color and tonal values of the image you see on the screen match those in the final print image.

Color Space

The range of colors that can be reproduced on a computer monitor or in print. The most commonly used color spaces for digital imaging are the baseline sRGB and wider-gamut Adobe RGB (1998).

Color Temperature

A linear scale for measuring the color of ambient light with warm (yellow) light measured in lower numbers and cool (blue) light measured in higher numbers. Measured in terms of "degrees Kelvin,"* daylight (midday) is approximately 5600-degrees Kelvin, a candle is approximately 800 degrees, an incandescent lamp is approximately 2800 degrees, a photoflood lamp is 3200 to 3400 degrees, and a midday blue sky is approximately 10,000-degrees Kelvin.

Compression

A method of reducing the size of a digital image file in order to free up the storage capacity of memory cards and hard drives. Compression technologies are distinguished from each other by whether they remove detail and color from the image. Lossless technologies compress image data without removing detail, while "lossy" technologies compress images by removing some detail.

Joint Photographic Experts Group (JPEG) is a lossy compression format supported by JPEG, PDF and PostScript language file formats. Most video formats are also lossy formats. TIFF files are not, and as such, are far more stable than JPEGs and other lossy file formats.

Depth of Field (DOF)

Literally, the measure of how much of the background and foreground area before and beyond your subject is in focus. Depth of field is increased by stopping the lens down to smaller apertures. Conversely, opening the lens to a wider aperture narrows the depth of field.

Digital Asset Management (DAM)

This is the process of managing tasks and making the decisions regarding the import, export, annotation, cataloguing, storage, retrieval and distribution of digital assets such as image files.

Digital Negative

Digital Negative (DNG) is an open raw image format owned by Adobe and used for digital photography. It's based on the TIFF/EP standard format and incorporates the use of metadata.

DPI (Dots per Inch)

Printing term for resolution. Also referred to as PPI (Pixels per Inch) when describing monitor resolution. The higher the PPI/DPI, the higher the resolution of the resulting image will be. For viewing images at magnifications of up to life size on a computer screen, you only need 72 DPI. For offset printing the image must be set to 300 DPI at the desired print size, and for inkjet prints, anywhere from 180 to 360 DPI at the desired print size, and preferably with a number divisible by 3.

Exposure

Exposure is the phenomenon of light striking the surface of film or digital imaging sensor. The exposure is determined by the volume of light passing through the lens aperture (f/stop) combined with the duration of the exposure (shutter speed). The proper exposure, which is best determined using a light meter, can be established.

Histogram

A visual representation of the exposure values of a digital image. Histograms are most commonly illustrated in graph form by displaying the light values of the image's shadows, midtones and highlights as vertical peaks and valleys along a horizontal plane. When viewing a histogram, the shadows are represented on the left side of the graph, highlights on the right side, and midtones in the central portion of the graph.

ISO (International Standards Organization)

Film speed rating expressed as a number indicating an image sensor's (or film's) sensitivity to light. The higher the number, the more sensitive and faster the sensor (or film) is. Although traditional cameras don't have a specific ISO rating, digital cameras do as a way to calibrate their sensitivity to light. ISO is equivalent to the older ASA.

Most digital cameras have native (basic) ISO ratings of about 100, but can be “extended” far beyond this base rating in order to capture sharp imagery under lower lighting conditions. When shooting at extended ISO levels, image quality begins to suffer in terms of sharpness levels, noise, contrast and added “graininess.”

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Megapixel

A megapixel contains 1,000,000 pixels and is the unit of measure used to describe the size of the sensor in a digital camera.

Memory Card

In digital photography, a memory card is a removable device used in digital cameras to store the image information captured by the camera. There are several different types of memory cards available including Compact Flash, SmartMedia, SD/SDHC/SDXC, XD and Memory Stick.

Noise

A common bugaboo of JPEG files, noise is the appearance of color artifacts within a digital image. Mostly noticeable in the shadow areas of images captured at higher ISO ratings, the image processors used in many current digital cameras utilize noise-suppression software to minimize the appearance of noise artifacts. Heat build-up due to continuous shooting in hot environments can also cause noise artifacts within digital images. Noise is considered the digital version of grain in film negatives.

Overexposure

The result of recording too much light when taking a picture, which results in a light image. In digital imaging, overexposure can usually be corrected to a certain extent by the use of image-editing software, depending upon how overexposed your image is. RAW files offer more latitude than JPEGs and TIFFs for correcting overexposure.

Pixel

Short for picture element, pixels are the tiny components that capture the digital image record in your camera. Pixels are also the individual components that collectively recreate the image captured with your digital camera on a computer monitor. The more pixels there are, the higher the screen or image resolution will be.

Pixelization

The breakup of a digital image file that has been scaled up (enlarged) to a point where the pixels no longer blend together to form a smooth image. Pixelization can also appear in the form of step-like or choppy curves and angled lines (also known as the *jaggies*). As a rule, the greater the number of pixels there are within an image, the less likely it is that you will see pixelization in the image.

Many pro and semi-pro digital cameras have the option of capturing RAW files, which unlike JPEGs, TIFFs, and other file formats contain all of the data captured during the exposure in an unedited format. When processed, RAW files can be adjusted far more extensively than images captured in other imaging formats, and can be saved as JPEGs, TIFFs, etc. The original RAW file remains unaltered and can be reprocessed at any time for other purposes.

Resolution

Refers to the number of pixels, both horizontally and vertically, used to either capture an image or display it. The higher the resolution is, the finer the image details will be.

RGB Color (Red Green Blue)

Computers and other digital devices handle color information as shades of red, green and blue. A byte is comprised of 8 bits. A 24-bit digital camera, for example, will have 8 bits per channel and can use a total of 8 ones and zeroes for the red, green and blue channels. This allows for 256 different variations, or 28, or 256 different values for each color.

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SD Card (Secure Digital)

Far smaller than CompactFlash cards (CF), Secure Digital memory cards have enabled camera manufacturers to further reduce the size of digital cameras. They are also commonly found in cell phones, PDAs and other small electronic devices that incorporate removable memory. Newer-generation (and faster) SD cards include SDHC and SDXC memory cards.

Shutter

A mechanism in the camera that controls the duration of transmission the light that reaches the film or sensor. Leaf-shutter lenses, which include most view camera lenses and many medium-format lenses, contain their own proprietary shutters.

Shutter speed

The length of time the shutter remains open when the shutter release is activated, most commonly expressed in fractions or multiples of a second.

SLR (Single-Lens-Reflex)

A camera that utilizes a prism and mirror system to project the image seen by the lens onto a focusing screen located below the prism housing. The image the user sees in the viewfinder is identical to the image being recorded. The advantage of SLRs is that you get to view the exact scene the camera will be recording.

sRGB

The standard color gamut for Windows operating systems. sRGB is also the “lowest common denominator” for color standards, as it can be reproduced on the least expensive computer screens. Adobe RGB is a wider-gamut color space, and is preferred for those seeking higher accuracy in color rendition.

TIFF (Tagged-Image File Format)

TIFF files are flexible bitmap image files supported by virtually all paint, image editing, and page-layout applications. Also, virtually all desktop scanners can produce TIFF images. This format, which uses the .tif extension, supports CMYK, RGB, Lab, grayscale files with alpha channels and Bitmap files without alpha channels. TIFF also supports LZW compression, a lossless compression format.

Tonal Range

A term used to describe the quality of color and tone ranging from an image's shadow details through the brightest highlight details, including all of the transitions in between these extreme points. Tonal range can also be described in terms of “gamut.”

Underexposure

The result of recording too little light when taking a picture, which results in a dark image. In digital imaging, underexposure can usually be corrected to a certain extent by the use of image-editing software, depending upon how underexposed your image is. RAW files offer more latitude than JPEGs and TIFFs for correcting underexposure.

White Balance

The camera's ability to correct color cast or tint under different lighting conditions including daylight, indoor, fluorescent lighting and electronic flash. Also known as “WB,” many cameras offer an Auto WB mode that is usually—but not always—pretty accurate.