Glossary of Photography Terms and Equipment

Ambient Light **::.** The light in the location, as opposed to the light provided by the photographer with flash, photofloods, etc.

Angle of View **::.** The maximum angle a lens covers in the field. Measured in degrees, and referred to by terms such as wide-angle, normal, and telephoto.

Aperture **::.** Is the opening of a lens, the size of which is controlled by a diaphragm. This term is commonly used to assign f-stops, such as f/4, f/5.6 etc., which are in fact arrived at by dividing the focal length of the lens by the diameter of the aperture. Thus, f/11 on a 110mm focal length lens means the opening is 10mm. The wider the opening, the lower the f-number, the more light is let through the lens. Each step in aperture represents a halving or doubling of light. Thus, f/8 allows in half as much light as f/5.6, and twice as much light as f/11.

Aperture Priority **::.** An auto exposure mode in which the aperture is selected by the photographer and the camera system selects the appropriate shutter speed for a correct exposure. Sometimes referred to as “AV” or “A” on camera exposure mode controls area.

Artificial Light **::.** Any light not directly created by the sun. Can be tungsten, flash, household bulbs, sodium vapor street lamps, etc. In many cases, the color produced by artificial light is lacking in the blue end of the color spectrum range, thus daylight-balanced color films will record the light as being warm/red/amber. Tungsten-balanced slide films or color-balancing filters over the lens will generally correct this problem. A point to note would be that color print film can be re-balanced when prints are made.

AE Automatic Exposure Metering **::.** Where the camera measures the amount of light required for a scene and adjusts the exposure to suit.

AE lock (AE-L) **::.** A button or lever on the camera or exposure meter used to lock the automatically measured light reading into a memory while you recompose. This is ideal for backlit subjects because you can move closer to the subject, take a reading without any background in the view, lock the exposure and move back to the initial position to take the photo. It's also fine for landscapes when there's an expanse of bright sky. Point the camera down to the ground; lock the exposure, recompose and shoot.

Available Light **::.** The light that's normal in a scene, although the term is generally used when the light level is low. Available light shooting usually involves fast film, low shutter speeds and apertures, and/or the use of a tripod.

B or Bulb **::.** A shutter setting that indicates that the shutter will remain open for as long as the shutter release is pressed. The term was derived from the rubber air shutter bulbs used to operate shutters in the old days. B settings are generally used in nighttime and time/motion study photography.

Backlighting **::.** From camera position, light that comes from behind the subject. Usually, a backlit main subject will be underexposed unless the metering system is set to read selectively off the subject, or exposure on a center-weighted meter is compensated accordingly.

Bellows **::.** This is an accordion-like, light tight device. On a camera, it goes between the lens and the camera body. When used as an accessory to a 35mm camera, it enables it to focus on a close subject and achieve a greater-than life-size magnification on film. On an enlarger, it goes between the lens and the enlarger head and the lens is focused by adjusting the length of the bellows.

Bellows Factor **::.** The exposure compensation necessary when focusing on close subjects, which becomes necessary when the subject is closer than ten times the focal length of the lens. As a lens is placed closer to the subject, focusing the lens causes it to move farther from the film and, therefore, less light falls on the film. Consequently the exposure must be increased.

Blur **::.** Un-sharpness because of the movement of the camera or subject during exposure. Blur can be used for many creative effects.

Bracketing **::.** this is a technique in which you make a series of images by keeping the either the f-stop or shutter speed constant and then varying the f-stops or shutter speeds settings (the opposite of you kept constant).Thus resulting in to give you an underexposed, correctly exposed, and overexposed image (in 1stop or more stops intervals) of the same scene. This is done to ensure one accurate image result. Some cameras have an auto bracketing mode where the camera fires off several frames of varying exposure in succession.

Brightness Range **::.** The difference in luminance from the darkest to lightest areas of the image.

Cable Release **::.** A flexible cable cord that screws in or snaps into the camera’s shutter release button or camera body so the shutter can be fired remotely with minimal shake. Some have a lock so that the shutter can be held open on the B setting this is useful for long exposures to avoid camera shake and for remote release of the shutter.

Center-Weighted **::.** In a metering scheme, an exposure system that takes most of its information from the center portion of the frame. Most center-weighted systems also take additional readings from the surround, but weight the reading towards the center.

Close Down **::.** A term that refers to making a photograph with less exposure than previously used. With apertures, using a narrower apertures; with shutter speed, using a faster shutter speed. For example, going from f/8 to f/11 means closing down the lens by one stop.

Close-up lens **::.** Sold by filter manufacturers such as Hoya and Cokin to improve the close focusing capability of a lens.

Color Balance **::.** The color balance of a film refers to the kind of light under which it will realistically render color without the need for filters. Most films are daylight-balanced, which means that in daylight, or with a daylight balanced flash, colors will be true. A tungsten-balanced film can be used under certain types of artificial light to give true colors without filters or special printing techniques.

Color Temperature **::.** The color of the light source measured in Kelvin (K). Most color films are balanced for 5500K which is the color temperature for average daylight conditions. Lower values produce a yellow/orange cast; higher color temperatures produce a blue cast. Color conditions that vary from the standards will create a color cast in photographs made with these films, e.g., a daylight film used with artificial light will record with an amber cast; a tungsten film used outdoors will record with a blue cast.

Contrast **::.** The relationship between the lightest and darkest areas in a scene and/or photograph. A small difference means low contrast; a great difference high contrast.

Conversion Filter **::.** A filter that gives allows daylight film to record color faithfully in artificial light or, conversely, for tungsten-balanced film in daylight. For example, orange conversion filters are used when exposing tungsten-balanced films in daylight, bluish filters for daylight-balanced films in tungsten light. Most useful to use with slide films, since color negative film imbalances can usually be corrected in the lab when prints are made.

Correct Exposure **::.** The combination of aperture and shutter speed that yields a full-toned negative or slide that yields the best possible tonal representation of the scene onto film variables.

Carte-de-visite **::.** Portrait photographs on a mount about the size of a postcard. Introduced in 1854, carte-de-visite became a social craze in many countries during the 1860s.

Differential Focus **::.** A technique used to emphasize part of a picture, by showing it sharply focused with the background out of focus.

Daylight-Balanced **::.** A film that will reproduce colors faithfully when exposed in daylight. The film can also be used with flash, as properly made flash or strobes yield daylight-balanced light.

Dedicated Flash **::.** An electronic flash head that coordinates with the camera's exposure system, and also sometimes with the camera’s focusing systems. Dedicated flashes may, among other things, automatically pick up the loaded film's ISO, set the camera shutter speed to X-sync, and "tell" the camera when its ready to fire.

Depth of Field **::.** The zone or range of distances within a scene that will record on film as sharp. Depth of field is influenced by the focal length of the lens in use, the f-number setting on the lens, and the distance from the camera to the subject. It can be shallow or deep, and can be totally controlled by the photographer.

Depth of Field - Preview Button **::.** A switch, button, or electronic push-button that allows for preview of the depth of field of the set aperture in the viewfinder. During composition the lens is wide open, thus the depth of field in the viewfinder is always that of the maximum aperture of the lens. It is very useful for critical selective focus shots.

Digital Camera **::.** A film less camera that converts light energy to digital information and stores that information in a buffer or directly onto a removable memory card.

Digital Darkroom **::.** The computer and image editing and manipulation programs.

Digitize **::.** The conversion of analog (film, print) information to digital form by use of a scanner, digital sensor or camera.

DX-Coding **::.** A system of film cassette coding and in-camera pins that informs the camera's exposure system that a specific speed and exposure length film is loaded. Most modern 35mm cameras have this feature.

Dark Slide **::.** A removable plastic or metal sheet that slides into a sheet-film holder or film magazine to protect film from light when the holder is removed from the camera.

E-6 **::.** The current developing process for the majority of today's color slide films; the term also refers to films developed by this process, such as E-6 type films.

Electronic Flash **::.** Known as a flash gun, strobe, or speed light, it consists of a gas-filled tube that is fired by an electrical charge. It can be mounted directly on the camera hot shoe (which links the shutter firing to the flash firing), or on a bracket or stand and be connected to the camera via a sync cord.

Emulsion **::.** This refers to the coating on the acetate film base. Emulsions consist of light-sensitive silver salts, color couplers, filters, and other layers that work together to both protect and form the actual photographic image on film.

Extension Tubes **::.** A set of three different sized hollow tubes that fit in any combination between the lens and camera body to extend the lens-to-film distance and increase its close focus capability.

Exposure **::.** The amount of light that enters the lens and come into contact with the film or sensor. Exposures are broken down into aperture, which is the diameter of the opening of the lens, and shutter speed, which is the amount of time the light strikes the film. Thus, exposure is a combination of the intensity and duration of light.

Exposure Latitude **::.** The range of exposures in which a satisfactory image will be produced on a particular type of film or sensor.

Exposure Meters **::.** Light reading instruments that yield signals that are translated to f-stops and shutter speeds. Reflected-light meters read light reflected off the subject; an incident meter reads light falling upon the subject. All in-camera meters are of the reflected-light type.

Fisheye Lens **::.** Extreme wide-angle lens with an angle of view exceeding 100° and sometimes in excess of 180°. Depth of field is practically infinite and focusing is not required.

Fast **::.** A term used to describe a film with a rather high light sensitivity, a lens with a relatively wide maximum aperture, or a shutter speed, such as 1/1000 second, that will freeze quick action.

Fill-In Flash **::.** Flash used outdoors, generally to balance a subject that is backlit. Can also be used to control excessive contrast, add light to shadows, or brighten colors on an overcast day.

Filters **::.** Any transparent accessory added to the light path that alters the character of the passing light. With film, filters can alter contrast, color rendition, or the character of the light itself (diffusion, diffraction, etc.) In printing, variable contrast filters are used to evoke different contrast grades from variable contrast black and white paper.

Fine Grain **::.** Usually found in slow speed films, a fine-grained image is one where the medium of light capture and storage, the silver halide grain, is virtually invisible in the print or slide. With high or coarse grain films (usually very high speed films) the texture of the grain becomes part of the physical reality, or weave of the image.

Flare **::.** In lenses, internal reflections and/or stray light that can cause fogging or light streak marks on film. In general, zoom lenses have more potential for lens light flares than fixed-focal-length lenses; in either case a screw-on lens hood helps reduce the problem.

Focal Length **::.** The distance from the lens to the film plane or sensor that focuses light at infinity. The length, expressed in millimeters, is more useful as an indication of the angle of view of a particular lens. A shorter focal length lens, such as a 28mm, offers a wider angle of view than a longer one, such as 100mm.

Focus Lock **::.** In auto focus camera systems, a button, lever, or push-button control that locks focus at a particular distance setting, often used when the main subject is off to the side of the frame or not covered by the auto focus brackets in the viewfinder.

Film Format **::.** This is used to describe the area of a film used by a camera to record a photo. A 35mm format camera records a 24x36mm image on the film. Medium format cameras record anything from 6x4.5cm to 6x17cm on 120 and 220 roll film. Large format cameras cover even larger areas starting at 4x 5 inches.

Front Curtain Synchronization **::.** When the flash fires an instant after the front curtain of a focal plane shutter has completed its travel across the film plane.

Gray Scale **::.** The range of tones, from bright white to pitch black that can be reproduced in a film and print.

Ground Glass **::.** A specially prepared glass used as the focusing screen in cameras.

Guide Number **::.** A number that relates the output of electronic flash when used with a particular speed film. The higher the guide number, the more the light output. Guide numbers, or GN serve as a way to calculate aperture when shooting flash in manual exposure mode. Dividing distance into guide number gives the aperture.

Graduated filter **::.** Filter with a colored section, which gradually reduces in density toward the center of the filter. The rest of the filter is clear.

Gray Card **::.** A card with an 18% percent gray tint (reflectance) used to determine exposure by taking a meter reading from subject light reflected by the card.

High Contrast **::.** A scene where the range between the brightest and darkest areas is extreme, or is such that it may cause exposure problems. A high contrast film renders scenes in high-contrast fashion with the absence of middle grays.

Hot Shoe **::.** The mount on the camera body in which electronic flashes are secured. Hot shoes usually contain electrical contact points that signal the flash to discharge when the shutter is fired.

Hyper Focal Distance **::.** The nearest point in the scene which is in focus when the lens is focused at infinity. This distance changes according to the focal length of the lens and the aperture at which it is set. Setting a lens at its hyper focal distance maximizes the depth of field when infinity must be kept sharp.

Incident Light / Incident Light Meter **::.** The light that falls on a subject, rather than that which is reflected off it. Many handheld meters are of the incident light reading type. Incident readings are made from the subject with the meter pointed back at the camera.

Infinity **::.** On a camera lens distance scale, the distance greater than the last finite number, and beyond.

Infrared Film **::.** Film which is highly sensitive to red/near infrared radiation. A red filter should be used to get the best effect with this film.

ISO **::.** A prefix on film speed ratings that stands for International Standards Organization, the group that standardizes, among other things, the figures that define the relative speed of films.

Large Format Camera **::.** General term for any camera having a picture format of 4 x 5 inches or larger.

Latitude **::.** The acceptable limits of things such as focusing, exposure and development.

Lens Coating **::.** A thin layer of transparent material applied to glass surfaces in a lens to control light reflections, reduce flare, and increase image contrast.

Lens range **::.** This is the manufacturers’ quoted focal length of the lens supplied with the camera.

Lens Mount **::.** In lenses, a specific set of pins and cams that couple with a particular lens to a particular camera body.

ME Mode - Multiple Exposures **::.** A camera mode that allows two or more pictures to be taken on the same part of the film. Digital photography allows this to be achieved much easier and far more accurately so it's less important to have nowadays.

Macro **::.** Another word for close-up photography, but specifically referring to taking pictures at or near life-size. Can be defined as a ratio for example, a 1:2 ratio means that the image on film is half-life-size of the object in nature.

Manual Mode **::.** An exposure "mode" where the exposure system recommends a setting that is then made by the photographer by selecting aperture and shutter speeds manually.

Maximum Aperture **::.** The widest opening or f-stop a lens affords. An f/1.4 lens is referred to as fast because it has a relatively wide maximum aperture; an f/4.5 lens is slow because of its relatively narrow maximum aperture. Fast lenses come in handy for hand held low-light photography.

Minimum Aperture **::.** The smallest opening a lens affords. Generally, wide angle lenses have a minimum aperture of f/22; normal lenses of f/16; and telephoto lenses of f/32.

Mirror Lens **::.** A lens where the light path is bent and reflected internally to increase the focal length of the lens; a simplified system that is usually less expensive than conventional super-telephoto (300mm and up) lenses.

Mirror Lock **::.** An extra feature found on only a few cameras that is used to lock the viewing mirror in the up position while the shutter is fired. The advantage is almost no vibration as well as the ability to keep up with an ultra-fast motor drive. This feature tends to be more common on medium format cameras because the mirror is larger and creates more vibration as it bounces out of the way of the film plane.

Medium Format **::.** A medium-format camera uses roll film to take pictures with 6cm width. These often have interchangeable backs so film can be swapped mid-roll and Polaroid or a digital back can be used to instantly proof a composition or exposure.

Mode **::.** A way of doing things. Exposure modes are pre-programmed, user-selectable ways of controlling the readings from the exposure system to meet certain subject or picture conditions. These include aperture-priority mode, shutter-priority mode, program-depth mode, etc.

ND (Neutral density) Filter **::.** A colorless grey filter that's used to evenly reduce the light reaching the film or CCD without affecting the color.

Napkins **::.** A cloth with four corners to wipe your faces Ahem! What did you think?

Overexposure **::.** In exposure, when too much lighting strikes the film for a proper rendition of the scene. Slight overexposure may cause a loss of details or texture in the scene highlights; severe overexposure will cause a serious deterioration of picture quality in color and black and white print film, and a complete loss of picture information with slide films.

Overrides **::.** Making adjustments or overriding to change the camera's auto exposure system reading. Some overrides include exposure compensation and changing ISO ratings.

Panning **::.** Is a camera photo or film shooting technique, where the subject is followed during exposure generally done with a slow shutter speed.

Photography **::.** Writing with light.

PC (Perspective control) Lens **::.** Another name for a shift lens that has a sliding front panel so the lens can be raised or lowered from its normal position to correct for verticals when shooting from high or low angles. Some also have a swing facility to control depth of field using the Scheimpflug rule.

Polarizing Filter **::.** A filter that transmits light waves vibrating in one direction, used to deepen blue sky with color film, tame contrast in very bright scenes, and to ``see'' through reflective surfaces, such as water and glass.
Positive: Another word for slide, as is "transparency". It’s also, a print from a negative.

Program Exposure Mode **::.** A preset arrangement of aperture and shutter speed that is programmed into the exposure system of a camera to respond to a certain level of brightness when the camera is loaded with a certain speed of film.

Reciprocity Failure **::.** Reciprocity law states that as you increase the intensity of light reaching the film you also need to decrease the speed it reaches the film by the equivalent amount. Most films work quite happily between exposures of 1/2sec and 1/1000sec, but to go beyond these extremes - the law fails. Compensation is required to adjust for this, but there is no strict rule to correct the error. Most film and paper manufacturers provide technical details on request with a rough guide to exposure adjustments with a very low intensity of light and a long exposure or a very high intensity of light and a correspondingly short exposure.

Reflected Light Meter **::.** A light meter that reads light reflected from the subject. All in-camera meters are of this type.

Reflex Viewing System **::.** A system of mirrors in an SLR that makes the scene right-reading in the camera's eye-level viewfinder.

Sprocket Holes **::.** Perforations on both edges of 35mm film, which engage with the teeth of the film transport mechanism.

Slow Sync **::.** Flash technique for using the flash at a slow shutter speed. Flash shooting in dim light or at night at a fast shutter speed often results in a flash-illuminated subject against a dark background. Using a slower shutter speed with the flash brings out the background details in the picture.

Saturation **::.** In color, a luminosity, or intensity. Some films have more inherent color saturation than others. Saturation can be slightly increased by moderate film pushes, or by slight underexposure of certain slide films. Saturation can be increased in color negative film by moderate overexposure.

Selective Focus **::.** The creative use of focus. Focus can be set so that one plane or subject in a crowded scene emerges, or for sharpness near to far in a scene that covers miles. Selective focus is achieved through the use of various focal length lenses, by altering camera to subject distance, and by changing f-stop settings.

Silhouette **::.** Photographic image in which the subject is seen as a solid black shape against a light background.
Shutter: In a focal plane shutter, a set of curtains travels past the film gate and allows light to strike the film within a set period of time. A leaf shutter is located within the lens itself.

Shutter Release Button **::.** The button that releases the shutter and ``fires'' the camera. Many shutter release buttons have two stages-slight pressure actuates the meter or auto focus system (or both), further pressure fires the shutter.

Shutter Priority **::.** An auto exposure mode where the shutter speed is user-selected and the exposure system chooses an appropriate aperture for correct exposure.

Shutter Speed **::.** An element of exposure; the duration of time in which light is allowed to strike the film.

SLR- (Single-Lens-Reflex) **::.** A type of camera that has a movable mirror behind the lens and a ground glass for viewing the image. Film sits behind the mirror assembly, which swings out of the way when an exposure is made. "Single-lens" distinguishes it from TLR, or twin-lens-reflex cameras, where separate lenses are used for viewing and taking.

Slide **::.** A positive image on a transparent film base, used for projection viewing, printing, or photomechanical reproduction.

Slow **::.** A term used to describe a film with a relatively low sensitivity to light, a lens with a fairly narrow maximum aperture, or a shutter speed at or below 1/30 second.

Soft Focus **::.** A picture, or an area in a picture that is left slightly out-of-focus for effect, or a lens or filter that diffuses light and "softens" the overall scene.

Spot Meter & Metering **::.** Used to get accurate light readings of a small part of a subject. It uses a narrow angle of view to measure within limited areas. Some spot meters have coverage as broad as 8-degrees (this might also be called selective field metering) or, with a handheld spot meter, as narrow as 1-degree. Many incident meters now have spot metering options. Spot metering is always a reflected light reading, thus is subject to that type of meter's failures. Taking an exposure reading from a very select portion of the frame. Cameras with built-in spot metering indicate this portion with a circular ring in the viewfinder screen.

Stop **::.** A relative measure of light that can be used to describe an aperture or shutter speed, although it is more commonly used with aperture settings. A difference of one stop indicates half or double the amount of light. To stop down means to narrow the aperture; to open up means to expand it.

Synchronization, or Sync **::.** The timing of the firing of the flash to coincide with the opening of the shutter so that the maximum light from that flash records on the film.

Sandwiching **::.** Combination of two or more negatives or film positives in the negative carrier or masking frame when printing or enlarging.

Sheet Film **::.** Light-sensitive film that’s held in sheet film holders for use in large format cameras.

Shift Camera **::.** A camera designed for architectural photography that has a wide angle lens mounted on a panel that moves up, down or sideways to correct perspective.

Twin Lens Reflex (TLR) **::.** Camera having two lenses of the same focal length. One is used for viewing and focusing, the other for exposing the film.

Telephoto **::.** A generic name for a lens with a focal length of higher than 50mm and an angle of view less than 45 degrees (with 35mm format.) A moderate telephoto might be in the 80mm class; a medium telephoto in the 135mm grouping; while a long-range or extreme telephoto might have a 300mm or higher focal length.

T (Time Exposure) **::.** Shutter speed setting used for timed exposures longer than the numbered settings. The shutter opens when the release is pressed and closes when it is pressed again. Now largely super ceded by B (Bulb).

Time Lapse Photography **::.** Method of recording chemical and physical changes in a subject over a period of time by photographing it at regular intervals from the same viewpoint.

Tripod: A three-legged device with a platform or head for attaching the camera, used to steady the camera during exposure. It is most useful for exposures longer than 1/30 second, or when a constant framing must be maintained throughout a series of shots.

TTL **::.** Abbreviation for "through-the-lens" as referring to a metering system in which a suitable light sensitive mechanism within the camera body measures exposure from the image light passing through the lens.

Type "C" Print **::.** A general reference to color prints made from color negatives.

Type "R" Print **::.** A general reference to color prints made from positive slides and transparencies. May refer to various direct-from-slide printing papers from Kodak and Fuji or others. Ilfochrome Classic printing can be considered a subset of Type "R" printing, but is usually referred to by name (or as Cibachrome) since its unique properties set it apart from other Type "R" processes.

Type A film **::.** Color film balanced to artificial light sources at a color temperature of 3400K.

Type B film **::.** Color film balanced to artificial light sources at a color temperature of 3200K.

Type D film **::.** Obsolete term for film balanced for daylight.

Tele-Converter **::.** A lens accessory that fits between the camera lens and body to increase the focal length by 1.4x, 1.7x or 2x.

Tungsten-Balanced **::.** Film that it balanced to reproduce colors faithfully when exposed under artificial tungsten light sources.

Underexposure **::.** Failure to expose correctly because not enough light has struck the film or sensor to faithfully render the color and brightness values. Underexposed pictures are dark; the more the underexposure the darker they become. Color also suffers when film is underexposed, although a slight amount of underexposure can be used to increase color saturation in certain color slide films.

UV Filter **::.** A clear, colorless filter that stops most ultraviolet rays from recording on film. Handy for shooting distant landscape shots, as it eliminates the bluish haze that might otherwise veil the picture.

View Camera **::.** Is a large format camera which has a ground glass screen at the image plane for viewing and focusing.

Variable Contrast **::.** A type of black and white printing paper that when exposed under different color light yields different printing contrast grades.

Viewfinder **::.** The viewing screen in an SLR on which composition takes place; viewfinders may also contain various guides to exposure, focus, and flash-readiness. In all senses, the control panel from work is done.

Washed Out **::.** Photographer’s Jargon for seriously overexposed slides, or overexposed highlight areas within slides and prints. It's as if the colors have been diluted to the extent that all pigments have been "washed out."

Wide-Angle Lens **::.** A lens that offers a wide angle of view, usually in the 35 to 24mm focal length range. Ultra-wide-angle lenses usually range from 20mm to 8mm. Wide-angle lenses also allow use of very deep zones of focus.

Warm Colors **::.** Are any colors which, by association, suggest warmth, such as red, orange and yellow.

X setting (X sync) **::.** Is the setting that causes the flash to burst in synchronization with the shutter. For some manual cameras, the X synch speed refers to the maximum speed that the camera can synchronize with the flash.

Zone Focusing **::.** A way to focus that utilizes the depth of field scale rather than the actual distance from camera to subject. Zone focusing is most useful for candid, street photography.

Zone System **::.** An exposure calculating system based upon pre-visualizing the scene as a set of tonal variations, and exposing and developing to maximum that tonal set.

Zoom Lens **::.** A lens on which the focal length can be varied, as opposed to a fixed focal length lens. Zooms come in various focal length ranges, such as 35 to 105mm; all focal lengths including and within this range can be utilized.

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