

DIGITAL PHOTOGRAPHY A-Z

**2026
edition**

Rod Lawton

- Camera settings
- Autofocus
- Exposure
- Lenses
- Sensors
- Video
- Tripods
- Lighting
- Accessories
- ...and more

DIGITAL PHOTOGRAPHY A-Z 2026 EDITION

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How to use this A-Z

There's not much to it, really. This book is simply an A-Z of digital photography terms in alphabetical order (which you guessed, right?).

I've kept these short so that the whole thing stays manageable. I figure that most of the time you just want a quick indication of what a thing means, not a long essay about its history.

However, most entries have one or more links to articles live on the photo-facts.com website, so click on these if you want to find out more.

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A

Aberrations • These are optical flaws and limitations in camera lenses and which are largely unavoidable except in the most expensive lens designs. They include distortion, chromatic aberration (color fringing), vignetting (corner shading) and edge softness. [Lens aberrations explained](#)

ACROS (Fujifilm) • A black and white film simulation mode added to newer Fujifilm cameras. It's designed to give richer, more intense tonal rendition than the regular monochrome film simulation. Film simulations only apply to in-camera JPEGs. If you shoot raw files, they are typically ignored. [Picture Styles and Film Simulations](#)

Action camera • A small, simple and largely automated video camera designed to attach to a helmet, handlebars, surfboard or any other kind of object and provide dramatic first-person video of adventure sports and other activities. [Camera types](#)

Active D-Lighting (Nikon) • An exposure mode on some Nikon digital cameras which aims to balance up the exposure in high-contrast scenes. The camera reduces the exposure to make sure it captures bright highlight detail and then processes the image to brighten up dark shadows. It is applied to JPEG images processed in-camera – RAW files are not affected. [Exposure](#) | [Dynamic range](#)

Adobe RGB • Professional color space offered by more advanced cameras that captures a slightly wider color gamut than the usual sRGB color space. It can be useful if pictures are destined for commercial print production, where colors are rendered using a different process, but it does introduce complications with color profiles and monitor calibration. [Color management](#)

AE-L/AF-L • This stands for AE (auto-exposure) and AF (autofocus) lock. It's often useful to fix the exposure settings and focus point ahead of taking a picture, and most cameras have an AE-L/AF-L button for this. You can also configure this button to lock only the exposure or the focus, not both. [Exposure basics](#) | [Autofocus basics](#)

AF Assist • In dim lighting the camera's autofocus system may struggle to lock on to your subject, but on some cameras a lamp on the front of the camera will shine a bright, tightly focused beam of light at your subject to help the autofocus system lock on. Not all cameras have or need this kind of focus assistance. [Autofocus basics](#)

AF fine tune • Sometimes autofocus systems can lead to small focus misalignments like 'front focus' or 'back focus', so more advanced cameras have an autofocus fine tune feature to correct any discrepancies. [Autofocus basics](#)

AF (autofocus) point • A point in the scene where the camera can check for sharp focus. Typically, the more focus points offered by a camera the better because this gives you more choice about where to focus, and usually indicates a faster and more sophisticated focus system. [Autofocus basics](#)

AF-P (Nikon) • An autofocus technology introduced briefly by Nikon in some later consumer-level DSLR lenses. The AF-P system uses stepper motors for a fast, quiet and smooth autofocus action that's especially well suited to video, where you don't want fast, sharp focus movements or audible motors that you can hear in the video. [Autofocus basics](#) | [Nikon lens jargon](#)

AI (artificial intelligence) • Machine-based learning which interprets the contents of the image in a sophisticated way to produce better enhancements or better object and scene recognition. Adobe amongst others is pioneering the use of AI for sophisticated subject masking, subject recognition, and object and image creation. [AI in photography](#)

AI credits • Charges made for generative AI processing, sometimes on an image-by-image basis but more often built into ongoing subscription plans offering a maximum number of credits per month. Credits do not relate directly to real currency and credit 'charges' can escalate alarmingly. [AI in photography](#)

Algorithm • A generic name for the mathematical calculations behind many camera processes. For example, a camera maker may update one of its cameras with a new focusing algorithm – the hardware is unchanged but the calculations and analysis are improved. [Autofocus basics](#)

Alpha (Sony) • 'Alpha' is the generic brand name used by Sony for its interchangeable lens cameras. This has been confusing because Sony made cameras in two types – SLT (single lens translucent) and mirrorless models. Both are Alphas. Sony's currently Alpha range consists solely of mirrorless cameras, however. [Lens mounts explained](#)

Aluminum (tripods) • Aluminum legs keep tripod costs down but does add to the weight. This isn't usually a problem if you're traveling short distances or working from the back of your car, but if you're taking a travel tripod on a vacation or hiking any great distance, a more expensive carbon fiber tripod will give a better balance between rigidity and weight. [Tripods explained](#) | [Tripod head basics](#)

A-mount (Sony) • Lens mount used by Sony's now-discontinued Alpha SLT cameras. Because these cameras have a mirror in the body, even though it's a non-moving one, the rear of the lens is further from the sensor, so Alpha mount lenses are physically different to Sony's E-mount lens range. [Lens mount explained](#)

Analog • A term now used to design old-fashioned cameras, films and chemical processes to capture images – so you can get 'analog' cameras, 'analog' films and 'analog' image effects which replicate the look of these old processes. [Film photography basics](#)

Anamorphic lens • A lens which compresses the scene horizontally to capture a wider angle of view which is then 'decompressed' to produce regular proportions again in a very wide aspect ratio. It's effective for producing very wide cinematic footage using regular digital sensors with visual quirks which are currently fashionable. [Lens types explained](#)

Anti-aliasing filter • Another name for the 'low pass' filter fitted in front of most camera sensors. It's designed to prevent digital artefacts such as moiré patterns and color fringing caused by interaction between fine linear or rectangular patterns in real-world subjects and the camera's rectangular grid of photosites. [Sensor basics explained](#)

Aperture/iris ring • A physical ring on some lenses for controlling the lens aperture directly. It's considered a very desirable feature by some photographers and near-essential for serious filmmaking and video work. [Lens features and what to look for](#)

Aperture (lens) • This is the adjustable hole in the lens diaphragm that controls how much light passes through the lens, and is used to adjust the exposure. Aperture setting values are the same across all cameras and lenses. The maximum aperture - how wide the lens opening can go - is a big selling point because wider apertures let more light through. [Lens aperture explained](#)

Aperture blades • The adjustable aperture in the lens diaphragm is created by a set of overlapping metal leaves, or 'blades'. The greater the number of blades, the rounder the hole created and the better the lens's 'bokeh' in out of focus areas. Aperture blades are often curved, too, to enhance that circular shape. [Lens aperture explained](#) | [Lens features and what to look for](#)

Aperture priority (A) mode • This is an exposure mode on more advanced cameras where you choose the lens aperture yourself and the camera then sets a shutter speed that gives you the correct exposure. This gives you creative control over depth of field, for example, without losing the convenience of automatic exposure. [Lens aperture explained](#) | [Camera shooting modes](#)

Apochromatic (APO) lens • Designed to offer improved correction of lens aberrations such as chromatic aberration and spherical aberration using specialized materials and combinations of lens elements. It's a selling point for lenses, though it only indicates the lens design used and isn't necessarily a guarantee of good performance on its own. [Lens aberrations explained](#)

Apodization element • An optical element introduced into a lens to produce softer and more natural defocused areas, or 'bokeh'. It's essentially a radial graduated filter element and described differently by different makers, such as 'APD' by Fujifilm, 'STF' (Smooth Trans-Focus) by Sony or 'DS' (Defocus Smoothing) by Canon. [What is bokeh?](#) | [Lens types explained](#)

APS-C sensor • This is a common sensor size in cameras designed for enthusiasts and beginners and it's found in consumer DSLRs, mirrorless compact system cameras and some high-end compacts. APS-C sensors are around half the size of a full-frame sensor or the 35mm negative, and measure approximately 24 x 16mm. [Sensor size explained](#)

Arca Swiss • Many tripod heads come with quick release camera plates, and some are specific to that tripod maker and tripod, which can be annoying, Arca Swiss plates use a standard design that means they should be interchangeable across tripod brands. It's a good selling point in a tripod head. [Tripods explained](#) | [Tripod heads](#)

Articulating LCD • A rear LCD screen that can be flipped out and swiveled to face in any direction. This can be especially useful for filming video clips and for composing still images in confined spaces or at awkward angles. Some cameras offer tilting LCDs instead. [LCD displays on cameras](#)

Aspect ratio • This the picture's proportions in width versus height. DSLR sensors have a 3:2 ratio, so that photographs are 3 units wide to 2 units high. Most compact camera sensors have a slightly squarer 4:3 aspect ratio. It doesn't matter what the units are – the ratio stays the same. [Aspect ratios. explained](#) | [Sensor size basics](#)

Aspherical lens • Aspherical lenses offer better correction for many common lens aberrations than regular spherical lenses. Lenses with a spherical profile are easier to grind into the correct shape, but aspherical lenses have a more complex profile that's more difficult and more expensive to make. Many modern lenses use molded aspherical elements. [Lens types explained](#) | [Lens aberrations](#) | [Lens features and what to look for](#)

Audio monitoring • Using headphones or earbuds to monitor audio directly when recording video. This will give you a better idea of how the video sounds, the intrusiveness of any background noise and whether speech is clear and audible. Many cameras have headphone sockets for this, as do some microphones. [Microphone types explained](#)

Audio recorder • Separate recording device that can be placed near interviewees, for example, where the audio signal is synchronized with the video later. [Microphone types explained](#)

Auto exposure • This is where the camera measures the light levels in the scene using its in-built light meter, works out the exposure value and then sets a shutter speed and lens aperture to give the correct exposure. Practically all cameras have auto exposure systems and it's only the more advanced models which offer manual exposure. [Exposure and how it works](#) | [Camera shooting modes](#)

Autofocus • Practically all cameras have automatic focusing systems where they can check the focus at different points around the frame and then adjust the lens's focus so that that point in the scene is precisely in focus. The autofocus system will either operate once only before you take the shot (single-shot AF mode) or constantly (C-AF) mode. [Autofocus basics](#) | [Manual focus and when to use it](#)

Auto ISO • On simpler cameras the Auto ISO option simply increases the ISO setting in poor light to keep shutter speeds high enough to avoid camera shake. On more advanced cameras you can program in both the maximum ISO you want to use and the minimum shutter speed, which makes Auto ISO much more useful. [ISO basics](#) | [Camera shake](#) | [Exposure and how it works](#)

Average metering • Simple type of exposure reading where the camera's light meter just measures the total amount of light in the whole scene. It often leads to underexposure because bright areas in the scene have a disproportionate effect. Some photographers still like it because although it's a crude way of measuring the light, it's quite predictable and easy to interpret. [Metering patterns explained](#) | [Exposure and how it works](#)

B

Back button focus • Usually the camera will autofocus when you half press the shutter release button, but on more advanced cameras it's possible to split off focus activation and assign it to a button on the back of the camera. Sports and action photographers generally find this a much more effective way to take pictures. [Autofocus basics](#)

Back-illuminated/BSI sensor • A newer type of sensor where the circuitry has been moved to the back so that the light receptors on the front are unobstructed. This gives a modest but useful improvement in light-gathering power, digital noise and overall image quality. [Sensors explained](#)

Backlighting • This is where the lighting for the scene shines directly towards the camera and through or around the subject. It can make the exposure difficult to work out because the camera's light meter needs to work out whether to set the exposure for the bright background or your subject, but it can produce striking lighting effects. [Exposure basics](#) | [Metering patterns](#)

Ball head • A ball head is a tripod head where the camera movement is locked with a single lever or knob. The camera is mounted on a post fixed to the ball and when the head is slackened off the ball can move freely in any direction. Some ball heads also have a friction control for more controlled movement. [Tripod heads explained](#)

Barrel distortion • This is where straight lines near the edge of the picture appear to bow outwards, and you see this a lot with zoom lenses at their wide-angle setting. Barrel distortion is very difficult to eradicate completely from the lens design, but it can be fixed using software, and some cameras now have distortion correction built in. [Lens aberrations explained](#)

Battery grip • This is an accessory that attaches to the bottom of some DSLRs and mirrorless cameras. It provides a longer battery life for long periods of shooting and it's popular with sports and action photographers. Battery grips often have duplicate controls for shooting with the camera in a vertical position for busy portrait and fashion photographers. [Continuous shooting](#) | [Battery basics](#)

Battery life • This is usually quoted as the number of shots you can expect to be able to take before the camera's battery runs out. Battery life is normally quoted using the CIPA standard so that battery life can be compared in standardized conditions. [Battery basics](#)

Bayer sensor • Most camera sensors use a single layer of photosites (pixels). These are only sensitive to light, not color, so a mosaic of red, green and blue filters (the 'bayer pattern') is placed on top of the sensor's photosites so that individually they capture red, green or blue light. These colors are 'demosaiced' to produce full color data for each pixel. [Sensor basics](#)

Bayonet mount • A twist-lock mechanism used almost universally for mounting lenses on camera bodies. You line up two dots, one on the lens barrel and one on the camera body and insert the lens, then twist the lens in the mount until it locks into place. The lens is released again by pressing a button on the camera body to release a catch, then twisting and removing it. [Lens mounts explained](#)

Bits and bit depth • 'Bits' are the basic building blocks of digital data, and the more bits of information used in digital images, the subtler the colors and tonal transitions. Bits and pixels are related, in that the greater the 'bit-depth' used to create a pixel, the better the quality of the color/tone information in that pixel. [Bits and bit depth explained](#)

Black and white • Black and white suits some subjects extremely well, drawing more attention to shapes, lighting and composition. Most cameras have black and white picture modes, which is very useful when you're composing images, but you get more control over the results by converting color images to black and white on a computer later. [Picture styles and film simulations](#)

Black and white filters • When you shoot in black and white, the camera or the film is converting different colors into shades of gray. When you use a colored filter, you're shifting and changing the brightness of the different colors in the scene, and this changes their shade of gray in the photograph. This is why they're sometimes called 'contrast' filters too. [Filter basics](#)

Blackout free shooting • Mirrorless cameras use electronic viewfinders which can be a handicap during high-speed burst shooting and panning because they are always displaying the last image captured and not an actual 'live' view (in normal photography you don't notice this). More advanced cameras may offer 'blackout free' viewing. [Continuous shooting explained](#)

Bokeh • A Japanese word to describe the particular visual quality of out of focus areas in a picture. 'Bad' bokeh produces unnatural-looking outlines and highlights, while 'good' bokeh looks 'creamy', smooth and natural. Good bokeh is associated with the shape of the diaphragm in the lens. [What is bokeh?](#) | [Lens aperture](#) | [Depth of field](#)

Bokeh fringing • A type of chromatic aberration that appears around defocused objects rather than around sharp outlines. Also called 'longitudinal' chromatic aberration, it's difficult to edit out in software so wide-aperture lenses designed for background blur also need to be well corrected for bokeh fringing. [Lens aberrations explained](#) | [What is bokeh?](#)

Boom • A boom is essentially a horizontal pole used to position a microphone or other accessory closer to the subject but just out of shot. It's used widely when shooting movies or videos. Some tripods also offer a 'boom' mechanism for extending the camera horizontally from the tripod for awkwardly placed subjects. [Microphone types and uses](#)

BR blue refractive glass • A special and expensive glass material used in some pro-level Canon lenses to reduce aberrations like chromatic aberration and bokeh fringing. [Lens features and what to look for](#)

Bracketing • Taking the same shot at a series of different exposures with the intention of choosing the best one later or merging them together to create an HDR image. Almost all cameras offer an auto exposure bracketing option. Some cameras offer other types of bracketing, e.g. white balance bracketing or focus bracketing. [Exposure basics](#) | [Dynamic range explained](#)

Bridge camera • This is a compact camera with an extremely long zoom range, sometimes as much as 50x, 60x or more, and designed to act as a 'bridge' between regular compact digital cameras and digital SLRs. The lens can't be swapped, though, and bridge cameras mostly have small sensors, which restricts the picture quality. [Camera types explained](#)

Brolly • A lighting modifier for professional flash systems. It's designed to provide a much larger, softer light source than a naked flash head. It's just like a regular umbrella, but the inner surface is highly reflective. The flash is positioned to point directly into the inside of the brolly and this surface reflects the light back to the object or scene you're photographing.

Bubble bokeh • A type of bokeh (out of focus blurring) where the bokeh disks have a bright outer ring and a dimmer interior. It's an effect popular amongst some portrait and lifestyle photographers.

[What is bokeh?](#)

Buffer • This is short-term internal memory used by a camera to store image data captured by the sensor while it's waiting to be processed and saved to the memory card. It becomes important in the camera's continuous shooting mode because the larger the buffer, the longer you can keep shooting. [Continuous shooting basics](#)

Bulb (B) exposure • Usually, the camera's exposure time is set by the shutter speed you've selected, so that the exposure ends automatically. But in Bulb mode the shutter stays open for as long as the shutter button is held down, so it's used a lot for night photography, where exposures can range from 30 seconds to 30 minutes (in moonlight). [Shutters explained](#)

Burst mode • This is another name for 'continuous shooting' mode. In this mode, the camera keeps taking pictures all the time you hold down the shutter button, right up until the time you release the button or the camera's internal memory buffer fills up and it has to stop to process and save the pictures to the memory card. [Continuous shooting basics](#)

C

C4K • A slightly 'wider' variant of 4K video (normally '4K UHD') which has a resolution of 4096×2160 pixels. Many cameras which can shoot conventional 4K UHD video may not be able to offer the same frame rates in the wider C4K format. C4K capture is sometimes used as a selling point, but you may not need it at all.

[Video basics](#) | [Aspect ratios explained](#)

Cable release • The old-fashioned way of firing a camera remotely so that you don't jog the camera by pressing the shutter button. The cable screws into a thread in the shutter release button and you push the plunger on the other end of the cable to fire the shutter. Most cameras use wireless remote controls - though a few still have threaded shutter buttons. [Camera accessories](#)

Cage • External frame which wraps tightly around a camera body to offer mounting points for video accessories like lights, microphones, external recorders and handles. [Video accessories and what they do](#)

Camera accessories • A basic camera and lens setup will only get you so far. You might need a range of accessories like tripods, filters or lighting to explore all the genres and subjects that photography offers. [Camera accessories and what you need](#)

Camera bag • These are designed specifically for holding camera gear, with a padded interior separated into compartments with padded dividers which you can usually rearrange to suit your kit. Camera bags fall into a handful of main types: backpacks, roller bags, shoulder bags, messenger bags, sling bags and camera pouches. [Camera bags](#)

Camera shake • Image blur caused by camera movement during the exposure. The longer the exposure (i.e. the slower the shutter speed), the more time there is for camera movement to take place. Any movement is also exaggerated with longer focal length lenses (telephotos). [Camera shake](#) | [Image stabilization](#) | [Shutter speed and why it matters](#)

Carbon fiber • Carbon fiber is very light and very strong, so it's popular for tripod legs, where balancing weight and rigidity is especially important. Carbon fiber is expensive, however, so many tripod makers offer both aluminum (cheaper but heavier) and carbon fiber versions of their tripods. [Tripod basics](#)

Card reader • Device used for easily transferring photos from a memory card to a computer. Card readers plug into a computer's USB port and have slots for inserting memory cards. When the card is inserted it appears on the computer's desktop as an external disk drive. It's then an easy matter to copy photos across to the computer. [Memory cards explained](#)

Cardioid mic • Many microphones have a cardioid, or heart-shaped pickup pattern designed to pick up sound from in front of the mic and the sides, but not from the rear – though supercardioid mics may also have a small additional rear pickup pattern to allow for the narrator's voice, for example. [Microphone types explained](#)

Cat's eye bokeh • Where bokeh discs in out of focus areas become flattened out towards the edges of the frame into the shape of a cat's eyes. It's generally considered a bad thing but lens 'flaws' go in and out of fashion and one day it may be considered a highly desirable retro effect. [What is bokeh?](#) | [Depth of field explained](#)

CCD • An older type of digital camera sensor still used on a few specialized cameras but now mostly replaced with more efficient CMOS sensors. These produce less heat and noise and are better suited to use in cameras with full time live view and video features.

[Sensor basics](#)

Center column • The main part of a tripod is the three legs, but most also have a center column that extends upwards still further for extra height. Some tripods have removable center columns or geared columns. In some cases the center column is on a hinged mechanism so that it can be rotated and used as an angled boom for overhead shots or close-ups. [Tripod basics](#)

Center weighted metering • One of the various light metering patterns offered on digital cameras. It's a relatively crude system which averages the light across the whole scene but gives special emphasis to the center. Its simple response to scenes actually makes it easier for experienced photographers to interpret the results. [Metering patterns explained](#)

CFA (Color Filter Array) • The array of tiny red, green and blue filters that cover the photosites on camera sensors to record different colors and then combine them to produce full color images. Color Filter Arrays come in different formats, but the most common is the Bayer pattern, which uses a grid of one red, two green and one blue filter. [Sensor basics](#)

CFast • CFast memory cards are a development of the old Compact Flash memory card format, but with much higher performance for today's high-resolution, high-speed video capture. However, while some cameras still use the CFast format and CFast cards are still available to buy, it does look as if the newer CFexpress Type B format has already taken over. [Memory cards and types](#)

CFexpress Type A • A new memory card type design for higher speeds and capacities, especially for video capture. Type A cards are smaller than the more common CFexpress Type B, though also slower and more expensive. They are currently used in Sony cameras, where they can fit into dual-format SD/CFexpress Type A memory card slots. [Memory cards explained](#)

CFexpress Type B • A new memory card format that combines the high speeds and high capacities needed for today's high resolution video capture and high speed stills photography. They are physically identical to the short-lived XQD card format. Indeed, some cameras which used XQD cards have been updated to use CFexpress Type B. [Memory card basics](#)

Chromatic aberration • A lens aberration that produces color fringing around the outlines of objects near the edges of the picture. It's very hard to eradicate completely from lens designs without making them extremely complex or expensive, but it is quite easy to correct the most common lateral chromatic aberration using software or in-camera. [Lens aberration explained](#)

Cinema/cine lens • A lens specially adapted for video and filmmaking rather than stills photography. Cine lenses typically have stepless 'declicked' iris (aperture) rings, T-stops rather than aperture values and geared focus control wheels for add-on follow focus controls. [Lens features and what to look for](#)

CIPA • Stands for the Camera and Imaging Products Association, an independent body which creates standards for measuring different aspects of camera performance such as battery life or image stabilization. When a camera quotes CIPA results you know the tests have been carried out in standardized conditions. [Battery basics](#) | [Image stabilization](#)

Clarity • A tool which boosts the local contrast around object edges to make them stand out more clearly without changing the global contrast in the photo. It's a great way to add life and 'punch' to subjects photographed in flat lighting and is increasingly offered as part of in-camera picture styles. [Picture styles and film simulations explained](#)

Clean HDMI • Uncompressed, higher quality video carried over a camera's HDMI port to an external recorder. 'Clean HDMI' is a kind of early precursor to today's high-quality HDMI output, where cameras can record higher quality video to external storage devices than they can internally to memory cards. [Video basics](#)

Clipping • For photographers, 'clipping' is where the image histogram is cut off abruptly at one or both edges. It means that some image detail is completely lost in solid black shadows (shadow clipping) or completely white highlights (highlight clipping). For videographers, it can also mean audio clipping, where the sound levels are briefly too high. [Exposure basics](#) | [Dynamic range explained](#)

Close up • This is a pretty vague term that describes any photography at closer than normal distances. Most camera lenses can shoot close-ups, but if you want to get closer still for true life-size 'macro' photography, which does have a proper definition, then you will need a dedicated macro lens. [Macro photography and how it works](#)

Close up lens/filter • Glass filters that screw on to the front of a lens to focus right up close on small objects. Often sold in sets of three lenses with different strengths. [Macro photography and how it works](#)

CMOS • This is the most common type of sensor in today's digital cameras. One of its main advantages is its lower heat output compared to the CCD sensors used in the past. This makes it particularly suitable for cameras with larger sensors and mirrorless cameras where the sensor is always 'on'. [Sensor basics](#)

Codec • A combination word made up of the process of encoding and decoding video data, where the challenge is to compress large quantities of video capture data into a form that can be easily stored, transmitted and displayed. Many different codecs exist, though some are much more widely used than others, such as the H.264 and H.265 codecs. [Video basics](#)

Cold shoe • Most cameras have a hotshoe for attaching flashguns and other accessories. These are 'hot' because they have the electrical contacts needed to connect with and trigger the accessory that's been added. A cold shoe is simply the same kind of mounting plate but without the connections and is used widely for video accessories. [Video basics](#) | [Video accessories and what they do](#)

Color fringing • Another term for chromatic aberration, where colored fringes appear around object outlines towards the edges of the frame. Regular 'lateral' chromatic aberration is easy enough to fix in-camera or in software, but longitudinal 'bokeh' fringing is much more difficult to deal with. [Lens aberrations explained](#)

Color management • For designers and professional photographers it's often important to maintain consistent color rendition from the camera, through to the computer display used for browsing and editing photos and right through to the final output device using software 'profiles', monitor calibration and printer calibration tools. [Color management explained](#)

Color noise • One of the two types of digital image noise and caused by random variations in the color of neighboring pixels. Color noise is relatively easy for software to remove without any significant impact on the image quality. Luminance (contrast) noise is the other type, and much more difficult to remove effectively.

[Noise and noise reduction](#)

Color space • Different devices can't always display the same range of colors, so your camera may be able to record a wider range of colors than your computer monitor or tablet can display, for example – in other words, the monitor offers a smaller 'color space'. [Color management explained](#)

Color temperature • A traditional technical measurement for the white balance setting that uses temperature values in degrees Kelvin rather than named presets like 'Direct Sunlight', 'Cloudy' and so on. Color temperature is also used for choosing and controlling the color of photographic lighting. [White balance explained](#)

Commercially safe • Images which will not infringe intellectual property rights by showing identifiable trademarks or products. The concept has been introduced by Adobe to protect users of its Firefly generative AI model. It's specially a generative AI issue. [AI in photography](#)

Compact camera • You might imagine that this refers to smaller, pocket-sized cameras but the definition is a little wider than that and includes any camera with a fixed (non-interchangeable) lens. 'Compact cameras' include regular point-and-shoot compact cameras, high-end compacts and bridge cameras. [Camera types explained](#)

Compact Flash • An older, larger memory card type used in older DSLRs, for example. It's around twice the size of SD card format and thicker too. Compact Flash memory card capacity is measured in the same way in GB (Gigabytes) but speed standards may vary, especially for video use. Professional CF cards offer similar speeds and capacities to pro SD cards. [Memory card basics](#)

Compact System Camera (CSC) • An earlier name for 'mirrorless' cameras and used to distinguish them from digital SLRs. They are 'system' cameras in that they take interchangeable lenses and accessories – just like a digital SLR. However, they don't have a DSLR's mirror mechanism, and this 'mirrorless' design makes them more compact. [Camera types explained](#)

Compression • A software process that reduces the storage space taken up by photo or video image files. It comes in two type: 'lossless' and 'lossy' compression. Lossless compression is used by TIFF files, for example, while lossy compression is used for the JPEG format and produces much smaller files. [File formats explained](#)

Condenser mic • The most common type of microphone, which uses a small but highly sensitive condenser type pickup in a variety of microphone styles, from desktop USB 'podcasting' mics, to wireless lavalier (lapel) mics and on-camera directional or shotgun microphones. [Microphone types and uses](#)

Constant aperture zoom • A more expensive, professional zoom type where the maximum aperture is the same right across the zoom range. This offers better low light shooting capabilities and simpler/more consistent exposure adjustments. [Lens features and what to look for](#)

Continuous AF (autofocus) • In continuous AF (autofocus) mode, the camera continually refocuses all the time you have the shutter button half-pressed or fully-pressed. It's used in continuous shooting mode to keep moving subjects in focus as you follow them with the camera. Continuous AF mode may include subject tracking or predictive autofocus capability. [Autofocus basics](#)

Continuous lighting • This is photographic lighting which is on all the time. This is in contrast to flash (or strobe) lighting, which fires in a very brief, bright burst at the moment the camera shutter opens. Continuous lighting is used for video and it's also popular amongst photographers who prefer to see the light 'live'. [Camera accessories and what you need](#) | [Video accessories and what they do](#)

Continuous shooting • In this mode the camera keeps taking pictures for as long as you hold down the shutter release button. The speed it can take them is the continuous shooting speed, which is quoted in frames per second (fps), and the number the camera can take is determined by the camera's internal memory buffer capacity. [Continuous shooting explained](#)

Contrast AF (autofocus) • A relatively simple autofocus system that measures the contrast around the edges of objects and then adjusts the focus to see if the contrast goes up or down. When the contrast is highest the subject is in focus. Contrast AF is accurate but not as fast as phase detect autofocus, which is now widely used. [Autofocus basics](#)

Contrast filter • A color filter used in black and white photography to change the shade of gray that colors are reproduced as. They're called 'contrast' filters because they can change the contrast (in shades of gray) between different colors. [Camera filters and when to use them](#)

Converging verticals • A type of perspective distortion caused by tilting the camera upwards to photograph tall buildings. It's worse with wideangle lenses because they let you stand closer, so you tilt the camera even more. The only solution is to compose the shot with the camera completely level. [Lens distortion vs perspective distortion](#)

Copyright • You own the copyright in any photo you take, though if you photograph a model or an important building, you may not have the right to use your photos commercially without their permission (or 'release'). Some cameras can embed a copyright message automatically in each photo's metadata. [Metadata explained](#)

Counterbalance • A device built into more advanced video tripod heads to balance the weight of the camera and lens so that it remains balanced even as you tilt the camera, rather than dropping one way or the other. Balancing is important with video heads which are often used unlocked to allow free movement. [Tripod heads explained](#)

Creative blur • You can use fast shutter speeds to freeze fast-moving subjects, but you can also use slower shutter speeds to introduce creative blur for atmospheric effects. [Shutter speed and why they matter](#)

Crop factor • Used to work out the effective focal length of lenses on cameras which don't have full frame sensors. You multiply the actual focal length by the crop factor to get the effective focal length. The crop factor of an APS-C camera is 1.5, so a 50mm lens has an effective focal length of 75mm. [Sensor size explained](#)

Crop sensor • Any sensor smaller in size than full frame. They're called 'crop' sensors because if you use a regular full frame lens, the smaller sensor area 'crops' the image it produces. Usually you use lenses designed for the smaller format, but the idea – and the term – has stuck. It's essentially the same as a sensor's 'crop factor', just expressed differently. [Sensor size explained](#)

Curves • Tool used to adjust the contrast and brightness of an image without 'clipping' highlight or shadow detail. The shape of the curve affects the brightness and contrast of different tonal ranges in the photo. Some cameras offer curves adjustments as part of their in-built picture styles. [Picture styles and film simulations explained](#)

Custom settings • Most advanced cameras offer a custom settings menu for changing the behavior of the camera's controls to better suit the way you like to work. For example, you might want to change the direction of the control dials, or the order in which bracketed exposures are taken.

D

Darkroom • Room or laboratory set aside for film development and printing, typically equipped with a 'wet' area with running water, an enlarger for making prints and blackout materials to produce complete darkness. [Film photography basics](#)

DCI 4K • The same height as regular 4K UHD video (2160 pixels), but slightly 'wider' with a horizontal resolution of 4096 pixels rather than 3840. It's not necessarily superior as such, but if your project or work calls for the DCI 4K resolution and aspect ratio rather than 4K UHD, then you need a camera that offers this. Some cameras offer both, but not all. [Video basics](#) | [Aspect ratios explained](#)

Dead hamster/cat • A nickname for furry wind shields often placed over microphones for outdoor shooting, where wind noise and buffeting can otherwise spoil the recording. They are used with both on-camera mics and clip-on lavalier mics or transmitters. [Microphone types and uses](#)

Drag • Controllable resistance built into video tripod heads to allow for smooth panning and tilting movements. More sophisticated video heads have drag controls which you can adjust to your preference and the size and weight of your kit. [Tripod heads explained](#)

Demosaic • Process where the camera (or RAW conversion software) takes the 'mosaic' of red, green and blue pixel data from the sensor and converts it into a full-color image. [RAW files explained](#)

Depth of field • The near-to-far sharpness in a picture. If both foreground and distant objects are sharp, there's deep depth of field. If only the subject is sharp and the foreground and/or background are blurred, it's shallow. [Depth of field explained](#) | [Manual focus and when to use it](#)

Depth of field preview • Usually you view the scene with the camera lens wide open and it only stops down to your chosen aperture the moment you press the shutter button, so it's hard to judge just how much depth of field the final photo will have. The depth of field preview stops the lens down to the taking aperture so you can judge the effect live. [Depth of field explained](#)

DFD autofocus (Panasonic) • Short for 'depth from defocus', this is an advanced version of contrast detection autofocus which is only now being phased out. It is certainly much faster than traditional contrast-detect AF but was found to sometimes show annoying hunting or 'pulsing' while filming video. [Autofocus basics](#)

Diaphragm • Mechanism inside a lens which uses interlocking metal leaves, or 'blades', to produce a variable-sized aperture within the lens. This is used to control the amount of light passing through and hence the exposure. [Lens aperture explained](#)

DIGIC (Canon) • Canon's brand name for the image processors in its digital cameras. These take the raw data captured by the sensor and processes it into image files as well as handling many of the camera's internal functions. Other makers have their own brands of processor. [Firmware updates explained](#)

Digital stabilization • Using image processing to reduce or eliminate movement blur. Largely ineffective for stills photography, digital stabilization works differently and far more effectively for video, where it can correct for unwanted or erratic camera movement between frames to produce much smoother footage, albeit with a slight crop. [Image stabilization explained](#)

Digital zoom • Zoom function that comes from blowing up the central part of a digital image, not by increasing the magnification of the lens. Digital zooms produce increased resolution but simply magnify a smaller area. [Lens types explained](#)

Diopetre adjustment • A small knob or lever next to the viewfinder which you use to adjust the focus of the eyepiece to match your own vision. The information in the viewfinder should appear sharp without you having to strain to bring it into focus. [Viewfinders explained](#)

Distortion • An optical effect in some lenses where straight lines come out slightly bowed. You often see 'barrel distortion' with wideangle lenses or 'pincushion distortion' with telephoto lenses at their longest zoom setting. More expensive lenses tend to have less distortion but, generally, the longer the lens's zoom range the more likely you are to see distortion. [Lens aberrations](#) | [Lens distortion vs perspective distortion](#)

Distortion correction • Software correction carried out either in the camera automatically during image processing or later on in software to correct bowed edges caused by lens distortion. Many modern lenses depend on digital distortion correction. [Lens aberrations](#) | [Lens distortion vs perspective distortion](#)

D-Lighting (Nikon) • Exposure adjustment tool offered in some Nikon software for brightening the darkest parts of a picture without altering the rest. It's a less advanced version of the Active D-Lighting system built into Nikon cameras. Regular D-Lighting just brightens the shadows – it's too late to adjust the exposure at the software stage. [Dynamic range explained](#)

DNG • A generic RAW format developed by Adobe and now used by some camera makers (Pentax) and some software publishers (DxO) and extensively within the Adobe software ecosystem. Uptake has not been universal and there are many versions of DNG files which have led to occasional incompatibility issues. [RAW files explained](#) | [File formats explained](#)

Drive mode • This controls what happens when you press the shutter release. In regular single-shot mode the camera takes a single photo. In continuous mode, it keeps taking pictures for as long as you hold down the shutter button. You'll also find a self-timer mode and other options. [Continuous shooting basics](#)

Drone • Any remote control flying craft that can carry a camera. The drones available to the public are helicopter-style 'multi-rotor' devices – typically 'quadcopters' rather than the fixed-wing aircraft used by the military. The rotors are controlled by a central computer for easier flight controls. [Camera types explained](#)

Drop in filter • Where lenses have a protruding front element or one that's simply too large to attach filters, they may have a slot near the rear for special 'drop in' filters instead. [Filters and when to use them](#) | [Lens features and what to look for](#)

DSLR (digital SLR) • This is an interchangeable lens camera where a mirror inside the body reflects the image seen by the lens up into the viewfinder. When you take a picture, the mirror flips up out of the way so that the image passes through the body to the sensor at the back of the camera. [Camera types explained](#)

Dual base ISO • Cameras offer adjustable ISO settings by amplifying the signal captured by the sensor, but some more advanced video cameras offer a dual base ISO feature which switches to a different signal processing and amplification circuit at higher ISOs for improved image quality at higher ISO settings. [ISO explained](#) | [Video basics](#)

Dual card slot • Many more advanced/professional cameras have two memory cards not one. This can provide extra security where photos and video are recorded to both cards at the same time, overflow capacity for when the first card fills up or the separation of one type of file from another, such as RAW files and JPEGs or photos and video. [Memory card basics](#)

Dual Pixel CMOS AF (Canon) • An autofocus technology developed by Canon. Effectively, the photosites on the sensor are split into two, and the two 'halves' can be used to measure the distance of the subject by how much the two halves are 'out of phase'. Other makers have their own on-sensor phase-detection autofocus systems. [Autofocus basics](#)

Duration (flash) • Flash duration is the length of time a flash is generating light. The flash duration is typically very short, often between 1/500sec and 1/1000sec, but sometimes even faster than that. This is useful for freezing fast-moving objects, but it can make exposure settings, particularly the shutter speed, more complicated. [Flash photography basics](#)

DX format (Nikon) • This is Nikon's name for its APS-C format DSLRs. Some Nikon lenses are designed specifically for these smaller format models, and they include 'DX' in the lens name to signify that the can't be used on the full frame models (well, they can, but only in a 'DX crop' mode). [Sensor size explained](#) | [Lens features and what to look for](#)

Dynamic mic • A microphone type designed for use at close range, particularly for speech. It's less sensitive than a condenser mic and needs to be positioned close to the mouth or instrument being recorded, but is also less affected by ambient noise or 'reverb' from walls and hard surfaces, and gives a warm 'radio DJ' sound. [Microphone types and uses](#)

Dynamic range • This is the brightness range the camera can capture before starting to lose detail in bright areas (like the sky) and dense, dark shadows. Generally, the larger the camera's sensor, the better its dynamic range. RAW files capture a slightly wider dynamic range than JPEGs. [Dynamic range explained](#)

Dynamic range expansion • A feature on some cameras which expands the range of tones the sensor can capture. It works by reducing the exposure to be sure of capturing extended highlight detail, then modifying the tone curve to restore midtone brightness. [Dynamic range explained](#)

E

ED extra low dispersion element • A premium glass element used in many lens designs to reduce aberrations and improve optical performance. [Lens features and what to look for](#)

Effective focal length • The angle of view of a lens changes according to the size of the sensor in the camera. A smaller sensor captures a narrower angle of view and makes it look as if the lens has a longer focal length. So in addition to the actual focal length, the manufacturers will usually quote the 'effective' focal length too. [Sensor size explained](#) | [Focal length vs 'effective' focal length](#)

Effective pixels • Camera makers quote two megapixel figures. The bigger, 'gross' figure counts all the photosites on the sensor, but many of those around the edges are used for calibration and other technical purposes, so makers also quote the 'effective' pixels, which are the ones actually used to make the image. This is the important figure. [Sensor basics](#)

Effects • Any image adjustment that produces a 'look' characteristic of specific photographic or darkroom techniques. It can include infra-red effects, as created by infra-red film, a 'polarising' effect to simulate the results from using a polarizing filter on the lens, a 'tilt-shift' effect to replicate the shallow depth of field of an extreme close-up and so on. [Picture styles and film simulations](#)

EF mount • Lens mount used by Canon for its DSLR cameras. EF mount lenses can be used on both full frame and APS-C format Canon DSLRs, and also on Canon mirrorless cameras via an adapter. [Lens mounts explained](#)

EF-M mount • Canon designed a bespoke EF-M mount for its EOS M mirrorless camera range. This has now been supplanted by its EOS R mirrorless models, so the EF-M mount is effectively obsolete. [Lens mounts explained](#)

EF-S mount • A variation on Canon's EF DSLR lens mount for its smaller format APS-C models. You can use both full frame EF and APS-C lenses on these cameras, but lenses designed for the EF-S mount can't be fitted to Canon's full frame DSLRs. [Lens mounts explained](#)

Electromagnetic diaphragm • Where the lens aperture diaphragm in the lens is controlled electromagnetically rather than by the traditional mechanical linking. This gives more accurate and consistent exposures, especially during continuous shooting, where the lens diaphragm may be adjusted many times a second. [Lens aperture basics](#)

Electronic rangefinder • A feature which uses the camera's autofocus mechanism to confirm focus even when you're using manual focus mode. You turn the focus ring and the AF point lights up when the subject below it comes into focus. It can be useful when it's hard to judge sharp focus by eye. [Autofocus basics](#)

Electronic shutter • Electronic shutters start and stop the exposure digitally rather than with a mechanical shutter. They are silent and can offer very high shutter speeds, though most use a 'scanning' process which can cause distortion and 'rolling shutter' effects with fast-moving subjects. [Shutter basics](#) | [What is an electronic shutter?](#)

Electronic viewfinder (EVF) • Essentially, this is a tiny LCD display seen through a magnifying eyepiece. They're used on some bridge cameras and high-end compact cameras, and on many mirrorless cameras. They replace the optical viewing system you get with a DSLR. [Viewfinder basics](#)

Element (lens) • Camera lenses are made up of not just one single lens but many different lens 'elements', sometimes cemented or fixed together in 'groups'. The different lens elements are needed to compensate for a variety of common lens aberrations and to offer a wider range of zoom autofocus and zoom capabilities. [Lens features and what to look for](#)

E-mount (Sony) • This is the name of the lens mount used by Sony mirrorless cameras. Regular E-mount lenses fit its APS-C format cameras, like the Sony A6500, while FE lenses fit its full-frame mirrorless cameras, including the A7 series and Sony A9. Sony also makes A-mount lenses for its Alpha SLT cameras, but this is now an obsolete system. [Lens mounts explained](#)

Exposure (EV) compensation • Used to adjust the camera's automatic exposure setting to make the picture come out lighter or darker. Camera meters aren't foolproof and sometimes you do need to make adjustments. Doing it this way is quicker than swapping to full manual control. [Exposure basics](#)

EVF (Electronic ViewFinder) • A digital equivalent of the optical viewfinders found on DSLRs and analog film cameras. An EVF uses a small digital display fed by a live image from the camera sensor and viewed through a magnifying eyepiece. Mirrorless cameras use EVFs rather than optical viewfinders. [Viewfinders explained](#)

EXIF data • Date, time and shooting information embedded invisibly in digital photos by the camera. It includes the shutter speed, lens aperture, ISO setting and more. EXIF data is useful later on if you want to see how certain pictures were shot or search for photos based on their settings. [What is metadata?](#)

EXPEED (Nikon) • Nikon's own brand name for the image processors used in its digital cameras. More powerful processors are needed for higher-resolution sensors and faster continuous shooting speeds, and play a part in noise reduction at high ISOs and image quality generally. [Camera firmware explained](#)

Exposure • Exposure is the science (and the art) of making sure the sensor gets exactly the right quantity of light to produce a good image. Exposure is adjusted using shutter speed (the length of the exposure), lens aperture (how much light is passed through) and ISO (the sensitivity setting of the camera). [Exposure basics](#) | [Shutter speed and how to use it](#)

Exposure latitude • A term used to describe a film's tolerance to overexposure and underexposure and its ability to capture tones in the brightest and darkest parts of a scene, even in high-contrast lighting. The modern-day equivalent with digital sensors is dynamic range, though sensors rarely approach the dynamic range (exposure latitude) of film. [Exposure basics](#) | [Dynamic range](#)

Exposure mode • This controls the camera's operation, from fully-automatic (the camera controls everything), semi-automatic (you can choose the shutter speed or lens aperture) to manual (you choose all the settings). [Camera exposure modes explained](#)

Exposure preview • Some cameras can simulate the effect of exposure adjustments on the LCD screen or electronic viewfinder (this is not possible with an optical viewfinder), making the image lighter or darker as you adjust the exposure. It's not a precise guide to exposure but it can be useful. [Exposure basics](#)

Exposure steps/increments • Digital cameras offer finer exposure adjustments than whole stops (EV) values. By default, they offer 1/3EV adjustments to the shutter speed, lens aperture and ISO setting – though some cameras offer 1/2EV adjustments as an alternative, in line with older film cameras. [Exposure basics](#)

Exposure value (EV) • A numerical value given to the amount of light in a scene. For example, bright sunlight might produce an EV of 17. In practice, cameras deal only in shutter speeds and lens apertures and you're only likely to see EV values on handheld light meters. [Exposure basics](#)

Extender (Canon) • This is Canon's name for its teleconverters, which fit between a telephoto lens and the camera body to increase the magnification. These days, Extenders are matched to specific lenses to ensure full compatibility and the best image quality. [Lens types](#)

Extension ring • A 'spacer' ring that fits between a lens and a camera body to allow it to focus closer. They are often sold in sets of three different sizes and can be used individually or in combination. They have gone out of fashion as lens design has become more complex and photographers have moved over to dedicated 'macro' lenses optimized for close-ups. [Macro photography and how it works](#)

External flash • A flashgun designed to clip to the top of the camera on its accessory shoe or to be used off-camera and fired remotely by cable, radio control or infra-red. External flash units have more power than the camera's built-in flash and a lot more flexibility in the way you can control and direct the light. [Flash photography](#)

External recorder • A device that typically combines a screen and a storage system for recording video, usually via the camera's HDMI port. One of the best known examples is the Atomos Ninja. External recorders offer larger, better screens than the camera's own with more advanced information displays, and can typically record at higher video quality settings. [Video accessories and what they do](#)

Eyepiece shutter • A tiny blind in the viewfinder eyepiece that stops light entering and upsetting the exposure (normally the eyepiece is covered by your eye). It can be useful for long exposures or other shots where you've stepped away from the camera. Some cameras come with a small viewfinder cap fixed to the shoulder strap. [Viewfinder basics](#)

F

Face detection • Some autofocus systems identify human faces within a scene and then adjust the focus and exposure for that face. It's popular on compact cameras and is used on DSLRs and mirrorless cameras too. [Autofocus basics](#)

FE mount (Sony) • Strictly, Sony uses just one mirrorless lens mount – the E-mount – but many lenses use the designation 'FE' in their names to indicate that they are for full frame cameras rather than 'E' lenses designed for Sony's APS-C models. [Lens mounts](#)

Field camera • Another name for a large format film camera designed to fold up for transport and open out to its full size for taking pictures. A professional large format camera adapted for use 'in the field'. [Film photography basics](#)

Film • 'Analog' film comes in three main types: color transparency (slide) film, color negative and black and white negative. It also comes in many sizes, from 35mm through medium format roll film to large format sheet film. Smaller formats than 35mm are still available, such as 110 and 126, but are less popular now. [Film photography basics](#)

Film photography • 'Analog' photography is enjoying a revival amongst photographers who want to return to simpler photographic techniques and a more evocative image style. [Film photography basics](#)

Film simulation • Image settings on some cameras which attempt to recreate the colors and tonal quality of classic films. Fuji offers Velvia, Provia and Astia film simulations to replicate its films of the same name. You can choose these in-camera if you shoot JPEGs, or apply them later to RAW files. [Picture styles and film simulations explained](#)

Filters • This can mean the filters you attach to the front of the lens to change the appearance of the picture, or software filters that do the same thing on your computer. [Filters and when to use them](#)

Filter size • This is a fine screw thread cut into the front of almost all DSLR and mirrorless camera lenses. This is where you screw in round filters, or adaptor rings for square filter holders. The size of the filter thread varies, so make sure you buy filters or adaptors the right size for your lens. [Filters and when to use them](#)

Filter systems • Most filters these days are designed as modular filter systems consisting of a square filter holder with slots for two or three rectangular filters and sometimes a circular polarizing filter too. The filter holder attaches to the camera lens via an adaptor ring. In this way, the same filter holder and filters can be used with many different lenses. [Filter and when to use them](#)

Firmware • Programmable hardware inside the camera (somewhere between hardware and software) that handles the camera's controls, functions and features. Camera makers often release firmware updates to fix bugs or add new features. [Firmware and what it does](#)

Fisheye lens • A fisheye is an ultra-wide angle lens that no longer attempts to render straight lines as straight and instead produces images with strongly curved edges and a characteristically surreal look. It's a striking effect, though one to be used occasionally. [Lens types explained](#)

Fixed focus • Some camera lenses have a fixed focus. They either have a small lens aperture which offers extensive near-to-far depth of field or a small sensor which offers the same characteristic. Fixed focus lenses are found on disposable cameras, some action cameras and a few vintage-style 'body cap' lenses. [Lens types explained](#)

Friction control • Some tripod heads have a friction control to offer some resistance even when the head is slackened off. This stops the camera flopping unexpectedly and also allows more careful camera positioning by hand. Friction controls are most often found on ball heads, where precise positioning is often quite difficult. [Tripod heads explained](#)

Flange distance • This is the distance between the lens mounting plate and the camera sensor. Mirrorless cameras have a shorter flange distance than DSLRs because there's no mirror inside the body, and this makes the cameras slimmer and can allow more effective optical designs. [Lens mounts](#)

Flash • Flash is a popular artificial light source for both amateur photographers and professionals. It delivers a short, intense burst of light that can freeze moving subjects and illuminate objects up to a few meters away. Many cameras come with a built-in flash, but it's also possible to add a more powerful and versatile external flash units to more advanced cameras. [Flash photography basics](#)

Flash compensation • Flash power is normally handled automatically by the camera, but you can increase or reduce the flash power with the flash compensation option – it's just like using the exposure compensation option with automatic exposure. [Flash photography basics](#)

Flash output (manual) • Flash power is usually handled automatically by in-built flashguns and external flashguns. The exception is studio flash, where you can adjust the power manually in fractions of full power. 1/1 is full power, 1/2 is half power, 1/4 is quarter power and so on. Some smaller flashguns offer manual power settings too. [Flash photography basics](#)

Flash sync speed • Digital SLRs and compact system cameras use focal plane shutters and these have a design limitation – there is a maximum speed at which the whole sensor is exposed at once. This is the maximum flash synchronization speed. Beyond this, the sensor is exposed in a moving strip, which is no good for flash. [Flash photography basics](#)

Flexible Program (Nikon) • Nikon's name for its 'program shift' control, where you can change the balance of lens aperture and shutter speed without having to leave the program AE mode – you simply turn the command dial until the camera displays the lens aperture or shutter speed you want. [Camera shooting modes](#)

F-Log (Fujifilm) • Extended dynamic range movie mode introduced by Fujifilm to handle high-contrast lighting, extending dynamic range by 200% or 400%. Other higher-end movie cameras have a similar feature. The idea is that you process the video later on a computer (color grading) to achieve the finished look. [Video basics](#)

Fluid head • Special tripod head design which uses fluid capsules inside the pan/tilt axis to allow smooth camera movements while filming video. [Video accessories and what they do](#) | [Tripod heads explained](#)

F-mount (Nikon) • Lens mount used by Nikon DSLR cameras and a development of its earlier film SLR camera lens mount. Replaced by the Nikon Z-mount on Nikon mirrorless cameras. [Lens mounts](#)

Fn (function) button • One or more buttons on more advanced cameras which can be used for quick access to useful settings such as picture style, white balance, ISO setting or more. They will have default settings already which you may find useful, so you don't necessarily have to change them.

Focal length • This tells you a lens's magnification or angle of view (it's the same thing really) and it's quoted in millimeters. Sometimes the makers quote actual millimeters and sometimes they quote the 'effective' focal length, which is what the lens would be equivalent to if it was a 35mm camera. [Focal length explained](#) | [Lens types](#) | [Lens features and what to look for](#)

Focal plane mark • A small marking on the top plate of some cameras which indicates the position of the focal plane - the sensor surface - inside the camera. You're unlikely to need this unless you are using manual macro photography setups based on precise focus and magnification values. [Macro photography basics](#)

Focal plane shutter • The type of shutter used by interchangeable lens cameras (ILCs) such as DSLRs and compact system cameras. The shutter is mounted directly in front of the sensor (at the focal plane) where shutter 'curtains' open to start the exposure and close to end it. [Shutter basics](#)

Focus bracketing • Shooting a series of identical frames with slightly different focus points either with the intention of picking the best one later or, usually, to use 'focus stacking' software to merge them into a single image with much more depth of field than can be achieved with a single shot. [Macro photography basics](#)

Focus limiter • A switch found on some telephoto and macro lenses to restrict the autofocus to a specific range. This speeds up the autofocus for situations where you know you won't need the lens's full focus range. [Lens features and what to look for](#) | [Macro photography and how it works](#)

Focus mode • Camera autofocus systems work in one of three modes: single-shot autofocus (usually abbreviated to 'AF-S'), continuous autofocus ('AF-C') and manual focus ('M'). If you're taking one photo at a time, use AF-S mode – the camera will focus once and then fire. If you're using continuous shooting mode, use C-AF. [Autofocus basics](#)

Focus peaking • A special display mode designed to help with manual focusing when using an LCD display or electronic viewfinder. It exaggerates the edges of objects when they come into focus and can give a much more visible focus 'snap' than the regular display. [Autofocus basics](#)

Focus points • Autofocus systems can focus at different points around the frame – the more advanced the autofocus system, the greater the number of AF points. You can either leave the camera to choose the autofocus point with 'auto AF' mode (or 'auto area AF') or select it yourself with single-point AF mode. [Autofocus basics](#)

Focus priority AF • An option in a camera's continuous shooting mode where the camera will only release the shutter when it's achieved focus. This can reduce the speed at which frames are captured but should ensure that more are in focus. [Autofocus basics](#) | [Continuous shooting](#)

Focus stacking • A hardware and software technique for getting more depth of field in close-up and macro shots. You take a series of images at slightly different focus settings, then use focus stacking software to blend together the sharpest areas of each into a single image. [Macro photography basics](#)

Folding camera • Vintage film camera design that folds flat for storage but opens out to extend the lens for taking pictures. The lens is joined to the camera by collapsible light-proof bellows. [Film photography basics](#)

Follow focus • A technique for manually maintaining focus on a subject as they change distance or position. It's under human control, as opposed to subject-tracking autofocus, which is subject to the camera's autofocus system. You can get follow focus attachments for lenses to make these focus movements smoother and easier. [Video accessories and what they do](#)

Forced flash • A mode where the flash is made to fire whether the light is low or not. Normally, the camera won't fire the flash in bright light, but forced flash mode overrides this. Flash can be useful for fill-in light for portraits, even in daylight, and especially if your subject's face is in shadow. [Flash photography basics](#)

Format (memory card) • Completely wiping a memory card so that you're starting again with a clean slate, so to speak. It's not essential if you only ever use one camera, but if you use the same card in more than one it will clear up unwanted files and folders left behind by other cameras. [Memory card basics](#)

Foveon sensor (Sigma) • Sigma's Foveon sensor uses a unique layered design to capture blue, green and red light on separate layers. It mimics the multi-layer construction of color film, but has technical limitations that have prevented widespread adoption. [Sensor basics](#)

FPS (frames per second) • In stills photography, this is the camera's maximum continuous shooting speed – the number of frames it can capture per second. In video, this is the number of frames of video per second, typically 30fps, though sometimes 25fps or 24fps. [Video basics](#) | [Continuous shooting](#)

Full frame sensor • This is a sensor the same size as the 35mm film negative, measuring 36 x 24mm. This is the most desirable camera type for most enthusiasts and pros, but full frame cameras are bigger, heavier and more expensive. Many DSLRs and mirrorless cameras use smaller APS-C or Micro Four Thirds sensors. [Sensor size explained](#)

Full HD • Video with a resolution of 1920 x 1080 pixels. It's sometimes abbreviated to '1080 video'. [Video basics](#)

FX format (Nikon) • This is Nikon's name for its full frame DSLRs, to distinguish them from its APS-C size 'DX' models. Most Nikon lenses are designed to fit this larger FX format. Those that don't have 'DX' in the model name – though they can still be used on an FX Nikon in 'DX crop' mode. [Sensor size explained](#) | [Lens features and what to look for](#)

G

Gain control • Gain is used with microphones when recording video. It basically means turning up the input signal strength to record usable sound levels. Your camera or sound recorder will probably have a manual 'gain control' or input level, or some kind of automatic gain control. [Microphone types and uses](#)

Geared column • A geared column is a tripod center column where the height can be adjusted with a winding screw mechanism – you turn the handle to wind the column up and down. This is slower than a regular center column, but much more precise where you need very small, fine adjustments. [Tripod basics](#)

Geared head • A geared head is a special type of tripod head designed for precise adjustments applied with handles or knobs that move the head via fine gears. With some models, you can disengage the gears for rough positioning, then re-engage them for fine tuning, for example with still life or macro shots. [Tripod heads explained](#)

Generative AI • Creating entire images from a text prompt or, in the case of generative fill, replacing objects or parts of a scene with new objects you specify with a text description. [AI in photography](#)

Gimbal (stabilizer) • A powered camera support which keeps the camera steady and provides smooth camera movements, typically across three axes. Gimbals are typically used for smooth handheld filming techniques and for carefully controlled camera movements. [Image stabilization](#) | [Video accessories and what they do](#)

Gimbal head • A special tripod head design which suspends a camera and lens combination in a balanced way that allows for smooth camera movement and subject tracking. Typically used with heavier, longer telephoto lenses with their own tripod collars/ mounts. [Tripod heads](#)

Gigabytes (GB) • A unit of storage used both for computer hard disks (and SSDs) and for memory cards. 1GB is approximately 1,000 megabytes. [Memory card basics](#)

Global shutter • An advanced kind of electronic shutter that can capture the entire image area at once, instead of scanning it strip by strip. This eliminates the rolling shutter effect usually associated with electronic shutters and make them much more effective for capturing moving subjects. It does, however, require advanced (expensive) sensor technology. [Shutters explained](#)

Grading • The video equivalent of the image-enhancement stills photographers carry out on their images. Videographers 'grade' video to match the colors and exposures between clips, to create a certain 'look' or to edit video shot in a 'log' mode for extra dynamic range. [Video basics](#)

Graduated filter • Graduated filters are clear at the bottom but darkened at the top, with a smooth, graduated blend in between. You use them in landscape photography to tone down bright skies without affecting the land. You can also create graduated filters 'digitally' in image-editing software. [Camera filters explained](#)

Grain • Film grain is caused by the random clumping of silver halide grains (black and white) or dye clouds (color film) – the individual grains or color spots are too small to see. Film grain looks very different to digital noise – many photographers use film grain simulation effects, as do some in-camera film simulations, to get an analog film ‘look’. [Picture styles and film simulations](#)

Gray card • Used for accurate white balance calibration, usually under artificial lighting where the color of the light sources is unknown or variable. You can use the camera’s manual white balance preset control to take reading from the gray card, or set the white balance using the card and the WB eyedropper tool later in image-editing software. [White balance explained](#)

Grip • Also known as battery grips, these are accessories that attach to the bottom of some DSLRs or mirrorless cameras to offer extended battery life and, usually, a duplicate set of controls to make the camera suitable for extended use in portrait (vertical) mode. In some cases, a battery grip may also increase the continuous shooting speed of the camera. [Continuous shooting basics](#)

Group (lens) • Camera lenses used complex configurations of different optical elements, often cemented or fixed together in ‘groups’. Lens groups may be designed to counteract common optical aberrations and you may have autofocus ‘groups’ and zoom groups. [Lens features and what to look for](#)

Guide Number (GN) • A measure of the power of a flashgun, whether it's a built in flash or an external flashgun. You take the guide number and divide it by the subject distance in meters to get the lens aperture you should use. Flash power is usually controlled automatically these days, though, so the guide number is just an indication of the maximum power. [Flash photography basics](#)

Gyro • Gyro sensors are now used widely in cameras and other devices to detect camera movement and spatial orientation. They are used for image stabilization in lenses and cameras, and in action cameras and gimbals to compensate for any movement and, sometimes, to maintain a level horizon. [Image stabilization](#)

H

H.264/H.265 • Two video 'codecs' in widespread use today and probably the most popular in smartphones, mirrorless cameras and other video capture devices. The H.264 codec is older and a little less efficient in terms of storage but easier for devices to play back and edit. H.265 is more efficient but places heavier demands on processors when editing. [Video basics](#)

Handheld photography • Any photography - obviously - where you're holding the camera with your hands rather than using a tripod or some other form of camera support. It has special implications for night and low light photography where it's important to use shutter speeds fast enough to prevent camera shake. [Camera shake explained](#)

HD video • 'HD' stands for 'high definition' to distinguish it from older, lower resolution video standards. HD actually comes in two formats: standard HD has a resolution of 1280 x 720 pixels, full HD is 1920 x 1080 pixels. Both use the same 16:9 aspect ratio. [Video basics](#)

HDMI • Standard digital interface for connecting video and display equipment. Cameras have HDMI ports for direct connection to TVs, for example, but more advanced models can also connect to external monitors or recorder for video capture. [Video basics](#)

HDR (high dynamic range) • HDR stands for high dynamic range photography. It combines a series of frames taken at different exposures to capture a much wider dynamic (brightness) range than the camera could capture with a single exposure. These exposures are merged using HDR software. It is also used in movies and HDR TVs and monitors, though this is not quite the same thing. [Dynamic range explained](#)

Headphones/socket • Most DSLRs or compact system cameras which shoot video will have an external microphone socket for better sound quality – but for pro videographers it's just as important to have a headphone socket for monitoring sound levels while shooting. You only get this on more advanced models. [Video accessories and what they do](#)

HEIF format • A more modern alternative to the JPEG format which is starting to appear on some camera models. HEIF files offer even better file size compression than JPEGs without sacrificing image quality but can also be saved as 10-bit files (depending on the device) which will be better at surviving editing processes without as much degradation. [File formats explained](#)

High-end compact • More advanced type of compact camera which attempts to match the controls and features of a digital SLR or mirrorless camera but in a smaller body. High-end compacts have larger sensors than regular point-and-shoot models and better lenses with wider maximum apertures. [Camera types explained](#)

High key • A photo where the tones are predominantly bright or white. It's partly the subject that makes a photographer high key – a white cat on a white cushion, for example, and partly the exposure technique – slight overexposure will give a high key look. [Exposure basics](#)

Highlights • The lightest tones in a picture. It's a pretty vague definition, but most photographers take it to mean tones which are at or near a full, featureless white. Retaining or recovering highlight detail – in bright skies, for example – is a big priority for many photographers. [Exposure basics](#)

High res mode • A mode on some cameras which uses the camera's in-built sensor-shift technology to build an image from a series of frames to produce a much higher resolution than you would get from a single exposure. Sometimes known as multi shot mode.

High-speed sync • A special flash mode that can overcome the limited flash synchronization speeds of the focal plane shutters in most cameras. High-speed sync modes typically 'pulse' the flash several times during the time the shutter is open so that all of the sensor is exposed equally. [Flash photography basics](#)

Highlight recovery • When you shoot RAW files there is often a little extra highlight detail in the data than is initially visible, and a good RAW converter will be able to recover this detail to correct any 'blown out' areas. There's not much margin for correction, however – typically you might be able to recover 1EV of additional highlight detail, but rarely more. [Exposure basics](#)

Histogram • A graphical display of the brightness values in the picture. The darkest tones are at the left and the brightest on the right, and the vertical bars show the number of pixels for each brightness value. Histograms are an invaluable exposure aid when taking pictures, and when editing them later. [Exposure basics](#)

Honeycomb grid • A lighting attachment designed to narrow the light from a flash or continuous lighting source into a tight beam. It gets its name from the hexagonal shape of the holes in the grid. Where other lighting attachments are designed to spread and soften the light, a honeycomb grid is designed to focus it tightly on a single area. It's a type of light modifier.

Hotshoe • Accessory shoe on the top of more advanced cameras that's designed for sliding in an external flashgun, though these days it may also be used for electronic viewfinders, wireless remote control units and more. [Flash photography basics](#)

Hunting (autofocus) • This is where the camera keeps changing and checking the focus as it tries to fix on the subject. It happens particularly in low light or with subjects that have very little clear detail. [Autofocus basics](#)

Hybrid AF • Autofocus system that combines contrast autofocus and phase detection autofocus. It works using special phase-detection sensors built into the sensor. Contrast AF is typically slow but accurate, while phase detection AF is typically fast but potentially less accurate. [Autofocus basics](#)

I

IBIS • Short for 'in-body image stabilization'. In-body image stabilizers shift the camera sensor to counteract any camera movement during the exposure. It's widely used on more advanced mirrorless cameras. [Image stabilization explained](#)

ILC (interchangeable lens camera) • Any camera where you can change lenses. Once, this was just DSLRs, but now mirrorless cameras are included in this category and, for the sake of argument, Leica's M-series 'rangefinder' cameras should be included too. ILC is not a widely used term but it is the most correct description. [Camera types explained](#)

Image circle • All lenses produce a circular image on the camera sensor or film, and this 'image circle' must be at least large enough to cover the full film/sensor area. Different lenses designed for different sensor sizes and formats have different-sized image circles. [Sensor size](#) | [Lens features and what to look for](#)

Image size setting • Digital cameras offer a choice of image sizes. Normally, you'd choose 'Large', which gives you the maximum resolution offered by the sensor. But most cameras also offer 'Medium' settings (around half the pixels) and 'Small' (around a quarter the pixels). [Sensor basics](#)

Image stabilizer • A mechanism that counteracts camera movement during the exposure. Lens-based stabilizers use a moving lens element, while sensor-based stabilizers move the sensor itself. Image stabilizers are used to get sharper telephoto shots and low-light shots without camera shake. [Image stabilization explained](#) | [Lens features and what to look for](#)

Infra red • A branch of photography that uses parts of the light spectrum not normally visible to the naked eye but which can still be captured using black and white or color film made sensitive to infra red or a digital camera modified to remove the infra red filter that normally covers the sensor. [Sensor basics](#)

Internal storage • Some cameras have in-built flash memory for storing photos and videos, often in addition to a memory card slot for removable storage. [Memory cards](#)

Interpolation • Using mathematical analysis to fill in the gaps in data. The photosites on sensors only capture red, green or blue light, so interpolation is used to examine surrounding pixels and calculate full color values from those. When you increase the size (in pixels) of a photo, the software 'interpolates' new pixels from the existing ones. [Sensor basics](#) | [RAW files](#)

Interval timer • Sometimes called an 'intervalometer', this is a feature on more advanced cameras that takes picture at fixed intervals automatically. It's most often used for time lapse photography. You set the interval between pictures and the number of shots you want the camera to take. [Video basics](#)

Intervalometer • A camera setting or remote controller which fires the camera's shutter at set intervals, stopping when it's taken a specified number of images. The pictures can then be used to analyze movement or change over time or, more likely, combined to make a time lapse movie. It's just another word for an interval timer. [Autofocus basics](#)

Interview/stick mic • Handheld microphone commonly used by interviewers that can easily be directed towards the interviewee and interviewer in turn. You can get wireless interview mics and on-board audio recording. [Microphone types explained](#)

IP54 (etc.) weather sealing • Cameras and lenses are often described as 'weather sealed', but there are actual specifications for 'Ingress Permitted' dust and moisture sealing, and the better camera makers will quote these. The first numerical digit represents dust resistance, the second water resistance. The highest possible specification would IP66.

IPTC metadata • IPTC is a standardized system for embedded photo information in digital image files and for use by image cataloging and asset management software. It consists of a series of predefined 'fields' for copyright information, keywords, titles, descriptions and more. It's entirely optional but often useful. [What is metadata?](#)

Iris • Filmmaker's term for lens aperture – the aperture opening within a lens is formed by an iris mechanism made up of interlocking leaves. [Lens features and what to look for](#)

ISO • This setting increases the camera sensor's sensitivity to light. Each ISO step doubles the sensitivity, so it's easy to use ISO as another exposure control alongside shutter speed and lens aperture. The more you increase the ISO, though, the more the image quality degrades. [ISO explained](#) | [Shutter speed and how to use it](#)

ISO expansion • Regular ISO settings conform to strict technical standards regarding exposure, but many makers offer 'expanded' settings beyond these which don't conform precisely to the sensitivity standards but still give correct-looking exposures. [ISO explained](#)

J

JPEG • Standardized, universal file format for digital photos that can be displayed by practically any device without any kind of conversion. It uses powerful compression to reduce the file size of digital photos. There can be some loss of quality but this is often invisible to the naked eye. [File formats explained](#)

K

Kelvin • A measurement of temperature in degrees Kelvin that's used in photography for white balance measurements. For example, noon daylight is reckoned to have a color temperature of 5200 degrees Kelvin. Many cameras have an option to set the white balance in Kelvin, as do many photo editors. [White balance explained](#)

Keystoning • Where the tops of tall buildings appear to converge. This happens when you're so close you have to tilt the camera upwards to get everything in. You can correct it by choosing a more distant viewpoint and keeping the camera level, or by using keystone correction tools in software. [Lens distortion vs perspective distortion](#)

Kit lens • A relatively inexpensive general purpose lens sold with a camera body as a kit. Buying both at the same time is much cheaper than buying them individually. Most DSLRs and mirrorless cameras are also sold 'body only' for those who already have lenses. [Lens types explained](#)

K mount (Pentax) • The lens mount used by all current Pentax DSLR cameras and a development of the Pentax K bayonet mount used in its later film SLRs. The mount is the same, but the electrical connections have evolved and some lenses are made for Pentax full frame DSLRs while others are solely for the smaller APS-C format cameras. [Lens mounts explained](#)

L

L39 mount • 39mm screw mount historically used by Leica and many other camera makers as a standardized lens fitting until the wider uptake of bayonet-fit lenses. [Lens mounts explained](#)

Large format • A generic term for film cameras which use sheet film for individual exposures rather than rolls of film. Large format cameras offer high levels of image quality and precise perspective and depth of field control. [Film photography basics](#)

Latency (audio) • Any delay between the sound itself and the recording. Some wireless microphone systems display some slight latency, which will often go unnoticed but can be corrected later while the video is being edited. [Microphone types explained](#)

Lavalier (lav) mic • A small microphone designed to attach to a speaker's clothing for interviews or presentations, for example. They're usually small and unobtrusive and may also be called lapel mics. Some are connected to the camera or sound recorder by wire, others work wirelessly via a transmitter. [Microphone types explained](#)

LCD display • Displays on the backs of cameras, smartphones and other devices. The key specs here are the size, measured across the diagonal, and the resolution, measured in thousands (or millions) of dots. For example, you might get a 3-inch LCD with 921k (921,000) dots or 1.84m (1,840,000) dots. [LCD basics](#)

LED lighting • New type of 'continuous lighting' that uses relatively little power but still provides enough light for video, still lives or portrait shots. Small LED panels can clip to a camera's hotshoe, larger ones have their own stands and control panels.

Lens adapter • Each camera maker uses its own bespoke lens mount and different mechanical and electronic connections between the camera body and lens. However, it's sometimes possible to make lenses fit different brands and types of bodies with lens adaptors. [Lens adapters and how they work](#) | [Lens mounts explained](#)

Lens coatings • Special coatings used on lens elements to reduce internal reflections, ghosting and lens flare. Lens makers use their own proprietary coatings which are often quoted as selling points. [Lens features and what to look for](#)

Lens distortion • Where lenses show straight lines as being slightly bowed, and can be barrel or pincushion distortion. It's very common with zoom lenses. [Lens aberrations explained](#) | [Lens distortion vs perspective distortion](#)

Lens corrections • Lenses aren't perfect – they all have optical aberrations of one sort or another. Now, though, many software applications have lens corrections to correct these digitally, either with manual controls or automatic lens correction profiles. [Lens aberrations explained](#)

Lens hood • Lens hoods can reduce lens flare and improve contrast when there's a bright light source just outside the edge of the frame, but they won't help if the sun, for example, is in the frame. Lens hoods are usually 'petal' types that allow for the fact the image frame is rectangular. [Lens features explained](#)

Lens Modulation Optimizer (LMO) • A processing algorithm used by Fujifilm in some of its cameras to counteract the softening effects of diffraction at small lens apertures, and image softness at the edge of the frame. It seems likely the LMO is simply applying some intelligent sharpening. [Lens aberrations explained](#)

Lens mount • This is the physical connection between a lens and the body of a DSLR or mirrorless camera. It consists of a twist-lock bayonet mount and electrical connectors. The lens mount is specific to a camera brand – you have to make sure you get lenses in the right fitting for your camera. [Lens mounts explained](#) | [Lens adapters and how they work](#)

Levelling bowl • Special feature on video tripods which lets you level the base for tripod head without fiddly leg adjustments. This is essential for horizontal panning movements to keep the horizon level. [Video accessories and what they do](#)

Life size (macro photography) • Where a lens can focus close enough to create an image on the sensor that's the same size as the object you're photographing, commonly quoted as 1:1 reproduction or 1.0x macro. [Lens features and what to look for](#)

Light leak • Old and cheap film cameras have poor seals and badly-fitting backs that may let light through on to the film inside. This produces pale streaks across the image or at the edges and has become associated with an 'old camera' look. Some programs now replicate light leaks digitally in a variety of colors, patterns and orientations. [Film photography basics](#)

Linear motor • A drive unit for autofocus lenses which works via a contact-free electromagnetic linear action rather than the rotational action of a conventional motor. It's used by Sony, for example, in many of its lenses to provide silent, high speed, high torque autofocus. [Autofocus basics](#)

Line skipping • A processing technique used by some cameras to handle high frame rates or other high processing demands when shooting video. The video quality is reduced somewhat because the camera is only reading alternate 'lines' from the sensor. [Video basics](#)

Live view • Where the camera displays what the sensor is capturing either on the rear LCD or in an electronic viewfinder. All compact cameras and mirrorless cameras are effectively in 'live view' all the time. It's only out of the ordinary on a DSLR, which has to go into a special mirror-up 'live view' mode. [LCD displays](#)

LM linear motor • Powerful autofocus actuator found in many premium quality/professional lenses from Fujifilm, Sony and others. [Lens features and what to look for](#)

L-mount (Leica, Panasonic, Sigma) • Lens mount originally created by Leica but then developed jointly with Panasonic and Sigma to be used on mirrorless cameras from all three companies as part of an 'L-Mount Alliance'. [Lens mounts explained](#)

L-mount alliance • An alliance of camera and lens makers using a common mount (L-mount), principally Leica, Panasonic and Sigma. This is a more 'open' lens mount than most, which are typically guarded closely by individual camera makers. [Lens mounts explained](#) | [Lens features and what to look for](#)

Log profile • Used in video to capture a wider brightness and color range with deliberately 'flat' looking footage designed to be edited or 'graded' later in video editing software. Different camera makers offer their own versions, such as S-log (Sony) and V-log (Panasonic). [Video basics](#)

Long exposure • Long exposures turn moving subjects like water and clouds into an atmospheric blur. The exposure time often needs to be several seconds or longer, so a tripod is essential. In bright light you'll need a neutral density (ND) filter to get these long exposures. [Exposure basics](#) | [Camera accessories and what you need](#) | [Shutter speed and how to use it](#)

Longitudinal chromatic aberration • The technical term for bokeh fringing, where out of focus objects take on a color fringe around the edges. Unlike lateral chromatic aberration, this is very difficult to fix in software. [What is bokeh?](#)

Lossy/lossless compression • Digital files are usually compressed to save storage space. Lossless compression is the best because it simply 'closes up the gaps' in the data without losing any actual data, while lossy compression produces much smaller files but at the expense of some of the data - though the difference may not be apparent to the naked eye. [File formats explained](#)

Low key • A photo where most of the tones are dark, such as a black cat in a coal cellar. You can also give photos a low key look with slight underexposure. It gives photos a dramatic, moody look, though the subject matter has to be right for this to work properly. [Exposure basics](#)

Low pass filter • A filter directly in front of most camera sensors to prevent interference (moiré) effects between any fine patterns and textures you photograph and the rectangular grid of photosites on the sensor. These filters actually blur fine detail slightly, and some makers no longer use them. [Sensor basics](#)

LUT (lookup table) • LUT stands for 'lookup table'. Essentially, it takes the colors in an image and remaps them on to new ones. It really is a table consisting of a large grid of color swatches and how they should be adjusted in the converted images. LUTs are used in video to convert between different color spaces and shooting profiles, but also for creative effects. [Video basics](#)

Luminance (contrast) noise • The chief component in image noise and the one that's most difficult to remove because software can't easily distinguish between random image noise and real image detail. Usually, the more noise reduction you apply, the more you tend to lose fine image detail, though the latest AI denoising tools get round this. [Noise and noise reduction](#) | [ISO basics](#)

M

M42 mount • A standardized screw mount size used extensively for SLR film cameras before bayonet fittings took over. Used by Pentax, Praktica and others. [Lens mounts explained](#)

Macro mode/button • Many cameras and some telephoto lenses offer a 'macro' button or mode. This is rarely the same as true macro photography at 1:1 magnification. Instead, 'macro' is simply used as another word for close-up. [Macro photography basics](#)

Macro lens • A lens specifically designed for ultra-close focusing on small objects with optics optimised for image quality at these short focus distances. Strictly, a macro lens offers a 1:1 magnification ratio. [Macro photography and how it works](#) | [Lens types explained](#)

Macro photography • Strictly speaking, macro photography where a real-life object is captured at the same size on the sensor. So a bee 10mm long would form an image 10mm long on the sensor. True macro photography needs dedicated 'macro' lenses. [Macro photography and how it works](#)

Manual exposure • Where you set both the shutter speed and the lens aperture used by the camera. The camera's exposure meter may recommend the settings, but you're free to use or ignore this information. Manual exposure gives you total control but requires some experience. [Exposure basics](#)

Manual focus • Useful when you want to make the most of depth of field – which often means focusing between two objects rather than on one or the other. It's also handy for 'zone focusing' in shoot-from-the-hip style street photography, where you want an instant shutter response. [Manual focus and when to use it](#)

Manual/vintage lens • A simple, mechanical lens design with a manual focus mechanism and a manual aperture ring, and which doesn't rely on any kind of electronic communication with the camera body. [Lens adapters and how they work](#)

Maximum aperture • The maximum light-gathering power of a lens and a major selling point. It lets you use faster shutter speeds or lower ISO settings in poor light. [Lens aperture explained](#) | [Lens features and what to look for](#)

Maximum magnification • This tells you how large objects will appear at a lens's closest focusing distance and it's a good guide to how effective they will be for close ups. A true macro lens will offer a 1x magnification ratio (so-called 'life size' reproduction) on the camera sensor. Most regular lenses have maximum magnification in the range 0.2x-0.5x. [Lens features and what to look for](#) | [Lens types explained](#)

Mechanical shutter • The traditional form of camera shutter is a physical device which blocks light from the sensor until the moment you press the shutter release, then opens to expose the sensor for the required amount of time before it closes again. Mechanical shutters are either focal plane types, just in front of the sensor, or in-lens 'leaf' types within the lens. [Camera shutter basics](#)

Medium format • Professional cameras that use sensors larger than full frame. These fill the space previously occupied by 120 roll film cameras. 'Medium format' sounds like there should be a larger size still, but it harks back to the days of film when you could get large format 5 x 4" or 10 x 8" sheet film cameras. [Sensor size explained](#) | [Film photography basics](#)

Megapixels (MP) • The number of pixels captured by the camera's sensor. Smartphones typically have around 12 megapixels and upwards, while regular digital cameras typically have 16 megapixels or more. Megapixels used to be a good guide to image quality but now sensor size is at least as important. [Sensor basics](#) | [Sensor size vs megapixels](#)

Memory card • Removable storage media used to store digital images in the camera. They come in different types (SD, Compact Flash, CFast, CFexpress), different capacities and speeds. [Memory card basics](#)

Memory card capacity • This is measured in gigabytes (GB), and the larger the memory capacity the more photos and video clips you can store. It's hard to give precise advice since cameras and user needs vary so much, but 16GB is a good starting point if you shoot RAW files as well as JPEGs, and consider 64-256GB if you want to shoot video, especially 4K. [Memory card basics](#)

Memory card speed • Memory card makers quote the card's maximum read/write speed in MB/sec, but it's also important to know the minimum sustained speed for video recording. For SD cards, this is quoted using Class ratings. Typically, you need Class 10 for 4K video as a minimum. [Memory card basics](#)

Memory Stick (Sony) • A long, narrow memory card format developed by Sony which evolved into a smaller Memory Stick Duo format which could be used, for a time, in Sony cameras alongside regular SD cards in a dual-format card slot. The Memory Stick/Duo format has now been quietly abandoned in favor of regular SD cards and the CFexpress format. [Memory card basics](#)

Merge (HDR) • HDR (high dynamic range) images are usually created by blending a series of different exposures of the same scene to capture a wider brightness range than the camera could capture with a single exposure. These are then blended together by HDR software using a 'merge' process. [Dynamic range explained](#)

Merge (panorama) • Using software to 'stitch together' overlapping frames to create a wider image than can be captured in a single photograph. Many photo editors now include panorama merge tools as standard, and these can automatically adjust perspective for each frame, correct optical distortions and blend any exposure variations seamlessly.

Metabones Speed Booster • A clever kind of lens adaptor that can compress the angle of view of a larger format lens to fit a smaller sensor size, while increasing its effective maximum aperture. Popular with filmmakers adapting different lens types, but not cheap. [Lens adapters and how they work](#)

Metadata • Any information embedded in a digital photo. It can include time, date and shooting information embedded by the camera (EXIF data), keyword, caption and copyright (IPTC data) added by image cataloging programs and, sometimes, image processing data added by non-destructive image-editing programs. [What is metadata?](#)

Metering mode • Digital cameras usually use multi-pattern/multi-segment light metering, but they also offer other 'metering modes' – center-weighted metering (simpler) and spot metering (more precise). The camera will have a button or a menu option for changing the metering mode. [Metering patterns explained](#)

Micro Four Thirds (MFT) • A sensor and lens format used by Olympus and Panasonic for their mirrorless camera ranges. The MFT sensor measures 17.3 x 13.0mm, so it's smaller than the APS-C sensors used in rival mirrorless cameras, but the advantage is that both MFT cameras and lenses are substantially smaller and lighter than rival APS-C models. [Sensor size explained](#)

Microlens • In order to maximize their light gathering power, each photosite on the camera sensor is covered by a tiny domed 'microlens' to capture and funnel in the light more effectively. Improvements to the microlens array can improve the sensor's performance. [Sensor basics](#)

Microphone • Any camera which shoots video will have a microphone built in, often stereo mics. For serious video work, though, an external microphone is needed. Some types attach to the camera's hotshoe, others are used on the end of a boom or clipped to a presenter's clothing. [Video basics](#) | [Video accessories and what they do](#)

Midtones • Very broadly, the middle brightness tones in a photo. Imagine the full range of tones in an image split into four equal parts – the darkest quarter makes up the 'shadows', the lightest quarter makes up the 'highlights' and in between are the 'midtones'. [Exposure basics](#)

Miniature effect • Special effect provided in some cameras and image-editing programs which makes real-world scenes look like miniature models. It does this by blurring the top and bottom of the image to simulate the shallow depth of field of a close-up shot.

Minimum focus distance • The closest focus distance of a lens. With zoom lenses this may vary according to the focal length setting, and there can also be a difference between the minimum autofocus and manual focus distances. [Lens features and what to look for](#)

Mirrorless camera • A relatively recent design that takes interchangeable lenses, just like a DSLR, but doesn't use an internal mirror for its viewing system - if you take off the lens you see the sensor itself. Mirrorless cameras allow a shorter lens-to-sensor distance and full time live view. [Camera types explained](#)

Mirror up mode • An option on more advanced DSLRs that flips the mirror up in advance of the exposure in order to give any vibrations from the mirror mechanism time to die down. It's popular with fans of macro photography and some landscape photographers. It is also used for manual sensor cleaning. [Sensor spots and how to fix them](#)

M mount (Leica) • Bayonet lens mount used by Leica M rangefinder cameras to this day, and not to be confused with the L mount mirrorless lens mount used by its mirrorless cameras. Both Leica and some third party makers such as Voigtländer still make lenses in the Leica M mount. [Lens mounts explained](#)

Mode dial • Just about all digital cameras have a mode dial which you use to set the exposure mode, such as full auto, program auto exposure, scene modes, movie mode and so on. More advanced cameras add PASM modes – Program AE, Aperture-priority, Shutter-priority and Manual. [Camera shooting modes](#)

Modeling lamp • A continuous light built into many professional flash units so that you can see the effect of the light ahead of taking the picture. Without a modeling lamp, you won't really be able to gauge the effect of the lighting without taking a shot and looking at the result. [Flash photography basics](#)

Modifier • A lighting modifier is designed to change the character of the light from a flashgun, or some other source of artificial lighting. Mostly they soften or diffuse the light, or change its direction. The most common type of lighting modifiers are the softboxes, brollies, honeycomb grids and other accessories attached to studio lighting systems. [Flash photography basics](#)

Moiré • A fine interference pattern sometimes visible when you photograph fine patterns. It happens when these clash with the rectangular grid of pixels on the camera sensor. Actually, you almost never see it – most cameras have anti-aliasing/low pass filters to prevent it, and it doesn't seem to be an issue for those that don't. [Sensor basics](#)

Monitor calibration • Monitors rarely display colors with complete accuracy, so some professionals use calibration kits that use a sensor to read the monitor's colors and then apply a software profile to correct the display. [Color management explained](#)

Monochrome • Another term for black and white photography. Some camera makers offer 'monochrome' in-camera picture styles, and photographers will often talk about 'monochrome' photography. [Picture styles and film simulations](#)

Monochrome camera/sensor • Almost all cameras shoot in color using a color filter array over the sensor and software interpolation to produce a full-color image. This produces some degradation in image quality, whereas a monochrome camera or sensor ditches the color filter array altogether to produce sharper fine detail and smoother tones. [Camera types](#) | [Sensor basics](#)

Monopod • One-legged camera support that lacks the stability of a tripod (obviously) but offers invaluable support when using long, heavy telephoto lenses, and is very popular amongst sports photographers for that reason. [Tripod basics](#)

Monorail camera • Highly sophisticated and adjustable large format film camera where the film back and lens panel are mounted separately on a (mono)rail and joined by light-proof bellows. [Film photography basics](#)

Mount adaptor • A lens mount adaptor which lets you mount a lens designed for one camera or brand on a different make or type of camera. For example, you can get adaptors for fitting DSLR lenses on mirrorless cameras. Mount adaptors (lens adaptors) are used widely in videography. [Lens mounts explained](#)

Multi-pattern metering • This is the most sophisticated form of light metering used by cameras. The light values are measured at many points across the frame and compared to 'known' scenes so that the camera can work out what the subject is likely to be and the best way to expose it properly. [Metering patterns explained](#)

Multiple exposure • Taking two shots on a single frame. In the days of film this meant locking the film advance when cocking the shutter and taking another picture on a frame of film that's already been exposed. On a digital camera, the camera stores the first image in its memory and then merges it with the second.

N

Negative (film) • An image captured by analog film which, when developed, shows a negative version of the scene. When you make a print, this too is a 'negative' process, which reverses the image back to a positive. [Film photography basics](#)

Neutral density (ND) filter • A filter which reduces the amount of light passing through the lens or reaching the sensor without affecting it in any other way. It allows longer exposures in bright daylight (useful for creative blur effects) or controls bright light in a camera with limited exposure controls. [Camera filters explained](#)

Noise • Random 'speckling' in an image caused by variations in the light levels captured by the photosites on the sensor. Noise is worse with the smaller photosites on small sensors and at higher ISO settings generally. You can get 'chroma' (colored) noise and 'luminance' noise (general 'grittiness') with different brightness levels. [Noise and noise reduction](#) | [ISO basics](#)

Noise floor • Sensors produce random noise caused by amplifying the signal at high ISOs or when brightening underexposed areas (shadow noise) but they also produce regular background noise which remains constant, and this is sometimes called the 'noise floor'. It's baseline level of noise, and any other image noise is present on top of this. [ISO basics](#) | [Sensors explained](#)

Noise reduction • Camera makers use special noise reduction processing techniques to reduce the appearance of noise in photos, but the drawback is image softness and haziness and a kind of 'watercolor' effect where areas of fine, subtle detail are smudged beyond recognition. Bad noise reduction can do as much harm as image noise – or more. [ISO basics](#)

O

Object detection/tracking • A new autofocus approach that uses AI to automatically detect different types of subjects in the scene and focus on them automatically. It can be especially effective for tracking objects continuously during burst shooting or filming.

[Autofocus basics](#)

OLED display • OLED stands for 'organic light emitting diode'. It's a more advanced display tech than regular LCDs with wider viewing angles, faster response, better brightness and reduced power consumption. [Viewfinder basics](#) | [LCD displays on cameras](#)

Omnidirectional microphone • This is a microphone that is equally sensitive to sounds from all directions. Built in camera microphones are typically omnidirectional (though some have multi-mic arrays that support different pickup patterns) as are clip-on lavalier (lapel) mics. [Microphone types and uses](#)

Onion skin bokeh • With 'perfect' bokeh, out of focus highlights are reproduced as clean discs, but sometimes these discs have concentric rings of darkness reminiscent of the rings inside an onion when it's sliced open. [What is bokeh?](#)

Open gate video • Video is usually recorded in a widescreen 16:9 ratio, which means the camera's native capture ratio of 3:2 or 4:3 has to be cropped in-camera. Some cameras offer an 'open gate' mode which uses the whole sensor area, offering you the flexibility of choosing the crop later on. [Video basics](#) | [Aspect ratios explained](#)

Optical stabilizer • Image stabilizer which moves physical elements within the lens, or the sensor itself, to keep the image steady during the exposure. This is superior to 'digital stabilizers' which use image processing techniques to reduce blur. Digital stabilization can be effective for video but not stills photography. [Image stabilization explained](#)

Optical viewfinder • The viewfinder in a digital SLR is optical because it's created by an image formed by the lens on a glass 'focussing screen'. The direct vision viewfinders on some compact cameras are optical because you're seeing the world through a set of lenses and not via a digital display. [Viewfinder basics](#)

Optical zoom • A zoom function produced by changing the magnification of the lens rather than by simply blowing up a central part of the image (digital zoom). [Lens basics](#)

Overexposure • The technical description is a picture where all the tones are squashed into the brighter end of the tonal scale and where the highlights may be completely 'clipped' (lost). The subjective description is a photo that's lighter than the photographer intended. [Exposure basics](#)

Oversampling • A video processing technique used by many hybrid cameras where video is captured at the sensor's full resolution but then 'downsampled' to 4K. This gives very good quality and detail and is useful where the sensor's native resolution is a lot higher than 4K. [Video basics](#)

P

Pan and tilt head • Describes a tripod head where you can move the pan and tilt axes separately, as opposed to a ball head, which can move freely in all directions at once. Strictly, while video heads might just have pan and tilt movements, the correct term for heads designed for still photography is a 'three way head', since there is a third axis for tilting the camera vertically. [Tripod heads explained](#)

Pancake lens • A fixed focal length ('prime') lens designed to be as slim as possible so that the camera/lens combination is lighter, more compact and more unobtrusive. Their only real concession compared to a regular prime lens is a smaller maximum aperture, typically f/2.8 for a pancake lens. [Lens types explained](#)

Panorama • Extra-wide image sometimes shot in one pass with specially designed cameras but more often these days made by stitching together a series of overlapping frames taken in quick succession as the camera 'pans' across the scene. Many smartphones can do this as you shoot but with regular cameras you would use 'stitching' tools later. [Camera accessories and what you need](#)

Panoramic head • A tripod head designed specifically for panoramic photography, usually with a precisely graduated panoramic axis and often with a camera rail to allow fore and aft movement of the camera so that its optical center is directly over the axis of rotation. This helps reduce or eliminate parallax errors. [Tripod heads explained](#)

Parallax • The small difference in the relative positions of objects when seen from two slightly different positions. It's not a problem in cameras with through-the-lens viewing, but is an issue with cameras that have separate 'direct vision' type viewfinders. These sometimes have parallax-adjusted framing guides for photographing objects close to the camera. [Viewfinder basics](#)

PASM modes • A set of four exposure modes that distinguishes a serious camera from simple point and shoot models. It stands for Program AE, Aperture-priority, Shutter-priority and Manual modes. You'll find these on many better compact cameras and all DSLRs and mirrorless cameras. [Camera shooting modes](#)

Pentaprism • This is a key part of the optical viewfinder system of a digital SLR. It's a five-sided prism inside a housing on top of the camera that reflects the image captured by the lens and formed on the camera's focusing screen so that it's the right way up and the right way round for viewing through the camera's viewfinder eyepiece. [Viewfinder basics](#)

Perspective control (PC) lens • Perspective control lenses have special tilt and shift movements for correcting converging lines (shift movement) in architectural images, for example, and adjusting the plane of sharp focus (tilt movement) for objects at an angle to the camera. [Lens types explained](#) | [Lens distortion vs perspective distortion](#)

Perspective correction • A means of correcting converging verticals in architectural shots and other perspective issues. You can get 'perspective control' lenses which use complex lens adjustments to fix the problem optically, or you can use software with perspective correction tools. [Lens types explained](#) | [Lens distortion vs perspective distortion](#)

Phase detection autofocus • An autofocus system that checks the position of objects from two angles. If they don't line up the object is out of focus – and the system can use the difference to work out how far to refocus the lens and in which direction. Phase detection AF is now used widely as a faster alternative to contrast AF.

[Autofocus basics](#)

Photosite • This is the correct technical name for the individual light receptors on a sensor, though many people call them pixels because each photosite corresponds to a pixel in the final image. Each photoreceptor gathers light (photons) and turns them into an electrical charge (electrons) which can be measured. [Sensors explained](#)

Picture Control/Style • Cameras usually offer a range of picture 'styles' such as 'Standard', for neutral results, 'Vivid' for richer colors, 'Portrait' for gentler tones and more. These are applied to JPEG images saved by the camera. If you shoot RAW files you can choose the picture style later on. [Picture styles and film simulations](#)

Pincushion distortion • This is where straight lines near the edge of the picture appear to bow inwards. It's not as common as barrel distortion, but you do see it quite a lot with telephoto zoom lenses when the lens is set to its maximum focal length. You may not notice it with many types of subject, but it can be corrected with software later anyway. [Lens aberrations explained](#)

Pixel • The individual building block of digital images. Each individual pixel is a single block of color, but when there are enough of them viewed from far enough away they merge to form the impression of a continuous-tone photographic image. [Sensor basics](#)

Pixel binning • Combining groups of four pixels (typically) to capture more light for better image quality, albeit with fewer megapixels. Sometimes used in video to cope with high resolutions or frame rates. [Sensor size vs megapixels](#)

Pixel peeping • Derogatory term for zooming so far in to a digital image to check fine detail that you lose all sense of the picture's actual size and how much detail you actually need. [Sensor size vs megapixels](#)

Podcasting/streaming mic • A microphone on an extending arm or desktop stand designed for recording podcasts, livestreams or other studio-based work. They usually connect directly to a computer via USB. [Microphone types explained](#)

Point and shoot camera • The easiest way of describing simple digital cameras that are inexpensive and designed for novices. They offer fully-automatic shooting modes that don't require any particular photographic know-how and zoom lenses which cover most everyday needs. [Camera types explained](#)

Polarizing filter • Polarizing filters darken blue skies and can cut through reflections and glare in water, glass and polished surfaces. They come in two types: linear polarisers are cheaper and older and don't work well with modern autofocus systems; circular polarisers are more expensive but they are the type needed for modern cameras. [Filters explained](#)

Polar pattern • The polar pattern of a microphone describes how it picks up sound from different directions. Simple microphones are 'omnidirectional' and pick up sound equally from all directions, but many are 'cardioid' or 'shotgun' types designed to be more sensitive in specific directions to reduce unwanted ambient noise. [Microphone types explained](#)

Pop filter/shield • A small mesh shield placed directly in front of a microphone for when it's used close to the speaker's mouth. This reduces or eliminates 'plosive' speech sounds, which are especially strong with words containing the letter 'p'. This can produce a loud 'pop' sound from the mic. [Microphone types explained](#)

Pop up flash • Most cameras have a built-in flashgun which pops up automatically in low light or can be popped up by pressing a button. The flash can provide emergency light, but it's harsh and short range. In many instances it's best to leave the flash off and use higher ISO settings. [Flash photography basics](#)

Portrait lens • A lens particularly suited to portraiture by virtue of its longer focal length and a fast maximum aperture. These give a more flattering facial perspective and attractive background blur - though of course any lens can be considered a 'portrait' lens if you shoot portraits with it. [Lens types explained](#)

POV • Immersive style of filming where the viewer feels as if they are seeing things through the photographer's own eyes in real time, usually with an action camera and a wide angle lens and often with the photographer's own hands or feet in the shot. [Camera types explained](#)

Pre-burst/pre-capture • A mode where the camera starts recording frames as soon as you half-press the shutter release and keeps recording frames in a kind of 'rolling buffer' all the time it stays pressed. When you press the shutter release the rest of the way, the camera incorporates these buffered shots into the burst sequence. [Continuous shooting explained](#)

Predictive autofocus • Here, the camera tracks a subject in continuous autofocus mode and uses its movement within the frame and any changes in its distance from the camera to work where it's going to be at the moment the shutter fires. [Autofocus basics](#) | [Continuous shooting explained](#)

Prime lens • A lens with a fixed focal length, as opposed to a zoom lens. Prime lenses can produce better optical quality with fewer aberrations and offer a wider maximum aperture. They also tend to be lighter and smaller, and many photographers feel that having to change position to get the best framing does lead to more thought and better pictures. [Lens types explained](#) | [Lens features and what to look for](#)

Printer calibration • Printers don't always produce accurate colors, particularly when using third-party papers or inks. A printer calibration kit will measure the colors produced by the printer and then create a software printer profile which adjusts the color data sent to the printer. [Color management explained](#)

Product Showcase mode • This is a shooting mode offered on some Sony vlogging cameras and others where an object brought up close to the camera is automatically brought into sharp focus. Arguably, this is more of a marketing exercise than a genuinely new feature, since any camera AF system will almost certainly do this anyway. [Autofocus basics](#)

Program AE (P) mode • In this mode, the camera chooses combinations of shutter speed and lens aperture automatically to give a good compromise between safe shutter speeds (no camera shake) and reasonable depth of field (smaller apertures). [Camera shooting modes](#)

Program shift • An override option in program AE mode which shifts the shutter speed and aperture combinations in favor of faster shutter speeds or smaller apertures. This is often quicker than swapping to aperture-priority or shutter-priority mode if it's for a single picture. [Camera shooting modes](#)

Projection (panoramas, VR) • In some branches of photography, notably panoramas and 360 video or VR applications, you're capturing a circular or spherical scene around the camera. The 'projection' is how this is 'flattened out' for printing and display. In other words, how to represent a curved space on a flat plane.

ProRes • A video format developed by Apple and now used widely in the video industry. ProRes comes in two versions – a high-quality compressed version often provided as an internal recording option in more advanced video cameras, and ProRes RAW, a raw video format widely used by external recorders. [Video basics explained](#)

Prosumer • A made-up word to describe somebody mid-way between an amateur photographer (consumer) and professional. A 'prosumer' has typically gone beyond snapshot photography, has become interested in photography as a hobby or ultimately a profession, and has a certain amount of technical knowledge. [Camera types explained](#)

Pull focus • Manually changing the focus while filming to keep the subject in focus as it moves, or as the camera moves. It involves a degree of skill and often a separate operator for high-end cinema productions. Essentially the same thing as 'follow focus' though 'pull focus' is typically what you do, while 'follow focus' is generally a device to make this easier. [Video accessories and what they do](#)

Q

Q (Quick) menu • A useful feature on some cameras which puts all the most commonly used camera settings on a single screen. You can then use the cursor buttons to quickly select the setting you want and change it. It's a pretty common option across all cameras, though the name may be different.

Quadcopter • A type of drone which uses four independently powered rotors. This is the most common type available to consumers though there are drones which use more rotors in order to achieve greater lifting power. [Camera types explained](#)

Quality setting • As well as saving JPEG photos at different sizes, cameras also offer different quality settings like 'Fine', 'Normal' and 'Basic'. Fine produces the best picture quality and is the one to go for if you can. If your camera shoots RAW files, this is where you'll find the RAW option. [File formats explained](#)

Quick release (QR) plate • An attachment for tripod heads designed to make it quicker to remove the camera for handheld photography and re-attach it. You attach the quick release plate to the camera with a slotted screw or butterfly nut, then clip the quick release plate onto the tripod head with a sprung catch or a locking screw. [Tripod head basics](#)

Quiet mode • A very useful option if you need to take pictures in a theater, church or museum where it's important to make no noise. Some Nikon DSLRs have a Quiet mode, though you can't completely eliminate the noise from a DSLR's shutter or mirror mechanism. Mirrorless cameras with electronic shutters can be completely silent. [Continuous shooting explained](#)

R

Rangefinder • An older camera design still used by celebrated German manufacturer Leica. The 'rangefinder' is used for focusing – as you turn the focus ring on the lens, a small mirror in the top of the camera rotates to line up a 'ghost' image with the main image in the viewfinder. When this ghost image lines up, your subject is in focus. [Camera types explained](#)

RAW file • Usually when you take a picture the camera will process the data captured by the sensor into an image file. More advanced cameras can save the image in its unprocessed state – a RAW file – so that you can do the processing yourself later on your computer. [RAW files explained](#)

RAW+JPEG • Cameras with the ability to shoot RAW files will almost always offer a RAW+JPEG option too. Here, the camera shoots a single image but saves two versions – the RAW file and a JPEG processed and saved with the current camera settings. You can share the JPEG straight away and use the RAW file for editing later. [RAW files explained](#)

RAW processing (in-camera) • Some cameras now let you process RAW images and save them as new JPEG files on the memory card. That might sound a bit pointless when you could shoot JPEGs in the first place, but it does mean you can try out different white balance settings, picture styles and more. [RAW files explained](#)

Read speed • The maximum speed at which data can be copied off a memory card, typically onto a computer. This is useful in order to speed up the transfer of photos and videos. Read and write speeds are typically quoted in MB/s (megabytes per second), though some companies use Mb/s (megabits per second) which this makes the numbers bigger! [Memory card basics](#)

Readout speed (sensors) • As cameras develop faster burst speeds, fast electronic shutters and higher resolution video capabilities, the sensor readout speed has become important. The faster the readout speed, the faster the camera can capture and save image data, and the less likely you are to see 'rolling shutter' effects. [Sensor basics](#) | [What is an electronic shutter?](#)

Rear curtain flash • A special slow sync flash mode which fires the flash at the end of the exposure not the start. This gives more natural-looking results with moving subjects because any movement trail will be behind your subject and not ahead of it (which looks odd). [Flash photography explained](#)

Recycle time • The time taken by a flash or strobe to build up the power for the next flash after it's just been used. Flashguns work by accumulating a large electrical charge which is then discharged in an instant via the flash head. The time taken to re-accumulate this charge – the recycle time – varies from one flash to another, and it's a key selling point. [Flash photography explained](#)

Red eye • An effect sometimes created by on-camera flash where the subject's eyes take on an unnatural red color. It's caused by the flash illuminating blood vessels on the retina from the same position as the camera lens. Fewer people use on-camera flash these days, but most cameras still have red eye reduction modes. [Flash photography explained](#)

Red filter • Used in black and white photography to darken blue skies and lighten skin tones and foliage. It can produce dramatic, high-contrast images. [Filters and when to use them](#)

Reflector • A reflector is a folding white or silver panel used to reflect light back towards your subject. Usually it's a white or foil-covered disc stretched tight across a circular wire rim. If you are shooting a portrait with a single light, for example, you can use a reflector to bounce light back into the shadowed side of your subject's face. [Flash photography basics](#)

Refresh rate (EVF) • Electronic viewfinders are digital displays which are 'refreshed' many times a second. Even so, you may see some flicker or jerkiness in some situations at a typical standard refresh rate of 60fps, so some more advanced cameras offer higher refresh rates for a smoother viewing experience. [Viewfinder basics](#)

Release priority AF • A focus mode for continuous shooting where the camera will release the shutter whether or not it has achieved focus on the subject. This can give faster and more consistent continuous shooting frame rates but may produce more focus errors. [Continuous shooting explained](#)

Remote release • A device which fires the camera's shutter release from a distance, either via an electrical cable or a wireless signal. It's useful if you need to stand some distance away from the camera or want to avoid joggling the camera when you fire the shutter. [Camera accessories and uses](#)

Reproduction ratio • A term used in macro photography to indicate the degree of magnification. A ratio of 1:1 is usually considered the minimum for 'true' macro photography. This means that an object is reproduced at exactly the same size on the sensor or film surface as it is in real life. [Macro photography and how it works](#) | [Lens types explained](#)

Reset (camera) • More advanced digital cameras have many shooting and setup options – so many, that you can sometimes forget what you've set them up to do. To get back to the default settings you need to use the camera's Reset option.

Resolution • This can mean one of several things depending on the context. Camera resolution is the number of megapixels on the sensor, lens resolution is how well the lens is able to resolve fine detail. Screen resolution is the number of dots on a screen and therefore how sharp/clear it looks. [Sensor basics](#)

Reversing ring • A lens adaptor sometimes used with regular lenses to reverse their attachment to the camera and maximise their optical performance for macro photography. [Macro photography and how it works](#)

RF mount (Canon) • The lens mount used by Canon's latest generation of mirrorless cameras. These consist of both full frame and APS-C models, but the lens mount is the same for both, though there are some lenses made specifically for the smaller sensor size. [Lens mounts explained](#)

RF-S lenses (Canon) • Although they use the same RF lens mount as all of Canon's current mirrorless cameras, lenses with the RF-S designation are designed solely for the smaller APS-C models and will not cover the full sensor area of Canon's full frame cameras. [Lens mounts explained](#) | [Sensor sizes](#)

Rig (video) • In video, a 'rig' is a harness, a camera mount, a gyroscopic stabilizer or any apparatus designed to make it easier to carry and use a video camera. A rig may also have mounting points for video lights and microphones. [Video accessories and what they do](#)

Ring bokeh • An unusual bokeh effect where out-of-focus highlights appear not as bokeh disks but hollow rings. First seen when catadioptric mirror lenses hit the market. [What is bokeh?](#)

Rolling shutter • An image distortion effect caused by the way camera shutters operate at very high shutter speeds. Instead of exposing the whole sensor at once, they expose it in a narrow moving strip. This means that if a subject is moving very rapidly it may take on a skewed or twisted shape. This can be especially problematic with electronic shutters. [What is an electronic shutter?](#) | [Sensor basics explained](#)

Rule of thirds • A 'rule' of composition that says that pictures look best if objects are placed one-third of the way in from the edge or top/bottom of the picture, rather than being placed directly in the center. It can be helpful, though calling it a 'rule' gives it more importance than it deserves.

Run and gun • A style of videography where you're not shooting from a static position, but following the action on foot as you film. You'd typically use it for action sequences. It takes a good deal of skill and it's best used for deliberate effect, not simply to make up for any lack of planning or direction! [Video basics](#)

S

Safe shutter speed • A shutter speed fast enough to prevent camera shake during the exposure. Normally, it's a second divided by the effective focal length of the lens, so for a 60mm lens a shutter speed of 1/60sec should be 'safe'. The advent of image stabilizers, however, has made it possible to get sharp handheld shots at much slower shutter speeds. [Camera shake explained](#)

Saturation • The intensity of a color or a photo. The higher the saturation, the more intense the color. You can increase the saturation of a photo, but at a certain point the stronger colors will start to 'clip' – objects can lose any fine detail and become a solid block of color. [Picture styles and film simulations](#)

Scene mode • Automatic mode designed for beginners where the camera applies the settings that best suit the subject you're shooting (landscape, portrait, action etc). Some cameras can analyze the scene in front of you and choose a scene mode automatically. [Camera shooting modes](#)

SD/SDHC/SDXC card • These are all the same size but there are important differences. Older cameras may only be able to use SD cards, but more recent ones will be able to use SDHC cards too, but may not be able to use the latest SDXC format. Check your camera's manual to be sure. [Memory card basics](#)

Self timer • Where the camera waits for a set delay before firing the shutter. This gives the photographer time to get in position for a group shot – but it's also useful for tripod shots or long exposures where you want to fire the shutter without jogging the camera.

Sensor • There are two main things to look for in sensors: the sensor size and the resolution, in megapixels. It's at least as important to get a bigger sensor as it is to get more megapixels.

[Sensor basics](#) | [Sensor size explained](#)

Sensor cleaning • DSLRs and compact system cameras sometimes collect spots of dust on the sensor. Most cameras have automatic cleaning systems that shake the sensor free of dust when you switch off, though more stubborn spots may need a 'wet' clean with a sensor swab and cleaning fluid. [Sensor basics](#)

Sensor size • This is the physical size of the sensor, which is independent of the number of megapixels it has. Bigger sensors capture more light and produce sharper, clearer images with less noise. In fact sensor size is the single most important factor these days in a camera's picture quality – megapixels are mostly secondary. [Sensor size explained](#) | [Sensor size vs megapixels](#)

Sepia toning • An old black and white darkroom technique that turns regular black and white prints a vintage brown. It also adds depth and richness to monochrome images. These days it's an effect that's easy to create digitally and is just one of a number of popular 'toning' effects. [Picture styles and film simulations](#)

Shadows • The darkest tones in a picture. A pretty vague term (like 'highlights') but usually taken to mean the darkest areas where you can still see some image detail. Digital cameras often retain more shadow detail than you can see initially, and this can be brought out later on a computer. [Exposure basics](#)

Shadow and highlight recovery • Feature on some cameras and in some image-editing programs that lets you recover very bright or dark areas of the picture which would otherwise be lost to over- or under-exposure. It uses the extra image data captured in RAW files, so you have to shoot RAW to be able to do this later on a computer. [Dynamic range explained](#) | [RAW files](#)

Shadow noise • Digital image noise is often worse in darker areas of a photo and while this usually goes unnoticed because detail in these areas is dark and harder to see anyway, if you edit the image to bring out the shadows, this shadow noise can often become more prominent. [Noise and noise reduction](#)

Sharpening • A standard part of digital image processing either in-camera or later on a computer. Sharpening processes increase the contrast around object outlines to make them look crisper. Good sharpening is all but invisible, bad sharpening leaves edge 'halos' you can see under magnification. [Picture styles and film simulations](#)

Shift lens • A specialist lens designed for architecture and interior photography, which allows you to shift the lens vertically or horizontally to avoid perspective distortion or horizontal/vertical convergence. [Lens distortion vs perspective distortion](#)

Shotgun mic • A highly directional microphone usually used to capture audio from a subject some distance from the camera. Shotgun mics are 'unidirectional', which means they capture sound from one direction only over quite a narrow angle. This makes them more effective at excluding unwanted ambient noise. [Microphone types explained](#)

Shutter • The mechanism that controls the length of the exposure. On some smaller cameras this may be in the lens (a 'leaf' or 'in-lens' shutter), but on DSLRs and mirrorless cameras with interchangeable lenses, it's a 'focal plane' shutter directly in front of the sensor. Many modern mirrorless cameras have 'electronic shutters' with no moving parts. [Camera shutters explained](#)

Shutter distortion • A 'skewing' phenomenon sometimes seen with fast-moving subjects, where the subject has moved across the frame while the camera is still capturing the scene. [What is an electronic shutter?](#)

Shutter priority (S) mode • Exposure mode where you choose the shutter speed and the camera selects a lens aperture to give the correct exposure. You get to choose the shutter speed manually, but the camera still takes care of the exposure automatically. On Canon cameras this is called Tv (time value) mode. [Camera shooting modes](#)

Shutter speed • The length of time the shutter is open during the exposure and usually quoted as fractions of a second. Each shutter speed is half as long as the one before, for example 1/30sec vs 1/60sec. This exposure 'halving' is the basis for balancing up shutter speed, lens aperture and ISO settings as part of the 'exposure triangle'. [Exposure basics](#) | [Shutter speed and how to use it](#)

Silent mode • A useful mode if you're shooting in a theater or museum, but one that's only available on compact cameras with in-lens shutters and mirrorless cameras with electronic shutters. [Camera shutters explained](#) | [What is an electronic shutter?](#)

Single shot AF (S-AF) mode • Here, the camera focuses once when you half-press the shutter release then holds that focus point until you press the button the rest of the way to take the picture. This is the usual mode for taking one photograph at a time (as opposed to continuous shooting). [Autofocus basics](#)

Slider • A rail or a pair of rails to allow smooth horizontal camera movement while filming. Sliders can be free standing or tripod mounted. They may be hand operated or driven by motors. [Video accessories and what they do](#)

Slow flash or slow sync • Special flash mode where the camera's exposure is extended beyond the brief burst of the flash. This makes it possible to record some of the ambient lighting too, and it's a popular technique for illuminating a nearby subject brightly without losing background color and detail. [Flash photography basics](#)

SLT (Single Lens Translucent) • A short-lived camera design from Sony – a kind of hybrid of the regular digital SLR design and the always-on live view of a mirrorless camera. It used a fixed translucent mirror to reflect the light to an electronic viewfinder and autofocus sensor but also pass the image through to the camera sensor at the same time. [Camera types explained](#)

Slow motion • Video shot at a higher frame rate and played back at a normal frame rate. For example, video shot at 60fps and played back at 30fps would appear to be running at half speed. Higher frame rates require more processing power, so not all cameras offer them. [Video basics](#)

Smartphone • Many smartphones have pretty good cameras. The best ones have sensors about the same size as those in point and shoot cameras and fixed focal length lenses. The lack of a zoom is a restriction, but many have multiple camera 'arrays' to offer different focal lengths. There's even a growing art movement around mobile photography. [Camera types explained](#)

Softbox • A softbox fits around the head of a flash to provide a larger and more diffuse rectangular light source. It's very popular amongst professional photographers for product shots and portraits, where it produces even lighting and smooth reflections off glossy surfaces, and for portrait photographers who want to achieve a softer, more flattering effect. [Flash photography basics](#)

Soft focus • An effect often used for portrait photography which gives a flattering or glamorous look to female faces. There's more to it than just defocusing the picture, though – soft focus filters add a soft haziness to highlights and areas of even tone but preserve the underlying image detail. [Filters and when to use them](#)

Spectral sensitivity • The sensitivity of film or camera sensors to different wavelengths, or colors, of light. It's especially relevant in black and white photography because it affects the way different colors are translated into shades of gray. [Film photography | Sensor basics](#)

Speedlight or Speedlite • The names used by Nikon and Canon respectively for their camera flash units, both built-in pop-up flash and external flashguns. There's nothing intrinsically different about these compared to regular flashguns – it's just a different choice of name. [Flash photography basics](#)

Spherical aberration • A property of simple lenses with spherical profiles where light rays at the edges of the lens are not focused at the same point as those passing through the center. It's counteracted using combined concave and convex lenses (groups), aspherical lens elements and other optical designs. [Lens aberrations explained](#)

Spikes • Tripods usually come with rubber feet on their legs, but these may not give much grip or purchase if you're using them outdoors on soft or uneven surfaces – this is where it's often better to have a metal spike instead. On some tripods, the rubber feet will screw back to expose a spike. On others, you may get screw-on spikes included. [Tripods explained](#)

Spot (on sensor) • The sensors in interchangeable lens cameras are prone to picking up specks of dust which appear as small black spots in your images. Cameras have sensor cleaning mechanisms designed to repel and shake off dust particles but they often persist despite this. They can be removed with manual sensor cleaning or in software. [Sensor basics](#)

Spot metering • A metering mode where the camera measures the light from a very small area of the scene. This might be right in the center or, on some cameras, it's directly beneath the selected autofocus point. [Metering patterns explained](#)

Square format • Where the image is perfectly square, so that the width and height are the same. This is the classic format for 6x6cm medium format cameras of the past and you can, of course, crop any digital image to a square format (e.g. for Instagram in the past), either later in software or directly on the camera when shooting. [Aspect ratios explained](#)

sRGB • A standard color space used widely by displays on smartphones, computers, tablets and other electronic devices. It reproduces a sufficiently wide range of colors to give realistic photographic images and is supported by almost all devices. As color spaces go, it's a safe and effective 'lowest common denominator'. [Color management basics](#)

Status LCD • More advanced DSLRs have a secondary LCD display on the top so that you can check the main shooting settings without needing the rear screen. Status displays are black and white (or black on green) and usually have a backlight button for use in dark conditions.

Stepping motor (STM) • Stepping motors move in small, incremental steps. They are simple, reliable and offer a good deal of control and precision. They're now being used by Canon (STM lenses) and Nikon (AF-P lenses) in a number of consumer-orientated lenses, where they offer fast, quiet and smooth autofocus. [Autofocus basics](#) | [Lens features and what to look for](#)

STF (Smooth Trans Focus) • A special optical design that smooths the edges of bokeh disks in out of focus areas for the smoothest, 'creamiest' bokeh possible. [What is bokeh?](#)

Stock photography • Shooting images specifically to represent different concepts, scenarios or situations that will be made available via a stock library or site for companies to buy and use for their own promotional materials. Earnings for photographers from stock images have declined sharply, not least because of generative AI. [AI in photography](#)

Subject tracking autofocus • A focus mode where the camera continually focuses on a moving subject. The more advanced the AF system, the better it will be at keeping the subject in focus. It's used mostly in continuous shooting mode for sports and action photography and also for video. [Autofocus basics](#) | [Continuous shooting](#) | [Video basics](#)

Super-telephoto • An extreme telephoto lens with an effective focal length of 400mm or longer and most commonly used by sports, wildlife and press photographers. These lenses are big, heavy and expensive but provide high levels of magnification not possible with ordinary lenses. [Lens types explained](#)

Super-wideangle • A lens with a much wider angle of view than your camera's kit lens. In full frame camera terms, a super-wide angle lens is one with a focal length of around 20mm or less. Super-wide angle lenses are quite expensive and characterized by large, bulbous front lens elements. [Lens types explained](#)

Sync terminal or socket • A cable connector for socket external flash units that's still found on higher-end cameras like pro DSLRs but is becoming less and less common as photographers switch to wireless flash systems. These are usually triggered by a 'master' unit attached to the camera. [Flash photography basics](#)

T

Teleconverter • A special magnifying unit that fits between a telephoto lens and the camera body to increase its focal length. Teleconverters are often matched to specific lenses to ensure optical quality and performance. They typically come in 1.4x, 1.7x and 2x magnifications. [Lens types explained](#)

Telephoto • A lens which gives a magnified view of the scene. The magnification is proportional to the focal length of the lens, so a 100mm telephoto gives 2x the magnification of a 50mm lens. [Lens types explained](#)

Tethered shooting • A technique used by professional studio photographers where the camera is connected to a computer and the computer is then used for controlling the camera, checking pictures as soon as they're taken and then correcting and enhancing them as necessary before saving them.

Three way head • A three way tripod head has separate adjustments for horizontal movement (pan), fore and aft movement (tilt) and camera orientation (vertical or horizontal). This makes a three way head heavier and more bulky than a ball head, but it's easier to make precise, fine adjustments in one direction only. [Tripod heads explained](#)

TIFF • An image file format that uses 'lossless' compression but produces much larger files than JPEGs. It's sometimes offered as a file format on more advanced cameras but it's more useful later on as an image file format for image editing and manipulation on a computer. [File formats explained](#)

Tilting screen • One that tilts up and down but doesn't flip out and rotate in all directions (an 'articulating' screen). Tilting screens are nonetheless useful for composing pictures with the camera at waist or ground level or above head height. [LCD displays](#)

Tilt-shift • A specialized type of lens which can be tilted relative to the camera body. This changes the plane of sharp focus and can be used to extend or contract the available depth of field. It can also be simulated digitally using tools which leave a central strip of the photo in sharp focus but progressively blur the rest of the image towards the edges. [Lens types explained](#)

Timecode • Time signal recording system use on higher end video and audio gear to allow precise synchronization of video/audio signals and multi-camera setups. [Microphone types explained](#)

Time and date setting • All digital cameras record the time and date and embed it in the photo's EXIF data. It's important to set the time and date correctly on the camera because it's used later on when you want to search for photos on your computer or sort them in chronological order. [Metadata and what it does](#)

Time (T) exposure • A close relative of the bulb (B) shutter speed setting and, like bulb mode, it's used for long exposures. With time (T) exposures, though, you don't hold the shutter button down all the time - you press once to start the exposure and a second time to end it. [Exposure basics](#)

Timelapse • A filming technique where frames shot at intervals are combined to make a video. For example, if you shot 300 frames at 1-second intervals and turned them into a movie running at 30fps, then five minutes of real time would be compressed into a 10-second movie. [Video basics](#)

Tint (white balance) • A secondary white balance adjustment used alongside color temperature for more complex light sources like fluorescent lighting. Color temperature works across an amber-blue spectrum, while tint adds a green-magenta axis. [White balance explained](#)

Touch AF • Autofocus mode where you tap on a touch-sensitive screen to choose the focus point for the picture. This can be a lot quicker than moving the focus point with a controller or joystick on the back of the camera. [Autofocus basics](#) | [LCD displays](#)

Touchscreen • An LCD screen offering touch control for camera settings, setting the focus point, navigating menus and more. These are becoming increasingly popular on compact cameras and mirrorless models as a way of supplementing or replacing knobs and dials. [LCD displays](#)

Touch shutter • Almost all mirrorless cameras now have touchscreen displays and many offer a 'touch shutter' mode where you can tap anywhere in the scene to have the camera focus and take the picture in a single action. [LCD displays](#)

Toy camera effect • A deliberately low-quality image effect that mimics the retro look produced by cheap old film cameras. Pictures have added contrast and color saturation and strong vignetting at the edges of the frame. Some toy camera effects add a color shift to simulate old and out of date film.

Trail camera • This is a relatively low cost but weatherproof and robust camera unit designed to be left out in the wild tied to a tree, for example. It's triggered by movement and will automatically capture animals at night either as still images or as video, even in darkness. [Camera types explained](#)

Transparency (slide) film • Color film developed to produce a positive image which can be viewed and projected directly, rather than a negative image for printing. It's quite hard to find and get developed these days. [Film photography basics](#)

Travel camera • A more advanced version of a point and shoot camera with a much longer zoom range and, sometimes, more advanced photographic controls. With a 10x, 20x or 30x zoom range these cameras are much more versatile, but they use small sensors so the picture quality is limited. [Camera types explained](#)

Travel tripod • Travel tripods are designed for compactness and light weight so that they can more easily be strapped to bags or even carried inside them. They have a specific design feature, whereby the legs fold upwards around the center column and the tripod head to minimize their size when folded. [Tripod basics](#)

Tripod • Three-legged camera support that doesn't really need much more explanation, except to say that they vary considerably in cost, size and rigidity, and that some come with tripod heads while others require you to buy them separately. [Tripod basics](#) | [Video accessories and what they do](#)

Tripod collar • A tripod mounting bracket for larger, heavier lenses so that the weight is taken by the lens at its center of gravity rather than by the camera body. The tripod mount is on a metal collar which can be rotated around the lens for horizontal or vertical shooting and can sometimes be detached completely for handheld shooting. [Tripod basics](#) | [Lens types explained](#)

Tripod head • This is the part on the top of the tripod that allows you to move the camera and then lock it in position. You can get ball heads, which allow free movement in all directions but not much precision, or three-way heads which are slower to use but enable you to move the camera in one axis at a time. [Tripod heads explained](#) | [Video accessories and what they do](#)

T-stops • The video equivalent to aperture settings in stills photography. Where aperture values are based on the size of the aperture in relation to the lens focal length, T-stops are adapted to indicate the actual amount of light being passed by the lens, a subtly different approach that yields more reliable exposure measurement. [Lens features and what to look for](#)

Twin lens reflex (TLR) • Unique vintage camera design that stacked matching lenses vertically - the lower lens was the 'taking' lens while the upper lens formed an image on a screen for viewing, composing and focusing. [Film photography basics](#)

U

UHD video • This is what most people are referring to when they talk about '4K' video. UHD video has a frame size of 3,840 x 2,160 pixels, so it's slightly less than 4,000 pixels wide, but it does have a true 16:9 aspect ratio, so the picture proportions are the same as standard HD and full HD video. [Video basics explained](#)

UHS I and II • UHS is a high speed bus (data transfer connection) for SD memory cards. There are two versions: UHS I and a more advanced UHS II type. This refers to the physical construction of the card and does not directly indicate its speed. [Memory card basics](#)

Underexposure • Where a picture comes out darker than you expected because of the way the camera has adjusted the exposure, or where you deliberately make the photo come out darker for dramatic effect. [Exposure and how it works](#)

USB-C • This is the latest version of the USB standard and the most desirable, offering a standardised USB connector, much faster data transfer and support for higher power delivery so that devices can be charged quickly via a USB cable.

USB charging • A useful feature on most modern cameras where you can charge the battery while it's still in the camera by connecting its USB port to a USB power supply or a portable power bank. [Battery basics](#)

USM • Stands for UltraSonic Motor, a type of autofocus actuator used by Canon to provide fast and quiet autofocus. Canon has a more compact variant called Nano USM. Other autofocus actuator types exist, such as STM (stepping motors) and linear motors.

[Autofocus basics](#) | [Lens features and what to look for](#)

UV filter • Almost colorless filter which is designed to cut blue (UV) haze in distant scenic shots, though this is less of an issue with digital imaging than it was with film. UV filters are still used, though, as a simple and inexpensive lens protector. [Filters and when to use them](#)

V

Variable aperture zoom • A zoom lens where the maximum aperture available changes with the zoom setting. The maximum aperture is widest at the shortest focal length and narrowest at the longest focal length. Most affordable consumer zooms are variable aperture zooms. [Lens features and what to look for](#)

Vari-angle screen • Pivoting rear screen on a camera which can be flipped out sideways and angled up and down to allow shots to be framed with the camera at high or low viewpoints or from angles where it would be difficult to see the screen or viewfinder normally. This is useful for video in particular but also stills photography. [LCD displays](#)

Video light • A lighting unit designed specifically for video, typically small and light enough to mount on the camera or alongside it on a video rig. Video lights can also be used away from the camera on lighting stands or held by an assistant. They use energy-efficient LED panels. [Video accessories and what they do](#)

Viewfinder coverage • The percentage of the scene shown by the viewfinder. In better DSLRs you see 100% of the scene that will be captured, but in cheaper models it might only be 95-97%. That small difference can lead to objects showing at the edge of the frame that you hadn't realized were there. [Viewfinders explained](#)

Viewfinder grid • These are an option on both DSLRs and in electronic viewfinders. You can use the grid to make sure horizons are level and buildings are vertical – some grids conform to the 'rule of thirds' to help you get a satisfying composition. [Viewfinders explained](#)

Vignetting • An effect where the edges of the picture are darker than the center. It was common with old lenses and it's become associated with a vintage look. It's considered a lens aberration these days, though photographers often like to add a vignette effect deliberately. [Lens aberrations explained](#)

Virtual horizon • A kind of on-screen spirit level that shows you when the camera is level. This can be useful in landscape photography, for example, when the horizon isn't flat or visible. Some also have fore-and-aft levels to help avoid any tilt (and converging verticals) when shooting buildings.

Virtual reality • An 'immersive' environment you can explore using a VR headset or via an interactive screen display. These are commonly created using computer generated 3D environments, but increasingly photographers are using 360 cameras to capture a spherical rendition of the world with the camera at the center. [Camera types explained](#)

Vlogging • Shortened version of 'video blogging' associated with solo shooters and content creators filming not just the things they're interested in, but themselves too as part of this. Vlogging typically requires its own approach to cameras, accessories and shooting techniques. [Video basics explained](#)

VR (Vibration Reduction) (Nikon) • Nikon's name for its image stabilization technology, as built into its DSLR lenses and mirrorless cameras. Tiny gyroscopic sensors detect any camera movement during the exposure and instantly shift a group of internal lens elements or the camera sensor to compensate and keep the image steady on the sensor. [Image stabilization explained](#)

W

Waist level finder • A common viewing system on classic medium format film cameras, where you compose and focus the image on a ground glass screen on the top of the camera, which you held at or about waist level. [Film photography basics](#)

Warmth • A non-technical way of describing the color temperature of the light in a scene. Pictures taken with a low sun have 'warmth' because the light takes on a golden color. Many photographs – landscapes, for example – can be enhanced with a little additional 'warmth'. [White balance basics](#)

Watt-seconds • The usual measurement for the power output of professional flash systems because it's a measure of raw power output independent of any lighting modifiers, angle of coverage or reflective surfaces. It's only smaller, consumer-orientated flashguns that quote 'guide numbers'. [Flash photography basics](#)

White balance • An adjustment made by the camera to neutralize color shifts in the lighting. Digital cameras offer an auto white balance option where they choose the correction, or you can select manual white balance 'presets' when you want to control the camera's color rendition yourself. White balance adjustments are made using 'color temperature' and 'tint'. [White balance explained](#)

Wideangle lens • A lens that takes in a wider than usual angle of view. Wideangle lenses have an effective focal length of 28mm or shorter. The shorter the focal length, the wider the angle of view. [Lens types explained](#)

Wind cut • A feature on some microphones that attempts to cut out loud roaring, whistling wind noises that you might not notice when shooting but which spoil the sound quality. It can be effective, but it's even better to use a muffler on an external microphone. [Microphone types explained](#)

Wind shield • These are furry microphone covers designed to suppress wind noise which can otherwise ruin outdoor recordings. Also known somewhat cruelly as 'dead cats' or 'dead hamsters'. [Microphone types explained](#)

Wireless mic • Increasingly popular microphone setup where you have a small microphone/transmitter clipped to a presenter that sends the audio wirelessly to a receiver connected to the camera. [Microphone types explained](#)

Write speed • The speed at data can be written to, or stored, on a memory card or other storage device. 'Fast' memory cards are useful for continuous shooting in sports photography, while for video memory cards need to be able to maintain a consistently high write speed. This is why most memory cards now come with a 'class' rating for video work. [Memory card basics](#)

X

XLR mic • Professional microphone type that connects via a secure 3-pin plug to cinema cameras and pro audio gear rather than the 3.5mm audio jack on regular/hybrid cameras. [Microphone types explained](#)

X-mount (Fujifilm) • This is the lens mount for Fujifilm's X-series mirrorless cameras. Any X-mount lenses can be used on any X-mount camera, though note that Fujifilm's medium format GFX cameras use a different mount and different lenses. [Lens mounts explained](#)

XMP file • A file sometimes created by photo editing software like Adobe Camera RAW to store information about the image, such as keywords, or editing steps not stored within the image itself. You can't modify RAW files directly, for example. [What is metadata?](#)

XQD card • An extra-fast memory card format originally used only in the Nikon pro DSLRs. It's about half the size of Compact Flash and physically the same as the newer CFexpress Type B format. Nikon DSLRs which used XQD cards received firmware updates so that they could use the newer, standardized CFexpress Type B cards. [Memory card basics](#)

X-Trans sensor (Fujifilm) • A sensor layout unique to Fujifilm which replaces the usual bayer pattern of red, green and blue photosites with a more 'random' arrangement. Fujifilm says this eliminates the need for a low-pass filter to combat moiré (interference) effects, resulting in sharper fine detail. [Sensors explained](#)

Z

Zebra pattern • A visual warning that image highlights are being overexposed which is used especially during video recording. The overbright areas are marked by moving diagonal stripes (hence zebra) leaving you to decide whether to reduce the exposure or to leave it if the highlight areas are unimportant. [Exposure and how it works](#)

Z-mount (Nikon) • New lens mount used on Nikon mirrorless cameras with a shorter lens flange distance and wider lens throat for a new generation of mirrorless lenses. The mount is the same on both Nikon's full frame mirrorless models and its DX (APS-C) format models, though some Nikon Z DX lenses are designed specifically for the smaller sensor. [Lens mounts explained](#)

Zone System • A system developed by landscape photographer Ansel Adams for measuring the light levels throughout a scene and allocating them to ten brightness 'zones'. The idea was to develop the film to a specific level of contrast that captured the full range of tones. [Exposure basics](#)

Zoom lens • A lens which can be adjusted to give a range of different focal lengths. Most lenses in use today are zooms because they're so much more versatile than fixed focal length (prime) lenses. The disadvantages of zoom lenses are increased distortion and other aberrations, reduced maximum aperture and greater cost and weight. [Lens types explained](#) | [Lens features and what to look for](#)

Zoom range • The difference in magnification offered by a zoom lens at its widest and longest focal lengths. The average kit lens has a zoom range of 3x, so at full zoom objects appear 3x larger than they do when you're zoomed right out. The Nikon CoolPix P900 bridge camera has a record-breaking 83x zoom (now superseded by the P1000). [Lens types explained](#) | [Lens features and what to look for](#)

1-9

1-inch type sensor • A sensor size roughly halfway between the small sensors in point and shoot digital cameras and the much larger ones in digital SLRs and mirrorless cameras. It's found in more advanced high-end compact cameras and some vlogging/video cameras. [Sensor size explained](#)

4:2:0/4:2:2 • These numbers refer to the level of compression of color data when capturing video. 4:2:0 is the highest level of compression producing the smallest and most manageable files and probably perfectly adequate quality when used as-is. 4:2:2 video is captured with less color data compression and may deliver better results, especially if you do any editing later. [Video basics](#)

4K video • The latest consumer video standard, with a horizontal resolution of 4,000 pixels or thereabouts. In fact, what most makers and users are referring to is 4K UHD video at 3,840 x 2,160 pixels. [Video basics](#) | [Aspect ratios explained](#)

4K UHD • UHD stands for Ultra High Definition and the name does not exactly describe the video resolution. Further, 4K UHD is not strictly 4K video since it describes a horizontal resolution of 3840 pixels. Nevertheless, most videographers will accept that 4K UHD is, generically, '4K' video. [Video basics](#)

5-axis stabilization • The latest kind of image stabilization technology, where the camera's sensor can be tilted or shifted on 5 axes to counter a much wider range and types of movement than regular lens-based image stabilizers. It's a particular advantage for video, where these additional movements can pose problems during handheld filming. [Image stabilization explained](#)

6K video • Video captured at a frame width of approximately 6,000 pixels. The height will depend on the aspect ratio chosen. 6K is offered as a selling point and upgrade over 4K cameras because it offers higher resolution and scope for cropping and panning during editing. [Video basics explained](#)

8K video • 8K video has a horizontal resolution of approximately 8,000 pixels. It offers higher resolution than either 6K or 4K video with more potential for cropping and panning effects while maintaining image quality, but places heavy hardware demands on computers, displays and storage media. [Video basics explained](#)

8-bit image • These are photos which use 8 bits of data for each of the red, green and blue color channels. This is enough to give over 16 million colors – more than enough for photographic images. The JPEG photos taken by digital cameras are 8-bit images. [Bits and bit depth explained](#)

10-bit video • A higher quality video capture setting than the regular 8-bit video capture of most consumer devices. The advantage of 10-bit video is that it will stand up better to any heavy video editing later on in post production. 10-bit video is especially important if you record using 'log profiles' to capture a wider color and brightness range. [Bits and bit depth explained](#)

14-bit RAW • The 'bit depth' of RAW files is a factor in the picture quality they can produce, so this is a selling point for advanced digital cameras. Some cheaper models can only shoot 12-bit RAW files, while Hasselblad medium format cameras offer 16-bit RAW. [Bits and bit depth explained](#) | [RAW files](#)

16-bit image • These are photos with 16 bits of data for each of the red, green and blue color channels. These aren't created directly by the camera, but you can generate 16-bit images from RAW files and they withstand heavy image manipulation better than regular 8-bit images. The file sizes are much larger, though. [Bits and bit depth explained](#) | [RAW files](#) | [File formats explained](#)

16:9 • The aspect ratio of full HD and 4K UHD video and widely adopted for domestic TVs and computer monitors. The 16:9 ratio means that the picture is 16 units wide by 9 units high. These units can be anything from pixels to centimeters to inches, but the point is that the ratio between them always remains the same at 16 wide to 9 high. [Aspect ratios explained](#)

32-bit float • New audio recording technology that captures sound over a very wide dynamic range, often making the need to set audio levels for recording unnecessary. [Microphone types explained](#)

35mm film • Common film format amongst amateur photographers and some professionals. Film comes in 36 or 24-exposure rolls with sprocket holes along the edges. You can get different film types and ISO speeds. [Film photography basics](#)

360 camera • A camera which uses twinned ultra-wideangle lenses on either side of the body to capture two hemispherical views of the world which are then merged in-camera. You can use 360 cameras to create immersive VR (virtual reality) or to create regular 'flat' videos with full control over zooming, panning and subject tracking. [Camera types explained](#)

About the author

I have been a full time professional photography journalist for 25 years. I write for a number of leading photographic websites and magazines, and run my own websites at lifeafterphotoshop.com and fotovolo.com.

I write about cameras, lenses and accessories for users at all levels, from beginners using smartphones to professionals working with full frame and medium format cameras. I post reviews, how-tos and explainers on photographic gear, shooting techniques, creative photography and image editing. Oh, and video too.

This A-Z of photography represents around 45 years of photography experience, condensed into a single volume of definitions, explanations and insights that aim to cut through the technological fog of photography and explain concepts in the clearest and simplest way.

Well, that's the plan.

A handwritten signature in black ink, appearing to read 'Rod'.