



The EF Lens World

Single focal-length lenses

All photographs in *The Lens World* were taken with EOS DIGITAL SLR cameras.
Availability of the lens may vary from area to area.



EF 15mm f/2.8 Fisheye-1/640sec.·f/16

An amazing world in 180°: a fisheye lens that goes beyond the limits of human vision and delights the eye.

Camera lenses have what is called an angle of view, which is the limit within which the subject can be photographed in accordance with the focal length and the imaging format, similar to human vision. The angle of view of standard lenses, which is thought to be near that of the human eye, is approximately 50°, while that of a 15mm fisheye lens is 180° (diagonally across the frame in the 35mm format). This means that almost everything that is in front of the camera is included in photographs taken by fisheye lenses, such as the sky above, the ground below, and surrounding scenery far to the left and right, which would normally have to be looked at by turning the head and would not therefore be visible in normal vision.

Since fisheye lenses put everything within an angle of view of 180° onto the film or a 24 x 36mm image sensor, there is much distortion around the edges of the photograph. All straight lines outside the center of the photograph become curved. The stronger the hyperfocal effect, which puts everything in the picture into focus, the larger the objects at the center appear. Meanwhile, objects near the edges of the frame are extremely warped, creating a tremendous feeling of perspective. Incidentally, the name fisheye was first applied to this type of lens because this is how a fish underwater sees the outside world when it looks up, an effect which is related to the ratio of refraction of light. However, when using fisheye lenses, it is important to remember that the visual impact is so strong that photographers need to be careful not to let the lens choose the picture instead of their own

artistic or photographic sensibility. Used skillfully, this type of lens can open unique vistas of expressive possibility, as well as being able to act as an ultra-wide-angle lens thanks to the fact that lines in the center of the picture are not deformed.

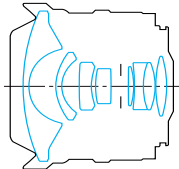
EF 15mm f/2.8 Fisheye

This fisheye lens with an 180° diagonal view can impart an extraordinary expressiveness to photographs. Even under conditions where manual focus would be difficult, the autofocus delivers sharp focus quickly and accurately. Fisheye lenses are in a class of their own for specialised photographic situations, demonstrating their unique perspective and hyperfocal effect when photographing objects as close as 0.2m/0.7ft. from the focal plane. The rear drop-in gelatin filter holder makes for easy filter work.



EF 15mm f/2.8 Fisheye

- Focal length and maximum aperture: 15 mm 1:2.8
- Lens construction: 8 elements in 7 groups ● Diagonal angle of view: 180°
- Focus adjustment: Overall linear extension system with AFD
- Closest focusing distance: 0.2 m/ 0.7 ft., 0.14 x magnification
- Filter size: Rear drop-in gelatin filter holder
- Max. diameter x length, weight: ø 73 x 62.2 mm, 330 g/ 2.9" x 2.5", 11.6 oz.



EF 14mm

Ultra wide-angle lenses



EF 14mm f/2.8L USM-0.3sec.-f/5.6

A 14mm lens covers a tremendous field of view in the 35mm format: creating a surreal effect only possible in photographs that go beyond a human perspective

Lenses with an ultra-wide focal length of 14mm can photograph an entire 114° wide-angle view in the 35mm format, equivalent to looking out the windshield of your car and seeing everything in one glance. This wide-angle view is most effective for photographing buildings from which you cannot get far enough away to take a good picture, as well as very small interiors. The strong perspective effect of this lens can also be seen in the daring expressiveness of landscape photographs. In portrait photography, the use of an ultra wide-angle lens can create a strong sense of separation between subject and background.

With this type of lens, the camera angle has a significant effect on

the resulting photographic image, creating a very dynamic outcome. By holding the camera level, a more natural feeling with minimal perspective distortion results, but tilting the camera up or down even slightly causes vertical lines to appear to converge or taper dramatically. These results are particularly effective for artistic architectural photography.

■ EF 14mm f/2.8L USM

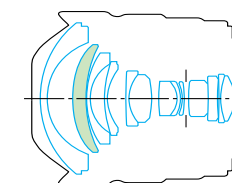
A high-quality ultra wide-angle lens featuring clear, sharp imaging performance with minimal distortion. This lens employs a large-diameter ground and polished aspherical glass element in the first lens group to thoroughly correct the type of rectilinear distortion often seen in photography of buildings. Also, through use of a rear focusing system, astigmatism is corrected at close

focusing distances and high-speed autofocus is achieved. A built-in petal hood improves contrast, prevents vignetting and protects the front element of the lens. The ultrasonic focusing motor allows manual focusing at any time without switching the focus mode. This lens is also very effective as an ultra wide-angle lens for digital SLR cameras, whose imager size is usually smaller than that of 35mm film cameras.



EF 14mm f/2.8L USM

- Focal length and maximum aperture: 14 mm 1:2.8
- Lens construction: 14 elements in 10 groups ● Diagonal angle of view: 114°
- Focus adjustment: Ring-type USM, rear focusing system, full time manual focus
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.1 x magnification
- Filter size: Rear drop-in gelatin filter holder
- Max. diameter x length, weight: ø 77 x 89 mm, 560 g/ 3" x 3.5", 1.2 lbs.



● Aspherical lens



EF 20mm f/2.8 USM · 1/350sec. · f/5.6

Wide angle. Extreme depth of field.

The ultra wide-angle 20mm lens can be used almost anywhere.

Ultra wide-angle lenses are characterised by a dynamic wide-angle effect which goes beyond human visual perspective. Exaggerated perspective foreshortening makes subjects nearer to the camera appear very large, with a rapid decrease in size as they move further away. A pan-focus effect with everything appearing sharp from foreground to background is thus easily achieved, even when shooting at large apertures.

While delivering a wide-angle view of 94°, which puts everything inside the human field of vision into the photograph, the 20mm lens nevertheless allows a more natural feeling to be achieved, without the extreme foreshortening effect which dominates photographs taken by the 14mm lens. This lens is ideal if you

want to take documentary photographs or portraits that have a slightly out-of-the-ordinary feel and a strong sense of presence, without losing their realism. This lens has a broad range of uses as an ultra wide-angle lens, good for everything from architectural and interior photography to general snapshots and landscape photography.

■ EF 20mm f/2.8 USM

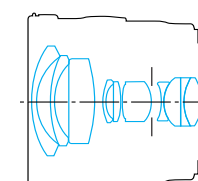
A rear focus mechanism with a floating effect moves the rear lens group internally to correct close-distance aberrations while focusing the subject. Crisp, sharp images are possible from the minimum focusing distance of 0.25m/0.8ft. to infinity. The combination of the rear focusing design with an ultrasonic motor achieves fast and silent autofocus. Of course, manual focusing

is possible at all times without switching modes. Since the front of the lens does not rotate during focusing, superior operability is obtained with circular polarizing filters. This lens is good for active photographers who already have a standard zoom lens but want a lens that will give their landscape photography and snapshots a broader feeling.



EF 20mm f/2.8 USM

- Focal length and maximum aperture: 20 mm 1:2.8
- Lens construction: 11 elements in 9 groups ● Diagonal angle of view: 94°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.14 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 77.5 x 70.6 mm, 405 g/ 3.1" x 2.8", 14.3 oz.





EF 24mm f/1.4L USM-5sec. -f/8

A 24mm lens adds a powerful sense of presence to subjects photographed up close. An impressive range of photographic expression broadened by the availability of large apertures. The wide-angle 24mm lens delivers a broad angle of view, so proper use of its strong perspective and clear imaging performance allows a real sense of separation to be achieved between the subject and its background. While offering less dynamic effects than its super-wide-angle counterparts, this lens provides a beautiful blur effect in the background when the lens aperture is opened up fully, while at the same time offering outstanding imaging performance emphasising the unique perspective available with wide-angle lenses. Taking portraits very close to the subject can also add a tinge of other-worldliness to the image – an effect typical of wide-angle lenses. Of course, these

lenses are at their best when photographing expansive landscapes without losing the vastness of the image.

■ **EF 24mm f/1.4L USM**

A versatile 24mm lens which boasts the largest maximum aperture in its class at f/1.4. Its superlative optical design combines both ground aspherical lens elements and UD lens elements to thoroughly control all forms of distortion, including astigmatism, spherical aberration and the severe chromatic difference of magnification often seen in digital SLR cameras. The use of floating construction provides high picture quality from the closest distance of 0.25m/0.8ft. through the entire focusing range. A non-rotating filter mount ensures outstanding operability.

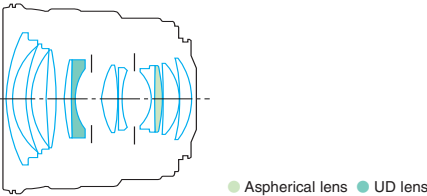
■ **EF 24mm f/2.8**

Incorporation of rear focusing superbly compensates for all aberrations at any shooting distance, including extreme close-up, achieving very clear images. Since the length of the lens is always the same and the hood and filter mounts are designed not to rotate, operability with circular polarizing filters is sublime. Compact and easy to use, this is a fast, accurate autofocus lens with unrivalled maneuverability.



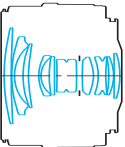
EF 24mm f/1.4L USM

- Focal length and maximum aperture: 24 mm 1:1.4
- Lens construction: 11 elements in 9 groups ● Diagonal angle of view: 84°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.16 x magnification ● Filter size: 77 mm
- Max. diameter x length, weight: ø 83.5 x 77.4 mm, 550 g/ 3.3" x 3.1", 1.2 lbs.



EF 24mm f/2.8

- Focal length and maximum aperture: 24 mm 1:2.8
- Lens construction: 10 elements in 10 groups ● Diagonal angle of view: 84°
- Focus adjustment: Rear focusing system with AFD
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.16 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 67.5 x 48.5 mm, 270 g/ 2.7" x 1.9", 9.5 oz.





EF 28mm f/1.8 USM · 1/350sec. · f/11

A 28mm lens providing photography with high mobility while utilising visual effects typical of a wide-angle lens

Objects photographed with a wide-angle lens appear larger the closer they are to the camera, so use of wide-angle lenses is ideal for maintaining an ample perspective balance between subject and background. Of all the wide-angle lenses available, however, 28mm lenses are the most effective in this regard, not only for landscapes, of course, but also when moving in on the subject for portraits, delivering a strong sense of presence for the objects surrounding the subject while also giving even everyday subjects a hint of something different.

It goes without saying that 28mm lenses are also very useful for indoor snapshots that require a wide angle of view or for photographs of large groups of people. And since astigmatism and

distortion are very low due to their fixed focal length, these lenses are useful for architectural photography.

EF 28mm f/1.8 USM

This is a large aperture lens that provides impressively natural delineation and beautiful shading, as well as excellent performance for indoor photography taking advantage of the bright maximum aperture of f/1.8. The optical system incorporates aspherical lenses, which not only keep the lens size down but also reduce spherical aberration and deliver sharp picture quality. A flare-cut diaphragm installed behind group 1 blocks unwanted light to ensure highest contrast. Operability is enhanced by inclusion of a ring-type USM for silent, high-speed AF with full-time manual focus and a non-rotating filter mount.

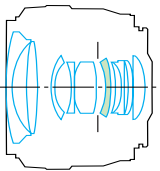
EF 28mm f/2.8

Incorporation of a glass-molded aspherical lens element enables use of a simple yet effective 5-element, 5-group lens construction. This results in an extremely compact, lightweight optical system which achieves super-fast autofocus with an extension type focusing system, while delivering sharp, high-contrast image quality. Distortion is virtually nonexistent, making this lens ideal for architectural photography and other scenes containing straight lines.



EF 28mm f/1.8 USM

- Focal length and maximum aperture: 28 mm 1:1.8
- Lens construction: 10 elements in 9 groups ● Diagonal angle of view: 75°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.18 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 73.6 x 55.6 mm, 310 g/ 2.9" x 2.2", 10.9 oz.

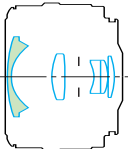


Aspherical lens



EF 28mm f/2.8

- Focal length and maximum aperture: 28 mm 1:2.8
- Lens construction: 5 elements in 5 groups ● Diagonal angle of view: 75°
- Focus adjustment: overall linear extension system with AFD
- Closest focusing distance: 0.3 m/ 1 ft., 0.13 x magnification ● Filter size: 52 mm
- Max. diameter x length, weight: ø 67.4 x 42.5 mm, 185 g/ 2.7" x 1.7", 6.5 oz.



Aspherical lens



EF 35mm f/1.4L USM-0.6sec.-f/2.8

35mm: A focal length that delivers a subdued perspective and natural delineation similar to the human eye.

This lens offers a natural approach to subjects that is almost like that of a standard lens. But when you want to get a little more 'presence' in your photographs, with more breadth and depth in the visual plane, a 35mm lens is ideal. The expressive possibilities of these lenses range from sharply defined foreground and background utilising a blur effect when the aperture is wide open or when taking close-up photographs, adding a different tone from that achievable with standard wide-angle lenses, and hyperfocal effects with the aperture stopped down all the way to give the photograph a sense of visual tension.

The slightly wider angle of view and the brightness of the maximum aperture values are also valuable assets for scenic

photography using natural light. These lenses are particularly useful when photographing in low light conditions which would cause zoom lenses to lose effectiveness. These wide-angle, single focal length lenses can be used in many different situations, from indoor photography with straightforward perspective to portraits and snapshots.

■ EF 35mm f/1.4L USM

This lens boasts the brightness of the largest aperture in its class. Its 9th element is a ground aspherical lens that thoroughly eliminates spherical aberration and distortion. It achieves extremely sharp, faultless picture quality only possible with a single focal length lens. A floating mechanism maintains the lens's superior image quality from infinity to the closest shooting

distance of 0.3m/1ft. The non-rotating filter mount provides easy operability with circular polarizers and other types of filters.

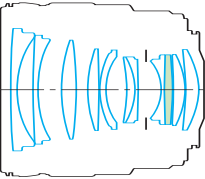
■ EF 35mm f/2

The simple 7-elements, 5-groups lens construction utilising a short zoom lens design method achieves a brightness of f/2 in a lightweight and compact design. This efficient lens construction combines with a multi-layer coating treatment to achieve very clear imaging performance with virtually no ghosting or flare. The minimum focusing distance is 0.25m/0.8ft. – the shortest in its class – making it possible to take close-ups at a magnification of 0.23x, despite the wide angle of the lens.



EF 35mm f/1.4L USM

- Focal length and maximum aperture: 35 mm 1:1.4
- Lens construction: 11 elements in 9 groups ● Diagonal angle of view: 63°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.3 m/ 1 ft., 0.18 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 79 x 86 mm, 580 g/ 3.1" x 3.4", 1.3 lbs.

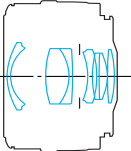


● Aspherical lens



EF 35mm f/2

- Focal length and maximum aperture: 35 mm 1:2
- Lens construction: 7 elements in 5 groups ● Diagonal angle of view: 63°
- Focus adjustment: Overall linear extension system with AFD
- Closest focusing distance: 0.25 m/ 0.8 ft., 0.23 x magnification ● Filter size: 52 mm
- Max. diameter x length, weight: ø 67.4 x 42.5 mm, 210 g/ 2.7" x 1.7", 7.4 oz.





EF 50mm f/1.2L USM • 1/80sec • f/1.2

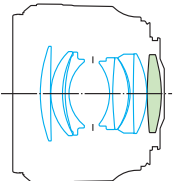
EF 50mm

Standard lenses



EF 50mm f/1.2L USM

- Focal length and maximum aperture: 50 mm 1:1.2
- Lens construction: 8 elements in 6 groups ● Diagonal angle of view: 46°
- Focus adjustment: Ring-type USM, overall linear extension system, full-time manual focus
- Closest focusing distance: 0.45 m/ 1.48 ft., 0.15 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 85.8 x 65.5 mm, 590 g/ 3.4" x 2.6", 1.3 lbs.

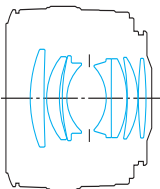


Aspherical lens



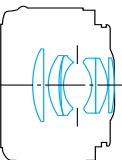
EF 50mm f/1.4 USM

- Focal length and maximum aperture: 50 mm 1:1.4
- Lens construction: 7 elements in 6 groups ● Diagonal angle of view: 46°
- Focus adjustment: Micro USM, overall linear extension system, full-time manual focus
- Closest focusing distance: 0.45 m/ 1.5 ft., 0.15 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 73.8 x 50.5 mm, 290 g/ 2.9" x 2", 10.2 oz.



EF 50mm f/1.8 II

- Focal length and maximum aperture: 50 mm 1:1.8
- Lens construction: 6 elements in 5 groups ● Diagonal angle of view: 46°
- Focus adjustment: Overall linear extension system with Micromotor
- Closest focusing distance: 0.45 m/ 1.5 ft., 0.15 x magnification ● Filter size: 52 mm
- Max. diameter x length, weight: ø 68.2 x 41 mm, 130 g/ 2.7" x 1.6", 4.6 oz.



Natural images close to the perspective of the human eye.

A standard lens that, once mastered, proves its worth in any situation.

Photographs taken with a standard lens have a natural angle of view and an undistorted feeling of distance. And because the lens has about the same angle of view as the human eye, it demands much more from the photographer. The key to using a standard lens is to strike a winning combination of distance from the subject, perspective, and background blur. For example, by using a small aperture with low- or high-angle shots, you can create a feeling just as dynamic as that created with a wide-angle lens. Even when using a more conventional angle, a large aperture can be used to soften the background and obtain an image similar to the results obtained with a medium telephoto zoom lens. And by paying close attention to perspective and composition in close-ups, you can achieve professional-looking results. Indeed, the 50mm lens is the one lens that allows photographers to take advantage of all the principles of lens work.

EF 50mm f/1.2L USM

This standard lens features a super-wide maximum aperture of f/1.2. Taking advantage of shallow depth of field allows the photographer to capture subjects with impact, such as for wedding portraits. Use of an aspherical lens effectively corrects spherical aberrations and delivers sharp, high-contrast images even with the aperture fully open. Another attractive aspect of the lens is its circular aperture that creates beautiful background blur. Coupled with silent, high-speed autofocus and full-time manual focus override for subtle focusing adjustment, this lens satisfies professionals both in image quality and operability.

EF 50mm f/1.4 USM

By optimally distributing power with a gauss type design and two high-refraction glass lenses, flare at maximum aperture is minimised and astigmatism is greatly reduced. Moreover, improvements in the quality of the focused image and the beautiful natural blur of the background are simultaneously achieved. Use of a Micro USM (Micro Ultrasonic Motor) provides fast, silent autofocus, as well as full-time manual focus. The colour balance is virtually identical to the ISO recommended reference values.

EF 50mm f/1.8 II

An orthodox 6-element, 5-group construction allows high image quality and natural expressiveness throughout the entire focusing range from infinity to the closest focusing distance of 0.45m/1.5ft. A simple cam-type drive is used in the focusing system, providing quick, quiet autofocus and achieving a light weight of 130g/4.6 oz. Neutral colour balance achieves colour reproduction that is nearly identical with the ISO recommended values. And with a price that won't break the bank, the fun of a single focal length lens with a different attitude from a standard zoom lens is available to everyone.



EF 85mm f/1.2L II USM • 1/640sec. • f/2

The 85mm medium telephoto lens is also known as the “portrait lens.” It brings any image to life with a bright natural look. With the perspective of the eye when looking closely at an object, 85mm lenses are often called “portrait lenses,” because their natural perspective and blur effect makes them ideal for this purpose. Full-length photos of female models, head-and-shoulders portraits, and photographs that accentuate the subject by setting it off from the background are particularly well suited to this type of lens, with its natural feel. You can also take advantage of the brightness of the lens itself for taking naturally lit dusk and indoor shots – an appealing capability unavailable with zoom lenses.

■ EF 85mm f/1.2L II USM

An upgraded version of the EF 85mm f/1.2L USM, widely deemed the “gold standard” for professional portrait work, this lens is the brightest in its class and offers beautiful out-of-focus effects. By virtue of its precisely ground aspherical lens, which adeptly compensates for spherical aberrations and other distortions, this lens displays exquisite detail and high contrast even at f/1.2. And with the incorporation of a floating lens mechanism, aberration fluctuations are substantially reduced at short and medium distance shots to ensure extremely sharp, quality images consistently at all shooting distances. We have also dramatically sped up AF performance in response to requests from professionals. A faster CPU and optimised AF algorithm allow the lens to focus instantaneously for reliable capture of fleeting photo opportunities. This lens is even more pleasant to use for portrait work because of the very shallow depth of field at f/1.2, coupled with full-time manual focusing for fine adjustment. Furthermore, Canon effectively reduced the flaring and ghosting common with digital cameras by optimising internal lens placement and coatings. A circular aperture is also used to maximise the wonderful defocusing attributes of the lens at the maximum f/1.2 aperture. All told, this is the one lens that can meet the toughest demands of professional photographers, whether shooting female portraits with a masterful blur effect or natural scenes in natural lighting.

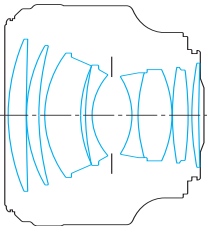
■ EF 85mm f/1.8 USM

This lens's most prominent feature is its outstanding portability. The rear focus system delivers sharp, clear images starting with the maximum aperture. The rapid, quiet, and accurate autofocus is complemented by a full-time manual focus for subtle adjustments. When taking portraits even such fine adjustment as moving the focus from the tips of the eyelashes to the eye itself is possible, creating a subtle yet definite change in expressive tone. The natural soft blur effect is very attractive, and the lens's operability is outstanding, with a constant lens length as well as a non-rotating front lens group to make using circular polarizing filters even easier.



EF 85mm f/1.2L II USM

- Focal length and maximum aperture: 85 mm 1:1.2
- Lens construction: 8 elements in 7 groups ● Diagonal angle of view: 28° 30'
- Focus adjustment: Ring-type USM, front group linear extension system, full-time manual focus
- Closest focusing distance: 0.95 m/ 3.2 ft., 0.11 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 91.5 x 84 mm, 1,025 g/ 3.6" x 3.3", 2.3 lbs.

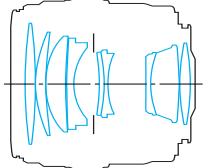


Aspherical lens



EF 85mm f/1.8 USM

- Focal length and maximum aperture: 85 mm 1:1.8
- Lens construction: 9 elements in 7 groups ● Diagonal angle of view: 28° 30'
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.85 m/ 2.8 ft., 0.13 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 75 x 71.5 mm, 425 g/ 3" x 2.8", 15 oz.





EF 100mm f/2.8 USM · 1/45sec · f/2.8

The 100mm telephoto lens clearly communicates the photographer's expressive intent by capturing the subject naturally using its slight telephoto effect.

Compared to the 85mm lens, the 100mm lens is characterised by an angle similar to that when you look closely at an object. It also provides a remarkable perspective compression effect, bringing the subject together with the background, making it possible to create photographs which seem to clip a certain composition out of reality in accordance with the photographer's will. And since the subject can be emphasised in the composition of the photograph without the necessity of being physically close to it, portrait photography becomes easier as the model can relax and achieve a more natural expression, without having to think about the camera in his or her face.

Uses also include image shot photographs utilising pin-point focus, taking full advantage of the shallower depth of field at maximum aperture.

EF 100mm f/2.8 USM

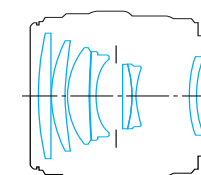
For natural looking perspective in landscape photography, portraiture and snapshots, this large-aperture, medium telephoto lens is ideal, and easily portable. Equipped with a rear focusing optical system perfect for medium telephoto lenses, this lens compensates for all types of aberration, delivering outstanding image performance that is sharp and clear, even at maximum aperture. Designed with portrait photography in mind, a great deal of thought went into the natural, soft blur effect. The lens delivers quick, quiet USM autofocus as well as smooth full-

time manual focus. As with the EF 85mm f/1.8 USM, the lens's operability is outstanding, with a constant lens length as well as a wide manual focus ring and non-rotating filter and hood mounts.



EF 100mm f/2.8 USM

- Focal length and maximum aperture: 100 mm 1:2
- Lens construction: 8 elements in 6 groups ● Diagonal angle of view: 24°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.9 m/ 3 ft., 0.14 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 75 x 73.5 mm, 460 g/ 3" x 2.9", 1 lb.





EF 135mm f/2L USM·1/60sec.·f/2

Isolating the most important part of the subject without losing the background.
The 135mm focal length delivers the best in telephoto lenses. Telephoto lenses are great for transmitting the feeling of the photographer in a straight, unadorned manner. The intention behind the photograph is easily seen by the photographer's selection of what to include in the composition and how to include it, incorporating the background or emphasising one part of the subject. The various effects of different telephoto lenses are contained in the 135mm lens, making it relatively easy to master. For instance, it is ideal for candid snapshots, such as shots of children playing from across the yard. Also possible are relatively orthodox photos, like rows of blooming flowers, taking advantage of the overlapping effect the lens's angle provides. And since the

shortness of the lens makes it easy to take with you, it is the ideal lens for learning the basics of how best to use telephoto lenses.

■ EF 135mm f/2L USM

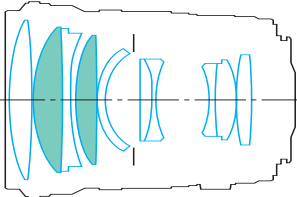
This lens is perfect for indoor sports photography that takes advantage of the f/2 brightness, and for portrait photography that uses the beautiful shading only possible with a large aperture lens and the nearness of the closest focusing distance (0.9m/3ft.). The use of two UD elements effectively compensates for secondary spectrum and ensures sharp image quality. Light mechanical parts make this the lightest lens in its class at 750g/26.5oz. A ring-type USM and rear focusing guarantee quick and quiet autofocus, and excellent performance-functionality balance makes this an easy-to-handle lens. Equipped with an Extender EF 1.4xII or 2xII,

it can be used for AF photography at 189mm f/2.8 and 270mm f/4. Operational ease is improved by the inclusion of full-time manual focusing which can be used in AF mode, and non-rotating filter and hood mounts.



EF 135mm f/2L USM

- Focal length and maximum aperture: 135 mm 1:2
- Lens construction: 10 elements in 8 groups ● Diagonal angle of view: 18°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 0.9 m/ 3 ft., 0.19 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 82.5 x 112 mm, 750 g/ 3.2" x 4.4", 1.7 lbs.



UD lens



EF 135mm f/2.8 with Softfocus-1/15sec.-f/3.5

The expressive power of soft focus – Perfect for portraits and nature photography which stress the beauty of the subject. Using the shallow depth of field characteristic of telephoto lenses, you can cut out all the unnecessary detail, and at the same time get the unforced expression you are looking for, thanks to the distance between the camera and the subject. These characteristics make the 135mm lens, along with medium telephoto lenses, very popular for portrait photography. They are also used for landscape photography, taking advantage of the close-up effect created by compressing the perspective and emphasising the narrow angle of view. And to add a bit more flavor to the final product, it is not uncommon to use a filter to impart a soft touch to the whole composition. In portraits, the soft filter enhances the model's complexion and skin tone, and in landscapes and flower photography, it conveys a magical touch to the scene. The soft focus technique used to draw out a mysterious beauty in portraits of female models and flowers can be achieved several

ways. The easiest is to use a soft focus filter. These filters have rough surfaces which disperse the light entering the lens (the photographic light), and the resulting photograph looks like a pale mist has enveloped the scene. In contrast, soft focus lenses are specifically designed to use spherical aberration, which normally decreases sharpness in a lens and can cause “seeping,” for its softening effect. Unlike soft filters, the image performance of soft focus lenses involves creating a unique and beautiful world which veils the subject in a soft fuzzy flare, while nevertheless maintaining the subject in sharp focus. The flare is controlled to round out the image. Soft focus lenses make taking this kind of photograph fun again.

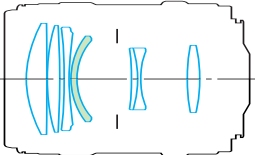
■ **EF 135mm f/2.8 with Softfocus**
This unique lens is the only telephoto lens equipped with a built-in soft focus function to achieve very soft images by harnessing the effect of spherical aberration. There are two levels of softness

which can be chosen (1 – weak, 2 – strong), in addition to level 0 which is for photographs with normal sharpness. The softness of levels 1 and 2 can be further controlled by careful selection of the aperture, making it possible to achieve very precise levels of softness. Image quality with the soft focus effect is ideal for flattering portraits and pictorial scenes, with the subject in focus but softened with an appropriate degree of flare. Not only can the ideal softness be achieved by moving the internal aspherical lens element in accordance with the amount of softness desired, aberration fluctuation caused by changes in distance is also eliminated. And there is no need to worry about trying to determine the correct focus position – the autofocus system precisely focuses the subject for the optimum soft focus effect.



EF 135mm f/2.8 with Softfocus

- Focal length and maximum aperture: 135 mm 1:2.8
- Lens construction: 7 elements in 6 groups ● Diagonal angle of view: 18°
- Focus adjustment: Rear focusing system with AFD
- Closest focusing distance: 1.3 m/ 4.3 ft., 0.12 x magnification ● Filter size: 52 mm
- Max. diameter x length, weight: ø 69.2 x 98.4 mm, 390 g/ 2.7" x 3.9", 13.8 oz.



● Aspherical lens



EF 200mm f/2.8L II USM·1/320sec.·f/6.3

200mm lenses use perspective compression effectively to strengthen photographic composition and expression. Once the focal length of a lens reaches 200mm, the angle of view becomes very narrow and compression of perspective becomes more emphasised, making for higher tension, more powerful images. Besides sports photography, where this lens is ideal for bringing out the power in subjects which are often moving very rapidly, it is also effective for the type of fashion portraiture which eliminates the background almost completely by accentuating the beautiful blur effect of the extremely shallow depth of field. The longer the focal length becomes, the shallower the depth of field becomes, making it impossible to extend the focal range beyond a very narrow area at maximum aperture, which in turn puts everything in front of and behind that area out of focus. One

technique that should therefore be used often with a telephoto lens is to eliminate the background by blurring it out of recognition and focusing only on that point you are interested in.

■ EF 200mm f/2.8L II USM

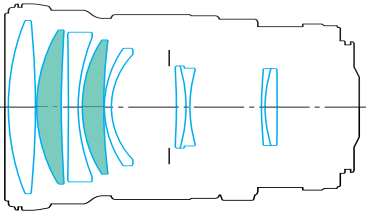
This is a lightweight, compact telephoto lens that was designed for mobility. Two UD lenses thoroughly eliminate secondary spectrum. The new rear focus design which reduces the overall weight of the moving lens elements and improves focusing precision also compensates for aberrations. The lens boasts excellent sharp, clear imaging performance at all focusing distances. The quick and quiet AF which uses a ring-type USM and the fine-tuned physical balance of the lens make operation a delight. It is equipped with a large separate hood which blocks

out light very effectively. It is compatible with an optional detachable tripod collar, which provides a stable support and can be switched smoothly from vertical to horizontal positions and vice-versa.



EF 200mm f/2.8L II USM

- Focal length and maximum aperture: 200 mm 1:2.8
- Lens construction: 9 elements in 7 groups ● Diagonal angle of view: 12°
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.16 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 83.2 x 136.2 mm, 765 g/ 3.3" x 5.4", 1.7 lbs.



UD lens



EF 300mm f/2.8L IS USM·1/25sec.·f/2.8

The appeal of a tightly compressed perspective.
A super telephoto lens that can bring life to any picture.
The ability of these lenses to go beyond the perspective of the human eye makes for photographs which bring a strongly compressed perspective to the viewer – and the 300mm is no exception, fully endowed with these characteristics, but also capable of handling fast-moving subjects thanks to its lightweight, compact design.
This lens is great for capturing fresh expressions, such as in natural portraits taken from a distance so as not to intrude on the model's frame of mind with the camera, and slightly magical close-ups of flowers which result in riotous or subdued splashes of colour, depending on how the blur effect is used.

EF 300mm f/2.8L IS USM

This is the accumulation of all the new optical technologies Canon has, embodied in the next-generation L-type large-aperture

300mm, with a newly designed optical system. One fluorite lens element and two UD lens elements are used to thoroughly eliminate secondary spectrum. High picture quality with high resolution and high contrast is achieved. The world's fastest*¹ autofocus has been achieved by employing a ring-type USM and improving the drive algorithm. Furthermore, equipping the lens with an image stabilizing mechanism that compensates for roughly two shutter speeds*² has made it possible to get the best performance out of it under all conditions. The closest focusing distance has also been reduced to 2.5m/8.2ft. Operability has been greatly advanced by adding an AF stop button and revamping the focus preset method. Using a magnesium alloy for the lens barrel has resulted in an ultra lightweight body which is 295 grams lighter than before. The body has outstanding dust-proof and drip-proof*³ characteristics. It comes with a removable tripod collar.

EF 300mm f/4L IS USM

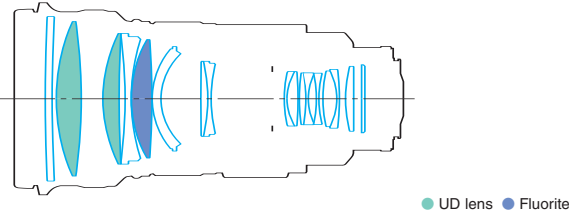
In addition to the unrivalled optical performance, this 300mm lens is characterised by outstanding mobility thanks to the image stabilizing mechanism. In IS mode, the photographer has two options: mode 1, which is good for still shots, and mode 2, for many shots of moving objects. The optics includes two UD glass elements to thoroughly eliminate secondary spectrum. With a closest focusing distance of 1.5m/4.9ft, you can get in as close to the subject as possible in that unique way only possible with a macro lens. The image stabilizer also functions when using the Extender EF 1.4xII and Extender EF 2xII to provide that elusive 600 mm shooting capability.

*1 Bodies: EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (all when using rechargeable battery pack)
*2 Based on a shutter speed of "1/focal length" seconds, said to be the limit for hand-held photography without image stabilization.
*3 Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D, Extender EF 1.4xII, Extender EF 2xII



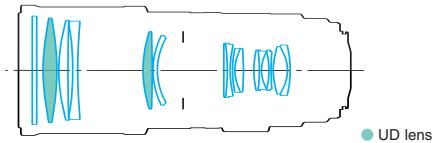
EF 300mm f/2.8L IS USM

- Focal length and maximum aperture: 300 mm 1:2.8
- Lens construction: 17 elements in 13 groups (protective glass and drop-in filter included)
- Diagonal angle of view: 8° 15'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 2.5 m/ 8.2 ft., 0.13 x magnification ● Filter size: 52 mm rear drop in
- Max. diameter x length, weight: ø 128 x 252 mm, 2,550 g/ 5" x 9.9", 5.6 lbs.



EF 300mm f/4L IS USM

- Focal length and maximum aperture: 300 mm 1:4
- Lens construction: 15 elements in 11 groups (protective glass included)
- Diagonal angle of view: 8° 15'
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 1.5 m/ 4.9 ft., 0.24 x magnification ● Filter size: 77 mm
- Max. diameter x length, weight: ø 90 x 221 mm, 1,190 g/ 3.5" x 8.7", 2.6 lbs.





EF 400mm f/2.8L IS USM·1/250sec.·f/8

The real attraction of super telephoto lenses.
400mm lenses with the impact of a compressed perspective.
400mm lenses are some of the most commonly used lenses for international sporting events such as the Olympics. These super telephoto lenses deliver shots which are both photogenic and have strong visual impact, such as a close-up of the focused concentration of a runner's expression on the starting line, or just the right way to frame the colour and texture of a far-off mountaintop. 400mm lenses have an even more powerful compression effect than 300mm lenses, putting the subject and the background right next to each other, as it were, creating more tension in the composition of the photograph. This allows the photographer to bring immediacy to shots of wild animals and birds, which are generally difficult to photograph from up close, or the driving force of an F1 racecar as it comes around a corner.

■ **EF 400mm f/2.8L IS USM**
A 400mm super telephoto lens with a first-rate imaging performance, plus Image Stabilization effective over two shutter speeds. The image stabilizing mechanism used on IS lenses provides high-speed correction control whenever vertical or horizontal movement is detected, allowing for a greater range of hand-held photography. It provides reliable capabilities when used for fashion photography and sports photography performed indoors or at night. The optical system includes one fluorite and two UD lens elements that eliminate secondary spectrum, for ultra high contrast and image quality. With a ring-type USM and an improved drive algorithm, its autofocus is the fastest in the world*¹. The closest focusing distance has been reduced to 3m/9.8 ft., and it is equipped with full-time manual focus that does not consume electric power. It has both focus preset and AF Stop functions. This lens is lightweight due to the use of a magnesium alloy for its barrel and other external parts. It offers superior dust-

proof and drip-proof*² performance even under harsh conditions.

■ **EF 400mm f/5.6L USM**
This is a high-performance 400mm super telephoto lens featuring an extremely light and compact design ideal for photographers requiring high mobility and portability. The optical system incorporates one element made of Super UD glass and one element made of standard UD glass, thus effectively correcting colour aberration and delivering extremely sharp, high-contrast imaging performance. Other features that ensure convenient operation include a built-in hood, a removable ring-type tripod mount, and a focus range selector that allows the user to select the full 3.5m/11.5ft.-to-infinity distance range or restrict the range to 8.5m/27.9ft.-to-infinity.

*¹ Bodies: EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (all when using rechargeable battery pack)
*² Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D, Extender EF 1.4xII, Extender EF 2xII

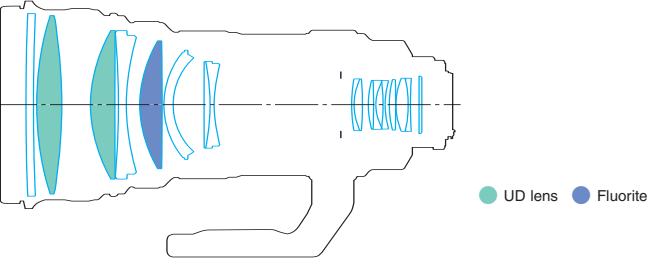
EF 400mm

Super telephoto lenses



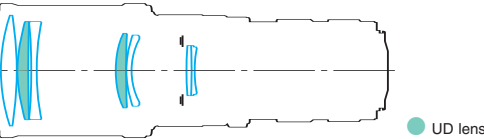
EF 400mm f/2.8L IS USM

- Focal length and maximum aperture: 400 mm 1:2.8
- Lens construction: 17 elements in 13 groups (protective glass and drop-in filter included)
- Diagonal angle of view: 6° 10'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 3 m/ 9.8 ft., 0.15 x magnification ● Filter size: 52 mm rear drop in
- Max. diameter x length, weight: ø 163 x 349 mm, 5,370 g/ 6.4" x 13.7", 11.8 lbs.



EF 400mm f/5.6L USM

- Focal length and maximum aperture: 400 mm 1:5.6
- Lens construction: 7 elements in 6 groups ● Diagonal angle of view: 6° 10'
- Focus adjustment: Ring-type USM, rear focusing system, full-time manual focus
- Closest focusing distance: 3.5 m/ 11.5 ft., 0.12 x magnification ● Filter size: 77 mm
- Max. diameter x length, weight: ø 90 x 256.5 mm, 1,250 g/ 3.5" x 10.1", 2.8 lbs.





EF 400mm f/4 DO IS USM·1/320sec.·f/6.3

A new expressiveness and mobility in super telephoto lenses equipped with the new DO optical element that delivers compact size, light weight, and high picture quality.

It is a fact of life that the optical systems of super telephoto lenses grow in size and weight, which creates problems in terms of holding them, making it almost impossible to use them for hand-held photography as they cannot be held still enough. This causes blurry shots which ruin the impact and visual effect that the photographer was going after, and is a particular handicap for field sports which require much hand-held photography. Blurry shots are the enemy in this type of photography, so demand is high for super telephoto lenses that are light but still deliver high picture quality.

Big, heavy super telephoto lenses. The answer? A new technology embodied in DO lenses.

Many different technical approaches have been taken to try to

solve the problem of how to make super telephoto lenses more compact and lighter. The latest solution is “diffractive optical elements” which allow interchangeable lenses for SLR cameras to be designed more compactly, lighter, and with high picture quality by applying optical characteristics which are unavailable in normal refraction lens elements. At the same time, however, if the light entering the lens is natural (white) light, part of that light becomes diffracted and appears as flares, which has made such characteristics difficult to apply to photographic lenses. Thanks to a newly developed original multi-layered construction, DO lenses have solved the problem of how to make super telephoto lenses smaller and lighter, without compromising picture quality.

■ EF 400mm f/4 DO IS USM

This is the first 400mm super telephoto lens for photography with the new multi-layered diffractive optical elements, or DO lens

elements. It delivers unrivaled imaging performance while keeping size and weight down to manageable levels. By combining DO lens elements with normal refraction elements, colour aberration is corrected to levels even higher than is possible with fluorite elements. This lens also has the fastest autofocus in the world^{*1}. Equipped with an Image Stabilizing mechanism and a thoroughgoing dust-proof and drip-proof^{*2} construction, it can be used in even the harshest weather conditions. It also comes with an AF Stop function for outstanding operability and mobility. The green line on the lens barrel is a symbol of the innovative technologies used to design and produce Canon lenses, and is shared by the Canon FL-F 300mm f/5.6 which appeared in 1969, the first SLR lens in the world to use fluorite lens elements.

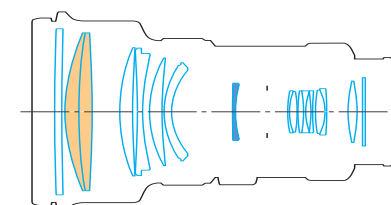
^{*1} Bodies: EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (all when using rechargeable battery pack)

^{*2} Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D, Extender EF 1.4xII, Extender EF 2xII



EF 400mm f/4 DO IS USM

- Focal length and maximum aperture: 400 mm 1:4
- Lens construction: 17 elements in 13 groups (protective glass and drop-in filter included)
- Diagonal angle of view: 6° 10'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 3.5 m/ 11.5 ft., 0.12 x magnification ● Filter size: 52 mm rear drop-in type
- Max. diameter x length, weight: ø 128 x 232.7 mm, 1,940 g/ 5" x 9.4", 4.3 lbs.



● Fluorite ● DO lens

EF 500mm

Super telephoto lenses



EF 500mm f/4L IS USM·1/30sec·f/22

Bringing out the lens's original performance by preventing unwanted blur. The 500mm super telephoto lens, going beyond human perspective. Follow the dynamic movement of the players on a field far away. Get right up into the powerful action of the teams as they interact on a soccer or rugby field. With the unique perspective compressing effect provided by a 500mm super telephoto lens, the photographer can put the subject and the background on almost the same visual plane, creating a visual tension and impact that are hard to imitate, and that make super telephoto lenses the pleasure they are. With a 500mm lens, however, extreme attention needs to be paid to shaking of the hand or camera when following the movements

of a moving subject, as this will result in a blurry shot – a common occurrence when trying to capture the action of a scene. Many professional photographers perform hand-held photography depending on the scene, but use of a monopod and an image stabilizing mechanism in such situations makes it possible to take extremely sharp photographs, even with a visual impact that is almost surreal, using only 1/10 of the 50mm lens's angle of view.

■ EF 500mm f/4L IS USM

This very mobile 500mm super telephoto lens has the double attraction of an original Image Stabilizing mechanism and a bright large aperture of f/4. Its newly designed optical system consists of 17 elements in 13 groups, including one fluorite lens element and two UD lens elements. These have eliminated

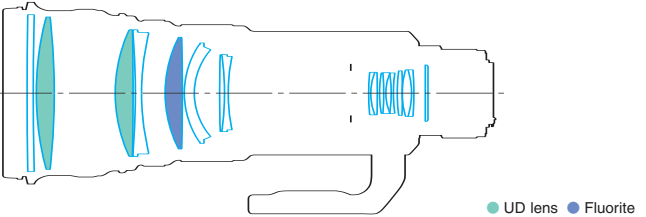
virtually all aberrations to achieve a level of image quality previously impossible to attain with such high contrast and sharpness. With a ring-type USM and an improved drive algorithm, its autofocus is the fastest in the world*¹. The lens's closest focusing distance has been reduced to only 4.5m/14.8ft., and it is equipped with full-time mechanical manual focusing, focus preset, and an AF Stop function. The use of a magnesium alloy for the lens barrel minimises weight and the lens offers superior dust-proof and drip-proof*² performance. The large f/4 aperture permits the use of autofocus when using an extender. Image Stabilization is even more effective when combined with a unipod, making shooting even more accurate.

*1 Bodies: EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (all when using rechargeable battery pack)
*2 Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, Extender EF 1.4xII, Extender EF 2xII



EF 500mm f/4L IS USM

- Focal length and maximum aperture: 500 mm 1:4
- Lens construction: 17 elements in 13 groups (protective glass and drop-in filter included)
- Diagonal angle of view: 5°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 4.5 m/ 14.8 ft., 0.12 x magnification ● Filter size: 52 mm rear drop in
- Max. diameter x length, weight: ø 146 x 387 mm, 3,870 g/ 5.8" x 15.2", 8.5 lbs.



EF 600mm

Super telephoto lenses



EF 600mm f/4L IS USM • 1/80sec. • f/9

Filling the frame with unapproachable subjects. Excellent for photographing wild animals in the jungle or on the playing field. The photographer's dream is to get right up close to the driver as his racecar careens around a corner at 200mph and capture the tension on his face, or sneak up on a hungry lion in the jungle and capture his subdued aggressiveness digitally or on film. For better or for worse, these acts are physically dangerous or simply impossible, but with a super telephoto lens, the photograph is not impossible. A 600mm lens lets you capture all those dramatic sports and wildlife moments with the visual impact of physical immediacy. The subtle movements of a subject moving far off in the distance can be brought in to fill the frame, with visual tension enhanced by the perspective compression that only a

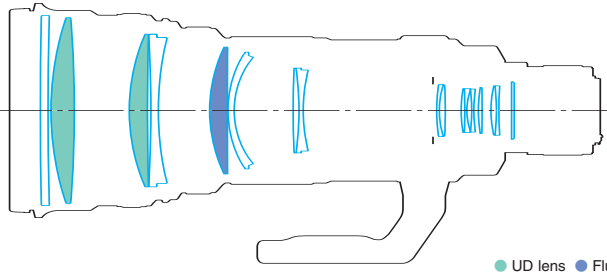
super telephoto lens can deliver. Normally, this class of lens requires a tripod, but with the Image Stabilizing mechanism, all you need is a monopod for total mobility.

■ **EF 600mm f/4L IS USM** This new 600mm super telephoto lens is equipped with an Image Stabilizer system and has a large aperture of f/4, providing the finest image performance in its class. It offers reliable capabilities when used to photograph wild animals or field sports. The optical system includes one fluorite lens element and two UD lens elements that eliminate secondary spectrum, resulting in a level of image quality with high contrast previously impossible to attain. With its improved drive algorithm, its autofocus is the fastest in



EF 600mm f/4L IS USM

- Focal length and maximum aperture: 600 mm 1:4
- Lens construction: 17 elements in 13 groups (protective glass and drop-in filter included)
- Diagonal angle of view: 4° 10'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 5.5 m/ 18 ft., 0.12 x magnification ● Filter size: 52 mm rear drop in
- Max. diameter x length, weight: ø 168 x 456 mm, 5,360 g/ 6.6" x 18", 11.8 lbs.



the world*¹. The closest focusing distance has been reduced to 5.5m/18ft. In addition to using a full-time mechanical manual focus and an AF stop function, the focus preset and other features were improved to make it easier to use. The use of a magnesium alloy for its principal parts has reduced its weight, making holding and mobility better than ever. It offers superior dust-proof and drip-proof*² performance for outstanding photography in the field.

*1 Bodies: EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (all when using rechargeable battery pack)

*2 Dust-proof and drip-proof models: EOS-1V/HS, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D, Extender EF 1.4xII, Extender EF 2xII



EF 100mm f/2.8 Macro USM-1/6sec.-f/5.6

Making the everyday dramatic.
A macro lens for a view of the world from a cat's point of view.
Get right up close to the plants and capture the beauty of the patterns created by nature. Catch the moment when a butterfly takes flight, flapping its lissome wings. For these situations, what you need most is a macro lens, which allows close-up photography at 1/2 magnification or life-size magnification, and which is optically designed to have characteristics ideal for image performance under these kinds of circumstances. With even colour reproduction and sharpness throughout the frame, these lenses are ideal for scientific and academic uses as well.

■ **EF 50mm f/2.5 Compact Macro**
This compact 50mm macro lens is effective for close-up shots up to 0.5x (1/2 life-size) magnification. A floating element

construction provides high-quality performance with sharp, clear images, from close-up photography to infinity. With the largest maximum aperture of any autofocus macro lens – f/2.5 – close-up shots with shallow depth of field and general portraits with pleasing background blur are possible.

■ **Life-Size Converter EF**
This life-size converter is designed for exclusive use with the EF 50mm f/2.5 Compact Macro. It allows photography with magnifications from 0.26x to life-size (1:1). The aperture drops one step, but the autofocus is very fast, making for easy shooting in close-up situations where focusing tends to be difficult.

■ **EF 100mm f/2.8 Macro USM**
A medium telephoto macro lens offering excellent picture quality and close-up magnification up to life size (1:1). Optimising the optical power distribution reduces spherical aberration fluctuation during close-up photography, delivering constant high picture quality over all focusing distances. The inner focusing system makes the working distance (the distance from the lens to the subject) 149mm during life-size photography – twice the distance of the 50mm macro lens. Convenient operability is achieved with the easy full-time manual focus ideal for subtle adjustments of the focus position (a task in macro photography) and the non-rotating front lens element. If the optional ring-type tripod mount B (B) (with an adapter for the EF 100mm f/2.8 Macro USM) is used, switching between vertical and horizontal compositions without affecting the optical axis is a simple matter.

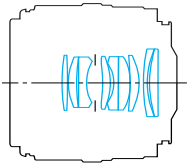
EF 50mm Compact Macro EF 100mm Macro

Macro lenses



EF 50mm f/2.5 Compact Macro

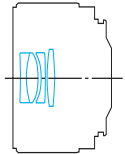
- Focal length and maximum aperture: 50 mm 1:2.5
- Lens construction: 9 elements in 8 groups ● Diagonal angle of view: 46°
- Focus adjustment: Front group linear extension system with AFD
- Closest focusing distance: 0.23 m/ 0.8 ft., 0.5 x magnification ● Filter size: 52 mm
- Max. diameter x length, weight: ø 67.6 x 63 mm, 280 g/ 2.7" x 2.5", 9.9 oz.



Life-Size Converter EF

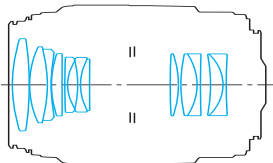
(designed for use with the EF 50mm f/2.5 Compact Macro)

- Lens construction: 4 elements in 3 groups
- Max. diameter x length, weight: ø 67.6 x 34.9 mm, 160 g/ 2.7" x 1.4", 5.6 oz.



EF 100mm f/2.8 Macro USM

- Focal length and maximum aperture: 100 mm 1:2.8
- Lens construction: 12 elements in 8 groups ● Diagonal angle of view: 24°
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.31 m/ 1 ft., 1 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 78.6 x 118.6 mm, 580 g/ 3.1" x 4.7", 1.3 lbs.





EF 180mm f/3.5L Macro USM · 1/50sec. · f/3.5

Discovering the beauty hidden in plants and bugs.
A telephoto macro lens that can peer into the universe of natural formations.

Close-up photography involves many different subjects and purposes, so you have to choose the macro lens best for the situation and use it to its fullest. One of the factors that needs to be considered is the relationship between photographic magnification and working distance. Working distance is the distance measured from the tip of the lens to the subject. For example, when you want to take a life-size photograph of a subject, the working distance for a 100mm medium telephoto lens is double that of a 50mm macro lens. While a 50mm macro lens is good for getting very close to the subject, if you are taking photographs of insects and small animals, which are not so easy

to approach, a 100mm or 180mm macro lens would be a more suitable option.

As with normal lenses, the longer the focal length becomes, the shallower the depth of field becomes, which makes camera movement a problem. One option is to use a 50mm with its wide range of use for snapshots and other general photographic purposes, a 100mm for portraits, and a 180mm for photography of animals and other subjects which are unapproachable.

■ EF 180mm f/3.5L Macro USM

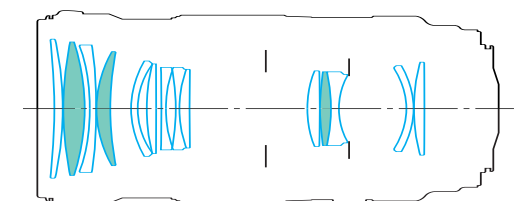
This 180mm telephoto macro lens is capable of close-ups up to 1x. It is ideal for photographing insects and small animals, where a long working distance is desirable. The focusing range can easily be switched between 0.48m/1.6ft. to infinity and 1.5m/4.9ft.

to infinity. Use of three UD elements effectively corrects secondary spectrum. Employing an internal floating construction ensures sharp delineation at all subject distances. Since the length of the lens does not change when focusing, there is no need to worry about the lens coming in contact with the subject. The ring-type USM delivers quiet autofocusing. Full-time manual focus is also available. Maximum magnification can be raised to either 1.4x or 2x by using Extender EF 1.4xII or 2xII.



EF 180mm f/3.5L Macro USM

- Focal length and maximum aperture: 180 mm 1:3.5
- Lens construction: 14 elements in 12 groups ● Diagonal angle of view: 13° 40'
- Focus adjustment: Ring-type USM, inner focusing system, full-time manual focus
- Closest focusing distance: 0.48 m/ 1.6 ft., 1 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: ø 82.5 x 186.6 mm, 1,090 g/ 3.3" x 7.4", 38.5 oz.



UD lens



MP-E 65mm f/2.8 1-5x Macro Photo·1/13sec.·f/14
(3x magnification)

The true expression of a photograph – the world of macro photography. A macrophoto lens specifically designed to bring out that appeal.

The fun of taking photographs is discovering whole worlds which are invisible to the naked eye, such as when using a telephoto lens or a macro lens. Getting right up close to a subject makes you feel like you’ve become a small animal yourself. This feeling of the unordinary often allows you to discover new ways of looking at subjects which you would normally pass over. Even the smallest movements of a bug on a rose petal or the delicate pattern on the surface of a ceramic plate can bring gasps of delight. Macrophoto lens are designed especially for this type of high-magnification photography. These lens are excellent for finding new forms of expression through macrophotography. Since they are specially designed, they reduce aberration fluctuation and distortion while providing good operability and

mobility for focusing and lighting. Using commercially available focusing rails when photographing makes it easier to capture the subject and make minor adjustments to the focus and magnification.

■ MP-E 65mm f/2.8 1-5x Macro Photo

This macrophoto lens allows expanded photography from life-size to 5x magnification. A floating system using three lens groups has been adopted to deliver high variable magnification in the macro region. It effectively corrects the aberration fluctuation which accompanies changes in magnification. With a UD lens element as the second element, secondary spectrum, a problem during high magnification, is minimised, guaranteeing outstanding imaging performance. The lens is equipped with an EMD (electromagnetic diaphragm) to deliver AE photography* Subtle adjustments to magnification are possible using the wide ring. A light-blocking line is incorporated into the front of the lens to

reduce inclusion when very close to the subject. It is possible to use the Macro Ring Lite MR-14EX and the Macro Twin Lite MT-24EX. The lens comes with a removable tripod mount which allows smooth switching between vertical and horizontal photography and offers solid support.

* AE photography at all magnifications (1x ~ 5x) is available with the following cameras: EOS-1V/HS, EOS-1, EOS-1N/DP/HS, EOS-5, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D (laser matte screen must be replaced). For other EOS models, exposure compensation is required. The actual aperture rises as the magnification goes up, so we recommend using exposure compensation or the Macro Ring Lite MR-14EX or the Macro Twin Lite MT-24EX.

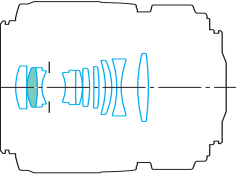
* We recommend using commercially available focusing rails for small focusing adjustments.

[Photograph] The Photographer placed a bottle behind a glass filled with sparkling water, and the bottle label seen through the bubbles created an interesting effect. The world of macrophoto lenses can open up beautiful and surprising vistas that are otherwise invisible to the human eye.



MP-E 65mm f/2.8 1-5x Macro Photo

- Focal length and maximum aperture: 65 mm 1:2.8
- Lens construction: 10 elements in 8 groups ● Diagonal angle of view: 18° 40' at 1 x magnification
- Focus adjustment: Manual focus, front group linear extension
- Closest focusing distance: 0.24 m/ 0.8 ft., 5 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 81 x 98 mm, 710 g/ 3.2" x 3.9", 1.6 lbs.



UD lens



TS-E 24mm f/3.5L · 1.3sec. · f/8

'Tilt/shift' photography – previously only possible with medium- and large-format cameras, now available with mobile EOS cameras.

In photography, "Shifting" involves moving the lens parallel to its optical axis to correct distortion. "Tilting" controls the area in focus by changing the normally perpendicular relationship between the lens's optical axis and the camera's focal plane. It used to be the case that a large-format camera was needed to perform tilt/shift photography. However, TS-E lenses now add both tilting and shifting functions to compact EOS cameras, which can be taken anywhere anytime. Professional-level photography just got a bit easier.

Tall buildings normally appear to taper to a point at the top of the photograph when they are photographed with a wide-angle lens, and shifting corrects this. The camera is set so that its focal plane

is parallel to the surface of the wall. Then the TS-E lens is shifted upwards, which causes the wall surface that had been tapered, to rise up vertically, keeping the shape of the building rectangular. Alternatively, it is possible to emphasise the tapering of the building. TS-E lenses can revolve within a range of $\pm 90^\circ$, so horizontal shift is also possible. Using this technique, you can shoot panoramas by dividing a landscape scene into several shots horizontally, and connecting them at the edges. Shifting is also useful for preventing a reflection of the camera or the photographer from appearing in pictures of show windows or other reflective surfaces. Indeed, the number of uses is only limited by the photographer's imagination. The shift range on all TS-E lenses is ± 11 mm, while tilting is adjustable to $\pm 8^\circ$.

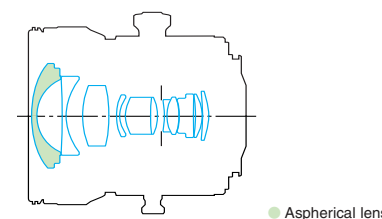
■ TS-E 24mm f/3.5L

With a tilt and shift mechanism built-in, this lens greatly expands the expressive range of any EOS camera, allowing them to do what used to be possible only with medium and large-format cameras – correcting perspective distortion and controlling focusing range. This means you will have all the mobility of a 35mm or digital SLR, as well as automatic aperture control, which allows AE photography with AEB (Auto Exposure Bracketing). It compensates for astigmatic and other aberrations thanks to a ground and polished aspherical lens element. A floating mechanism incorporated into the design preserves high image quality throughout the focusing range from 0.3m/1ft. to infinity, while simultaneously reducing the size and weight of the lens. This lens is particularly useful when taking photographs of building interiors and exteriors, landscape shots, and other wide-angle scenes.



TS-E 24mm f/3.5L

- Focal length and maximum aperture: 24 mm 1:3.5 ● Lens construction: 11 elements in 9 groups
- Diagonal angle of view: 84° ● Image circle diameter: 58.6 mm
- Tilt/shift amount: $\pm 8^\circ/\pm 11$ mm ● Angle of revolution: $\pm 90^\circ$
- Focus adjustment: Manual focus, overall linear extension system
- Closest focusing distance: 0.3 m/ 1 ft., 0.14 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: $\phi 78 \times 86.7$ mm, 570 g/ 3.1" x 3.4", 1.3 lbs.



● Aspherical lens



TS-E 45mm f/2.8-1/30sec. · f/4

**Create an illusory world.
Only with the expressive power of a TS-E lens.**

When performing tilt/shift photography, tilting is no less important than shifting. By changing the angle of the optical axis relative to the camera's focal plane, it is possible to take a photograph with everything in focus from near to far, as in, for instance, a photograph of a line of pillars receding away from the camera in an old European convent. With TS-E lenses, it is possible to tilt the optical axis $\pm 8^\circ$. Tilting is useful when you want to achieve a pan-focus effect with a shallow aperture setting and a fast shutter speed, or, on the contrary, when you want to blur the background. Reversing the tilt drastically reduces the area of the picture that remains in focus, so if for example you want nothing but a person's face in focus in a photograph, tilting creates a unique effect.

The most important prerequisites for successful tilt/shift photography are making sure the camera is leveled on a tripod and checking the exact composition of the scene through the viewfinder. Cameras with 100% viewfinder coverage such as the EOS-1 series and/or 100% LCD monitor coverage such as EOS digital SLRs make this easier. On cameras with interchangeable focusing screens, a grid screen should be used to facilitate accurate alignment of horizontal and vertical lines in the scene.

■ TS-E 45mm f/2.8

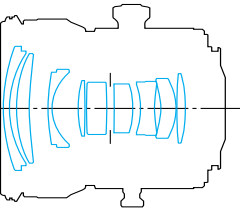
When you want to maintain a natural perspective while photographing buildings and other structures with the shift function, this 45mm standard TS-E lens is just the answer. Its floating mechanism combines with its rear focusing system to ensure sharp, stable imaging performance at all shooting distances. And since the filter mount does not rotate during focusing, using a circular polarizer or graduated ND filter is no problem.

[Photograph] The Photographer caught the colour of French cuisine without a tripod. To get all the food in focus, the camera had to be placed at a steep angle diagonally above it, tilting the lens to get both the near and far sections into focus.



TS-E 45mm f/2.8

- Focal length and maximum aperture: 45 mm 1:2.8
- Lens construction: 10 elements in 9 groups ● Diagonal angle of view: 51°
- Image circle diameter: 58.6 mm ● Tilt/shift amount: $\pm 8^\circ/\pm 11$ mm
- Angle of revolution: $0^\circ/\pm 90^\circ$
- Focus adjustment: Manual focus with a rear focusing system
- Closest focusing distance: 0.4 m/ 1.3 ft., 0.16 x magnification ● Filter size: 72 mm
- Max. diameter x length, weight: $\phi 81 \times 90.1$ mm, 645 g/ 3.2" x 3.5", 1.4 lbs.





TS-E 90mm f/2.8-1/320sec.-f/2.8

A lens that won't let you down when you need accuracy.
TS-E lenses – the appeal of being able to work in all situations.
TS-E lenses correct image distortion and adjust the area in focus by controlling the lens's optical axis. In order to get the best out of these lenses, however, you need to understand more than just making such corrections and adjustments – you have to keep a close eye on the subject's situation and the purpose of the shot in order to get a solid understanding of what the best focus distance is. The best lens for photography in places where sufficient distance between the camera and the object is not available, such as outside tall buildings or in small rooms, is the wide-angle TS-E 24mm. If you want a more natural perspective, the TS-E 45mm is the lens for you. Besides being able to be used as a regular medium telephoto lens, the TS-E 90mm can also be used as a macro lens. With a maximum magnification of 0.29x, plenty of working distance can be attained, making photographs of food, to take one example, very easy to compose effectively. For photographs of merchandise that require an accurate

representation of the product without any distortion, these lenses are ideal for delivering effective tilt/shift photography with a natural perspective.
TS-E lenses feature fully automatic aperture control thanks to their built-in EMD (electromagnetic diaphragm). Although only manual focusing is available, only the TS-E series can offer tilt and shift photography with AE. This is the first successful attempt to incorporate automatic aperture control and AE photography with AEB using a fully electronic mount, and advanced imaging performance with easy exposure control is thereby guaranteed. Furthermore, although TS-E lenses are manufactured with their tilting and shifting mechanisms offset by 90°, modifications to allow shifting and tilting in parallel are available at Canon factory service stations.

■ TS-E 90mm f/2.8

The world's first telephoto tilt/shift lens, useful for a wide variety of applications, from merchandise and food photography to

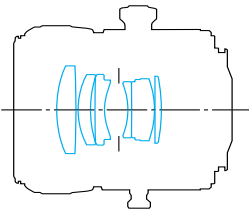
portraiture and nature photography. The 6-element, 5-group Gauss-type optical system achieves outstanding imaging performance and natural-looking blur. Focusing is possible down to an extremely close shooting distance of 0.5m/1.6ft., enabling effective close-up photography. A maximum magnification of 0.29x is available. Use of reverse tilt to adjust the positioning of depth of field allows the photographer to achieve unique and innovative photography unattainable with normal lenses even at large apertures.

[Photograph] The Photographer captured the calmness of orchids floating in a flower vase placed on top of a blue piece of glass, caressed by the natural light coming in through the window. In order to capture the depth as well as the orchids all lined up in a row, the photographer revolved the lens 45° and tilted the focusing surface diagonally.



TS-E 90mm f/2.8

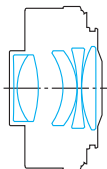
- Focal length and maximum aperture: 90 mm 1:2.8
- Lens construction: 6 elements in 5 groups ● Diagonal angle of view: 27°
- Image circle diameter: 58.6 mm ● Tilt/shift amount: ±8°/±11 mm
- Angle of revolution: 0±90°
- Focus adjustment: Manual focus, overall linear extension system
- Closest focusing distance: 0.5 m/ 1.6 ft., 0.29 x magnification ● Filter size: 58 mm
- Max. diameter x length, weight: ø 73.6 x 88 mm, 565 g/ 2.9" x 3.5", 1.2 lbs.





Extender EF 1.4xII

- Lens construction: 5 elements in 4 groups
- Max. diameter x length, weight: 72.8 x 27.2 mm, 220 g/ 2.9" x 1.1", 7.8 oz.



Maintains the imaging performance of a master lens while delivering focal length magnification of 1.4x and 2x.

Extenders are useful when you want to use a telephoto lens to increase the visual impact of the subject by getting in even closer to it, or when you simply want to reduce the number of telephoto lenses you carry around. Not only do they increase the telephoto effect, filling the frame with the sun, say, when taking shots of sunrises and sunsets, but they are also ideal for close-up photography, taking advantage of the fact that the closest focusing distance does not change.

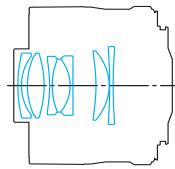
The biggest advantage, however, is that with a single extender you can make more efficient use of your telephoto lens - especially a super-telephoto lens - without sacrificing compactness or portability. For instance, if you have a 300mm lens, you can use it for 420mm or 600mm super-telephoto shots simply by adding the Extender EF 1.4xII or the EF 2xII. Combining a 70-200mm zoom lens with the Extender EF 2xII lets you put together a lens system that can efficiently deliver zooming up to 400mm, while keeping the size manageable. Depending on the camera, autofocus with the center AF point is possible with effective maximum apertures as small as f/8. And if you are using an IS lens with the image stabilizing function, hand-held photography is no problem, since the function is effective for two shutter speeds*1 less than 1/focal length seconds.

The dust-proof and drip-proof construction allows full utilization of the lens' capabilities for photography under the harshest conditions if combined with EOS cameras or EF lenses with the same dust-proof and drip-proof specifications.



Extender EF 2xII

- Lens construction: 7 elements in 5 groups
- Max. diameter x length, weight: 71.8 x 57.9 mm, 265 g/ 2.8" x 2.3", 9.3 oz.



■ Extender EF 1.4xII

This high-performance extender increases the lens's focal length by 1.4 times. Not only does the actual F-stop value drop only one step when the extender is used, but autofocus is also maintained with most lenses, which makes the extender extremely useful when you need to maintain brightness or mobility. The interior of the lens barrel has been treated thoroughly against reflections, employing a flare-reducing high image quality design. The Extender EF 1.4xII features dust-proof and drip-proof construction.

■ Extender EF 2xII

This extender doubles the lens's focal length, making it ideal for even greater visual impact during super-telephoto photography. It has the same weather-resistant and flare reducing design as the EF 1.4xII. Because it reduces aberration fluctuation, it does not degrade the picture quality or performance of the master lens itself. The effective F-stop value drops two steps.

* Compatible lenses: single focal length L-series lenses 135mm and up, as well as the EF 100-400mm f/4.5-5.6L IS USM, the EF 70-200mm f/2.8L IS USM, the EF 70-200mm f/2.8L USM, the EF 70-200mm f/4L IS USM, and the EF 70-200mm f/4L USM.

*1 Effective for approximately 3 shutter speeds with the EF 70-200mm f/2.8L IS USM, 4 shutter speeds with the EF 70-200mm f/4L IS USM.

Extender use:

1. When using the Extender EF 1.4xII or EF 2xII with the EF 100-400mm f/4.5-5.6L IS USM, or when using the Extender EF 2xII with the EF 300mm f/4L IS USM, EF 400mm f/4 DO IS USM, EF 500mm f/4L IS USM, EF 600mm f/4L IS USM, EF 70-200mm f/4L IS USM camera bodies which offer image stabilization are the EOS-1V/HS, EOS-1N/DP/HS/RS, EOS-3, EOS 7s/30V/33V, EOS 7/30/33, EOS 55/50/50E, EOS 3000N/XSN, EOS 3000/88, EOS 5000/888, EOS IX E/IX, EOS IX 50/Lite/7, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II, EOS-1D, EOS 5D, EOS 30D, EOS 20D, EOS 20Da, EOS 10D, EOS D60, EOS D30, EOS D6000, EOS D2000, EOS-DCS 1 and EOS-DCS 5.
2. When using the Extender EF 1.4xII with the EF 100-400mm f/4.5-5.6L IS USM, or when using the Extender EF 2xII with the EF 300mm f/4L IS USM, EF 400mm f/4 DO IS USM, EF 500mm f/4L IS USM, EF 600mm f/4L IS USM, EF 70-200mm f/4L IS USM or EF 70-200mm f/4L USM, camera bodies which offer autofocus as long as the center measuring point is used are the EOS-1V/HS, EOS-3, EOS-1Ds Mark II, EOS-1Ds, EOS-1D Mark II N, EOS-1D Mark II and EOS-1D.
3. When using the Extender EF 1.4xII or the EF 2xII with the EF 70-200mm f/2.8L USM, autofocus can only be used with the multi-point range finder EOS camera when using the center measuring point.

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