

A SYMBOL IS A PROMISE.



Canon's high-performance cameras help photographers, from snapshotters to pros, get just the images they want; filled with split-second action and excitement.

Canon

SO ADVANCED...IT'S SIMPLE

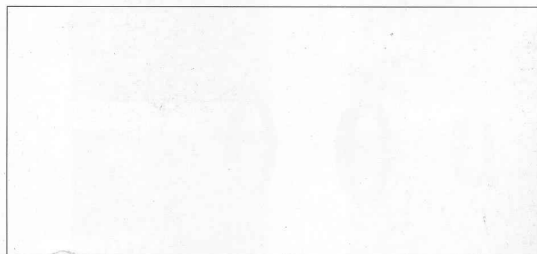
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EF LENSES

For EOS cameras

Ultra-Wide Zoom

Standard Zoom

Telephoto Zoom

Ultra-Wide & Wide

Standard

Medium Telephoto

Telephoto

Super Telephoto

Macro

TS-E

Lens Accessories



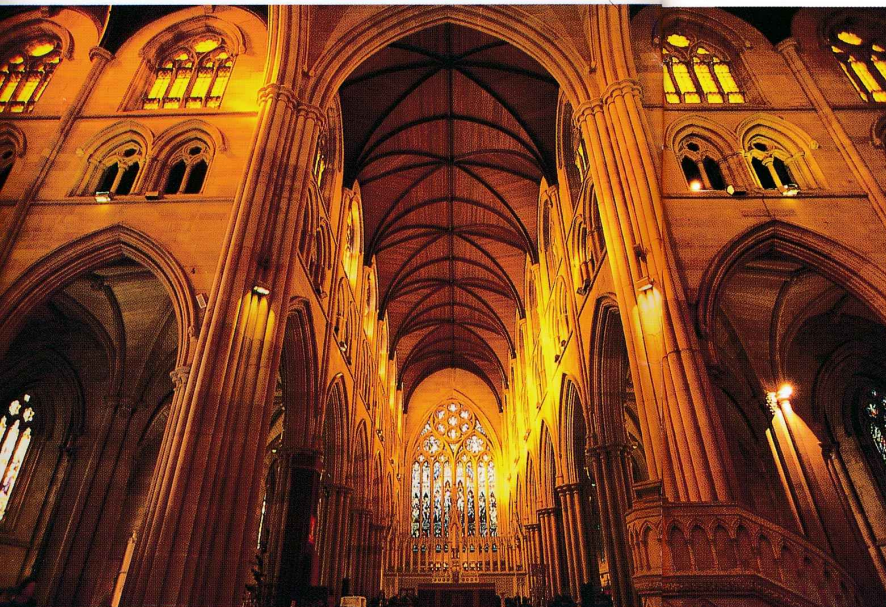
Images From Your Imagination, Delivered by Canon EF Lenses

Ever noticed that "imagination" contains the word "image?" That's because creating an image starts with your imagination. When you have an image in mind, you must choose a lens which can put that image on film. And whatever that image may be, you can be sure that Canon has the lens you need. Whether it is a 15mm fisheye or a 1200mm super telephoto, all Canon EF lenses feature the finest materials (especially the L-series lenses) and technologies. They include fluorite, UD glass, aspherical lenses, lens-based Ultrasonic Motors, inner and rear focusing, Image Stabilizer, and a fully-electronic interface. The variety and versatility of EF lenses can match your wondrous imagination.



Getting Everything In

If your mind's eye calls for a very wide shot, how about one of these three ultra-wide zoom lenses? The zoom range of either lens suits the vast majority of wide-angle shots you will ever take. Even a small difference in focal length makes a big difference. It's these little details which make good photos great ones.



EF 17-35mm
f/2.8L USM

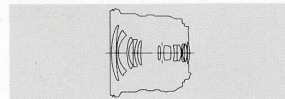
• f/8.0 • 4 sec.

EF 22-55mm
f/4-5.6 USM

• f/8.0 • 1/60 sec.



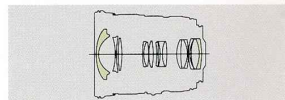
EF 20-35mm
f/3.5-4.5 USM



Highly portable lens with high optical performance and light weight of 340 g (12 oz.). A very practical ultra-wide-angle zoom. The large front lens group minimizes peripheral darkening, and the flare-blocking diaphragm minimizes flare. Also, with lens group 2 being the zoom group, distortion is corrected.



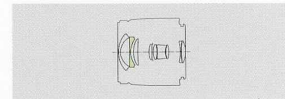
EF 17-35mm
f/2.8L USM



With a maximum angle of view of 104°, this lens uses a large aspherical lens for element 1 and another aspherical lens for element 15. They correct distortion and greatly improve peripheral resolution. A gelatin filter holder is on the rear of the lens. The lens also accepts screw-on filters (77mm).



EF22-55mm
f/4-5.6 USM



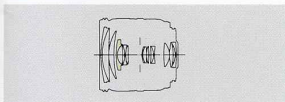
The replicated aspherical lens element makes this wide-angle zoom lens light and small. The Canon-exclusive Micro USM makes it fast and quiet, too. Great for traveling light. It's also perfect as your regular wide-angle lens. When the lens is attached to an EOS Advanced Photo System SLR camera, the 35mm-equivalent focal length is 28-69mm.



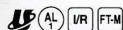
All-Around, Practical Lenses

Very likely, your first EF lens will be (or was) one of these lenses. After all, they feature the most popular focal lengths. From wide angle to telephoto, you get the best of both worlds. The seven lenses in this category give you a choice of zoom ranges and maximum apertures. The smaller the maximum aperture, the smaller and lighter the lens. Take a look at them all and get the one suiting your needs and wants.

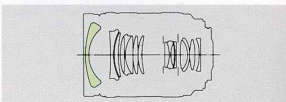
EF 24-85mm
f/3.5-4.5 USM



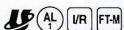
Ultra-wide zoom lens with a high zoom ratio. By having multiple lens groups move during zooming, the lens could be made compact and lightweight. The aspherical element suppresses distortion. High contrast is maintained at all focal lengths and sharp images are obtained.



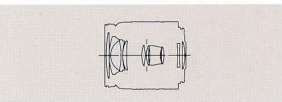
EF 28-70mm
f/2.8L USM



High-performance standard zoom lens whose maximum f/2.8 aperture can be used at all focal lengths. It includes the normal 50mm focal length and a minimum focusing distance of 50 cm (1.6 ft.). The large aspherical element helps obtain a high image quality comparable to single focal length lenses.



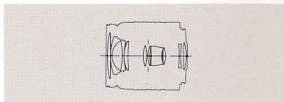
EF 28-80mm
f/3.5-5.6 V USM



Compact and affordable standard zoom lens. The newly developed micro USM makes autofocus quick and quiet. The zoom mechanism has been improved for smoother zooming. The front part of the zoom ring now sports a silver ring for a luxury touch.



EF 28-80mm
f/3.5-5.6 II

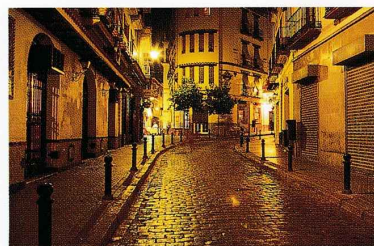


Standard zoom lens with the same optical system, construction, and exterior as the EF 28-80mm f/3.5-5.6 V USM. The difference is that it uses a DC motor instead of a USM to drive the AF.



EF 24-85mm
f/3.5-4.5 USM

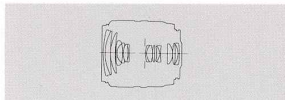
•f/5.0 •1/60 sec.



EF 28-70mm
f/2.8L USM

•f/5.6 •3 sec.

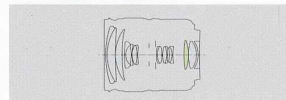
**EF 28-105mm
f/3.5-4.5 USM**



Compact, normal zoom lens with a wide zooming range. Weighing only 375 g (13.2 oz.), it is easy to carry around. Its two-step lens extension prevents the lens from obstructing the built-in flash's coverage. Also, with multiple lens groups moving during zooming, excellent delineation is obtained at all focal lengths.



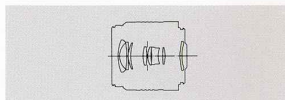
**EF28-135mm
f/3.5-5.6 IS USM**



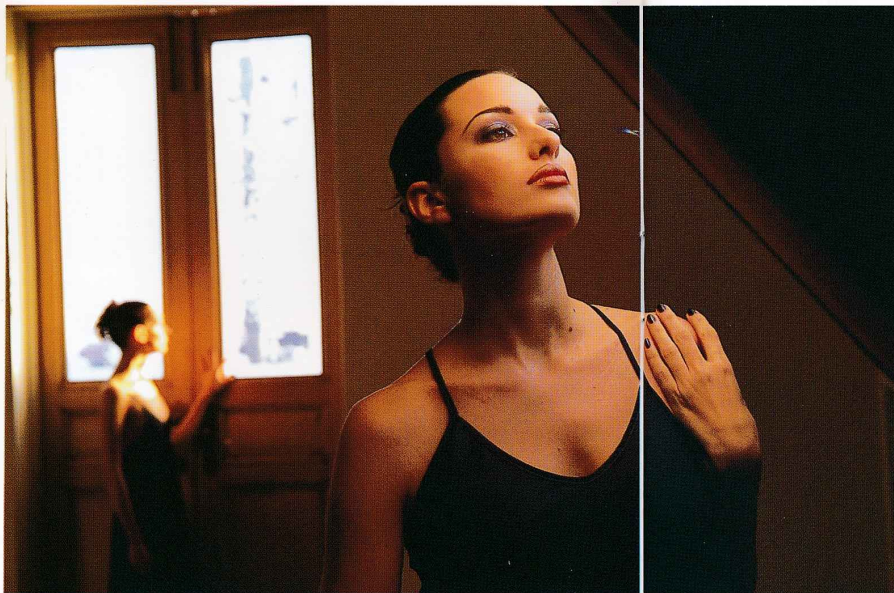
Standard zoom lens with an Image Stabilizer and high zoom ratio. With the Image Stabilizer turned on, you can obtain sharp, natural-looking pictures in dim lighting without using flash or a tripod. Very handy for places where flash is prohibited. Uses ring-type USM for swift, silent autofocus and full-time manual focus. Closest focusing distance is 50 cm (20 in.).



**EF 35-80mm
f/4-5.6 III**



At 175 g (6.2 oz.), this is the lightest compact zoom EF lens. An excellent value. The aspherical element makes it compact and helps obtain high-contrast images. At the 80mm focal length, a postcard can fill the viewfinder frame. Lead-free glass is used.



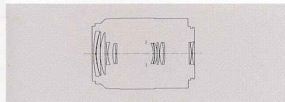
EF 28-135mm
f/3.5-5.6 IS USM

•f/6.7 •1/15 sec.

Isolate the Interesting Part

The eye tends to see the whole rather than the individual parts. It also sees what's near and not what's far. By bringing attention to those things missed by the eye, you can create many interesting pictures. It could be the grimace of an athlete, the grill of a classic car, or a girl against a blurred background. Telephoto lenses can also compress images to give dramatic effects. You are limited only by your imagination.

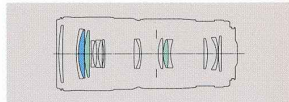
EF55-200mm f/4.5-5.6 USM



Lightweight and compact telephoto zoom lens with a Micro USM. Since the shortest focal length is within the standard or "normal" range, the lens is convenient for snapshots as well as sports. Maximum magnification at the closest focusing distance of 1.2 m (4 ft.) is 0.21x. On an EOS Advanced Photo System SLR camera, the 35mm-equivalent focal length becomes 69-250mm. The perfect companion to the EF 22-55mm f/4-5.6 USM.



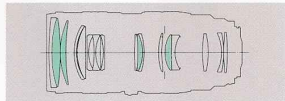
EF 70-200mm f/4L USM



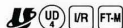
High-performance, L-series telephoto zoom lens combining light weight and compactness with an f/4 maximum aperture. Inner focusing and the ring USM enable quick and quiet autofocus. Also, a circular polarizing filter can be attached and used without difficulty because the front lens element does not rotate during focusing. The tripod collar (sold separately) is the same one used with the EF 300mm f/4L USM.



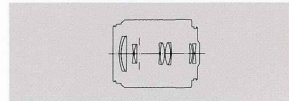
EF 70-200mm f/2.8L USM



One of the finest telephoto zoom lenses in the EF line, comparable to a very focal length lens. It has four UD-glass elements to correct chromatic aberrations. The newly-designed multiple zoom groups for inner focusing bring high image quality throughout the entire zooming range. Compatible with Extender EF 1.4x and 2x.

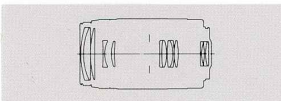


EF 80-200mm f/4.5-5.6 II



Telephoto zoom lens only 78.5mm (3.1 in.) long and weighing only 250g (8.8 oz.), making it very easy to carry around. The five zoom lens groups have been improved to obtain higher image quality.

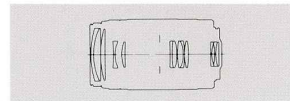
EF 75-300mm f/4.5-6 III USM



Compact and lightweight 4x telephoto zoom lens ideal for shooting sports, portraits, and wildlife. The newly developed micro USM makes autofocus quicker and quieter. The improved zoom mechanism also makes zooming smoother. The front part of the zoom ring now sports a silver ring for a luxury touch.



EF 75-300mm f/4-5.6 III



The optical system, construction, and exterior are the same as the EF 75-300mm f/4-5.6 III USM's. The difference is that it uses a DC motor instead of a USM to drive the AF.



EF 70-200mm
f/4L USM

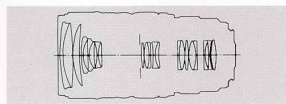
•f/4.0 •1/60 sec.



EF 100-400mm
f/4.5-5.6L IS USM

•f/5.6 •1/60 sec.

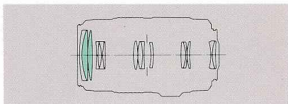
EF 75-300mm
f/4.5-5.6 IS USM



This is the world's first interchangeable SLR lens equipped with an Image Stabilizer. You can reap sharp pictures even in low-light conditions when camera shake would normally blur the shot. Effective for sunsets and places where you cannot use a tripod.



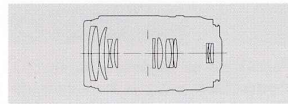
EF 35-350mm
f/3.5-5.6L USM



Super telephoto zoom lens with a 10x zoom ratio! High image quality is maintained. Ideal for sports and documentary photography when you need to change the framing often. The zoom adjustment ring lets you adjust the zoom torque to your liking. At the 135mm focal length, close-ups up to 0.25x are possible.



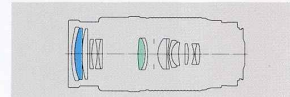
EF 100-300mm
f/4.5-5.6 USM



Highly practical and portable telephoto zoom lens. The five zoom groups make the length only 121.5 mm (4.8 in.). With rear focusing, the lens does not change length or rotate during focusing. Any filter effects therefore remain intact. It also makes autofocus quick and quiet.



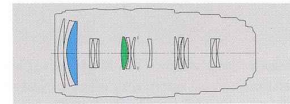
EF 100-300mm
f/5.6L



High-performance 3x telephoto zoom lens. Synthetic fluorite in group 1 and UD glass in group 2 achieve low refraction and low dispersion. They also effectively correct chromatic and other aberrations. Resolution is high throughout all focal lengths. Images are sharp and crisp. At the 300mm focal length, 0.25x magnification is possible.



EF 100-400mm
f/4.5-5.6L IS USM



L-series super telephoto zoom lens equipped with an Image Stabilizer. The fluorite and Super UD-glass elements largely eliminate secondary spectrum. The floating system also ensures high picture quality at all focal lengths. The Image Stabilizer has two modes and it is compatible with Extenders 1.4x and 2x.

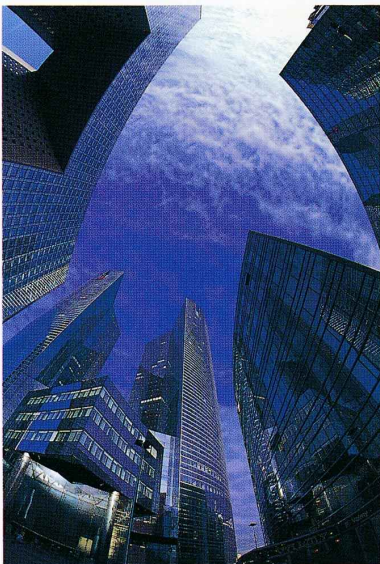


Wide and Fast

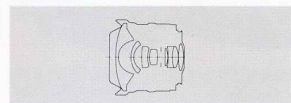
If you need an ultra-wide angle and a large aperture, one of the following lenses will fit the bill. Ultra-wide-angle lenses can capture scenes beyond your natural field of vision. The EF 15mm f/2.8 Fisheye, the widest of them all, has a 180° angle of view. For more normal-looking wide-angle shots, there are longer wide-angle lenses up to 35mm with the maximum aperture you need.

EF 15mm
f/2.8 Fisheye

•f/5.6 •1/125 sec.

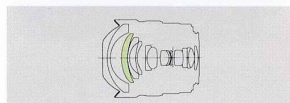


EF 15mm
f/2.8 Fisheye



Fisheye lens with a 180° angle of view for unique and intriguing effects. The wide depth of field makes it even more interesting. The short minimum focusing distance of 20 cm (0.7 ft.) gives new meaning to close-up shots. The lens has a fixed petal-type hood and a gelatin filter holder at the rear.

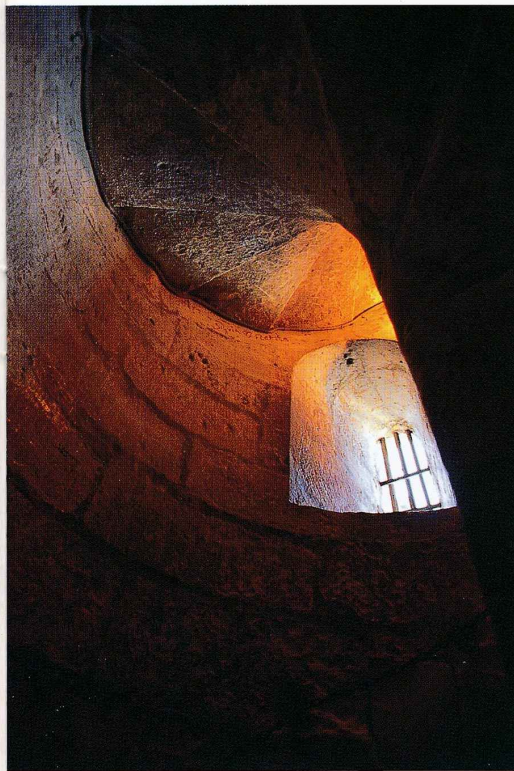
EF 14mm
f/2.8L USM



This ultra-wide-angle lens has the shortest focal length in the L-series. Element 2 is an aspherical lens to correct distortion. Other aberrations such as astigmatism are also corrected, resulting in ideal image quality. The lens has a fixed, petal-type hood and a gelatin filter holder at the rear.

VR

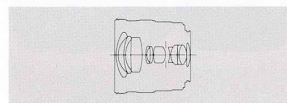
AL VR FT-M Float



EF 24mm
f/1.4L USM

•f/2.8 •1/15 sec.

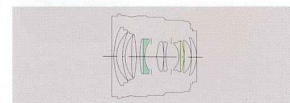
EF 20mm
f/2.8 USM



Ultra-wide-angle lens for serious applications. Easy to hold and carry at 405 g (14.3 oz.). Floating rear focusing system. Sharp images are obtained at all subject distances.

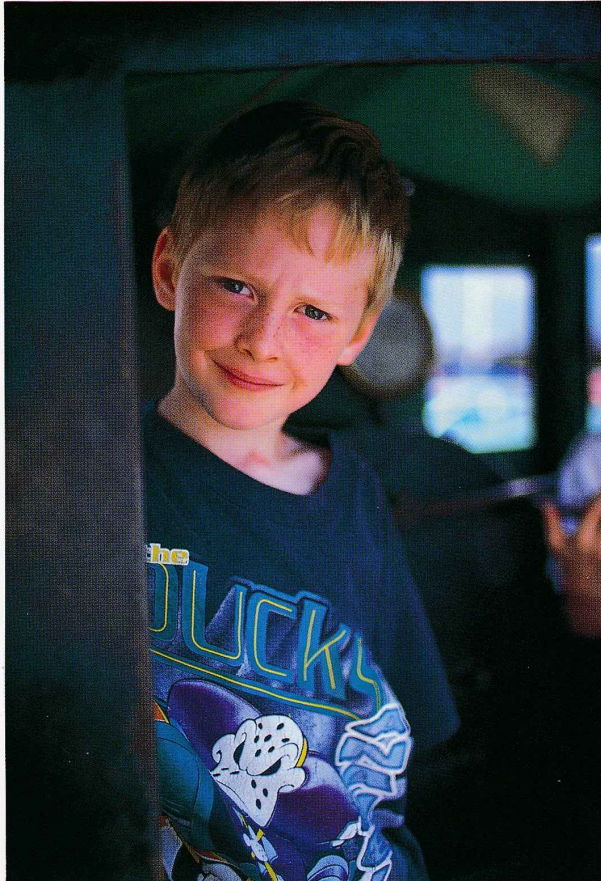
VR FT-M Float

EF24mm
f/1.4L USM



Professional wide-angle lens with an ultra-large maximum aperture of f/1.4. This is the first EF lens to employ both a replicated aspherical lens element to suppress distortion and spherical aberration, and a UD lens element to correct lateral chromatic aberration. Thanks to the floating construction, excellent corner-to-corner delineation is attained from 25 cm (10 in.) to infinity.

AL UD VR FT-M Float



EF 35mm
f/1.4 L USM

•f/1.4 •1/500 sec.

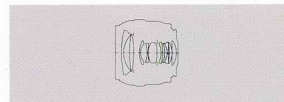
EF 24mm
f/2.8



Highly popular wide-angle lens featuring a large aperture. Good for casual snapshots as well as perspective shots. Floating rear focusing system corrects astigmatism and gives high contrast and sharp delineation.



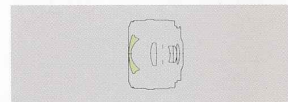
EF 28mm
f/1.8 USM



With the large maximum aperture, excellent background blur is possible even with a fast shutter speed. The aspherical lens element makes the lens compact and corrects spherical aberrations. The image is sharp even at the edges. Lead-free glass is used.



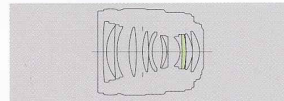
EF 28mm
f/2.8



Highly portable wide-angle lens with a good price-to-performance ratio. Its light weight of 185 g (6.5 oz.) makes it ideal as your standard wide-angle lens. The high-precision aspherical lens minimizes distortion and other aberrations for sharp and high-contrast images.



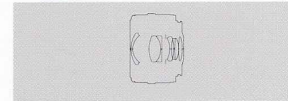
EF 35mm
f/1.4 L USM



L-series professional f/1.4 wide-angle lens with an aspherical lens element to correct aberrations. The floating system enables high picture quality to be obtained over the entire focusing range. Autofocusing is quick and quiet with rear focusing and ring USM. Full-time manual focusing is also possible.



EF 35mm
f/2

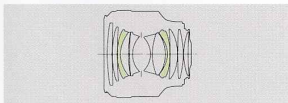


Fast 35mm wide-angle lens. With a minimum focusing distance of only 25 cm (0.8 ft.), you can approach the subject closer and still obtain a more natural wide-angle effect. You can even obtain good background blur for portraits.

Standard and Fast

With a natural angle of view and perspective, standard lenses capture the subject plainly, with no special effects. The result is different from a wide-angle or telephoto lens which is used for more expressive purposes. At the same time however, you can use standard lenses in creative ways by varying the subject distance, aperture, and angle. Doing so requires a high level of technique and sensibility. There are three standard EF lenses each featuring a different maximum aperture.

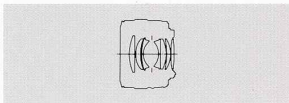
EF 50mm f/1.0L USM



The world's fastest interchangeable SLR lens with a super large maximum aperture. It has two aspherical lens elements and four elements with a high refractive index. Outstanding delineation with minimal flare even at the maximum aperture. This lens ushers you to a new avenue of photographic possibilities. A dream lens in the AF age.



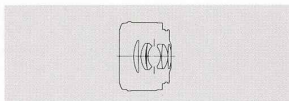
EF 50mm f/1.4 USM



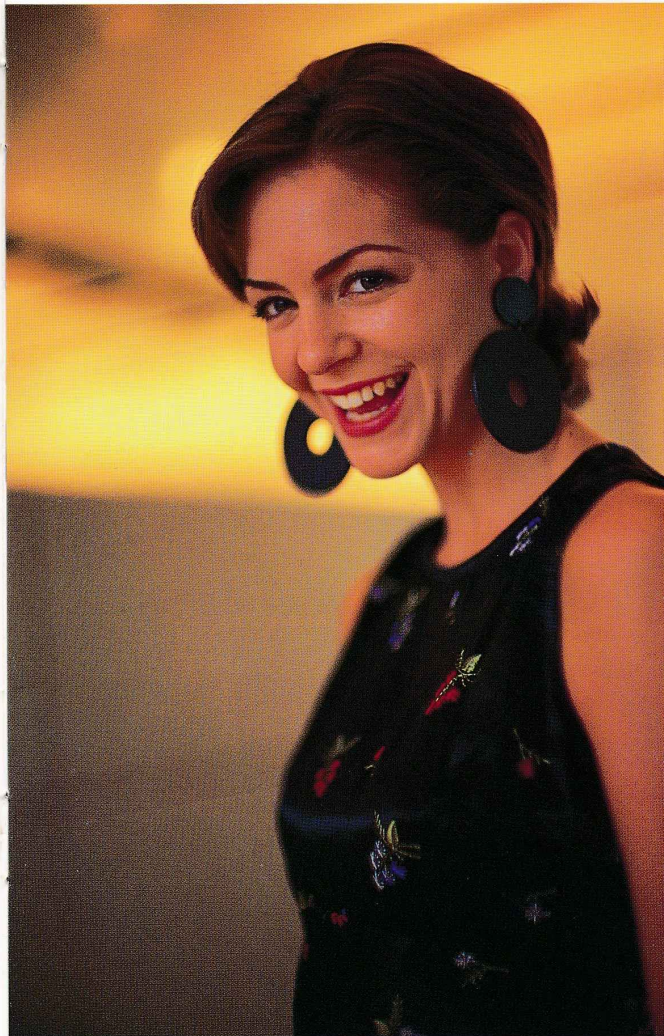
Standard lens featuring superb quality and portability. Two high-refraction lens elements and new Gaussian optics eliminate astigmatism and suppress astigmatic difference. Crisp images with little flare are obtained even at the maximum aperture.



EF 50mm f/1.8 II



This is the lightest EF lens of all at a mere 130 g (4.6 oz.). Compact and high-performance, standard lens. Its Gaussian optics provide sharp delineation from near to far focusing distances. The color balance is excellent for a standard lens.

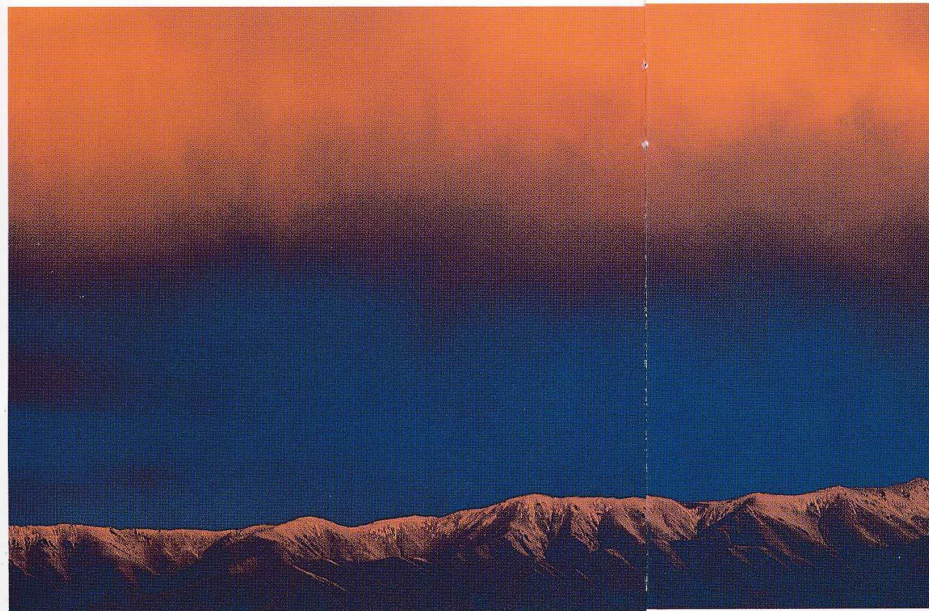


EF 50mm
f/1.0L USM

•f/1.0 •1/20 sec.

Medium and Fast

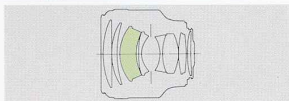
A medium telephoto lens with a large aperture brings the subject closer, creates excellent background blur, gives a longer flash range, and affords a faster shutter speed to freeze the action. It's also not too heavy to carry around, even on a ski slope. Three medium telephoto lenses in either 85mm or 100mm are available.



EF 100mm
f/2 USM

•f/11 •1/30 sec.

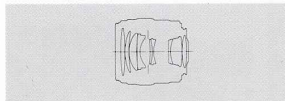
EF 85mm
f/1.2L USM



With a large maximum aperture of f/1.2, this is the fastest 85mm telephoto lens in its class. One aspherical lens element and two high-refraction elements give sharp images with little flare even at maximum aperture. The floating system corrects coma for high image quality.



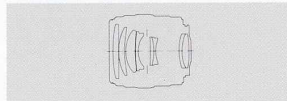
EF 85mm
f/1.8 USM



A highly practical medium telephoto lens with superb delineation and portability. Images are sharp and clear at all apertures. Through computer simulations, the lens has been designed to give beautiful background blur. Since the front lens group does not rotate during focusing, special filter effects are not affected.



EF 100mm
f/2 USM

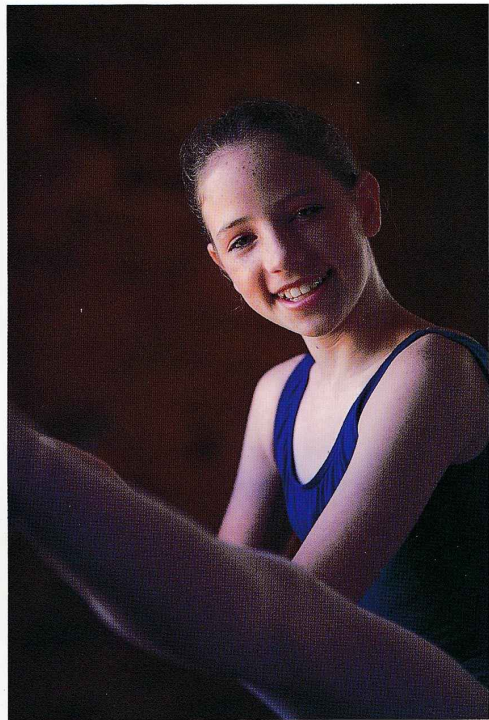


Despite the large maximum aperture, the lens remains compact. Lens group 5 moves for rear focusing, and sharp, crisp pictures are obtained at all apertures. The background blur is ideal for portraits. The USM autofocuses the lens quickly and quietly.



Long and Fast

A telephoto lens is essential to any serious photographer. For sports action, you will need a fast shutter speed and a long focal length. A large maximum aperture allows a faster shutter speed. In this telephoto lens lineup, the focal lengths range from 135mm to 300mm. If you want compactness, choose a lens with a smaller maximum aperture.



EF 135mm
f/2L USM

•f/3.5 •1/60 sec.



EF 135mm f/2.8
with Softfocus

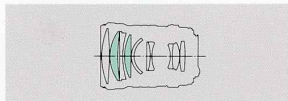
•f/2.8 •1/90 sec.
•Soft level: 2



EF 135mm f/2.8
with Softfocus

•f/2.8 •1/90 sec.
•Soft level: 0

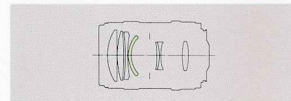
EF 135mm f/2L USM



The fastest 135mm telephoto lens in its class. Ideal for indoor sports and portraits with background blur. Two UD-glass elements correct secondary spectrum for outstanding sharpness and color. Compatible with Extender EF 1.4x and 2x.



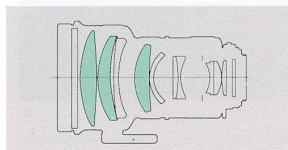
EF 135mm f/2.8 with Softfocus



Telephoto lens with a softfocus feature. It can give razor-sharp snapshots as well as softfocus shots that do not look blurry. You have a choice of two softfocus settings. Even for softfocus shots, focusing with AF is quick and accurate.



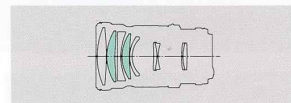
EF 200mm f/1.8L USM



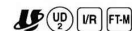
The world's fastest 200mm telephoto lens. Three UD-glass elements eliminate secondary spectrum for sharp images at all apertures. The optics have been designed to give excellent background blur. Try it with the maximum aperture's shallow depth of field.

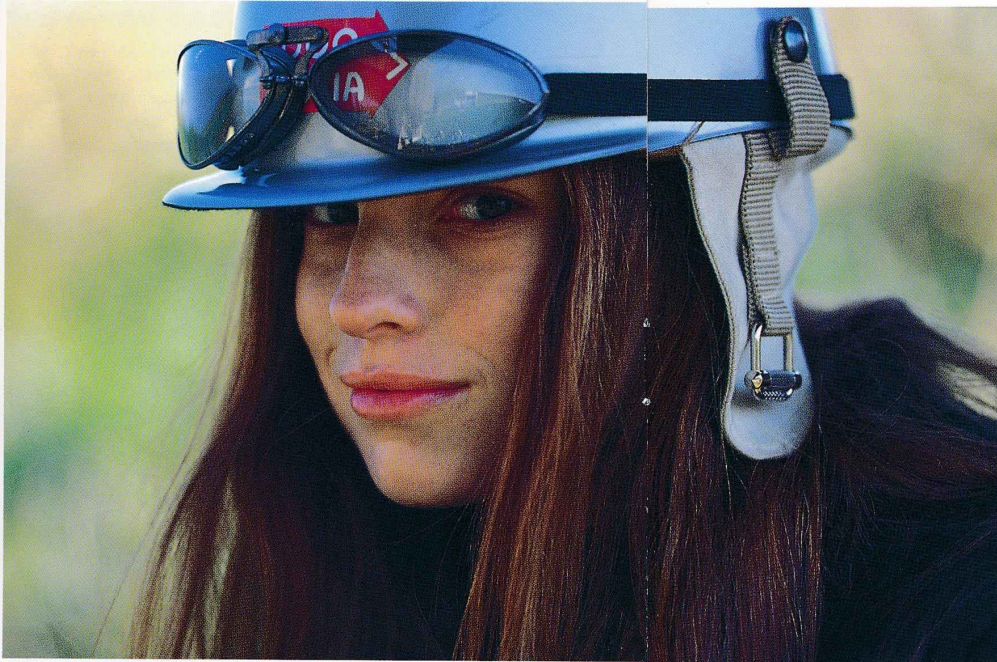


EF 200mm f/2.8L II USM



Telephoto lens boasting high image quality and carrying ease. With two UD-glass elements and rear focusing to correct aberrations, image delineation is extremely sharp. Background blur is also natural-looking, as was simulated by Canon. The lens comes with a dedicated, detachable hood.





EF 300mm
f/2.8L IS USM
•f/3.5 •1/250 sec.

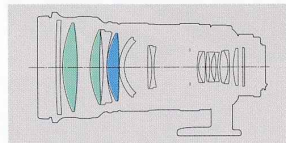


EF 300mm
f/4L IS USM
•f/13 •1/60 sec.

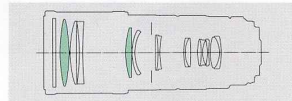


EF 300mm
f/4L IS USM+
Extender EF 2x
•f/8 •1/45 sec.

EF 300mm f/2.8L IS USM



EF 300mm f/4L IS USM



Telephoto lens newly equipped with an Image Stabilizer enabling hand-held shooting for easier movement. The fluorite element and two UD-glass elements effectively correct the chromatic aberrations prone to occur with telephoto lenses. With the EOS-3, the AF speed becomes the world's fastest. To reduce the overall weight and enhance portability, the lens barrel and many other exterior parts use magnesium-alloy. Also, the detachable tripod collar revolves smoothly and locks securely.

Compact L-series telephoto lens with an Image Stabilizer which compensates for camera shake with the equivalent effect of a shutter speed two stops faster. Two Image Stabilizer modes are provided: Stabilizer Mode 1 (the same mode featured on the EF 75-300mm f/4-5.6 IS USM) and the new Stabilizer Mode 2 which steadies the image during horizontal or vertical panning. Mode 2 detects the panning direction automatically. The closest focusing distance is 1.5 m.



● Fluorite lens ● UD lens

See a Different Dimension

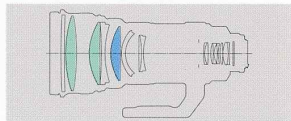
A super-telephoto lens can make an ordinary scene into an extraordinary one. Its ability to see surpasses that of the human eye. It can compress images and make them look as if they come from another dimension. It opens up new realms of photographic expression. All EF super telephoto lenses are L-series lenses to provide the highest quality. The USM provides quiet and high-speed autofocus. These lenses promise outstanding delineation and put your imagination to the test.



EF 500mm
f/4L IS USM

•f/6.7 •1/125 sec.

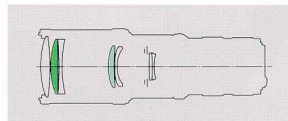
EF 400mm
f/2.8L IS USM



Super telephoto L-series lens with an Image Stabilizer for use in track and field sports as well as low-light nature and wildlife photography. The fluorite element and two UD-glass elements result in high resolution and high contrast. The ring USM and an improved AF drive algorithm make the AF speed the fastest in the world when used with the EOS-3. This lens has the same AF stop and focus preset features as the EF 300mm f/2.8L IS USM.

USM CaF_2 UD I/R FT-M FP IS AF-S

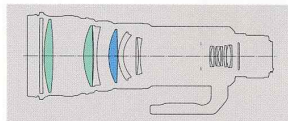
EF 400mm
f/5.6L USM



This high-performance lens was designed with portability and handling ease in mind. One super UD-glass element, whose characteristics are similar to fluorite, and one UD-glass element result in sharp pictures from corner-to-corner. The lens also has a built-in hood and a detachable tripod mount.

USM UD S-UD I/R FT-M

EF 500mm
f/4L IS USM



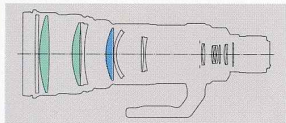
Next-generation super telephoto L-series lens with an Image Stabilizer, effective for hand-held or monopod-supported shooting of fast-moving subjects. The optical system is newly designed with a maximum aperture of f/4. One fluorite element and two UD-glass elements effectively correct aberrations resulting in sharp and excellent delineation.

USM CaF_2 UD I/R FT-M FP IS AF-S



EF 600mm
f/4L IS USM
•f/4 •1/500 sec.

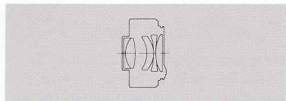
EF 600mm
f/4L IS USM



This lens is ideal for sports and wildlife photography. The newly designed optical system has one fluorite element and two UD-glass elements to obtain high resolution and high contrast. Also, the minimum focusing distance was reduced to 5.5 m (18 ft.). Extender EF 2x can be attached to increase the focal length to 1200mm while retaining AF (with the EOS-3).

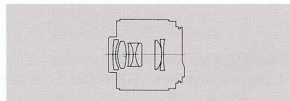


Extender
EF 1.4x



Attaching this high-performance Extender to a 135mm or longer lens or to the EF 70-200mm f/2.8L boosts the focal length by 1.4 times. With five elements in four lens groups, it preserves the prime lens' image quality. With the Extender attached, the f-number decreases by one stop. Autofocusing is also possible with lenses whose maximum aperture is f/4 or faster.

Extender
EF 2x



Attaching this high-performance Extender to a 135mm or longer lens or to the EF 70-200mm f/2.8L boosts the focal length by 2 times. With seven elements in five lens groups, it preserves the prime lens' image quality. With the Extender attached, the f-number decreases by two stops. Autofocusing is possible with lenses whose maximum aperture is f/2.8 or faster.

Discovering a Small World

The small things we see and ignore every day can actually reveal much surprise and fascination up close. A world all their own. Canon offers several ways to discover this world. The four EF macro lenses are the most effective and versatile, while the three screw-on Close-up Lenses are the most convenient. Also available are the Life-Size Converter EF and two Extension Tubes.

About Macro Magnification



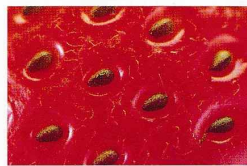
0.25x



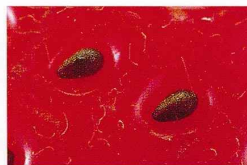
0.5x



1.0x



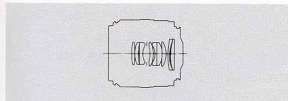
3.0x



5.0x

The maximum magnification of a macro lens is the maximum size a subject can be captured on film. Life-size (1x) magnification means that a 1-cm diameter area of the subject can be captured on a 1-cm diameter area of the film. This type of lens is called a life-size macro lens. With a 0.5x lens, a 1-cm diameter area of a flower is recorded on a 0.5-cm diameter area on the film. With a 0.25x lens, the 1-cm diameter area is exposed on a 0.25-cm diameter area on the film. And with a 5x macro lens, a 1-cm diameter area of the flower will cover a 5-cm diameter on the film plane. Since the film is not big enough, it will capture only part of the 1-cm diameter of the flower. In this way, the larger the magnification, the larger the subject can be captured on film. When a print is made, the subject can be further enlarged in accordance with the print size. Among lenses providing the same magnification, the lens having a longer focal length enables you to photograph the subject at a farther distance. This is advantageous for shooting insects and other subjects which you cannot approach too closely.

EF 50mm f/2.5 Compact Macro

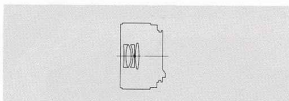


Lightweight and compact macro lens for close-ups up to 0.5x. Floating system for superior delineation at all focusing distances. With a large f/2.5 aperture, true and beautiful background blur is possible.

Multi-purpose lens for portraiture and other applications besides macro photography.

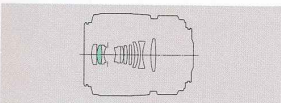


Life-Size Converter EF



Dedicated to the EF 50mm f/2.5 Compact Macro lens for obtaining life-size magnification. Magnifications from 0.26x to 1x are possible. Its high-performance optical system does not degrade the prime lens' optical performance. Although attaching this Converter decreases the aperture by one stop (f/3.5 at 0.26x), 1x magnification is possible.

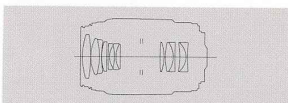
MP-E 65mm f/2.8 1-5x Macro Photo



This is the first macro photo lens designed to achieve a high magnification greater than 1x without additional accessories. It is ideal for small subjects. The newly designed optical formula and UD-glass elements suppress chromatic aberrations which become apparent at high magnifications. For flash photography, Macro Ring Lite ML-3 can be attached to the lens.



EF 100mm f/2.8 Macro USM New



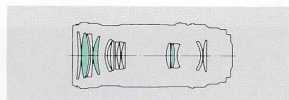
Autofocus lens for macro photography up to life-size (1x) magnification. Inner focusing affords a long working distance of 149mm/5.9 in. (at 1x). A 3-group floating system results in excellent delineation at all focusing distances. Ring USM for silent and high-speed AF, and full-time manual focusing also provided. The optional Tripod Mount Ring (B) B (with adapter) enables the lens to be rotated for vertical or horizontal framing.



EF 100mm f/2.8
Macro USM

•f/2.8 •Av Auto

EF 180mm f/3.5L Macro USM



Another telephoto macro lens with a maximum magnification of 1x. Life-size close-ups can be taken from a farther distance without disturbing the subject (insects, etc.). The internal floating system minimizes fluctuations in aberrations caused by changes in the focusing distance. The delineation is therefore razor-sharp from 1x to infinity.



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

•f/8 •1/125 sec. 3.0x



Extension Tube EF 12 Extension Tube EF 25



Dedicated to EF lenses, these Extension Tubes are installed between the prime lens and camera body. It is a simple way to enable close-ups at high magnifications. The magnification depends on the prime lens used. With a standard zoom lens, the EF 12 can give a magnification of 0.3x to 0.5x, and the EF 25 can give a magnification of 0.7x or higher. Although autoexposure is possible, manual focusing or using the focus aid is recommended.

Close-up Lens 250D Close-up Lens 500D Close-up Lens 500

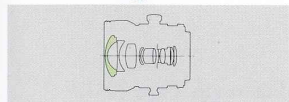


The simplest way to take close-ups. Just screw on the Close-up Lens on the front of a prime lens, then shoot. The 250D and 500D have two achromatic elements which suppress chromatic aberrations. Even while attached to an L-series EF zoom lens, the Close-up Lens does not affect the prime lens' optical performance. High image quality is maintained. The 500 is a more affordable Close-up Lens having only one lens element.

For Advanced Photo Work

With a Canon TS-E lens, you can control the angle of the plane of focus and the picture's perspective. The effects of large-format camera movements can be obtained with TS-E lenses for EOS cameras. Although manual focusing is required, automatic aperture control enables autoexposure and autoexposure bracketing. The tilt and shift axes intersect at a 90° angle. They can be made parallel at an authorized Canon Service Facility (modified at owner's expense).

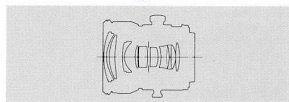
TS-E 24mm
f/3.5L



Compact, wide-angle lens which enables tilt and shift movements. The floating optical system, with an aspherical lens element, corrects distortion and other aberrations. High image quality and compactness are the result. Great for architecture, landscapes and other wide-angle shots.



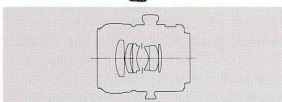
TS-E 45mm
f/2.8



Normal lens featuring tilt and shift movements. The floating system and rear focusing give sharp and stable delineation from 0.4 m (1.3 ft.) to infinity. The 45mm focal length is ideal for obtaining a natural-looking perspective.



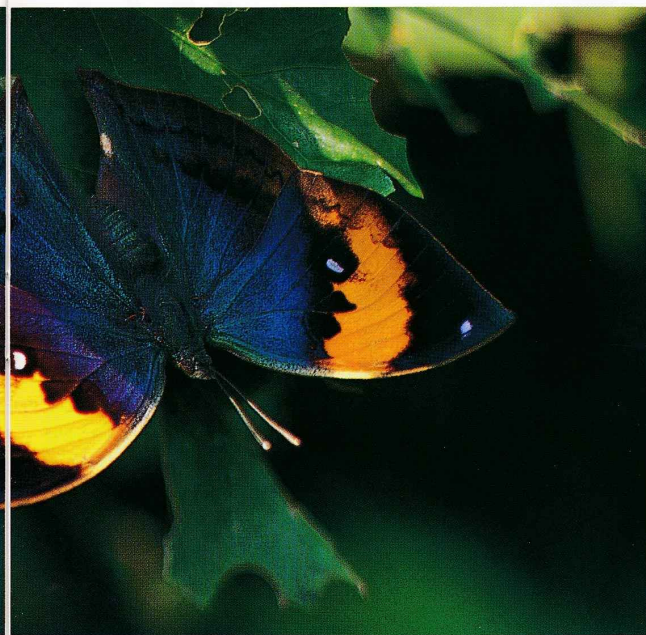
TS-E 90mm
f/2.8



This is the world's first 35mm-format telephoto lens with tilt and shift movements. Gaussian optics give high-quality delineation and true background blur. The lens is suited for a variety of subjects, from products to portraits.

TS-E 90mm
f/2.8

•f/2.8 •1/60 sec.



Canon's innovations put your images on film quickly, quietly, and easily with outstanding results.

TS-E Lens Movements

TS-E lenses are capable of tilt and shift movements which greatly expand picture-taking possibilities. Tilt movements alter the angle of the plane of focus between the lens and film plane, and shift movements move the lens' optical axis in parallel.

Tilt movements

If you want to bring the entire length of the hedge into focus, you could use a wide-angle lens and a small aperture to obtain a wide depth of field (Photo 1-a). With tilt movements, you can achieve this wide depth of field even at the maximum aperture. By tilting the center of the TS-E lens barrel, you can tilt the lens so that the plane of focus is uniform on the film plane (Photo 1-b).

Using Tilt Movements to Focus an Oblique Subject Plane

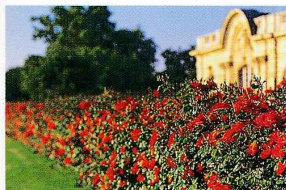
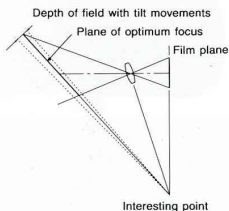


Photo 1-a

Uncorrected



Photo 1-b

Corrected with tilt

Shift movements

Normally, when you point your camera up at a tall building, the building will look slimmer toward the top. It becomes trapezoidal (Photo 2-a). This perspective effect is more pronounced with shorter lens focal lengths, distorting the building even more. By altering the parallel position between the lens and the film plane with the TS-E lens, this perspective effect can be corrected. With the camera's film plane set parallel to the building, shifting the lens upward will obtain a more rectangular-looking building (Photo 2-b).

Photo 2-a

Uncorrected

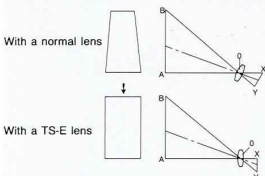


Photo 2-b

Corrected with shift



Using Shift Movements to Focus a Tall Building



Ultrasonic Motors (USM)

The Ultrasonic Motor (USM) in Canon EF lenses is the world's first lens-based motor. Based on a totally new technology, the motor spins by ultrasonic oscillation energy. The USM is quiet and quick. It has made EF lenses almost noiseless and autofocus fast, precise, and practical. The direct-drive construction is very simple, with no gear train. This makes it durable and efficient. It also consumes little power.

Two types of USM are used: Ring-type USM and micro USM. The former type is found in large-aperture and super telephoto lenses, while the latter is used in more compact lenses. Using the optimum type of USM in the lens results in maximum efficiency and effectiveness.



Ring-type USM



Micro USM



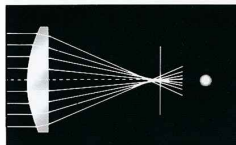
Aspherical lenses

Ordinary spherical elements have an inherent flaw in that the point of focus for the lens center does not match that of the lens periphery. Spherical aberrations of large-aperture lenses and distortion by ultra-wide-angle lenses cannot be resolved with spherical elements alone. The aspherical lens element was therefore developed.

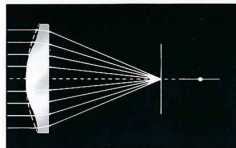
The curvature of the lens element is calculated and shaped to achieve the ideal single point of focus. The result is high contrast with minimal flare even with a large-aperture lens. Distortion can also be effectively corrected in ultra-wide-angle lenses.

Canon started to develop manufacturing technology for aspherical elements early on. We eventually succeeded in establishing a mass-production grinding and polishing process with a polishing precision of 5/10,000 mm. In 1971, Canon marketed the FD 55mm f/1.2AL lens, featuring the world's first aspherical lens element. This was followed by many other Canon lenses incorporating aspherical elements and they were well received.

Also, Canon developed mass-production technology for glass-molded aspherical elements and replicated aspherical lenses. The former was produced by an ultra-high-precision aspherical lens molding machine which shaped the glass directly. For the latter, the aspherical surface was formed by ultraviolet-hardened resin film applied on a spherical element. Canon has developed numerous compact-size lenses taking full advantage of aspherical elements to attain high image quality.



Spherical aberration of spherical lens.



Convergence of parallel light rays by an aspherical lens.



Fluorite (CaF₂) and UD glass

The refraction of light differs depending on the wavelength. The point of focus therefore differs depending on the different wavelength or color. When the different wavelengths are focused at different points, the colors look smeared. This is called chromatic aberration. The longer the focal length, the more pronounced chromatic aberration becomes.

Usually, an achromatic element is used in a lens to correct chromatic aberration. However, normal optical glass can only be corrected for two primary spectral colors. An exception to this limitation is fluorite, an ideal material. Fluorite, which is crystalline, has abnormally low refraction and low dispersion characteristics which optical glass cannot achieve. It also has anomalous dispersion from the green to blue wavelengths. Canon developed production technologies to manufacture fluorite. By incorporating fluorite in lenses, the points of focus of the three primary spectral colors of red, green, and blue all meet at one point for ideal correction of chromatic aberration. There is also UD glass which is a special type of optical glass whose properties nearly match those of fluorite. The effect of two UD-glass elements is equivalent to having one fluorite element. And one super UD-glass element gives almost the same effect as one fluorite element.

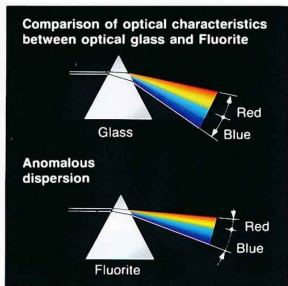
Large, fully electronic mount system

The conventional interface between the lens and camera body was mechanical, with the use of engaging levers and gears. This method caused physical problems such as wear and rattle. It was limited and more diverse information could not be exchanged. Canon EF lenses do not use such mechanical links at all. About 50 items of information are exchanged as digital signals between the lens and camera in real time. This enables high-speed and high-precision control.

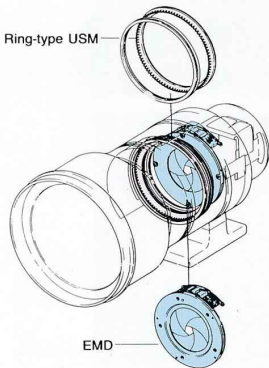
And since the lens mount diameter is an ample 54 mm, special lenses such as large-aperture lenses and TS-E lenses can be used. The EF mount is an advanced interfacing system with infinite possibilities.

Built-in motor and EMD

Canon EF lenses (except TS-E lenses) have a built-in AF motor. Compared to camera body-based AF motors, lens-based motors have driving energy with lower transmission loss. The optimum AF motor for the particular lens can also be selected and installed. The AF operation is therefore quick, quiet, and highly precise. The lenses also have an EMD (Electromagnetic Diaphragm) to control the aperture electronically. The aperture can be set either with an electronic dial or with the electronic pulse signal sent according to the exposure reading. Aperture control precision is therefore unmatched.



Fluorite and UD glass



Built-in motor and EMD



Inner focusing and rear focusing

An inner focusing lens has the focusing lens group(s) in front of the diaphragm, while a rear focusing lens has the focusing lens group(s) behind the diaphragm. Both focusing systems allow the focusing lens group to be small. This minimizes the load on the actuator which drives the autofocus. In turn, the AF speed is faster. The whole optical system can also be made more compact. Also, since the lens does not rotate during focusing, the effects of a circular polarizing filter or gelatin filter remain intact.

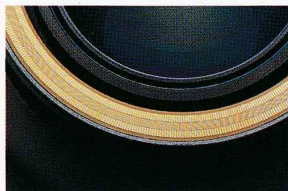


Full-time manual focusing

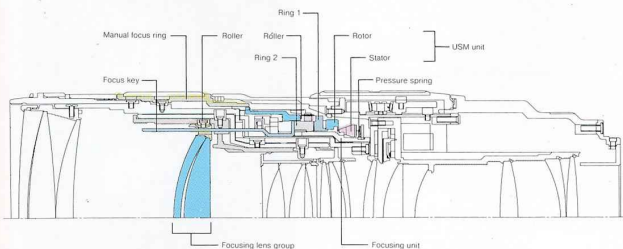
Canon EF lenses and EOS cameras have very high AF precision. Optimum focus can be achieved quickly for almost any shooting situation. Recent EOS cameras have been equipped with multiple focusing points for higher flexibility in composing a photo while using AF.

Picture-taking is even more flexible with Canon's full-time manual focusing which overrides the autofocus mode. Lenses with this feature allow you to switch to manual focusing even in the AF mode. You can keep looking through the viewfinder and touch up the focus manually without switching the focus mode switch. Since the focusing ring does not rotate during autofocus, we could make it wider for better holding comfort and easier manual focusing. Another ergonomic design which lets you convey your intentions quickly.

Full-time manual focusing comes in two types. One is electronic manual focusing where the rotation amount of the focusing ring is detected and the focusing motor is driven electronically. The other type is mechanical manual focusing where the rotation of the focusing ring adjusts the focus mechanically.



Input pulse board for electronic manual focusing



Full-time mechanical manual focus mechanism

FP

Focus preset

With the focus preset feature, you can set the desired focusing distance in memory and later instantly focus the lens at that distance. Normal picture-taking and focusing are possible even while focus preset has been set. At a soccer game, for example, you can preset the focus for the goal. You can focus normally while the player approaches the goal, then when the ball is shot into the goal, you can obtain instant focus.

Float

Floating system

Ordinary lenses are designed to give the best results when the correction of aberrations is most effective. This is usually at the most commonly-used focusing distances. At other focusing distances, especially at the closest focusing distance, aberrations tend to appear. Canon's floating system suppresses aberrations at close focusing distances. This system adjusts the gap between certain lens elements in correspondence to the focusing distance. The aberration is effectively corrected. The result is high image quality with aberrations suppressed at all focusing distances.

IS

Image Stabilizer

No matter how great the lens is, camera shake can spoil the shot. Blurred photos due to camera shake usually occur when the shutter speed is slower than the reciprocal of the lens focal length.

For example, a shutter speed slower than 1/200 sec. at the 200mm focal length can invite a blurred photo caused by camera shake. In such cases, a tripod is necessary. However, a tripod can be a heavy and troublesome burden when you go hiking or traveling.

There are even places where using tripods is prohibited. Using a slow shutter speed then becomes difficult. To resolve this problem, Canon became the first manufacturer to incorporate an Image Stabilizer in an SLR camera lens. Optical shake is detected by gyro sensors which provide the data necessary to shift the image-stabilizing lens group in parallel to neutralize the shake. This increases the usable shutter speed range by up to 2 full stops for hand-held shooting.

Except for the EF 28-135mm f/3.5-5.6 IS USM and EF 75-300mm f/4-5.6 IS USM lenses, IS lenses have two IS modes. One is for normal image stabilization and the other is for panned shots. With a monopod, the Image Stabilizer on all IS lenses operates normally as during hand-held shooting. Also, the EF 300mm f/2.8L IS USM, EF 400mm f/2.8L IS USM, EF 500mm f/4L IS USM, and EF 600mm f/4L IS USM lenses have a mechanism that prevents misoperation with the Image Stabilizer turned on while the lens is mounted on a tripod.

AF-S

AF Stop Feature

AF stop is featured on the EF 300mm f/2.8L IS USM, EF 400mm f/2.8L IS USM, EF 500mm f/4L IS USM, and EF 600mm f/4L IS USM lenses. If something passes between the camera and subject during autofocus, this feature stops the AF operation momentarily to prevent the focus from shifting to the obstruction passing by. After the obstruction is gone, the focus is still maintained on the subject and you can quickly resume shooting. The AF stop buttons are positioned at four locations around the lens grip at the front of the lens for easy access during both horizontal and vertical shooting.

Dust- and Water-Resistant Construction

The new EF 300mm f/2.8L IS USM, EF 400mm f/2.8L IS USM, EF 500mm f/4L IS USM lenses are highly dust- and water-resistant.

The switch panel, exterior seams, and drop-in filter compartment have rubber linings. Moving parts such as the focusing ring and switches are also designed to prevent water and dust from entering. These lenses can therefore be used in harsh conditions without dust and water getting inside.

"The lens is equipped with a rubber ring on the mount to improve its dustproofing and waterproofing characteristics.

As the lens is repeatedly mounted and detached, the rubber ring will leave fine abrasion marks on the outside of the camera mount.

This will not affect operation.

Description of Lens Designation

The lens designations follow a standard format to identify the lens.

EF 75-300mm f/4-5.6 IS USM

Focal length: Indicates the focal length range from the shortest to longest length. (See below for details.)

Maximum aperture: Indicates the lens' maximum aperture. (See below for details.)

Special Function: Any special feature such as an image stabilizer, macro feature, etc., is indicated.

ISM: Indicates that the lens uses an Ultrasonic Motor for autofocus. (See page 35 for details.)

Focal length

A focal length of 50mm is closest to what the eye sees. This focal length is used as a reference point for lens categories. For example, lenses with a shorter focal length are called wide-angle lenses, while those with a longer focal length are called telephoto lenses. Single focal length lenses have only one focal length, while zoom lenses have a range of focal lengths. (When EF lenses are used with the EOS II, the focal length corresponds to 1.25 times that indicated for 35mm cameras.)

Angle of view

This indicates how much coverage of the scene you can see through the lens. Telephoto lenses have a narrower angle of view than wide-angle lenses.

Angle of view and perspective

Perspective refers to the distance between the near and far objects that you can see at the same time. When the angle of view is wide (with a shorter focal length), the perspective becomes more apparent. And with a narrow angle of view (with a longer focal length), the perspective becomes less apparent. The image also becomes more compressed, with the far objects looking like they are right behind the nearer objects.

Maximum aperture

This indicates the speed of the lens. A fast lens has a large maximum aperture, allowing more light to enter. The smaller the maximum aperture's f-number, the larger the aperture opening is. A larger maximum aperture makes the image look brighter and easier to see through the viewfinder. You can also use a faster shutter speed or obtain better background blur. On the other hand, a smaller maximum aperture (the f-number is larger) allows the lens to be more compact and light.

Single focal length lenses have only one maximum aperture while zoom lenses may have two, one for each end of the focal length range. For example, a EF 28-80mm f/3.5-5.6 lens has a maximum aperture of f/3.5 at 28mm and f/5.6 at 80mm.

Aperture and shutter speed

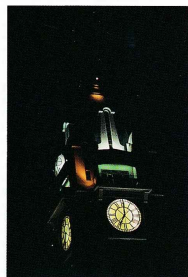
Under the same light level, if the aperture opening is made larger by one stop, the shutter speed can be increased by one stop. For example, if an aperture of f/5.6 and shutter speed of 1/60 sec. are set, adjusting the aperture to f/4 will enable a shutter speed of 1/125 sec. to be used. An aperture of f/2.8 will allow a faster shutter speed of 1/250 sec. while the same exposure level is maintained.

Depth of field

Normally, there is only one point of optimum focus. However, we often see objects in front of or behind this point also in focus. This is made possible by a wide depth of field.

Depth of field with the aperture and focal length

The depth of field is mainly determined by the lens focal length, aperture, and subject distance. For example, if a wide-angle lens is used at the minimum aperture, almost everything in the picture will be in focus. However, if a telephoto lens is used at maximum aperture, the background will be really blurred, making the subject in focus stand out.

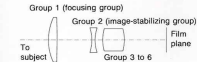


With Image Stabilizer on

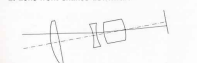


With Image Stabilizer off

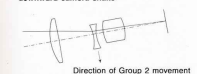
1. No camera shake



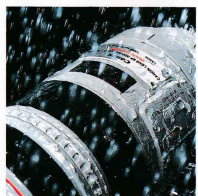
2. Lens front shakes downward



3. Image-stabilizing group counteracting downward camera shake



How the Image Stabilizer Works in the EF 75-300mm f/4-5.6 IS USM



Canon EF Lenses

Limited only by your imagination.

Zoom Lenses



EF 17-35mm f/2.8L USM EF 24-70mm f/2.8L USM EF 24-105mm f/4L IS USM EF 24-150mm f/4L IS USM EF 28-135mm f/3.5-5.6 IS USM



EF 70-200mm f/4L USM EF 80-200mm f/4.5-5.6 II EF 15-85mm f/3.5-5.6L USM

Single Focal Length Lenses



EF 50mm f/1.8 EF 50mm f/1.8 Fisheye EF 40mm f/2.8 EF 28mm f/1.8 EF 24mm f/2.8



EF 35mm f/1.8 EF 35mm f/2 EF 100mm f/2.8 Macro EF 135mm f/2L USM



EF 300mm f/4L IS USM EF 400mm f/5.6L USM



EF 550mm f/4L IS USM



EF 28-90mm f/3.5-5.6 V USM EF 28-90mm f/3.5-5.6 II EF 28-105mm f/3.5-5.6 USM EF 28-135mm f/3.5-5.6 IS USM



EF 75-300mm f/4-5.6 IS USM EF 75-300mm f/4.5-6.7 II USM EF 75-300mm f/4.5-6.7 III USM



EF 100mm f/2.8L USM EF 100mm f/2.8 EF 135mm f/1.8L USM EF 135mm f/2 EF 150mm f/1.8L USM



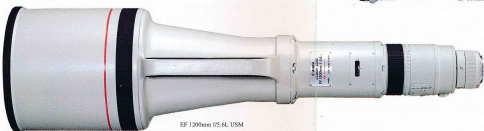
EF 180mm f/3.5L Macro USM EF 200mm f/2.8L IS USM EF 200mm f/2.8L IS USM



EF 400mm f/2.8L IS USM



EF 600mm f/4L IS USM



EF 1200mm f/5.6L USM

Focal Length Comparison



15mm Fisheye



14mm



17mm



20mm



24mm



28mm



35mm



50mm



70mm



85mm



100mm



135mm



200mm



300mm



400mm



500mm



600mm



1200mm



EF 35-105mm f/3.5-5.6 III EF 55-200mm f/4.5-5.6 USM EF 70-200mm f/2.8L USM



EF 100-300mm f/5.6L EF 100-300mm f/4.5-5.6 USM EF 100-400mm f/4.5-6.7L IS USM



EF 50mm f/1.4 USM EF 50mm f/1.8 II EF 50mm f/2.5 Compact Macro L6-50mm f/2.8 Macro EF MP-E 60mm f/2.8 1-5x Macro Photo EF 85mm f/1.2L USM



EF 200mm f/2.8L IS USM EF 300mm f/2.8L IS USM

TS-E Lenses



TS-E 24mm f/3.5L TS-E 45mm f/2.8 TS-E 90mm f/2.8

Extenders



Extender EF 1.4x Extender EF 2x Extender Tube EF 12 Extender Tube EF 25

Extension Tubes

Close-Up Lenses



Close-up Lens 250D Close-up Lens 500 Close-up Lens 300

Canon EF Lens Accessories

General Purpose Filters for Black and White or Color Film

Sky (1A), Haze (UV-1), ND (03 • 0.6)
•52mm •58mm •72mm

Conversion Filters for Color Film

80A, 80B, 85, 85B, FCB, FCD
•52mm •58mm •72mm

General Purpose Filters for Black and White Film

Yellow 2, Green 11, Orange 15, Red 25A
•52mm •58mm •72mm

Softmat Filters

Softmat filters mildly soften the focus for flattering portraits and dreamy landscapes. These filters utilize the effect of diffraction which occurs between light passing through the transparent part and light passing through the coated part. Use Softmat No. 1 filter for a gentle softfocus effect, and Softmat No. 2 for a stronger effect.

No.1, No.2
•52mm •58mm

Warming Filters for Color Film

81A, 81B
•52mm •58mm •72mm

Circular Polarizing Filters PL-C

Polarizing filter enhances picture quality by blocking harmful reflected light. Use it to reduce polarized light reflections from glass and water surfaces or to improve color saturation. Simple to use, circular polarizing filters (such as Canon's PL-C) polarize light circularly, rather than linearly, so it does not interfere with autofocus or TTL light metering.

•52mm •58mm •67mm •72mm •77mm (Type II)

Loupe 8x & 4x



The Canon Loupe 4x is a high-performance magnifier for viewing the entire picture area (24 x 36mm) of a 35mm-format slide or negative. With three lens elements in three groups, chromatic aberration and distortion are effectively corrected to give crystal-clear images. Eye fatigue is not a problem even after prolonged use. Loupe 8x is another magnifier for viewing the entire picture area, but with special emphasis on a 24mm-diameter area at the center. The four lens elements in four groups attain high performance and a high magnification. All elements have Super Spectra Coating to make image viewing clear enough for you effectively check the quality of photos taken with EF lenses. These two loupes can make your evaluation of photos more accurate.

Drop-in Filters



Drop-in Filters PL-C

Drop-in Filters PL-C can be rotated from the outside without removing them from the lens for precise control. The 48mm PL-C filter can be used with the following lenses: EF 200mm f/1.8L USM and EF 1200mm f/5.6L USM; the 52mm PL-C filter is designed for use with the EF 300mm f/2.8L IS USM, EF 400mm f/2.8L IS USM, EF 500mm f/4L IS USM and EF 600mm f/4L IS USM.



Drop-in Gelatin Filter Holders

These glass-backed holders accept up to three commercially available cut-to-size gelatin filters for rear-insertion lenses. A 48mm holder is provided standard with EF 200mm f/1.8L USM and EF 1200mm f/5.6L USM; and a 52mm holder, with EF 300mm f/2.8L IS USM, EF 400mm f/2.8L IS USM, EF 500mm f/4L IS USM and EF 600mm f/4L IS USM.



Drop-in Screw Filter Holders With Protect Filters

The enclosed regular filter can be exchanged with other commercially available screw-type filters. Note that only filters with correct filter frame thickness can be mounted on the lens.

•48mm •52mm

Only Canon filters are guaranteed for use with EF lenses.

Gelatin filter Holders III & IV



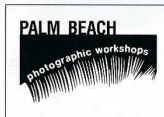
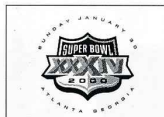
Gelatin Filter Holder III

Gelatin Filter Holder IV

Gelatin Filter Holder III uses 3 x 3-inch gelatin filters and Gelatin Filter Holder IV uses 4 x 4-inch gelatin filters. Holders III and IV both provide extension hoods and ø52 mm, 58 mm, 67 mm, 72 mm and 77 mm adapters. Refer to the EF Lens Accessory Table for information on lens combinations.

•52mm •58mm •67mm •72mm •77mm
• Adapter III for EF 50mm 1: 1.4

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