### **E-1**

### All-Digital Interchangeable Lens SLR System

Built from the ground up to be digital and take advantage of everything photography has to offer, the Olympus E1 Digital SLR System—complete with digital specific lenses - is an uncompromising realization of the full benefits of pure digital technology with body



and lenses designed to perfectly match the image sensor. Setting the standard for the future of digital photography, the E1 System meets the needs

of the most demanding pros, offering powerful advantages in terms of image quality, durability, speed, and camera and lens size—without making compromises for a film legacy system—a significant limitation of competitive systems.

Until now, digital photography has lacked a common standard for image sensor sizes and lens mount configurations, resulting in an unwieldy array of specifications. The E1 Digital SLR System, based on the Four Thirds open standard, achieves optimal balance between image quality, camera and lens size, and system expandability, maximizing the performance of image sensors and lenses with a 100% digital-from-the-ground-up design. The most technically sophisticated, computerized digital camera built to date, the revolutionary E-1 can handle many types of photographic situations and deliver superior results in a

#### Four Thirds System— The Standard for Next-Generation Digital SLR Camera Systems

wide range of settings, from indoor to studio, fashion to journalism, sports to portrait photography, and more.

Until now, digital SLR cameras with interchangeable lenses were basically based on conventional 35mm film camera systems. As a result, they're equipped with image sensors comparable in size to 35mm and APS film. However, since the imaging characteristics of these CCDs are fundamentally different from those of film, a number of issues prevent them from achieving their full performance potential. These include:

- (1) Although film is capable of responding to light striking the surface at a high angle of incidence, a high angle of incidence can prevent sufficient light from reaching sensor elements at the periphery of a CCD and result in reduced color definition, particularly when shooting with wide-angle lenses.
- (2) To achieve the resolutions required by the micron pitch of today's CCDs, the demands of optical design tend to result in the use of larger and heavier lenses. Moreover, digital SLR cameras have until now adopted the mounting systems used in their own 35mm film SLR cameras, making bodies and lenses produced by different manufacturers incompatible with one another.

In light of this, the Four Thirds System standard was conceived to facilitate the design and development of digital SLR cameras and lenses that maximize the performance potential of digital imaging sensors, and provide users with product advantages such as compact size, handling ease, and enhanced functionality.

Developed jointly by Olympus and Kodak (and supported by Fuji), the Four Thirds system establishes a common standard for digital cameras. Using a 4/3-type CCD or CMOS image sensor, it facilitates the development of dedicated digital camera lens systems for outstanding quality while being smaller than their 35mm film SLR counterparts. The Four Thirds System isn't based on existing standards for SLR lenses, but instead establishes a new common standard for the interchange of lenses developed to meet the optical design requirements of digital SLR cameras.

The major benefit of Four Thirds System is that it allows the design of high-performance digital camera lens systems that are more compact than their 35mm counterparts. For example, it is now possible to develop a 300mm telephoto lens that offers the performance equivalent of a 600mm lens. In other words, it is possible to offer the same angle of view in a lens that is half the size.

The 4/3-type sensor size also allows the development of bright, high-performance zoom lenses that are more compact than those needed for use with image sensors the size of APS or 35mm film. By taking advantage of the more compact lens size, Four Thirds lens systems are much easier to handle than conventional 35mm film SLR camera lens systems. Furthermore, by creating a standard for camera body lens mounts, it lets you combine bodies and lenses from different manufacturers for a wider choice.



F<sub>-</sub>1

### FOUR THIRDS (4/3) SYSTEM

Originally developed in the early 20th century to take advantage of the 35mm film already used to make movies, 35mm film cameras quickly became the standard camera type around the world. Today, in the digital era, a lot of effort is being put into the development of digital SLR cameras. As a result, there has been a great search for the best common standard for digital SLR cameras. With the development of the the Four Thirds (4/3) System, a new standard for digital SLR cameras that achieve the optimal balance between image quality, body size, and system expandability, has been set.

The Four Thirds System is so called because it uses a 4/3-type image sensor such as a CCD or CMOS. Its strongest feature is its ability to maximize the performance of both image sensors and lenses. For example, digital cameras with an image sensor size equivalent to 35 mm film have the advantage of being able to use interchangeable lenses designed for 35mm SLR cameras. However, the images produced are often unsatisfactory due to the inherent structural differences between film and image sensors. The reason is that most lenses used for 35mm film cameras are not necessarily designed so that light hits the film from only straight ahead, since film can be exposed by light coming from oblique angles.

The image sensor used in a digital camera, on the other hand, is essentially a chip with pixels laid out at regular intervals on a grid, with photodiodes in the depressions inside the pixels. This means that light cannot reach the photodiodes effectively unless it comes straight through the lens. And that in turn means that if a 35mm film camera lens is attached to a digital camera, insufficient light at the periphery of the image sensor can result in a dim image with inaccurate color reproduction. These problems tend to become even worse with wide-angle lenses. Lenses for digital cameras are designed so that light is correctly captured for not only the center but also the periphery of images. Thus, if lenses were designed for light to hit all the photodiodes of a 35mm equivalent image sensor from nearly straight ahead, they would have to be enormous.

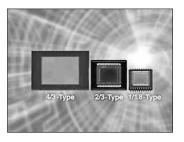


However, with the Four Thirds System, in contrast to 35mm film cameras, the diameter of the lens mount is designed to be approximately twice as large as that of the image circle. This gives wide adaptability among a variety of image sensors and

greatly expands the flexibility of lens design.

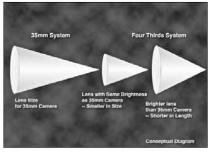
Thanks to this lens mount design, most light can strike the image sensor from nearly straight ahead, ensuring clear colors and sharp details even at the periphery of images. In addition, the 4/3-type image sensor has 4 to 5 times the area of a 2/3 or 1/1.8-type image sensor, giving the Four Thirds System the potential to equal or even far surpass the resolution of 35 mm film cameras.

Another advantage of the Four Thirds System is that its image sensor will allow the downsizing of camera bodies and lenses. For example, since the required focal length is half that of 35mm film cameras, a 600 mm telephoto effect





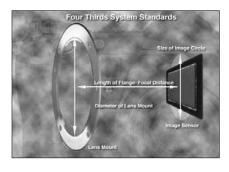
can be achieved with a 300mm lens, meaning that the entire lens can be radically reduced in size.



Moreover, since the effective aperture of the lens can be made smaller compared to that of 35 mm film cameras, bright lenses can consequently be made

much shorter in length. This will give users more flexibility when shooting in low-light conditions or with a high-speed shutter.

The Four Thirds System standardizes the diameter of the lens mount, the size of the image circle, the flange-focal distance, and more. Finally, the Four Thirds System is an



open standard. This will allow far greater compatibility, meaning that consumers will be able to freely interchange bodies and lenses produced by different manufacturers adopting the Four Thirds System.

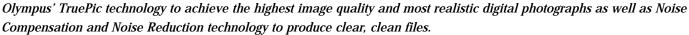


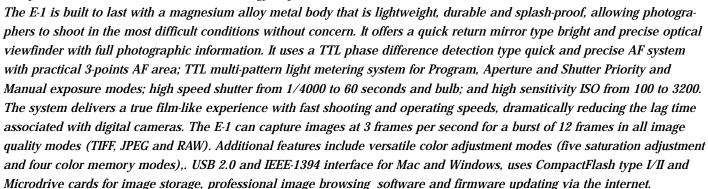
### **E-1**

### 5-Megapixel Digital SLR with 4/3 CCD Image Sensor

The heart of the world's first 100% all-digital interchangeable lens SLR system is the E-1 body. The most technically sophisticated, computerized digital camera built to date, the E-1 is designed to deliver the best digital images for professional photographers today and into the future. It is a dynamic camera that can handle many types of photographic situations and deliver superior results in a wide range of settings, from indoor to studio, fashion to journalism, sports to portrait photography, and more.

The camera features a high performance 5-megapixel CCD that delivers the highest dynamic range, lowest noise levels and best color of any camera in its class—in fact, it outperforms many higher megapixel count imagers. Plus, a Supersonic Wave Filter significantly reduces the chances of dust settling on the CCD or image and blocking pixels. It utilizes







#### 5-Megapixel Super Latitude Full-Frame Transfer CCD (FT-CCD)

Pixel count alone doesn't make quality image results. Superior image quality is made up of the level of dynamic range, color accuracy, low noise and printability of the file. To meet the high-quality image demands of the professional photographer, the E-1 SLR uses a Full-Frame Transfer CCD (FT-CCD). A progressive scan sensor, the FT-CCD produces higher image quality than many equal or higher megapixel CCD models. It also offers many advantages over traditional interline CCDs used in most other digital SLR cameras.

- ◆ In transferring image data off the chip to the image register area, an interline CCD essentially uses a built-in path or highway into the chip for the data to travel on. This "highway," however, takes up real estate that could be better utilized for further image capture information, thereby reducing the size of the active image gathering area - photodiodes - in each pixel.
- ◆ By comparison, the FT-CCD transfers the data via a Vertical Charge Transfer Register that does not require the so-called Interline "highway." Using more of the pixel area for data capture results in better image resolution, higher dynamic range, lower noise, and more image information.
- ◆ The key benefits of the FT-CCD include its high sensitivity due to a larger pixel capture area and a high S/N ratio along with the ability to capture more electrons for a higher dynamic range from black to white. With these advantages, photographers using the E-1 will no longer hope for images with more exposure latitude, greater detail, and less noise than ever before—they will expect them.



**F-1** 

#### 4:3 Aspect Ratio

- ♦ In the real world of printing images, the traditional 3:2 aspect of 35mm film sensors has resulted in lost information when printing to 8 x 10″, 11 x14″ or 16 x 29″ print sizes. Only consumer 4 x 6″ prints neatly fit the 3:2 aspect ratio.
- ◆ The 4:3 aspect ratio of the E-1's FT-CCD allows photographers to fit their image easily into the standard print sizes used by professionals and press, avoiding cropping. This means you can use the image as you composed it in the viewfinder without any loss.

#### Multi-point AF System

Built for the accuracy and speed requirements of the professional photographer, the E-1 features a 3-point auto focus system designed to work specifically with the Four Thirds System to produce quick and accurate focus regardless of the situation.

- ◆ 16-bit data processing coupled with a metal focusing drive cam mechanism and precision lens barrel measurements that are five times more precise than those of a 35mm AF lens provide the increased accuracy digital requires.
- ◆ The system uses three user selectable or automatic AF points (Left, Center, Right) and offers three versatile focusing modes (Single AF, Continuous AF, or Manual focus).
- ◆ Customizable modes provide further versatility. Mixed AF/MF mode lets the photographer make fine adjustments or focus manually after AF is performed in the S-AF mode. Or in the Manual focus mode you can also set the camera to AF with the push of the AEL button.
- ◆ Use Focus Priority which prevents the shutter from firing until perfect focus is reached, or, Release Priority which releases the shutter even when the subject is not in perfect focus making sure you get that shot you have to have.
- ♦ Choose from 12 AE and AF lock modes, and set the rotational direction of the focus ring to suit the preference of how the focus will be adjusted on the lens. Dark environments can also be easily conquered due to the E-1's AF assist illuminator, located on the camera body.

#### Next Generation Technologies for Highest Quality Images

To provide the professional with all the tools needed to get the best image quality every time, the E-1 includes state-of-the technologies including TruePic Technology, Noise Reduction and Noise Filter, and a Supersonic Wave Filter.

- ➤ The E-1 incorporates TruePic Technology to produce the best image quality, even in photos of smaller file sizes and lower resolutions. Instead of throwing pixel information away to create an image like most digital cameras do TruePic uses all of the pixel information captured by the CCD to create the image, resulting in a truer photographic representation of the subject at all sizes, from the largest to the smallest. It further enhances image quality by micro smoothing the image so it's finer and clearer.
- ➤ Because shooting at long exposures over 2 seconds, or high ISO speeds, can often show "Fixed Pattern Noise", the E-1's Noise Reduction feature lets you cancel this phenomenon using a black frame exposure subtraction process. Immediately following the capture of the original exposure, a black frame exposure is taken for the same exposure time, doubling the exposure time. The first image is then compared to the black frame to cancel any Fixed Pattern Noise that may be present in the original photograph.
- ➤ Random pattern noise is often found in images with large solid color areas like sky or skin tones of a picture. Random pattern noise is minimized with E-1's Noise Filter mode. By reviewing an image part by part, Noise Filter actively adjusts the phenomenon so it's less apparent while adding only a slight increase to the image processing time.
- ➤ With the E-1, nothing can impede your photographic success—not even the smallest of particles. Located between the shutter and the CCD, Olympus' exclusive Supersonic Wave Filter uses high-speed ultrasonic vibration to cause dust and other micro elements to literally fall off and be collected and held so they don't affect photographs. The result is confidence that your mages won't be damaged or ruined by dust, and impressively clear, colorful photographs without aberrations.

#### Optical Viewfinder & LCD Monitor

◆ The High Eye-point optical viewfinder provides a 100% accurate frame view (horizontal and vertical) for precision framing and image capture, and is designed specifically to match the size and format of the 4/3 image sensor.

◆ The viewfinder also offers an incredibly sharp and bright view of your subject with the use of the exclusive Neo-Lumi-Micron Matte II Focusing Screen, a deformed hexagonal micro prism that significantly reduces the moire' effect in the viewfinder for clear, sharp focus.





### **E-1**

#### **Metering & Exposure**

One of the developmental requirements of the E-1 was offering the best image quality. In obtaining the highest photo quality and accuracy, Olympus made sure it provided the necessary means towards measuring and obtaining the proper exposure. To achieve this goal, the E-1 is equipped with a high-performance CPU and dedicated aperture and shutter mechanism designed specifically for digital photography and the Four Thirds System. Metering accuracy is achieved in available light and when using the dedicated Olympus FL-50, FL-40 and FL-20 flashes.

- ◆ Versatility is accomplished by the availability of a number of metering options:
- Spot metering measures light from 2% of the viewfinder area for the most accurate metering of the most important area of a scene.
- Center-weighted metering is weighted from 6% of the center of the viewfinder.
- ESP (Elecro Selective Pattern) metering measures available light from multiple areas of the scene for quick and easy metering in backlit, spot lit and other common less than perfect lighting situations to achieve accurate exposure.
- Exposure compensation is adjustable over an unusually wide range of ±5 EV in 1/3, 1/2 or 1 EV increments.
- Auto Exposure Bracketing function can automatically capture a series of either three or five images at different exposure settings. (You can set the auto bracketing exposure increment to one, one-half, or one-third step sizes.)
- ◆ Light sensitivity is adjustable from 100 to 400 ISO equivalent in Auto mode. Sensitivity can also be set from ISO 100 to 800 in manual mode. And if the ISO Boost option is enabled, the range expands to include settings for 1600 and 3200 ISO equivalents.
- Program (with Program Shift), Aperture Priority, Shutter Priority, and Manual exposure modes.
- ◆ Shutter speeds from 1/4,000 to 60 seconds are available, and a Bulb setting for exposures as long as eight minutes.

#### White Balance

A sophisticated White Balance system provides three intuitive White Balance settings to choose from: Auto, Preset and One-Touch Manual with fine tuned bracketing and adjustments for perfect color.

- ◆ Auto mode steplessly chooses the color temperature from 3000K to 7500K
- ◆ In Preset Manual White Balance mode, outstanding color reproduction is achieved via 12 different choices of temperature control ranging from 3000K 7500K in approx. 300° Kelvin increments.
- ♦ One-Touch Manual offers control from 2000K 10,000K, steplessley through the entire range, as well as three memory settings you can use to hold custom White Balance One-Touch settings for different shooting scenes.
- ◆ The Color Temperature Compensation feature can also be utilized in these settings for even finer color representation. Adjustment of up to 20° Kelvin in 20° Kelvin increments can be made in the compensation mode.
- ♦ White Balance Bracketing is also available, allowing for three frames to be created from one, each at a different color temperature setting.

#### Lighting

Whatever your lighting needs may be - studio strobe, portable flashes, constant light sources - the E-1 supports them. For the studio, the E-1 features a built-in synch socket to connect to studio strobes, infrared or radio slaves. Each is easily connected via an ISO standard PC synch cord. For portability, you can connect a number of external flashes by way of the built-in TTL hot shoe, including the FL-50, FL-40 and FL-20 Flashes from Olympus. And when desired, constant light sources can be used to meet your perfectly illuminate your subject. No matter what your lighting needs may be, the E-1 is sure to provide the professional-level lighting that can turn an ordinary image into a legendary one.



#### Color Management

As digital photography has evolved, so have the shooting demands on professional photographers. Color adjustments need to be made depending on whether one is shooting for pre-press, print or for the web. The E-1's flexible color management system provides just the tools necessary to make them accurately and easily.

- ◆ Select your choice of image capture using sRGB or Adobe RGB color spaces. sRGB is the standard for computer monitors, inkjet printers, scanners, and the web and is used in most digital cameras today. Adobe RGB offers the color space which is suitable to prepress and printing on CMYK printers. The choice allows you to quickly optimize the color performance of the camera depending on the medium you're shooting for.
- ◆ Unparalleled color control is also provided with versatile Color Adjustment modes. Five saturation adjustment modes range from Color Accurate CS 0 to Saturated Showy Colors CS 4 so the user can choose the color saturation best for their shooting style, or an individual image. And four memory color adjustment modes —Apple Red, Spring Green, Blue Sky and Soft Red (for Euro Asian skin tones)—let you emphasize specific colors without sacrificing the quality of other existing colors. So no matter what subject you shoot, you'll have the freedom to color your world as you see fit.



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#### High Performance Shooting

- ◆ The E-1 delivers film-like experience with fast shooting and operating speeds, dramatically reducing the lag time associated with digital cameras. It dramatically shortens the time it takes to capture an image and transfer data to the memory card, while coreless motors in the Digital Specific Lenses achieve focus speeds comparable to or better than the best film SLR lenses.
- ◆ Progressive FT-CCD with separate camera control SDRAM and large 128MB buffer, coupled with the E-1's Three-ASIC Digital Processor engine overcomes many of the bottlenecks in image processing and camera operations. This allows the E-1 to capture images at 3 frames per seconds (fps) for a burst of 12 frames in any mode—TIFF, JPEG, RAW, or JPEG + RAW.
- ◆ Optional capture software delivers another boost in shooting speed, allowing direct capture of data to a computer.

#### Additional Features

- ◆ The E-1 features both USB 2.0 and IEEE-1394 FireWire connectivity, to offer professionals the quickest and easiest way to transfer images to a computer with no hassles (includes cables for both).
- ♦ The E-1 stores images on CompactFlash Type I /II memory cards, and is also compatible with the IBM MicroDrive.
- ♦ Video output is NTSC/PAL selectable
- ◆ Powered with a single BLM-1 lithium-ion battery (includes charger). Can also be used with optional AC adapter.
- ◆ A Sleep option in the settings menu helps the camera save power, by shutting itself down after either one, three, five, or 30 minutes of inactivity.
- ◆ Optional vertical hand grip contains a larger battery compartment, as well as a secondary set of controls for the shutter, AE Lock, focus area, and Command dial, useful when the camera is held in the 'portrait' (vertical) orientation.
- ♦ 12 or two-second Self-Timer mode.
- ◆ Remote Control mode for use with the optional RM-CB1 Wired Remote or the RM-1 Wireless Remote controls.

#### Zuiko Digital Specific Lenses

Zuiko Digital Specific Lenses are are perfectly matched with the 4/3-type image sensor to deliver light more directly to each of the imager's pixels. By filling each pixel more precisely, the result is clear, accurate color, sharp contrast and bright images even at the edges. Further image clarity and precise color reproduction is achieved via high-resolution aspherical and ED glass elements, which help to distribute light evenly across the entire image area for edge-to-edge focus. Among the many benefits of these lenses is speed - many offer apertures of a stop or more faster - a big benefit in low light and action photography.



Each Zuiko Digital Specific Lens also contains its own CPU to further solidify a richly colored, clear image. These "smart" lenses transfer data specific to the lens being used to the system's software to correct potential distortions and aberrations that occur in all lenses. Pin cushioning, barrel distortion, shading and other unwelcome phenomena can be eliminated with the single touch of a button in software.

#### **High-Resolution Aspherical and ED Glass Elements**

Optimized for digital photography, aspherical and ED glass elements ensure even more beautifully refined clarity and color. Fast apertures along with the compact size and light weight of the lenses, provide the flexibility needed to achieve impressive results anywhere.

- ◆ Spherical lenses often cause the periphery of an image to seem out of focus or distorted. The point of focus is clear, but as that point spreads to the edges it loses both clarity and detail. The incident is even more obvious when using wide and ultra-wide angle lenses.
- ◆ To make sure the entire image remains in focus from edge-to-edge regardless of the desired lens, the Zuiko Digital lenses contain aspherical lens elements. These digital specific elements provide the ideal single point of focus so the integrity of your artistic talent is never compromised.
- ◆ Many of the Zuiko Digital Lenses use ED glass lens elements so you get crisp, clearly focused images without color fringing. Normal glass lens elements, like a prism, can produce a rainbow of color as light passes through it.
- ◆ As light waves pass through the optics, the ED glass elements minimize the amount of refraction or rainbow effect of the light that normally occurs to form an image. By providing a straighter path for the light to travel, you get results that are amazingly sharp and absent of any color smearing or chromatic aberrations.

#### Olympus Viewer Software

Bundled with the E-1, the Olympus Viewer software lets you download, view, rate, organize and print your images. The easy-to-use graphical interface and array of features ensure an efficient workflow.

Highlights include a virtual light box. This tool works almost exactly the same as a light box for checking film. Images can be checked and selected on the PC so you can easily put together groups of images.

checked and selected on the PC so you can easily put together groups of images for further processing. Allowing you to quickly identify the handful of images you want from hundreds of pictures, saves precious time





### **E-1**

#### Professional Fit

- ◆ The E-1 is an SLR body you'll feel was made just for you. It is a complete digital camera system you can comfortably use and carry for any photographic situation. However, before the E-1 was even on the drawing board, one of the first questions was— "What size would be the right size?"
- Right to support a wide array of compatible, interchangeable lenses and accessories. Right to conveniently carry in the studio or on location.
- Right to provide the comfortable feeling of an SLR you're already used to, yet still let you recognize it's unique in its own appealing way.
- ◆ So Olympus asked the pros, and based on the expertise of professionals around the world, the E-1 was built to fit your needs like no digital SLR before it.
- Light for impressive portability
- Ergonomically shaped for remarkable comfort.
- Appropriately placed buttons and controls for immediate access.
- Weighing a mere 23.5 oz. for dramatically improved handling wherever your next assignment may take you.
- With compact, lighter lenses due to the design based on a 4/3-type image sensor that's perfectly matched to the lenses themselves.
- ◆ Every aspect of the E-System was designed with the professional in mind. That's why their comprehensive line of interchangeable lenses is more reliable and portable than any Olympus has ever developed.
- ◆ By utilizing the Four Thirds System matching the lenses to a 4/3-type image sensor Olymus built more compact lenses that are just as powerful as many twice their size (i.e., a 300mm Zuiko Digital lens is equivalent in focal length to a 600mm SLR 35mm film lens). This means less for you to carry, greater ease of use, and the same superb image quality results you expect from Olympus.

#### Camera Body

When Olympus said the E-1 was "the first 100% all-digital SLR system built from the ground up," they meant it. Along with unrivalled digital technologies, the E-1 features an unparalleled design built to professional standards and specifically for digital photography, manufactured not to simply withstand the rigors of every day use with style and sophistication, but to conquer them as such for years to come.

- ◆ The body is made of magnesium alloy metal, making the E-1 an extremely durable digital SLR that was born for day-in and day-out use, and one so comfortable and lightweight you'll want to take it on every photographic journey you embark on.
- ◆ The alluring black finish and ergonomic shape gives the E-1 the look and feel that's so important to a quality camera you can trust with your most intimate creative expressions.
- ♦ The lens mount, shutter mechanism, buttons, dials, electronics and shutter release buttons are designed to meet the needs of the working professional with durability equaling that of any other professional SLR, film or digital. And making sure no stone unturned, all-weather construction protects your E-1 from the elements, ensuring it will continue to deliver outstanding image results time and time again.
- ◆ The E-1 is tough, durable and ready to meet the needs of the most demanding pro. Every aspect of its design has been tested under the most rigorous of circumstances, responding with the same exceptional durability you'll experience when using it.
- ◆ All of these thoroughly-tested, reliably-built components add up to a digital SLR that's as durable and dependable as any the professional arena has ever seen.



And since great photographic opportunities don't wait for nice weather, neither should you.

No matter the assignment, the camera body's splash-proof design features gaskets and rubber linings on the connector and switch panels, exterior seams, battery doors and grip planes to seal out dust and water so you can devote all your attention to the photographic task at hand, and nothing else. So go ahead and shoot under even the most uncooperative outdoor conditions and still produce your best photographs - rain or shine.



E-1 outfit includes the E-1 body, BLM-1 battery, BCM-1 charger, USB cable, IEEE 1394 cable, video cable, shoulder strap, Olympus Viewer Software, Adobe Photoshop Elements





### **E-1 SPECIFICATIONS**

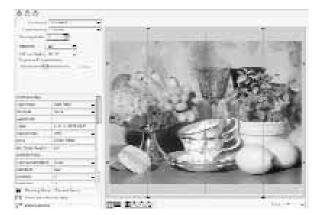
Type	Interchangeable Digital SLR Camera	
Media	Compact Flash Card (Type l, ll), Micro Drive	
Lens Mount	Four Thirds Mount	
Compatible Lens	ZUIKO DIGITAL, Four Thirds System Lens	
Effective Pixels	5 million pixels	
Image Sensor		
Type	Full Frame CCD	
Effective Pixels	Approx. 5.1 million pixels	
Viewfinder		
Type	Eye level single lens reflex viewfinder	
Viewfield Coverage	Approx.100%	
Diopter Adjustment	Built-in type -3.0 to +1.0 diopter	
Eye Piece Shutter	Built-in type	
Playback Monitor		
Type	1.8" TFT Color LCD	
Pixel Number	134.000 pixels	
Viewfield Coverage	Approx. 100%	
Auto Focus		
Type	TTL Phase Difference Detection System	
Focus Mode	Single AF / Continuous AF / Manual Focus	
Detection Range	EV 0 to 19 (ISO 100)	
Exposure Control		
Light Metering Mode	Exposure measurement at open aperture Digital ESP/Center-Weighted Average/Spot (2%)	
Exposure Mode	Program with Program Shift / Shutter Priority / Aperture Priority / Manual	
<b>Exposure Bracketing</b>	3 or 5 Frames in +/- 1, 1/2, or 1/3 EV step	

White Balance System		
Hybrid Detection System with a Dedicated external Sensor and CCD Imager		
12 Types (3000K - 7500K)		
3 Frames with +/- 5/10/15 mired steps		
Flash Control		
TTL Auto FP / TTL Auto for dedicated flash		
up to ±2 EV in each 1, 1/2, or 1/3 EV step for Exclusive Flash		
Recording System		
RAW (12-bit), TIFF Ver. 6.0 (Exif 2.2), JPEG (SHQ, HQ, SQ)		
Yes		
Drive System		
Single / Sequential Shooting		
3.0 fps.		
12 Frames (TIFF, JPEG, RAW, RAW+JPEG)		
Power Supply		
Rechargeable Li-ion battery pack BLM-1/BLL (Optional: Power Battery Holder SHLD-2)		
AC-1 100V-240V, 50-60Hz; DC 9V		
Size / Weight		
5.6 x 4.1 x 3.2"		

### **Optional Studio Software**

With the optional Olympus Studio Software, you can perform direct to computer shooting—bypassing the CompactFlash card, or shoot from remote locations with the computer controlling all camera functions including shooting). The software also allows you to quickly and easily process images shot with an E-1. The built-in RAW data photofinishing engine greatly reduces the time needed to develop RAW data.

- ◆ Provides features to help you pick the best shot out of a large volume of images, offering powerful support for the workflow of the professional photographer.
- ◆ Camera-control feature is provided for sending images directly from the camera to your PC, without passing through any other media. This lets you display photos shot in the studio or other location on your PC screen immediately, for checking and storage to your hard disk.
- ◆ Connect your E-1 to your computer directly via a cable to control the camera and shoot photos from your computer, or shoot photos on the camera and send them directly to the computer.
- ◆ In Browse mode, view a list of thumbnails of the image files stored on your hard disk. Display photo data histograms and other data, add classification marks to each of your images, and make first-pass selections.
- ◆ Zoom in on the same point in multiple images simultaneously to compare/select images. Use browse-mode classification marks to narrow down 100s of images into a few dozen, then to just a few in a fraction of the time it normally takes.
- ◆ Edit mode provides tone curve, Gamma correction, and many other popular editing functions. Also lets you develop RAW data in much less time than with conventional applications.





### E-1 - ZUIKO DIGITAL SPECIFIC LENSES

Digital photography demands more than the traditional optical designs of film lenses. Photographers want to be able to shoot not only stopped down but with the aperture wide open and know they will get sharp, detailed edge-to-edge sharpness. The E-1 System is designed to meet the everyday needs of professional photographers. With digital specific lens designs and unrivaled optical elements, unsurpassed image quality is achievable in an interchangeable lens SLR system, no matter what aperture you choose. And an incredibly compact, lightweight design - based on the innovative Four Thirds System - provides you with the most versatile, high-performance interchangeable lens system you've ever experienced.



#### 50mm f2.0 Macro

This compact and affordable medium telephoto lens is ideal for not only macro photography but also as a portrait lens. The high performance digital specific design includes an ED glass element for impressive color accuracy and offers a magnification of 1:2 (half life size), which has an image magnification size equivalent to life size (1:1) in a 35mm film photo. A large 2.0 maximum aperture makes it excellent for lower-light photography as well. To allow a greater range of magnification for close-up photographs, the lens can also be coupled with the optional 25mm EX-25 Macro Extension Tube. Includes a lens case and the LH-55 lens hood.

#### 300mm f2.8

The incredible 300mm f/2.8 super telephoto lens combines the world's most precise optics with an impressive compact size and weight for the ultimate in performance and portability. This lens uses a precision aluminum alloy lens barrel and is half the size of its 600mm 35mm equivalent so it's easy to carry. With 3 ED glass elements for unsurpassed image color and clarity, it is ideal for shooting sports, wildlife and fashion. And fast f2.8 aperture lets you shoot in low light. Focus response is quick and precise and can be limited to close or far ranges as well as the full lens range. Includes lens case, removable tripod mount, lens hood and four internal filters (Clear, ND2, ND4, and Greylar Polarizon). Can also be compled with the optional EV 25 Macro Extension T



and Circular Polarizer). Can also be coupled with the optional EX-25 Macro Extension Tube for greater magnification of close-ups.



#### 14-54mm f2.8-3.5

The 14-54mm is a portable, high-quality wide-angle zoom that provides edge-to-edge sharpness and superb color reproduction. Features 15 elements in 11 groups, including three aspherical glass elements to minimize aberration and ensure sharp and accurate edge-to-edge detail. The fast f2.8/3.5 aperture makes it ideal for low-light situations while rendering a bright viewfinder image in the camera for easy focus and composition. Provides the power of a 28-108mm lens in 35mm photography. Includes a soft lens case and LH-70 lens hood. Note: Coming shortly will be a very useful 11~22mm f2.8 - 3.5 (equivalent to a 21~44mm in 35mm).

#### 50-200mm f2.8-3.5

A high-performance, digital telephoto zoom lens that's also one of the lightest and most compact in its class. Providing the impressive power of a 100-400mm zoom in 35mm, the Zuiko Digital 50-200mm zoom includes 3 ED glass lens elements to correct chromatic aberrations and fringing and features a maximum aperture of f3.5. Like all Zuiko Digital Lenses, the barrel and all connections are designed using all-metal components and rubber seals make it highly resistant to dust and moisture. The lens comes with a case, lens hood and removable tripod adaptor.





#### 1.4x Teleconverter

When you need more telephoto in a smaller package, the EC14 1.4x Teleconverter is an ideal choice. With only 1 stop of light loss the EC14 still provides a fast super telephoto for sports and nature photography. Turn the Zuiko Digital 300mm f2.8 into a 420mm f4.0 (or 35mm equivalent 840mm f4.0). Also compatible with the 50-200mm f2.8/3.5. Fully multi-coated to retain the high performance you expect.











### **E-1 ACCESSORIES**

#### **HLD-2 Battery Power Grip**

Experience all the performance that the E-1 has at full capacity. The high-powered external battery power grip conveniently and easily attaches to the base of the camera while supplying an extensive power supply so you can shoot a day-long assignment without hesitation.



More than just extra power, the HLD-2 also improves the focus tracking speeds in Continuous AF, allowing you to track faster moving objects. When attached, the HLD-2 also includes a space to store the E-1's body battery cover door so it is not lost or a hindrance to carry.

#### **BLL-1 Battery Pack**

 $\label{thm:capacity 3400mAh rechargeable lithium-ion battery for use with the HLD-2$ 

#### **BLC-1 Battery-Charger**

Dedicated lithium-ion battery charger, recharges the BLL-1 in approx. two hours.

#### **GS-2 Grip Strap**

Designed for use with the E-1 when the HLD-2 battery power grip is attached.

#### FL-20 Flash



Lightweight. Pocketable.
Perfect for simple and direct flash needs. The FL-20 Flash has a maximum guide number of 65 feet/20 meters at ISO 100 and features manual, auto and auto TTL control for increased creative flexibility. Fits perfectly in a shirt

pocket or camera bag pocket for quick and easy flash when and where it's needed.

#### FL-50 Flash

Built specifically for the E--1, the FL-50 Flash offers all the features a professional wants to produce professional-caliber results.

- Standard bounce and swivel capability, power zoom and a full range of TTL Automatic, Automatic and Manual flash modes,
- ◆ Super FP Mode allows for flash sync at speeds up to 1/4000th second so fill-flash can be used in the brightest of situations. This is achieved by the flash's ability to fire before the shutter opens and stay illuminated until after the shutter closes.
- ♦ Designed specifically for digital photography, the FL-50 flash also has more even illumination with less corner fall-off than traditional film flashes. The Guide Number is 164 feet/50 meters at ISO 100.
- ◆ The FL-50 can be powered by multiple power sources, including standard AA-type Alkaline, NiCad, Ni-MH, Lithium batteries, LB-01 (CR-3V) batteries or be used in conjunction with the separate HV-1 High Voltage Power Pack or FP-1 Power Flash Grip for additional power and speed capabilities.

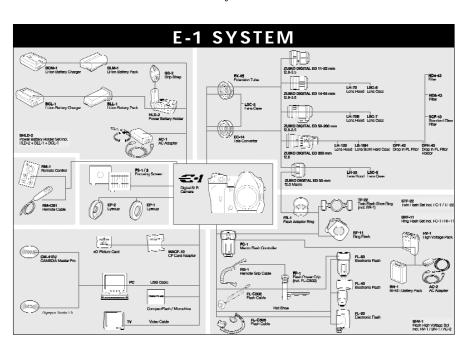
#### FP-1 Power Flash Grip

A flash power grip designed for use with the HV-1 High Voltage Power Pack. Can be used in combination with the flash unit's built-in power supply to provide fast flash charging for an extended number of shots. Head is rotatable 180° for added versatility.

#### **RG-1 Remote Grip Cable**

A cable for connecting the E-1 digital SLR and the FP-1 flash power grip. It allows the shutter button on the FP-1 to be used as a shutter release.



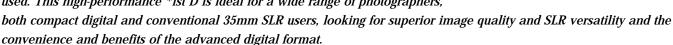




### \*IST D

### 6.1-Megapixel Interchangeable Lens Digital SLR

Housed in one of the world's smallest, lightest SLR camera bodies, the \*ist D (pronounced ist-dee) digital camera comes equipped with an array of advanced functions and user-friendly features, including an APS-sized 6.1-megapixel CCD, a responsive SAFOX VIII autofocus system with 11-point AF sensor, a sophisticated 16-segment multipattern metering system, a bright viewfinder with a newly developed compact glass pentaprism, an innovative "Hyper" operating system and 22 user-adjustable custom functions. The \*ist D is also compatible with many existing Pentax 35mm-format interchangeable lenses and accessories. Other features include a user-friendly direct-access operation system so you can adjust many digital camera functions, such as white balance control, with push button ease to eliminate the trouble of recalling the menu settings each time the camera is used. This high-performance \*ist D is ideal for a wide range of photographers,



#### **FEATURES**

#### Megapixel Quality

- ♦ Incorporating an APS-sized CCD (23.5mm by 15.7mm) and driven by high-performance data processing circuitry, the \*ist D offers impressive 6.1 effective megapixels to capture super-clear, high-resolution digital images and accurately reproduce subtle hues and fine details.
- ◆ Performance is taken further with the an image processing circuit specifically designed to enhance overall quality and bring about an increase in response time.
- ◆ With a 3:2 aspect ratio, the \*ist D lets you compose in the same manner as a conventional 35mm SLR. It's also capable of the same depth of field too, and achieves superb high-level gradation that can even be used for pleasing out-of-focus effects.
- ◆ In digital photography, long exposures can suffer from interference, which appear as small scratches on the shot. The ist D features a noise reduction function that minimizes interference and maintains high-level clarity — even when shooting sunsets and nighttime scenes.

#### Eye-Level Viewfinder

- ◆ Designed to complement the highperformance CCD, the \*ist D viewfinder offers a super-clear, high-precision view of the subject at a magnification of 0.95x, improving focusing accuracy in manual focus operations and assuring precise framing. It also displays a wide range of information regarding operational status at the shooting position. Has a built-in -2.5m to 1.5m diopter adjustment.
- ♦ With SAFOX VIII phase-matching autofocus system, the camera's 11-point AF sensor covers a wide area of both horizontal and vertical image fields with exceptional speed and precision even under poor lighting conditions.
- ♦ In addition to the versatile 'Auto' mode and the pinpoint 'SPOT' mode, the \*ist D offers an innovative "SELECT" mode, which allows the photographer to select one of the 11 AF sensor points using the four-way controller on the back panel. The selected sensor point is superimposed in the viewfinder with a red LED indicator.

#### sRGB and Adobe RGB

♦ Because different devices reproduce different ranges of colors, the ist D offers a choice of two color formats. The sRGB format is similar to the Windows CRT color spectrum. Selection of AdobeRGB, however, gives you access to a significantly broader spectrum of color, which is ideal when you're working with the popular Adobe PhotoShop software, etc.

#### **Metering Systems**

◆ The \*ist D's sophisticated 16-segment multi-pattern metering system lets you tackle even the most challenging lighting situations, such as backlit situations or scenes with lots of both light and shadow. It operates by dividing the frame into 16 parts and compiling the lighting data for each to determine one optimal exposure value. The \*ist D also lets you capture all elements in a balanced manner or add more impact to your main subject with a choice of center-weighted or spot metering, the latter which assesses lighting for only the central 1% of the shooting area.



### \*IST D

#### **High Performance**

- ◆ Gives you the ability to alter sharpness, contrast, and color intensity, with three steps for each. Such detailed control is often the difference between an acceptable shot and a truly stunning one.
- ♦ Offers shutter speeds from 30 seconds to 1/4000 of a second. These can be selected manually in 1/2 or 1/3 EV increments while relying on the electronically controlled vertical-run focal plane shutter to operate with extreme precision.
- ◆ Ready to shoot just 1.3 seconds after the power is switched on, the \*ist D is fast enough for you to capture even the most fleeting of opportunities. Furthermore, it's high-speed processing circuitry lets you capture up to six images at 2.6 frames per second, making it possible to capture the flow of the subject's motion.
- Multiple exposure mode allows you to combine various shots in one for interesting and surreal results.
- ◆ The \*ist D offers a top shutter speed of 1/4000 second to freeze the decisive moment of the subject's action or motion. It also offers a high flash synchronization speed of 1/150
- ◆ Auto bracketing function enables the capture of three different exposures of the same subject proper, under- and over-exposure with a single shutter release. Choose from three orders (proper/under/over, under/proper/over, and over/proper/under) and six exposure ranges (±0.3EV, ±0.7EV and ±1.0EV in 1/3EV increments; ±0.5EV, ±1.0EV and ±1.5EV in 1/2EV increments).
- ◆ A handy electronic preview lever allows you to check the depth of focus prior to shooting. It's also located conveniently close to the shutter, which makes it easy to take a shot virtually as soon as you achieve a composition you like.
- ◆ Offers a choice of recording qualities and sizes. In addition to three different JPEG modes, it offers the choice of noncompression TIFF format all of which are available in small, medium, and large sizes. There's also the option of RAW format, which retains all of the information gathered by the CCD.

#### 'Hyper Program and Manual Modes

The \*ist D features a sophisticated exposure system with six distinctive exposure modes. In addition to Program mode, Aperture and Shutter-Priority AE and Bulb modes, it also comes equipped with the innovative "Hyper" exposure modes.

- ◆ Though Program auto exposure offers exceptional convenience, there are times when it's beneficial to take a little more control over aperture and shutter speed. On such occasions, Hyper program mode is ideal. It allows you to begin with program auto exposure, then adjust shutter speed on the Tv dial located on the front, while the appropriate aperture is selected automatically. Conversely, should you wish to take more control over depth of field, the aperture settings can be easily selected via the Av dial on the back, while the ist D selects the corresponding shutter speed. Unlike an entire program shift, the overall exposure value remains constant despite all changes in aperture or shutter settings. What's more, the original auto exposure settings can be easily returned to with just a touch of the Green button.
- ◆ With the ist D, manual exposure simply couldn't be more user friendly. With just a press of the Green button, Hyper Manual mode assesses the optimal settings for your subject, while exposure can be increased or decreased through use of the Tv and Av dials. Alternatively, use of the AE lock button allows an exact exposure to be maintained while you adjust aperture and shutter speed settings as you please. Additionally, aside the usual benefits of conventional Aperture-priority AE, Shutter-priority AE, and Bulb mode settings, the ist D features the advantage of Green mode, which offers you the original auto exposure settings once again.

#### **LCD Monitor**

◆ Located on the back panel, the 1.8″ 118,000-pixel LCD monitor allows the instant viewing of a just captured image and the playback of recorded images with exceptional clarity and high precision. Positioned at the upper right corner of the top panel, the status LCD monitor provides a host of information on the camera's operational status at a glance.



- ◆ Using the large image LCD monitor, the \*ist D features four convenient playback modes:
- The single-frame mode displays capture images one by one and allows you to magnify a selected image up to 12x
- The multi-frame mode lets you view nine recorded images simultaneously
- The quick view mode shows a just captured image for one, three or five seconds
- The slide show mode automatically displays captured images one after another at an interval of three, five, 10, 15, 20 or 30 seconds.
- ◆ Histogram display of color saturation on the LCD monitor lets you evaluate each shot with greater accuracy. It can also be used during playback. Exposure levels are displayed in graph form on the LCD image monitor during both shooting and playback, allowing the photographer to check the images with greater accuracy.



### \*IST D

#### **Conveniences**

- ◆ Accepts CompactFlash Type I/II cards as well as large-capacity Microdrives (up to 8MB) for high storage volume and fast access speed.
- ◆ The \*ist D features 22 user-adjustable custom functions, allowing to tailor the operation of various functions from the program line to the steps involved in exposure selection for more natural shooting. The user-selected function is clearly displayed on the LCD image monitor for at-a-glance confirmation.
- ◆ As exposure compensation is often the key to achieving an outstanding shot, the \*ist D has exposure compensation, AE lock buttons, and the Tv dial in exceptionally convenient locations. What's more, the display of compensation and AE lock information is made more convenient too with easy-to-see display in the viewfinder.
- ◆ To enable display on a grander scale, the \* ist D can be connected to a TV via the supplied video cable.
- ◆ Printing is also made easy. It offers the benefits of DPOF, ExifPrint, and PRINT Image Matching II compatibility to ensure the faithful representation of image data in the resultant prints.
- ◆ The \*ist D can operate from three different power sources for maximum user convenience. In addition to the two accompanying CR-V3 batteries and the optional AC adapter, the \*ist D can be powered by four AA-sized batteries (lithium, alkaline, and NiMH), which are commonly available around the world. The optional battery grip can also be combined with the batteries to accommodate extended photo sessions.
- ◆ One of the world's smallest, lightest bodies, the \*ist D measure 5.1" x 3.7" x 2.4" (W xH x D) and weighs a mere 19.4 ounces without batteries. With the Pentax industry-leading 3D CAD design technology and a newly developed super-compact glass pentaprism, the \*ist D offers outstanding portability and maneuverability in a wide variety of photographic applications. A stainless-steel chassis offers exceptional rigidity, especially against torsion, to protect the interior mechanisms from shock.

#### Auto, Preset and Manual White Balance Settings

A key advantage of digital photography is the ability to alter the white balance setting for each and every shot to achieve the most faithful color reproduction possible. The \*ist D offers a choice of three white balance modes: "Auto," "Preset" and "Manual." The preset mode allows instant selection of one of eight different settings, while manual mode recalls one of three settings preset by the user with pushbutton ease. For the utmost in operational ease, all settings can be done on the dial without having to use the LCD screen.

#### **High Sensitivity**

With a pleasing range of sensitivity values, the \*ist D lets you shoot without having to worry about the light intensity. With a value equivalent to ISO200 at one end of the scale, the camera lets you capture crisp images when shooting in strong sunlight. And with a value equivalent to ISO 1600 at the other end of the scale that can be extended to ISO3200 equivalent through use of the Custom Function, it allows you to continue taking natural shots in relatively dark conditions, without having to intrude on the mood with a flash.

#### Built-in/External Flash Functionality

A built-in flash broadens the scope of shooting. When set in a pop-up position, the flash automatically discharges in the dark and against backlight to provide supplemental illumination on the subject. Featuring P-TTL functionality, it pre-discharges for greater precision and also offers a separate pre-discharge for "red-eye" reduction. The flash can be activated or turned off manually to create specific visual effects or to comply with flash restrictions.

There's also a range of features that become available when the flash is used in combination with the AF360FGZ external auto flash unit, including quantitative control in relation to built-in flash discharge, wireless operation, trailing shutter sync, and high-speed sync.

#### Interchangeable Lenses

Featuring Pentax's K lens mount used in conventional 35mm-format SLR cameras, the \*ist D can accept a large number of existing 35mm-format interchangeable zoom and special-application lenses and accessories to help accommodate diversified photographic requirements and maximize creativity and image quality.

#### FA J Zoom 18mm~35mm F4~F5.6 AL Zoom

Featuring an ultra-wide 100° angle of view at the 18mm focal length, this compact interchangeable zoom lens produces high-quality images with minimal aberration, thanks to the incorporation of an aspherical lens element.

Featuring a simple, functional design without an aperture ring, this compact, high-performance zoom lens measures only 2.8″ in diameter, 2.7″ in length and weighs only 6.7 ounces. It also features an angle-of-view coveragebetween 63 and 100° and a minimum focusing distance of 0.92 feet for a maximum magnification of 0.18x. It comes equipped with a lens hood to cut off excessive light and minimize flare and ghost images.

When mounted on the \*ist D the lens offers a focal length equivalent to 27.5mm~53.5mm in the 35mm format to cover wide-angle to standard ranges.





### \*ist D

#### **Bundled Software**

- ◆ The \*ist D easily connects to a PC via the included USB cable and Pentax Photo Browser software. Used together, these allow the simple transfer, viewing, and formatting of files and provide access to a whole range of additional functions.
- ♦ In addition, the Pentax Photo
  Laboratory software makes RAW data
  particularly easy to process. Not only
  does it give you the freedom to specify
  image format. It also gives you the
  power to fine tune white balance, color
  tone, contrast, color saturation, sharpness, and color dispersal.

#### Optional Accessories

- ◆ Powered by four AA-sized batteries, the optional D-BG1 battery grip prolongs the \*ist D's operation time. It can be mounted onto the bottom of the \*ist D without removing the battery stored inside the camera, so the battery life is extended considerably. It also comes equipped with a vertical-position shutter release button, a preview lever, Tv/Av dials and an AE lock button.
- ◆ The optional O-CC10 camera case stores an \*ist D camera body set with a standard zoom lens and features an inside pocket to hold a lens cap and the optional remote controller.
- Using the optional remote controller, the photographer can release the shutter from a distance with a three-second delay or instantly.

#### In the Box

- ◆ Two CR-V3 lithium batteries
- ◆ Software (CD-ROM)
- **♦ Video Cable**
- **♦** Strap
- ♦ USB cable



### \*ist D Specifications:

#### Type:

Single-lens-reflex-type digital still camera with TTL auto exposure, autofocus and built-in TTL auto flash.

#### **Effective Pixels:**

6.1 megapixels

#### Sensor:

Interline interlace CCD; Size: 23.5mm x 15.7mm (diagonal line: 28.40mm); Total pixels: 6.31 megapixels (Recorded pixels: 3008 x 2008)

#### Sensitivity:

Equivalent to ISO 200 to ISO 1600 (3200 available as Custom Function)

#### File Formats:

Exif 2.2, DCF, DPOF

#### Storage Media:

Type I and Type II CompactFlash cards; MicroDrive

#### White Balance:

Auto: TTL control using image sensor; Preset: Daylight, Cloudiness, Shade, Tungsten light and Fluorescent light (W, N, D); Manual: 3 settings

#### LCD Monitor:

1.8" TFT LCD with backlight

#### Lens Mount:

PENTAX KAF mount compatible with PENTAX KAF2-, KAF- and KA-mount lenses. Power zoom function not available. K-mount lenses usable with restrictions. S-mount lenses usable with adapter and restrictions. 67/645 lenses usable adapter and restrictions

#### **Exposure Modes:**

Auto exposure with Hyper Program, Programmed AE, Shutter-Priority AE, Aperture-Priority AE, Metered Manual, bulb

#### Shutter

Electronically controlled vertical-run focal-plane shutter with electronic release; Auto shutter speeds: 1/4000 sec. to 30 sec.; Manual shutter speeds: 1/4000 sec. to 30 sec. (0.5EV steps) and bulb; Shutter lock at power-off position

#### Viewfinder:

Eye-level-type fixed pentaprism viewfinder with Natural-Bright-Matte focusing screen. Field of view: 95%. Magnification: 0.95X (with 50mm F1.4 lens at infinity, -1m-1). Diopter adjustment: -1.0m-1 to +2.0m-1.

#### **Exposure Meter:**

TTL open-aperture 16-segment metering; Spot metering and center-weighted metering selectable; Metering range (at ISO200 with 50mm F1.4 lens): EV0 to EV21 (EV1 to EV21.5 with multi-segment metering).

#### **Exposure Compensation:**

±3.0EV (in 0.5EV steps)

#### Auto Bracketing:

3 frames (proper/over/under) within range of ±3.0EV (0.5EV steps) or ±2.0EV (0.3EV steps). Simultaneous use with exposure compensation possible.

#### Drive Modes:

Single-frame advance, continuous advance (2.6 fps) up to 6 frames (at noise reduction off)

#### Built-in Flash (RTF):

Guide number: 15.6 (at ISO200/m), Guide number: 11 (at ISO100/m). Angle of view coverage: 18mm. Synchronization speed: 1/150 sec. Flash-off, flash-on and red-eye reduction functions available.

#### Synchronization:

Via hot shoe; Sensitivity range: ISO200 to ISO1600; Flash synchronization: up to 1/150 sec.; High-speed synchronization, wireless remote-control synchronization and P-TTL synchronization functions available with dedicated flash unit.

#### **Power Source:**

4 AA-sized batteries (lithium, alkaline, nickel-hydrogen or nickel) or 2 CR-V3 batteries. Optional AC adapter available.

#### Dimensions:

5.1 x 3.7 x 2.4 inches

#### Weight:

19.4 oz. body only (without batteries and memory card)



## **SD-9**

Digital SLR with Foveon X3 Technology

Featuring the revolutionary Foveon X3 image sensor—which can capture all RGB colors at each and every pixel—the SD-9 records sharper pictures with truer colors and fewer artifacts than CCD-equipped cameras. The Foveon X3 is the world's first image-sensor that features three layers of photo detectors. The layers are embedded in silicon to take advantage of the fact that red, green and blue light penetrate silicon to different depths allowing full-color to be measured at every pixel. The layers are positioned to take advantage of the fact that silicon absorbs different colors of light at different depths, so one layer records red, another layer records green and the other layer records blue, this means that for every pixel on a Foveon X3 image



sensor, there's actually a stack of three photo detectors, forming the first and only full-color capture system.

#### **FEATURES**

#### 3.54-Megapixel Foveon X3 Image Sensor

◆ 3.54-megapixel image sensor (3.43 million effective pixels), but each pixel has three photo-detectors to detect the three primary colors of light (red, green, blue). This enables each pixel to read all three colors instead of only one color per pixel, as in conventional image sensors.

#### Burst Mode

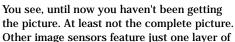
◆ The SD9 can shoot up to about 3 frames per second in bursts of up to 7 frames, at high resolution, about 14 frames at medium resolution, and about 28 frames at low resolution mode.

#### Sigma Lens Mount

◆ The SD-9 uses Sigma's SA 35mm stainless steel camera lens mount. There is a full array of lenses available, from 8mm Fisheye to 800mm APO telephoto, including three 1:1 macro lenses; and zoom lenses from 15-30mm to 50-500mm. However, because the Foveon sensor (13.8 X 20.7 mm) is smaller than the 35mm frame (24 X 36 mm), the camera produces an effective magnification of lens focal length by about 1.7 X. This means that a 300 mm lens mounted on this body will have an effective focal length of 510 mm.

#### FOVEON X3 Image Sensor

The Foveon X3 image sensor represents a true breakthrough in digital photography, bringing significant advantages over CCD and CMOS image sensors. The Foveon X3 dramatically improves photographs from digital cameras by capturing three times the color resolution of comparable image sensors found in today's digital cameras. In fact, the Foveon X3 represents the most significant breakthrough in digital camera technology since the invention of CCDs over 30 years ago.



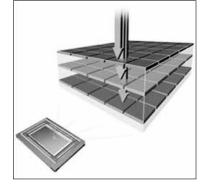


photo detectors, with just one photo detector per pixel. To capture color, pixels are organized in a grid, or mosaic, resembling a three-color checkerboard. Each pixel captures just one color-red, green or blue. Filters let only one wavelength of light (red, green or blue) pass through to any given pixel, allowing it to record only one color. As a result, mosaic sensors capture only 25% of the red and blue light, and just 50% of the green.

This approach has inherent drawbacks, no matter how many pixels a mosaic-based image sensor might contain. Since they only capture one third of the color, mosaic-based image sensors must rely on complex processing to interpolate the two-thirds they miss. Interpolation leads to color artifacts and a loss of image detail. In fact, some digital cameras intentionally blur pictures to reduce color artifacts.

But that is all about to change. Using a radically different design, Foveon X3 image sensors features three layers of photodetectors. The layers are embedded in silicon to take advantage of the fact that red, green and blue light penetrate silicon to different depths—forming the world's first full-color image sensor. This allows the SD-9 to capture red, green and blue light at each and every pixel—for dramatically increased sharpness, better color detail and greater resistance to unpredictable color artifacts.



**SD-9** 

#### **Metering Systems**

- ◆ The SD-9 has three metering systems, an eight-zone evaluative system, plus center-weighted averaging and center area (about 7.5%). Users can select any metering system while in any exposure mode.
- ◆ Like Sigma 35mm SLR cameras, the SD-9 features an electronic depth-of-field preview button, which can be used in any exposure mode.

#### **RAW Files**

- ◆ The SD-9 records RAW images in High (2268 X 1512), Medium (1512 x 1008), or Low (1134 x 756) resolution modes.
- ◆ Images recorded as RAW data achieve high picture definition and compact file size. The lossless compression system of RAW data eliminates image deterioration, producing superior pictures without sacrificing original image quality.
- ♦ RAW images can be converted into TIFF and JPEG files with the bundled "Photo Pro" image processing software. It is also possible to change the characteristics, such as white balance, brightness, contrast etc. when converted. And even if you make adjustments to the image, the quality doesn't deteriorate.

#### Sports Finder

- ◆ The SD-9 has a unique feature pertaining to its viewfinder. It allows the finder to show 130% of the picture area. This is very useful, as it enables you to see what is happening outside the picture area, allowing you to anticipate people or objects entering the picture. Especially desirable for action photography, like sports, etc. The active picture area is visible at normal brightness, while the peripheral areas are masked with neutral density, making it easy to differentiate between the two.
- ◆ The sports finder will be ready to provide a good opportunity to take a good picture anytime. When taking a picture of a fixed object or close-up photography, composition can be easily determined because the area outside of the range of the picture can be seen.

#### Optional EF-500 DG Super Electronic Flash

#### Advanced Flash Photography for Digital SLR Cameras with TTL Exposure Control

The multi-functional shoe mount-type EF-500 DG Super is designed to work with the SD-9 as well as with other Digital SLR cameras. It provides a large amount of light, featuring a guide number of 165/ft with ISO 100. Features include Autozoom function, which automatically sets the illumination angle in accordance with the focal length of the lens(from 28mm to 105mm); TTL exposure control, which automatically regulates the amount of flash light; bounce (90° upwards and 7° downward) and 180° swivel functions; FP flash which is capable of synchronizing the flash illumination with high shutter speeds; and the rear curtain synchro flash mechanism, which makes allows delayed synchro photography.

- · Wireless slave function is available
- Built-in wide angle diffuser covers angle of view down to 17mm
- "Modeling flash" mode to provide proper light distribution to check the shadow of the subject. The multi pulse flash features enable reduced power setting from 1/4 to 1/128 and the interval time of the flash can be set from 1Hz to 199Hz.
- Runs of four AA alkaline or NiMH batteries

#### 1.8" TFT Monitor

- ◆ The SD9 is equipped with a large 1.8″ 130,000 dot low temperature polysilicon TFT-LCD monitor with white LED on the back panel, which displays images, menus and histogram, The coverage area of the LCD monitor is 100% of the area seen by the image sensor, and it will have similar coverage to that seen from the viewfinder. Thanks to the LCD-monitor, the composition can be seen easily.
- ◆ By operation Of 4-Way Controller, three types of screen display can be chosen; thumbnail display (9 segments simultaneous display), Single-image display, and a Zoom-in display (the area to be enlarged can be freely chosen with the 4-Way Controller).

#### Easy To Use Interface

- Each button of the SD9 is devised and arranged to provide a functional and easy-to-use setting:
- 4-way controller on the back of the body, allows menu settings and camera settings to be selected and adjusted very quickly.
- Using the Zoom-in View mode, the details of the image can be enlarged and examined by moving the cursor and choosing the area viewed with the 4-Way Controller.
- The command dial can quickly select the resolution settings, and the ISO sensitivity setting. It is also possible to shift the exposure program in the Program AE Mode.





### SD-9, continued

#### **High Performance**

- ◆ High speed shutter from 1/6000 to 1 sec. and Bulb (up to 15 seconds).
- ◆ Exposure compensation of ±3 EV is available in 1/2 EV increments and Auto Exposure Bracketing (three consecutive shots with varying exposures) let you see the effects of varying brightness.
- ◆ Records to Type I/II CompactFlash cards Microdrives. Images may be recorded in High, Medium or Low resolution to suit individual needs. Images are recorded in RAW form and can easily be processed into the desired final file format in postprocessing on a computer.
- ◆ The SD-9 can transmit images to PC via high-speed IEEE1394 and USB interfaces
- ◆ Mirror lock-up capability minimizes image-degrading vibration, when using long lenses or longer shutter speeds. Once this function is turned on, the mirror can be locked-up by simply depressing the shutter release button fully. Pressing the button a second time fires the shutter and returns the mirror to the normal viewing position. The mirror also can be locked up, and the shutter fired remotely (with optional RS-21 remote).

#### Conveniences

- ◆ Dust and dirt entering through the lens mount of the camera can create serious defects in image quality. To prevent this, the body mount is equipped with an integral dust protector.
- NTSC/PAL video output means that image can be displayed on a TV or monitor anywhere in the world.
- Optional power pack SD has a shutter release button for vertical shooting
- ◆ Powered by four CR-V3 batteries
- ◆ Clearly marked operation panel buttons make it easy for photographers to identify and use desired functions.
- ◆ Accessing information about camera settings, CF card data and image data is simple.
- You can customize the data displayed on the info strip, using exposure warning display On/Off, quick preview duration and style setting and more.

#### **Optional Accessories**

#### **Power Pack SD Battery Grip**

This easy-to-carry battery pack with vertical grip is dedicated for SD-9 use, and can hold four CR-V3 batteries or eight AA batteries - more than enough power for most shoots.



# SIGMA PIS-21

#### **RS-21 Remote Controller**

Remote control allows the photographer to take self portrait or get into group shots. Used in conjunction with mirror-lock-up function, it can reduce the possibility of image-blurring camera shake, so it's particularly useful for macro or telephoto shooting.

#### **CR-11 Cable Release**

It can connect with release socket, on the camera body, and the shutter can be released, without touching the camera. This accessory minimizes the camera shake, which can result in blurriness, especially when using Mirror up and a super-telephoto lens.

#### **PC Synchro Terminal Adapter [ST-11]**

With the PC Synchro Terminal Adapter you can use flash units that synchronize with a PC-type sync cable. A very convenient accessory for studio photography.

SPE	CIFICATIONS:
Storage Media	CompactFlash (CF) (Type I/II), IBM Microdrive
Image Sensor Size	20.7x13.8mm
Lens Mount	SIGMA SA bayonet mount
Angle of View	1.7x (35mm equivalent)
Compatible Lenses	SIGMA SA mount Lens Group
Image Sensor	FOVEON X3 (CMOS)
Pixel Sensors	10.29 Million
Image Recording	Format Lossless compression RAW data (12-bit)
fax Continuous shooting speed 1.9 frames/second	
White balance	8 types
Metering Systems	Can be switched among 8-Segment Evaluative
	Metering, Center Area Metering, and
	Center-Weighted Average Metering
Metering Range	EV1 — 20 (50mm F1.4: ISO 100)
ISO Sensitivity	Equivalent to ISO 100, 200, 400
<b>Exposure Compensation</b>	±3EV (in 1/2 steps)
<b>External Flash Synchronization</b>	Hot shoe (contact X, synchronized at 1/180 sec
	or less, with dedicated flash linking contact)
LCD Monitor	1.8° TFT color LCD monitor
Dimensions	6 x 4.72 x 3.1" (WHD)
Weight	28.4 oz (without batteries)



### AF Lenses for Sigma, Nikon, Minolta & Canon

### AF Lenses for Canon, Minolta, Nikon, Pentax and Sigma

As the world's largest independent manufacturer of zoom and fixed focal length lenses, Sigma offers a highly innovative and creative selection of lenses ranging from 8mm to 800mm and virtually everything in between. The lenses offer a high level of performance, easy handling and advanced optical precision to create profound and emotional images.

Sigma lenses are built with corresponding mounts to make them fully compatible with the Sigma SD-9 as well as digital cameras from Canon, Minolta, Nikon and Pentax.

In addition, Sigma offers a number of lenses designed specifically for digital SLR cameras, which can also be used with 35mm SLRs. They are mostly wide-angle and wide zoom type lenses with large apertures (e.g. 20mm f/1.8, 24mm f/1.8, 28mm f/1.8, 24-70mm f/2.8, 15-30mm f/3.5-4.5), and feature superior light distribution, so that there is minimal light fall-off or vignetting, even when used at maximum aperture. These lenses are designated DG type, and are part of Sigma's EX series of



lenses. Remember that the digital imaging device is generally much smaller than a 35mm negative, so the lens will have a longer "effective" focal length. The conversion factor is generally about 1.5x, so a 14mm lens effectively becomes about 21mm when used on these digital cameras. As a result, there are few choices available for wideangle lenses, or even fast "normal" lenses, for these digital cameras. The new DG lenses help fill this void.

#### ULTRA WIDE-ANGLE LENSES

#### 8mm f4 EX Circular Fisheye

This is a circular image focus fisheye lens which captures a  $180^{\circ}$  view in all directions in a 22.08mm circle. In addition, it is useful for technical applications with solid angle measurement, such as the angle of view through the window with driver in the car or the pilot in the cockpit of an airplane. It accepts removable gelatin filters in a holder near the rear of the lens. The optical materials used in this new lens are lead and arsenic free ecological glass.

For Canon (SI84ACAF)	
For Minolta (SI84AMAF)799.00	•





#### 14mm f2.8 EX Aspherical

The world's shortest focal length non-fisheye wide-angle AF lens with a fast f2.8 maximum aperture and a close focusing distance of only 7.1". The lens also incorporates a built-in "Perfect-Hood" lens hood and a gelatin filter holder behind the rear lens element. The AF drive for Nikon and Canon feature the ultra-quiet Hyper Sonic Motor (HSM). Includes padded case.

For Canon (SI1428ACAF)799.00	For Nikon (SI1428ANAF)799.00
For Minolta (SI1428AMAF)799.00	For Sigma SA (SI1428A)799.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### WIDE-ANGLE LENSES

#### 15mm f2.8 EX Diagonal Fisheye

This is a full-frame fisheye auto focus lens that fills the entire 35mm negative with a full 180° diagonal field of view. This unique lens enables you to create a variety of unusual compositions even when shooting ordinary subjects. It accepts gelatin filters in a holder near the rear of the lens. Includes padded case and built-in "Perfect-Hood" lens hood.

For Canon (SI1528EXCAF)399.00	For Nikon (S1528EXNAF)399.00
For Minolta (SI1528EXMAF)399.00	For Sigma SA (S11528EX)399.00





#### 20mm f1.8 EX DG Aspherical RF

A 20mm super wide-angle with a large aperture of F1.8 and angle of view 94.5°. It has macro focusing with a minimum focusing distance of 7.9″ (reproduction ratio 1:4). An aspherical lens element in both the front and in the rear lens groups minimizes distortion, aspherical aberration and astigmatism. It has non-vignetting optical construction, in order to obtain adequate peripheral brightness even with open aperture which is desirable for digital cameras. The lens incorporates a rear focus system eliminating front lens rotation. Dual-focus mechanism makes it easy to hold the lens, since the focusing ring does not rotate during auto-focus, yet it provides adequate focusing torque during manual focusing. Includes "Perfect-Hood" lens hood and case. Filter Size: 82mm.

For Canon (SI2018CAF)359.00	For Nikon (SI2018NAF)359.00
For Minolta (SI2018MAF)359.00	For Sigma SA (SI2018)359.00

#### 24mm f1.8 EX DG Aspherical Macro

This fast wide angle lens incorporates non-vignetting optical construction, in order to obtain adequate peripheral brightness even at open aperture. This makes it desirable for digital cameras. The lens also has macro focusing capability down to 7.1", while the 9-bladed iris obtains beautiful out of focus images. The lens incorporates the floating focus system and uses two aspherical lens elements for minimizing distortion, spherical aberration and astigmatism. Internal focus system eliminates front lens rotation allowing the use of a "Perfect Hood" and polarizing filters. Dual-focus mechanism makes it easy to hold the lens, since focusing ring does not rotate during auto-focus, yet it provides adequate focusing torque during manual focusing. Includes reversible lens hood and padded soft case. Filter size: 77mm.



For Canon (SI2418MCAF)299.00	For Minolta (SI2418MMAF)299.00
For Nikon (SI2418MNAF)	For Sigma SA (SI2418M)299.00



#### 28mm f1.8 EX DG Aspherical Macro

Almost identical to the 24mm f/1.8, the compact 28mm f1.8 EX DG (3.1″ long) also incorporates minimum vignetting optical construction to ensure adequate peripheral brightness with open aperture, making it desirable for digital cameras. The lens focuses down to 7.9″ in macro mode, while the 9-bladed iris obtains beautiful out of focus image. It addition, the lens is equipped with two aspherical lens elements, internal focus system and dual-focus mechanism. A "perfect hood" shields the lens to prevent ghosting and internal reflection. Includes reversible lens hood and padded soft case. Filter size: 77mm.

For Canon (SI2818MCAF)229.00	For Nikon (SI2818MNAF)
For Minolta (SI2818MMAF)229.00	For Sigma SA (SI2818M)229.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### SUPER TELEPHOTO LENSES

#### 300mm f2.8 APO EX

A compact Apochromatic telephoto lens with a fast F2.8 maximum aperture, the lens incorporates two Extraordinary Low Dispersion (ELD) glass elements to reduce chromatic aberration to a minimum. It incorporates internal focusing which enables responsive and fast auto focus speed. The AF drive for Canon and Nikon feature the ultra-quiet Hyper Sonic Motor (HSM). Includes a detachable tripod socket and rotatable drop-in filter holder. Includes lens hood, padded carry case with strap, normal filter and circular polarizing filter. Filter Size: 46mm rear drop-in.

For Canon (SI30028AEXCA)2199.00	1
For Minolta (SI30028AEXMA)2199.00	1

For Nikon (SI30028AEXNA)......2199.00 For Sigma SA (SI30028AEX)......2199.00





#### 500mm f4.5 EX APO

Ultra-telephoto lens with a fast F4.5 maximum aperture, this lens incorporates two ELD glass elements to reduce chromatic aberration to a minimum. Internal focusing enables responsive and fast auto focus speed. The AF drive for Canon and Nikon features Sigma's ultra-quiet Hyper Sonic Motor (HSM). Very rugged, the lens also offers a host of conveniences including a built-in grip, rotating filter drawer,

and tripod mount. Includes a lens hood, soft padded case, normal and circular polarizer rear drop-in filters and a front cover. Filter Size: 46mm rear drop-in.

For Canon (SI50045AEXCA)3299.00	For Nikon (SI50045AEXNA)3299.00
For Minolta (SI50045AEXMA)3299.00	For Sigma SA (SI50045AEX)3299.00

#### 800mm f5.6 EX APO

This incredible ultra-telephoto lens features a fast F5.6 maximum aperture and incorporates ELD glass elements to reduce chromatic aberration to a minimum. It also incorporates internal focusing which enables responsive and fast auto focus speed. The AF drive for Canon and Nikon features the ultra-quiet Hyper Sonic Motor A rotary filter holder in the rear part of the lens barrel enables the use of a polarizing filter. Includes a lens hood, aluminum case plus 46mm normal and circular polarizer rear drop-in filters.





For Nikon (SI80056AEXNA)	5909.00
For Sigma SA (SIROOSRAFY)	5909 00



#### 1.4x and 2x EX APO Tele-Converters

Sigma's tele extender lenses can be used with fixed focal length lenses as well as most zoom lenses. Optically superb, they preserve the image quality of the lens their mounted to while multiplying their focal length by 1.4x or 2x. However, effective aperture is reduced by one f-stop and two f-stops respectively.

1.4x APO for Canon (SI1.4XCAF)	.149.00
1.4x APO for Minolta (SI1.4XMAF).	.149.00
2x APO for Canon (SI2XCAF)	.169.00
2x APO for Minolta (SI2XMAF)	.169.00

1.4x APO for Nikon (SI1.4XNAF)	149.00
1.4x APO for Sigma SA (SI1.4X)	149.00
2x APO for Nikon (SI2XNAF)	169.00
2x APO for Sigma SA (SI2X)	169.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### MACRO LENSES

#### 50mm f2.8 EX Macro

This lens incorporates a "floating" element focusing system that allows it to maintain high optical performance not only at lifesize (1:1) reproduction but also at infinity. Designed as a quick-focusing macro lens, it features a non-rotating front lens group which makes it easier to work with polarizing filters. Focus Limiter switch aids in faster AF for closer or more distant subject situations, by restricting the movement of the focusing mechanism. Includes lens hood and case. 55mm filter size.

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For Canon (SI5028EXMCAF)	239.00	For Nikon (SI5028EXMNAF)239.00
For Minolta (SI5028EXMMAF)	<b>239.00</b>	For Sigma SA (SI5028EXM)239.00





#### 105mm f2.8 EX Macro

This lens can photograph objects not only at full life-size reproduction but at infinity. It delivers superb, distortion-free images from as close as 12". A "focus-free" mechanical design allows the lens to auto focus without interference from the manual focus ring. Screw type metal sunshade also makes it easier to rotate a polarizing filter. Includes a lens hood and a soft case. Filter Size: 58mm.

For Canon (SI10528EXMCA)359.00	For Nikon (SI10528EXMNA)359.00
For Minolta (SI10528EXMMA)359.00	For Sigma SA (SI10528EXM)359.00

#### 180mm f3.5 EX APO Macro

This lens can focus from infinity to full 1:1 life-size from 18" away, making it ideal for shooting small animals or insects, etc. Apochromatic design and two SLD glass elements, plus floating inner focus system effectively control chromatic and spherical aberrations providing superb performance throughout the focusing range. Also features a focus limiter. Canon and Nikon mounts employ HSM for quiet, responsive AF function plus "full time" manual focus. Includes lens hood and case. 72mm filter size.



For Canon (SI18035ACAF)	For Nikon (SI18035ANAF)
For Minolta (SI18035AMAF)	For Sigma SA (SI18035A)699.00

Lens		Corre AF	espoi Mou		<b>3</b>	Angle of View View(Diag.)	Minimum Aperture	Min. Foc. Distance	Filter Size	Dimensions	Weight
	S	M	N	P	С				mm	inches	ounces
8mm f/4 EX Circular Fisheye	О	0	D	0	0	180°	32	20/7.9	Rear Filter	2.9 x 2.4"	11.2 oz.
14mm f/2.8 EX Aspherical	-	0	-	0	-	114.2°	22	18/7.1	Rear Filter	3.2 x 3.6"	23.3 oz.
15mm f/2.8 EX Diag. Fisheye	0	0	D	0	0	180°	22	15/5.9	Rear Filter	2.9 x 2.8"	11.7 oz.
20mm f.1.8 EX Asph.DG,DF,RF	О	D	D	0	0	94.5°	22	20/7.9	82mm	3.5 x 3.4"	18.3 oz.
24mm f/1.8 EX As. DG DF Macro	0	D	D	0	0	84.1°	22	18/7.1	77mm	3.3 x 3.1"	17.1 oz.
28mm f/1.8 EX Aspherical DG DF M	О	0	D	0	0	75.4°	22	20/7.9	77mm	3.3 x 3.1	16.9 oz.
50mm f/2.8 EX Macro	О	0	D	0	0	46.8°	32/45	4/1.6	55mm	2.8 x 2.5″	11.3 oz.
105mm f/2.8 EX Macro	0	0	D	0	0	23.3°	32/45	12/4.7	58mm	3.1 x 3.7"	15.9 oz.
180mm f/3.5 EX APO Macro IF	-	0	-	0	-	13.7°	32	23/9.05	72mm	3.1 x 7.1	33.3 oz.
300mm f/2.8 EX APO	-	0	-	0	-	8.2°	32	250/98.4	46mm (rear)	4.7 x 8.4	84.7 oz.
500mm f/4.5 EX APO	-	0	-	0	-	5°	32	400/157.5	46mm (rear)	4.8 x 13.8"	109.7 oz.
600mm f/8 Mirror	О	0	0	0	0	4.1°	8 (fixed)	200/78.7	30.5mm (rear)	3.9 x 4.8"	29.3 oz.
800mm f/5.6 EX APO	0	0	D	0	0	_	_	_	_	6.2 x 20.5″	167.2 oz.



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### ULTRA-WIDE ANGLE ZOOM LENSES

#### 12-24mm f4.5-5.6 EX DG Aspherical/HSM

The lens has a large angle of view (122° super wide angle of view at 12mm along the diagonal axis) making it ideal for shooting indoors as well as outdoor landscape photography. It has a variable angle of view from 122° to 84.1°. It is equipped with four Special Low Dispersion (SLD) glass elements for effective compensation of color aberration which is a common problem with super wide-angle lenses. Three pieces of aspherical lenses offer excellent correction for distortion as well as all types of aberration for a high level of optical performance. Inner focusing system ensures the length of the lens remains unchanged while controlling aberration.By effective arrangement of lens elements and advanced technology this lens has has super compact dimensions of 100mm full-length, and 87mm maximum diameter.



Minimum focusing distance of 28mm at all focal lengths. The lens is equipped with an integral petal-type hood to block out extraneous light.



#### 15-30mm f3.5-4.5 EX Aspherical DG DF

This rectilinear lens has a minimum focusing distance of 11.8" at all focal lengths. A hybrid aspherical lens in the front lens group minimizes distortion and astigmatism, while molded glass aspherical lens in the rear group minimizes spherical aberration. 8-blade diaphragm achieves beautiful out of focus images in the foreground and background. Dual focus mechanism and inner focusing system makes it easy to hold. Includes non-removable "Perfect-Hood" and uses rear gelatin filters. Used on most digital SLR cameras, the effective zoom will be 22.5-45mm. Includes a padded case. 82mm filter size.

For Canon (SI153035CAF)549.00	For Nikon (SI153035NAF)549.00
For Minolta (SI153035MAF)549.00	For Sigma SA (S1153035)549.00

#### 17-35mm f2.8-4 EX

This lens combines a fast f2.8-4 maximum aperture with ultra wide angle zoom lens. It incorporates aspherical lens elements in the front, as well as rear lens groups, to correct spherical aberration. Internal focusing prevents deterioration of the optical quality at close distances and eliminates rotation of the front barrel during focusing. The AF drive for Canon EOS D60 is equipped with the silent, responsive and fast HSM Hyper Sonic Motor. Includes a "perfect hood" and a padded case. Filter size: 82mm.



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For Canon (SI173528CAF)439.00	For Nikon (S1173528NAF)
For Minolta (SI173528MAF)439.00	For Sigma SA (S1173528)439.00



#### 20-40mm f2.8 EX Aspherical DG DF

The 20-40mm f2.8 EX provides a large maximum aperture for all focal lengths. The lens has minimum focus distance of 11.8 inches at all focal lengths and maximum magnification is 1: 4.6. It incorporates aspherical lenses in the front and rear lens group to minimize distortion, astigmatism and spherical aberration. Equipped with a Dual Focus and Inner Focus mechanism. Designed for digital SLR cameras, includes a removable petal shaped hood to prevent extraneous light

For Canon (SI204028CAF)599.00	For Nikon (SI204028NAF)599.00
For Minolta (SI204028MAF)599.00	For Sigma SA (SI204028)599.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

### Sigma Zoom Lenses

Zoom lenses have the ability to vary focal length, and thus change image magnifications by simply rotating a ring on the lens barrel. For example, a 28-200mm zoom lens makes it possible to stand in one spot and shoot a wide angle photo, then shoot a telephoto from the same location.

Known the world over for their innovative design, ease of use and excellent results, Sigma zoom lenses range from 15-30mm to 300-800mm. Sigma's broad range of zoom lenses are more than just zooms – some are equipped to deliver full macro capabilities, some include the quiet and power of Hyper Sonic Motors (HSM) and others are ultra compact, to make them lighter and easier to use, especially when shooting on the road.

#### WIDE ANGLE ZOOM LENSES

#### 24-70mm f2.8 EX Aspherical DG DF

This fast lens covers ultra wide angle to medium telephoto while providing a large f2.8 aperture at all focal lengths. It employs three aspherical lens elements to minimize spherical aberration, astigmatism and sagittal comma flare. It has two SLD glass elements to correct chromatic aberration and achieve a high level of optical performance. Dual Focus mechanism. Since the front of the lens does not rotate, it allows use of polarizing filters. Includes "Perfect-Hood" and a padded soft case. Filter size: 82mm.

For Canon (SI247028CAF)379.00	For Nikon (SI247028NAF)379.00
For Minolta (SI247028MAF)379.00	For Sigma SA (SI247028)379.00





#### 24-70mm f3.5-5.6 Aspherical HF

Employing a Helical Focusing system (HF) for focus adjustment, the front of this lens doesn't rotate allowing the use of polarizing filters. Minimum focusing distance to subject at all focal lengths is 15.7". Aspherical lens elements minimize distortion, spherical aberration and astigmatism, resulting in high image contrast and resolution. A depth of field scale helps in determining the subject's depth of field at a specific focal length and distance. Includes "Perfect-Hood" lens hood. Filter size: 62mm.

For Canon (SI247035CAF)99.00	For Nikon (SI247035NAF)99.00
For Minolta (SI247035MAF)99.00	For Sigma SA (SI247035)99.00

#### 24-135mm f2.8-4.5 Aspherical IF

From wide angle of view more than 80° at 24mm to standard 135mm zoom lens, large aperture is achieved. A Special Low Dispersion (SLD) glass element and two aspherical lenses optimizes optical performance. At 24mm focal length this lens has a fast F2.8 maximum aperture. This lens has a super wide range of angles of view from 84.1 to 18.2°. It incorporates an internal focusing system, which eliminates front lens rotation, allowing use of polarizing filters and petal-type hoods. The lens materials used in this lens are lead and arsenic-free ecological glass.

For Canon (SI2413528CAF)299.00	For Nikon (SI2413528NAF)299.00
For Minolta (SI2413528MAF)299.00	For Sigma SA (SI2413528)299.00







Designed for lenses that have a non-rotating front barrel. It has four flanges on its front, two longer at the top and bottom and two shorter ones at the sides with the "corners" between them cut away. They provide more effective shading than conventional hoods because they can be longer or deeper, without cutting off the corners of the image (vignetting).











## AF Lenses for Sigma, Nikon, Minolta & Canon

#### STANDARD ZOOM LENSES

#### 28-70mm f2.8-4



The 28-70mm f2.8-4 is a high speed zoom lens that features a large aperture, light weight and compact dimensions. At 28mm focal length this lens has a fast f2.8 maximum aperture. Very compact, the lens weighs only 8.6 oz. and measures 2.4" at full-length. The size and weight of this standard lens makes it very suitable for landscape photography, and snapshots. This lens has a minimum focus distance of 19.7" at all focal lengths. It incorporates an aspherical lens element to minimize distortion. The lens materials used in this new lens are lead and arsenic free ecological glass.

For Canon (SI247028CAF)99.00	For Nikon (SI2470284NAF)99.00
For Minolta (SI247028MAF)99.00	For Sigma SA (SI2470284)99.00

#### 28-70mm f2.8 EX Aspherical DF

Only 3.9" long, the 28-70mm f2.8 zoom is the smallest lens in this category. Dual focus mechanism makes it easy to hold the lens, Helical Focus system allows the use of a "Perfect Hood" (supplied) and polarizing filters. Two aspherical lenses in the front and rear lens groups, provide high performance and superior optical quality. Minimum focusing distance is 15.7" at all focal lengths. Includes a padded soft case. Filter size: 77mm.



For Canon (SI287028ACAF)299.00	For Nikon (SI287028AEXN)299.00
For Minolta (SI287028AMAF)299.00	For Sigma SA (SI287028A)299.00

#### 28-80mm f3.5-5.6 Aspherical Macro HF

This compact standard zoom lens features 1:2 (half life-size) tele-macro capability while incorporating a Helical Focusing system for convenient use of polarizing or graduated filters. Incredibly affordable, the 28-80mm has a new optical design and a "flare-cut" aperture to help achieve superior optical performance. For convenience, the "Depth Scale" is displayed on the lens barrel to help calculate depth-of-field. Includes a "Perfect-Hood" lens hood. Filter size: 55mm.

For Canon (SI288035CAFQ)89.00	For Nikon (SI288035NAFQ)89.00
For Minolta (SI288035MAFQ)89.00	For Sigma SA (SI288035P)89.00

#### 28-80mm f3.5-5.6 Aspherical Mini Zoom Macro

Covering the most popular focal length range from 28mm wide to 80mm mid-range telephoto, this ideal zoom has tele-macro capability for a maximum magnification ratio of 1:2, plus a minimum shooting distance of under 9.5°. Sigma's exclusive optical technology makes optimum use of aspherical lens elements to achieve results on par with fixed focal length lenses throughout the entire range. And with an overall length of  $2.7^\circ$  and a weight of under 9 oz., it is perfect for the photographer on the go.



For Canon (SI288035CAFQ)79.00	For Nikon (SI288035NAFQ)79.00
For Minolta (SI288035MAFQ)79.00	For Sigma SA (SI288035P)79.00



#### 28-105mm f2.8-4.0 Aspherical IF

Featuring a wide focal length range and an unusually large aperture. The 4-group zoom mechanism fully corrects astigmatism and distortion. Extra-wide aspherical lens allows large f2.8 maximum aperture (at the wide setting) in a compact body. Effective anti-flare feature helps achieve crisp-to-the-edge images. An internal focusing mechanism allows the front of the lens to remain stationary, allowing use of polarizing filters. Includes "Perfect-Hood" lens hood. Filter size: 72mm.

For Canon (SI2810528CAF)199.00	For Nikon (SI2810528NAF)199.00
For Minolta (SI2810528MAF)199.00	For Sigma SA (SI2810528)199.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### HIGH-POWER ZOOM LENSES



#### 28-135mm F3.8-5.6 Aspherical IF Macro

This lens can focus from infinity to  $19.7^{\circ}$  at all focal lengths and as close as  $9.4^{\circ}$  (1:2 reproduction ratio) at 135mm. It incorporates an inner focusing system and a non-rotating front lens barrel for convenient filter use. Aspherical optics minimize spherical aberration and stigmatism, while the supplied "Perfect-Hood" prevents extraneous light from degrading the image quality. Filter size: 62mm.

For Canon (SI2813538CAF)129.00	For Nikon (SI2813538NAF)129.00
For Minolta (SI2813538MAF)129.00	For Sigma SA (SI2813538)129.00

#### 28-200mm f/3.5-5.6 Compact Aspherical Hyperzoom Macro

High performance 28-200mm incorporates one aspherical lens element in the rear lens group and one Special Low Dispersion (SLD) glass element in the front lens group. Internal focusing enables it to focus as close as 19.7" from film plane to subject, at all focal lengths, and the use of polarizing filters. Includes reversible "Perfect-Hood". Filter Size: 62mm.

For Canon (SI2820035MCA)189.00	For Nikon (SI2820035MNA)189.00
For Minolta (SI2820035MMA)	For Sigma SA (SI2820035M)189.00



#### 28-300mm f3.5-6.3 Compact Aspherical IF Hyperzoom

AnAlmost 11x zoom lens with a tremendous range of focal lengths for exceptional flexibility of composition. It also lets you follow the movement of a subject throughout a wide range, without having to change lenses. By utilizing a multi-group zoom cam system, this lens maintains a more consistently high level of performance throughout the focal length and focusing ranges. It also allows closer focusing in the critical wide-angle ranges. Special Low Dispersion (SLD) and aspherical glass help achieve high optical performance. The front lens barrel does not rotate during focusing or zooming allowing the use of polarizing filters, or the included "Perfect-Hood" to minimize flare. With its compact design, this universal lens offers excellent portability. Filter size: 67mm.

For Canon (SI2830035CAQ)219.00	For Nikon (SI2830035NAQ)219.00
For Minolta (SI2830035MAQ)219.00	For Sigma SA (SI2830035)219.00

#### 50-500mm f/4-6.3 APO EX Hyperzoom

This magnificent 10x superzoom encompasses all focal lengths from "normal" to ultra-telephoto for unmatched versatility. The use of an APO design, SLD glass, a seven group zoom system, and multi-coated optics, enables the highest level of performance. It also employs a rear focus system to insure quick, convenient manual focus and a non-rotating front barrel. The Hyper Sonic Motor provides quiet, responsive autofocus plus "full time" manual focus. Zoom Lock mechanism eliminates "zoom creep" when the lens is tilted up or down. Includes lens hood, magnesium tripod mount and case. Filter size: 86mm (coarse pitch).

For Canon (SI505004ACAF)	89.00
For Minolta (SI505004AMAF)8	89.00



For Nikon	(SI505004ANAF)	889.00
For Sigma	SA (\$1505004A)	889.00



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### TELEPHOTO ZOOM LENSES

#### 70-200mm f/2.8 EX APO IF HSM

This lens features apochromatic optical design and four SLD glass elements for high image contrast, resolution and color saturation. Large f/2.8 aperture is constant throughout the zoom range. Hyper Sonic Motor (HSM) provides silent, responsive autofocus action with Canon and Nikon AF cameras, and permits manual focus without having to switch off the autofocus function. Focus Free mechanism keeps the manual focus ring from spinning when the camera is autofocusing. Internal zooming mechanism allows the lens length to remain constant during zooming. Includes "Perfect-Hood" lens hood, removable tripod collar and padded soft case. Filter Size: 77mm.

For Canon (SI7020028AHC)699.0	0 For Nikon (SI7020028AHN)699.00
For Minolta (SI7020028AMA)699.0	For Sigma SA (SI7020028AH)699.00



#### 70-300mm f4-5.6 APO Macro Super

This tele-macro zoom is capable of focusing down to 1:2 (half life-size) ratio at 300mm. An optional 58mm achromatic close-up lens allows even closer focusing and reproduction ratios up to 1:1 (life-size) with superb optical quality. An APO tele zoom lens, the 70-300mm also incorporates two SLD glass elements in the front lens group and one in the rear lens group, to minimize chromatic aberration. Includes a reversible bayonet hood and a padded soft lens case. Filter size: 58mm.

For Canon (SI703004ASCA)	.209.00	For Nikon (SI703004ASNA)	209.00
For Minolta (SSI703004ASMA)	.209.00	For Sigma SA (SI703004AS)	209.00



#### 70-300mm f/4-5.6 DL Macro Super

The 70-300mm f4-5.6 DL is a compact tele-macro zoom lens capable of focusing down to 1:2 (half life-size) reproduction ratio at 300mm. An optional 58mm achromatic close-up lens allows even reproduction ratios up to 1:1 (life-size) with superb optical quality. A reversible bayonet hood is provided. Filter Size: 58mm.

For Canon (SI703004SCAF)149.00	For Nikon (SI703004SNAF)149.00
For Minolta (SSI703004SMAF)249.00	For Sigma SA (SI703004S)149.00

#### 80-400mm F4.5-5.6 EX OS APO

An ultra-telephoto zoom lens with a built-in image stabilizer to eliminate blur caused by camera shake. Sigma's Optical Stabilizer system detects camera shake by utilizing two sensors, and then by the movement of an optical stabilizing lens group. Two modes compensate for image blurring. Mode 1 determines the camera shake in vertical and horizontal panning and compensates blurring, which is effective when shooting static subjects. Mode 2 detects the vertical camera shake, and overcomes blurring. It is especially effective with moving subjects such as motor sports etc. Two Special Low Dispersion (SLD) glass elements in the front lens group and one in the rear group offer effective control of color aberration. This lens features full-time manual focusing and a removable tripod collar. The rear focus system prevents the front of the lens from rotating; a circular polarizing filter can be easily attached and used. This lens is also equipped with Zoom Lock Switch that eliminates "Zoom Creep".

For Canon (SI804004SCAF)999.00	For Nikon (SI804004SNAF)
For Minolta (SI804004SMAF)999.00	For Sigma SA (SI804004S)





.....999.00 .....999.00

### AF Lenses for Sigma, Nikon, Minolta & Canon

#### TELEPHOTO ZOOM LENSES



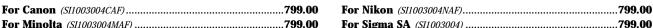
#### 100-300mm f4.5-6.7 DL

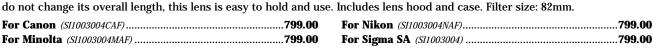
The most compact zoom lens in its class, the 100-300mm f4.5-6.7 DL is less than 4" long and under 2.8" in diameter, with a filter diameter of just 55mm. SLD glass keeps color aberration to a minimum. Ideal for portrait, sports and nature shooting. Includes lens hood. Filter size: 55mm.

For Canon (SI10030045CA)129.00	For Nikon (SI10030045NA)129.00
For Minolta (SI10030045MA)129.00	For Sigma SA (SI10030045)129.00

#### 100-300mm f4 EX APO IF HSM

This remarkable telephoto zoom lens provides a large F4.0 maximum aperture at all focal lengths. It uses an APO design and 4 SLD glass elements (two in the front lens group and two in the rear group) for full correction of chromatic aberrationachieving the highest level of optical performance. Canon and Nikon mount are equipped with silent, responsive and high speed HSM (Hyper Sonic Motor) as well as full-time manual focus. A removable tripod mount is also included. This lens incorporates an internal focusing system, allowing the use of a "Perfect Hood" and circular polarizing filters. And since focusing and zooming







#### 120-300mm f2.8 EX APO HSM

A telephoto zoom lens which retains a constant fast aperture of F2.8 at all focal lengths and allows you to determine the picture composition you want without having to change your vantage point. It has two SLD (Special Low Dispersion) glass elements in the front lens group and one in the rear lens group for excellent correction of chromatic aberration. Models equipped with an HSM (Hyper Sonic Motor) combine high AF speeds with whisper-quiet operation. Since the front lens group does not rotate, it accepts a circular polarizing filter.

Use this lens as a 168-420mm f4 AF tele-zoom lens with the optional APO 1.4x Teleconverteror as a 240-600 mm f5.6 AF ultra-telephoto zoom lens with the APO 2x Teleconverter. The lens materials used in this lens are lead and arsenic free ecological glass.

	For Nikon (SI12030028NA)
For Minolta (SI12030028MA)	For Sigma SA (S112030028)

#### 135-400mm f/4.5-5.6 Aspherical RF APO

Covering the most frequently used focal lengths, from mid to long-range telephoto, this lens lets you handle an unprecedented range of subjects from landscapes to fast action sports. It incorporates a 5-group zoom system to achieve sharp, high contrast results throughout the entire zoom range. Three SLD glass elements eliminate the secondary spectra effect normally associated with telephotos. And the rear focus system keeps the front lens from rotating, giving you easier use of polarizing filters. A convenient built-in rotary tripod mount eliminates vibration during shutter release. Includes reversible lens hood and padded soft lens case. Filter size: 77mm.



For Canon (SI13540045CA)499.00	For Nikon (SI13540045NA)499.00
For Minolta (SI13540045MA)	For Sigma SA (SI13540045)



## AF Lenses for Sigma, Nikon, Minolta & Canon

#### SUPER-TELEPHOTO ZOOM LENSES



#### 170-500mm f5-6.3 Aspherical RF APO

This convenient and practical lens is great for sports and nature. It combines a 5 lens group zoom system with an aspherical lens element to deliver sharp high contrast images throughout the entire zoom range. It uses Sigma's unique apochromatic lens design and three SLD glass elements to eliminate aberrations usually found in ultra-telephoto lenses. And with Sigma's new focusing system, the front lens group doesn't rotate, which makes using polarized filters a snap. A convenient built-in rotary tripod mount eliminates vibration during shutter release. Includes a reversible lens hood and padded soft lens case. Filter Size: 86mm coarse pitch.

For Canon (SI1705005CA)609.00	For Nikon (SI1705005NA)609.00
For Minolta (SI1705005MA)	For Sigma SA (SI1705005)

#### 300-800mm f5.6 EX IF APO HS

This lens covers the ultra-telephoto range up to 800 mm. By continuously varying the angle of view from 8.2° to 3.1°, the lens takes a lot of the footwork out of picture composition. It has two ELD (Extraordinary Low Dispersion) glass elements in the front lens group for excellent correction of chromatic aberration. Addition of an HSM (Hyper Sonic Motor) makes fast, silent AF function a reality. The lens is also capable of full-time manual focus.



Since zooming does not change the lens overall length, the lens is easy to hold and use  $\frac{1}{2}$ 

For Canon (SI30080056CA)	For Nikon (SI30080056NA)4499.00
For Minolta (SI30080056MA)	For Sigma SA (SI30080056)4499.00

Lens			espor Mou		;	Angle of View View (Diag.)	Minimum Aperture	Min. Foc. Distance	Filter Size	Dimensions	Weight
	S	M	N	P	С				mm	inches	ounces
15-30mm f/3.5-4.5 EX Asph. DG DF	0	D	D	O	О	110°-71.6°	22-32	30/11.8	Rear Filter	3.4 x 5.1"	21.8
17-35mm f/2.8-4 EX Aspherical	-	О	D	O	-	103.7°-63.4	32-45	50/19.7	82	3.5 x 3.3″	14.1
15mm f/2.8 EX Diag. Fisheye	0	О	D	О	О	180°	22	15/5.9	Rear Filter	2.9 x 2.8"	11.7
20-40mm f/2.8 EX Asph.DG DF	0	D	D	O	О	94.5°	22	20/7.9	82	3.5 x 3.4"	18.3
24mm f/1.8 EX As. DG DF Macro	0	D	D	О	О	94.5°-56.8°	32	30/11.8	82	3.5 x 4.2"	20.9
24-135mm f/2.8-4.5 EX Asph. IF	0	D	D	О	О	84.1°-18.2°	32	19.7/50	77	3.3 x 3.6	18.8
28-70mm f/2.8 EX Aspherical CF	0	О	D	О	О	75.4°-34.3°	32	40/15.7	77	3.3 x 4.0"	22.7
28-70mm f/2.8-4 EX Hi Speed Zoom	0	D	D	О	О	75.5°-34.3°	22	50/19.7	58	2.7 x 2.4"	8.6
28-105mm f/2.8-4 Aspherical	0	0	D	0	0	75.4°-23.3°	22-32	50/19.7	72	3.0 x 3.1	14.3
50-500mm f/4-6.3 EX APO RF	-	О	-	О	-	46.8°-5°	22	100-300/39.4-118.1	86C	3.7 x 8.5	65.2
70-200mm f/2.8 EX APO HSM	Н	-	HD	-	Н	34.3°-12.3°	32	180/70.9	77	3.4 x 7.2"	44.8
70-300mm f/4-5.6 DL Macro Super II	0	О	D	О	О	34.3°-8.2°	22-32	150*95-59.1*37.4	58	3.0 x 4.7"	18.7
100-300mm f/4.5-6.7 DL	0	О	D	О	О	24.4°-8.2°	22-32	200/78.8	55	2.8 x 3.9"	14.5



## TOKINA

### AF LENSES for DIGITAL and 35mm CAMERAS

AT-X (Advanced Technology-Xtra) signifies a special group of lenses that are manufactured without compromise. Combining advanced design and fabrication technology with a unique optical configuration system developed by Tokina, has made advanced features, high performance, light weight and compact designs possible. Tokina's proprietary AT-X lens technology has evolved toward optical perfection for nearly 20 years. They have made continuous improvements and each new model is a further refinement of previous designs and materials. The current PRO series, recognizable by their distinctive Gold rings, continues this evolution.

#### The Tokina Difference:

#### Mechanisms:

- All metallic moving parts are coated with a special lubricant to improve durability
- Tokina's independently developed technology maintains the high precision of mechanical fittings, accurately measured in microns
- Micron tolerances also give smooth operation and durability to operating rollers and internal focus cams
- Brass is used in the lens mount to maintain high precision. Other mechanisms are plated with hard chrome for optimum durability

#### **Exterior Finish:**

 PRO models have a hardened Armalite finish to increase durability and give a top-quality feel and finish Ergonomic designs
 emphasize control,
 grip and ease of operation with textured
 rubber used on zoom and focus barrels.

#### **Operation:**

- Use of special alloy Duralumin for metal parts provides excellent durability, stabilizes torque and provides better handling. It also maintains smoother operation under all conditions.
- A special lubricant formulated to perform even under extreme temperatures, is used on moving parts
- Unique lens coating makes the lenses resistant to flare and ghosting, and helps them achieve faithful color reproduction

#### AT-X PRO FIXED FOCAL LENGTH LENSES



#### *AF 17mm f/3.5 AT-X Pro*

This super wide angle lens features Tokina's exclusive "Focus Clutch Mechanism" for faster, smoother auto focus as well as smooth manual focus. It also features a floating element auto focus system for high resolution and contrast, an all glass aspherical lens element, and all aluminum lens barrels with a chrome-plated, brass mount plate. The lens elements are made of higher quality HLD (high refraction, low dispersion) glass to provide even illumination across the whole film plane and prevent light fall-off. Filter size is 77mm so you can use Tokina lenses that cover a range from 17mm to 300mm using the same set of filters.

For Canon (TO1735PCAF) ....399.00 For Nikon (TO1735PNAF)....399.00 For Minolta (TO1735PMAF)....399.00

#### AF 300mm f/2.8 AT-X Pro IRF

Features the exclusive "Focus Clutch Mechanism" for auto and manual focusing that is much faster and smoother than other lenses. As with all Tokina AT-X AF lenses, this lens is constructed using all aluminum lens barrels and a chrome-plated, brass mount plate. The first lens group is made from two elements of high quality SD (Super Low Dispersion) glass to minimize chromatic aberration. The patented Internal Rear Focus (IRF) system moves smaller lens groups within the lens barrel, which is useful for long telephoto lens designs. The IRF system also allows faster auto focusing and a more compact lens design.





## TOKINA

### AF LENSES for DIGITAL and 35mm CAMERAS

#### AT-X PRO ZOOM LENSES

#### AF 20-35mm f/2.8 AT-X Pro IF

Just look through the viewfinder and see the world in a dramatic new perspective. An ultra wide angle zoom, the AF 20-35mm produces edge-to-edge razor-sharp images, while the fast f/2.8 aperture makes picture taking indoors or at dusk—effortless. Additional features include two (the front and rear) molded multi-coated aspherical elements, and the exclusive "Focus Clutch Mechanism". In addition, IF (Internal Focus) means filter threads don't move during focusing. The advantage is, that when a special effects filter is used, it isn't necessary to readjust the position of the filter every time the focus is changed. And like all Tokina AT-X AF lenses the AF 20-35mm f/2.8 AT-X Pro is constructed using an all aluminum lens barrel and a chrome-plated brass mount plate. Lens elements are made of high-quality HLD (high refraction, low dispersion) glass for high resolution and contrast. (77 $\theta$ ).



For Canon (TO203528CAF)599.00	For Nikon (TO203528NAF)599.00
For Minolta (TO203528MAF)599.00	For Pentax (TO203528PAF)599.00

## *AF 28-70mm f/2.8 AT-X Pro SV*

This lens provides a constant wide f/2.8 aperture for excellent low light photography at any focal length in the zoom range. The wide aperture allows more light through to the camera for taking pictures in difficult lighting situations, or for use of faster shutter speeds to either reduce vibrations or capture fast action. Also, constant aperture lenses make manual strobe calculations easier. With the increased use of non-corrosive materials this lens will give you years of use.

For Canon (TO287028ACA)....279.00 For Nikon (TO287028AND)....279.00 For Minolta (TO287028AMA).279.00 For Pentax (TO287028APE)...279.00



#### AF 28-80mm f/2.8 AT-X Pro

Constructed of the highest-quality optical glass multi-coated lens elements. The AF 28-80mm f/2.8 AT-X Pro uses two aspherical lens elements and one SD (super low dispersion) glass element to insure critical sharpness across the film plane. In addition to outstanding optical quality, this lens offers conveniences such as a window showing a distance scale. This makes it possible to tell the focusing distance, regardless of the actual setting of the focus mode. Tokina's Focus Clutch Mechanism has also been refined so now the lens' focus ring can be snapped back to the manual focus position at anytime. This means you don't have to change the AF/MF switch every time the lens is switched from auto to manual focus. (77ø).

For Canon (TO288028CAF)	.549.00
For Nikon (TO288028NAF)	.549.00
For Minolta (TO288028MAF)	.549.00
For Pentax (TO288028PAF)	.549.00

#### AF 80-200mm f/2.8 AT-X Pro

Built to professional specifications, the AF 80-200mm f/2.8 provides uniformly high image quality from infinity to close focus using a unique floating element system that separately focuses the first three and last two elements in the forward lens groups. It also uses SD (Super-Low Dispersion) glass to minimize chromatic aberration. Tokina's exclusive "Focus Clutch Mechanism" assures top performance during auto and manual focusing, while a new exterior finish improves overall handling and durability. (770).



For Canon (TO8020028PC)599.00	For Nikon (TO8020028PN)599.00
For Minolta (TO8020028PM)599.00	For Pentax (TO8020028PP)599.00



## TOKINA

### AF LENSES for DIGITAL and 35mm CAMERAS

#### AT-X ZOOM LENSES

#### AF 19-35mm f/3.5-4.5

One of Tokina's most popular lenses, the AF19-35mm f/3.5-4.5 uses high refraction, low dispersion (HLD) glass and multi-coated lens elements for outstanding performance in a value-priced lens. It offers easy handling, since it is compact and there is no change in overall length when zooming. Special filters can also easily be used, because the front filter thread doesn't rotate. Lens barrel is made from black polycarbonate to reduce overall weight, making it convenient to carry. (770).

For Canon (TO193535CAFQ)189.00	For Nikon (TO193535NAFQ)189.00
For Minolta (TO193535MAFQ)189.00	For Pentax (TO193535PAFQ)189.00





#### AF 24-200mm f/3.5-5.6 ATX IF

The ultimate traveling lens, the AF 24-200mm is currently the widest zoom range available. It is constructed using a chrome plated brass mount plate and a combination of aluminum and composite lens barrels to reduce weight while maintaining strength and durability. Optically, the lens uses two Aspherical lens elements and one SD (Super Low Dispersion) glass element to ensure sharpness across the film plane. Internal Focusing (IF) mechanism gives this lens fast auto focus and means the filter threads don't move during focusing. This allows special effects filter such as a circular polarizer to be used. Focus distance is indicated on the manual focus ring. And like the rest of the lenses in the AT-X series, AF 24-200mm is a parafocal lens, meaning, when focus is achieved at a telephoto focal length, you can zoom back to wide angle and maintain focus. (72 $\phi$ ).

For Canon (TO2420035CAF)279.00	For Nikon (TO2420035NAF)279.00
For Minolta (TO2420035MAF)279.00	For Pentax (TO2420035PAF)279.00

#### AF 80-400mm f/4.5-5.6 ATX II

A complete range of lenses in one! The AF 80-400mm has an incredibly compact design for its enormous zoom focal length range and is ideal for those who don't want to lug around huge zoom lenses—but still want the flexibility to take long range sport or nature shots. Specialized features for this lens included a supplied tripod clamp that is rotatable for landscape or portrait shots, and a zoom lock. By locking the zoom at its shortest (80mm) setting, the lens can be carried comfortably suspended at the camera. SD (Super Low Dispersion) glass reduces chromatic aberration for high contrast shots of maximum definition with any color fringe. High quality is also achieved with the bayonet hood and internal "flare cutter".  $(72\phi)$ .



For Canon (TO8040045TCC)	For Nikon (TO8040045TCN)
For Minolta (TO8040045TCM)	For Pentax (TO8040045TCP)

LENS SPECIFICATIONS									
	17mm	300mm	20-35mm	28-70mm	28-80mm	80-200mm	19-35mm	24-200mm	80-400mm
Minimum Focusing	.82	7.9	1.64	1.65	1.6′	5.9′	1.3′	2.9	2.5m
<b>Focusing System</b>	Internal	Internal (rear)	Internal	Internal	Internal	Internal	Internal	Internal	Rotary
Filter Size	77mm	112/35.5mm	77mm	77mm	77mm	77mm	77mm	72mm	72mm
<b>Supplied Lens Hood</b>	BH-773	MH-112N	BH-773	BH-776	BH-775	MH-774N	BH-774	BH-723	BH721
Supplied Case	Soft case	Hard Case	Soft case	Soft case	Soft case	Hard Case	_	Soft case	Soft case



## **TAMRON**

### AF LENSES for DIGITAL and 35mm CAMERAS

#### WIDE-ANGLE, TELEPHOTO & MACRO LENSES

#### SP AF14mm f/2.8 IF

This ultra wide angle lens features a fast F/2.8 aperture and a sophisticated optical system allowing photographers to create dynamic photographs that take full advantage of the rectangular characteristics of the lens. Two Hybrid Aspherical lens elements eliminate distortion and comatic flare associated with ultra wide angle lenses. The result is a fast focusing lens that delivers high quality images with minimal light fall off at the picture corners. The lens is also equipped with a one-touch focusing mechanism that allows the focus mode to be switched with a simple push/pull movement. The lens has a large focusing ring, built-in lens hood and gelatin filter holder at the rear element of the lens.

For Canon (TA1428ACAF)1099.00	For Nikon (TA1428ANAF)1099.00
For Minolta (TA1428AMAF)1099.00	For Pentax (TA1428APAF)1099.00





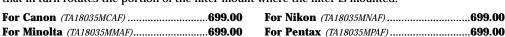
#### SP AF90mm f/2.8 Macro

The SP AF90mm f/2.8 is a 1:1 (life-size) macro lens that lets you capture unprecedented image quality without disturbing your subject. High performance is achieved via finely balanced optical design, optimization of aberrations and use of a 9-blade diaphragm. It has an easy one-touch sliding focus mode switch and large, easy to grip focus ring, and clearly legible distance scales and magnification indices.

For Canon (TA9028MCAF)479.00	For Nikon (TA9028MNAF)479.00
For Minolta (TA9028MMAF)479.00	For Pentax (TA9028MPAF)479.00

#### AF 180mm F3.5 Di 1:1 Macro

This lens employs an IF (Internal Focusing) system that maintains the overall length of the lens during focusing. Uses two LD (Low Dispersion) glass elements that effectively compensate for chromatic aberration. Provides high-contrast, outstanding image quality and a soft out-of-focus background effect. Incorporates an AF/MF one touch switchover mechanism built into the focus ring (for Canon & Nikon only). FEC (Filter Effect Control) function enhances operational ease of polarizing filter use. The Filter Effect Control rotates the filter to the desired position while the hood is attached. This is accomplished by turning the FEC ring that in turn rotates the portion of the filter mount where the filter is mounted.





#### SP AF300mm f/2.8 LD IF

This fast telephoto delivers the exacting performance demanded by professionals. Two large LD (Low Dispersion) elements provide high contrast and crystal-clear image quality from the full open aperture. Internal Focusing (IF) lets you maintain optimum holding balance since the lens' overall length remains constant during focusing. Tamron's Floating Focusing System improves optical performance especially at close shooting distances. Nine bladed iris forms a nearly perfect circle to create excellent background blur for outdoor portraits. The ideal lens for shooting nature, sports and low light indoor performances. Conveniences include easy-to-use AF/MF focusing ring, supplied rear filter insertion frame and circular polarizer, detachable tripod mount, and a lens hood.

For Canon (TA30028CAF)......2999.00 For Nikon (TA30028NAF)......2799.00 For Minolta (TA30028MAF)......2799.00

Select Tamron lenses include rebates up to \$300. Please go on-line or call for details and expiration dates.



## **TAMRON**

### AF LENSES for DIGITAL and 35mm CAMERAS

#### WIDE ANGLE ZOOM LENSES



#### SP AF17-35mm F/2.8-4 Di LD Aspherical [IF]

A super wide-angle zoom lens, the SP AF17-35mm F/2.8-4 Di LD Aspherical [IF] is ideal for use with today's digital SLRs. The lens provides the extended focal length covering and an entirely new optical system for optimal performance with digital SLR cameras. When used with CCD or CMOS image sensors the 17mm-focal length can achieve a 35-mm SLR equivalent of approximately 24mm, allowing photographers to fully utilize its vast perspective and depth of field.

Ghost flare, common in backlit situations, is vastly reduced, enabling clear, high-definition photography. Image distortion, aspherical aberrations and other aberrations are corrected and eliminated through the use of a compound aspherical element. Moreover, color aberrations characteristic of wide-angle lenses have been diminished through the use of an LD element. Filter Size is 77mm.

#### AF19-35mm f/3.5-4.5

Tamron's AF19-35mm F/3.5-4.5 is an affordable super wide-angle zoom ideal for travel, landscape, group portrait, adventure photography and more. Offering an authentic super wide-angle range with an angle of view of  $97^{\circ}$ -  $63^{\circ}$  and a close M.O.D. of  $19.68^{\circ}$ , this 19-35mm provides dramatic and fun image making. The lens is easy to carry anywhere as it weighs just 10.5 ounces and is only  $2.66^{\circ}$  long. It also features a fixed front element group and filter mount, facilitating the use of polarizing filters.  $(77\emptyset)$ .

For Canon (TA193535CAF) ....199.00 For Nikon (TA193535NAF) .....199.00 For Minolta (TA193535MAF) ...199.00





#### SP AF24-135mm f/3.5-5.6 IF

Versatile and flexible, this high power zoom lens everything from the 24mm wide angle to 135mm telephoto suitable for portraits—all in one compact package. Incorporates an AD (Anomalous Dispersion) glass element with four hybrid aspherical elements to achieve sharp, crisp resolution and brilliant, vivid color reproduction. Internal Focusing (IF) makes the lens more compact and allows the use of a polarizing filter. The lens also features a high 1:3.3 macro magnification ratio at 135mm, making it possible to fill the frame with a subject no larger than a postcard.

For Canon (TA2413535CA)369.00	For Nikon (TA2413535NA)369.00
For Minolta (TA2413535MA)369.00	For Pentax (TA2413535PA)369.00

#### SP AF28-75mm F/2.8 XR Di LD Aspherical [IF] Macro

The world's lightest and most compact fast standard zoom lens, the SP AF28-75mm F/2.8 XR LD Aspherical [IF] Macro utilizes XR size reduction technology to achieve the lens' almost unbelievably compact size—maximum diameter of 2.9″, 3.6″ long and only 17.9 oz. In addition, witih Di (Digitally Integrated Design) it provides optimum performance when used with the latest digital SLR cameras. The use of XR (Extra Refractive Index) glass enables reduction in size while at the same time compensating for aberrations. The use of three LD (Low Dispersion) elements ensures superb image quality.

The SP AF28-75mm F/2.8 XR incorporates a convenient zoom lock mechanism that keeps the lens retracted when being carried on a camera, therefore helping to prevent the lens from accidentally being knocked or bumped when walking through crowds and the like. Supplied flower-shaped hood with excellent stray-light shielding properties. 67mm filter size.

For Canon (TA287528CA)	For Nikon (TA287528NA)329.00
For Minolta (TA287528MA)329.00	For Pentax (TA287528PA)



## **TAMRON**

### AF LENSES for DIGITAL and 35mm CAMERAS

#### HIGH PERFORMANCE ZOOM LENSES

#### SP AF28-105mm f/2.8 LD IF

This lens features a fast f/2.8 aperture even at 105mm, so you can shoot fantastic portraits with better background blur. The use of 4 large diameter aspherical elements and 3 Low Dispersion glass elements reduces various aberrations while minimizing the fall-off of light at the corners. IF (Internal Focusing) and Triple-Cam zoom system contribute to the lens' extreme compactness and excellent optical performance. And since the front lens group doesn't rotate, you can polarizing filters or the supplied lens hood. For added convenience, an Anti-Slip-Mode mechanism prevents the lens barrel from slipping downward. (82 $\alpha$ ).

For Canon (TA2810528CA) .......829.00 For Nikon (TA2810528NA) ......829.00 For Minolta (TA2810528MA) ....829.00





#### AF28-200mm f/3.8-5.6 XR IF

Incorporating revolutionary optics like XR Glass, the AF 28-800mm achieves superior image quality and compactness in the same zoom lens. XR (high refractive index glass) bends light more than normal or lower refractive index glasses. This made the length of the whole optical system shorter. In addition, optical power is enhanced with three aspherical lenses, each which do the job of several lenses combined, to reduce and eliminate aberration in the shortened optical configuration. Key to the perfection of the lens was development of the 'moving triple cam' – the mechanism that helps the lens achieve rock-solid stability during the radical barrel movement between the retracted 28mm position to the extended 200mm position. This remarkable mechanism transforms the conventional fixed triple cam into a moving unit that slides in conjunction with zooming action. (62 $\emptyset$ ).

For Canon (TA2820038CA)279.00	For Nikon (TA2820038NA)279.00
For Minolta (TA2820038MA)	For Pentax (TA2820038PA)279.00

#### AF28-300mm f/3.5-6.3 XR IF

A quantum leap in design, technology and manufacturing, the AF28-300mm is built with an optical system that incorporates 3 Hybrid Aspherical elements and 2 high-grade LD (Low Dispersion) glass elements. Together they provide never-before-possible sharpness, contrast and color depth, while eliminating chromatic aberrations inherent to a high-power zoom lens of this magnitude. These state-of-the-art optics are housed in a sophisticated "Quad-Cam Zoom Mechanism" which enables four lens barrels to be extended and retracted effortlessly - achieving compactness at 28mm, while holding precise extension at 300mm. It features an Internal Focusing (IF) system, minimizing illumination loss at image corners, and suppressing aberrations that are caused by focusing positions. (62ø).

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For Canon (TA2830035CA)389.00	For Nikon (TA2830035NA)389.00
For Minolta (TA2830035MA)389.00	For Pentax (TA2830035PA)389.00





#### AF70-300mm f/4.0-5.6 LD Macro

This is the definitive lightweight, compact telephoto macro zoom with a maximum magnification ratio of 1:2 at the 300mm setting – ideal for shooting subjects that are difficult to approach such as sporting and theatrical events. The lens also has the ability to provide beautifully blurred backgrounds and to highlight the main subject in protraiture, or "compression effects" that make the most of the telephoto lens. Switch to maco mode, and subjects as close as 0.95m can be shot within the focal range of 180-300mm, for true macro photography. 62mm filter size.

For Canon (TA703004MCAF)	For Nikon (TA703004MNAF)
For Minolta (TA703004MMAF)	For Pentax (TA703004MPAF)

