

PENTAX

LENSES & ACCESSORIES



A Complete System of Photography



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THE WIDE RANGE OF PENTAX ACCESSORIES

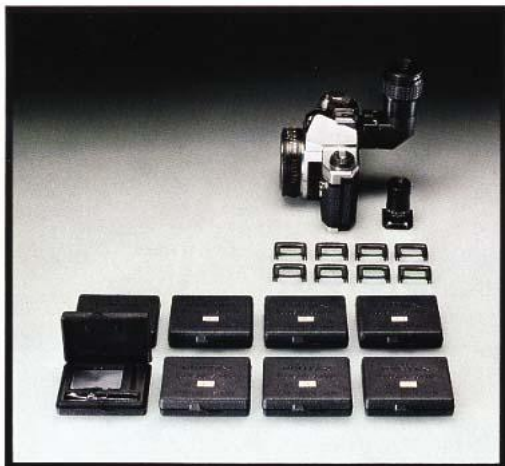
When you choose one of the fine Pentax 35mm SLR cameras you are choosing a lot more than just a camera. You are choosing a complete system of photography that can grow as your needs and abilities grow.

Over 200 different accessories are available to fit every photographic need under the sun, moon and rooftop. Bellows units, copy stands, slide copiers, close-up attachment lenses, extension tubes and various other close-up and macrophoto accessories are just a beginning. There are also special effects filters, eyepiece correction lenses, a microscope adapter, a mirror adaptor for candid photography; even a stereo adaptor which splits the image on the negative to produce 3D pictures when viewed through a special viewer. (The special "Accessory Section" begins on page 28 of this brochure.)



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THE EXCITING WORLD OF INTERCHANGEABLE LENSES

Without interchangeable lenses, the scope of photography would truly be limited. It would be impossible to fill the frame with a single dewdrop gleaming in the rays of the morning sun. Or, to encompass within one frame the splendor of the world's many scenic spots and architectural masterpieces. Likewise, we could not capture a sea-sprayed surfboard rider soaring high atop a mountainous wave, nor could we approach close enough to the many frail, frightened and ferocious creatures of nature to photograph them effectively. Moreover, the fantastic creative effects of ultra-wide-angle, fisheye and super telephoto lenses would elude us as well.

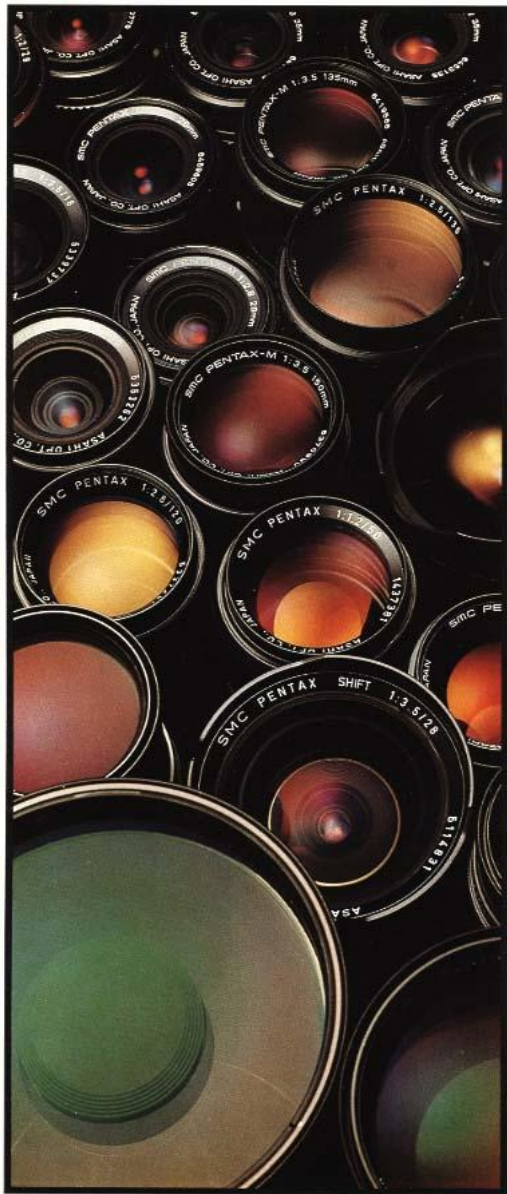
It could easily be said that interchangeable lenses play a similar role to the photographer that brushes play to the painter. Instead of using brushes and paint to produce his creative effects, however, the photographer creates with images of light as modified by his selection of interchangeable lenses.

The more than 40 SMC Pentax Interchangeable Lenses awaiting the Pentax photographer are rated by professional and amateur photographers alike to be among the finest tools of the trade available anywhere. That's because SMC Pentax lenses are made by Asahi Optical Company, one of the world's leading innovators in optical technology with over 50 years of lens-making experience. Each SMC Pentax lens is computer-designed in the Company's own engineering department, and manufactured in its own factories with utmost precision. They undergo strict testing and are required to meet the severest performance standards before leaving the factory.

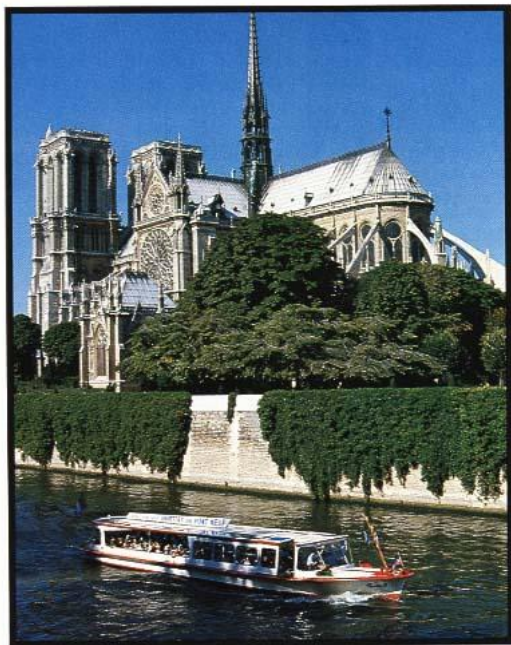
Each lens in the series is also treated with Super-Multi-Coating, Asahi Optical's own exclusive lens-processing technique for reducing flare and ghost images and increasing light transmission to produce bright, breathtakingly clear photographs. The choice is equally as breathtaking, covering a focal length range all the way from 15mm ultra-wide-angle to 2000mm super-telephoto, and including special-purpose macro, fisheye, shift and bellows lenses to enable them to meet virtually every shooting requirement. In addition, every lens in the series features the same precision, stainless steel Pentax bayonet mount for quick lens changes, and all but seven lenses feature automatic diaphragms to offer bright, full-aperture metering and focusing.

Over twenty SMC Pentax lenses are M-type compact lenses, which on the average are from 25% to 60% shorter in length and lighter than their standard counterparts. Although the M lenses were designed especially for keeping within the dimensions of the smaller ME and MX cameras, their compact design is equally as beneficial for use with Pentax K-Series cameras.

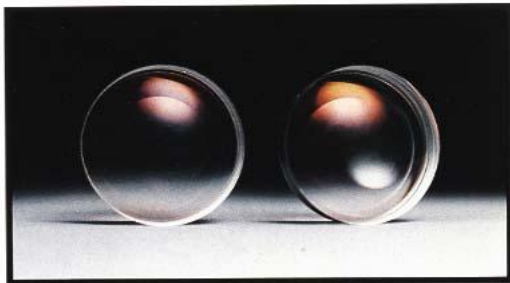
This booklet is your guide to SMC Pentax Lenses and Accessories. At the beginning of each focal-length category an introduction gives the pros and cons of each lens type to assist you in making wise purchases. Also, individual explanations give the practical applications of each lens. Your Pentax Dealer and nearest Service Center will also be happy to assist you in making your purchases and provide you with additional information on Pentax products.



SUPER-MULTI-COATING (SMC)



- The photo below shows two kinds of optical groups, each made up of two glass elements cemented together. The group on the left has been Super-Multi-Coated. See the difference in the amount of reflection?



There's something special about photographs taken with SMC Pentax lenses. They evidence less flare, virtually no ghost images and are astoundingly clear with remarkable color rendition. You can literally take pictures directly into the sun with them and obtain exciting results.

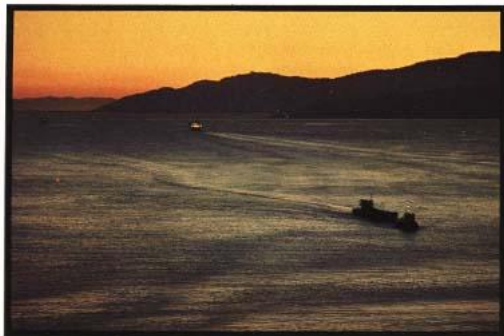
The fantastic quality of SMC Pentax lenses is the combined product of Pentax space-age optical engineering and Super-Multi-Coating, Asahi Optical's own unique 7-layer lens-coating process that eliminates both flare and ghost images, and transmits more light for vivid colors. Reflection ratio is a mere 0.2%, while reflection control is nearly flat against the whole range of visible light. These two factors result in improved performance in almost all lighting situations. Moreover, recently improved multi-coating techniques entail the coating of most glass surfaces within the lens, including some which were previously cemented together, and others which were only single-coated previously. The effects of Super-Multi-Coating are particularly outstanding with zoom lenses, which have a great many individual lens elements and transmit less light than other lenses. Without any coating a zoom lens transmits about 17.5% of the light. With conventional coating, transmission increases to 66.3%, while with Super-Multi-Coating, transmission is 95.3%—about 50% brighter than with conventional coatings.

Super-Multi-Coating is your assurance of quality photographs with all SMC Pentax lenses. Even the slightest reflections are minimized for pictures that are breathtakingly sharp and colors that are much more pronounced. The subject is also rendered in more detail, and reproduction of black tones, previously a problem, is strikingly successful.

- Light transmission with Super-Multi-Coating is an amazing 99.8%; correspondingly, glass-to-air surface reflection is a mere 0.2%.
- Lenses undergoing Super-Multi-Coating process.



STANDARD LENSES



The standard or normal lens is the most versatile lens for all-around shooting. It has a picture angle which corresponds closely to the view of the human eye, enabling pleasing perspectives for scenery and landscapes, photographs of children and adults, pet photos and other general applications. Standard lenses are also faster than other types, permitting outdoor use in both sun and shade, at night in low light, and indoors in dimly lit rooms without flash or tripod.

SMC Pentax standard lenses are characterized by excellent contrast and resolution at all apertures, while Super-Multi-Coating assures unsurpassed color rendition. Their fast maximum apertures also produce a bright viewfinder image to enable accurate focusing and composition. The selection available is one of the finest anywhere, consisting of the world's fastest 50mm standard lens, and four extra-lightweight and easy-to-handle M type compact lenses, including the spectacular SMC Pentax-M 40mm semi-standard "pancake" lens.

① SMC PENTAX-M 50mm F1.4

Offering a near ideal combination of compactness, lens speed and high performance, SMC Pentax 50mm f/1.4 is the workhorse of the Pentax standard lenses. Its compactness makes it easy to handle for all general applications, while like the 50mm f/1.2 lens, its fast maximum aperture is highly useful for low-light shooting at dusk or dawn, for interiors, theater and stage performances, and so forth. A bright finder image facilitates quick focusing and composition.

② SMC PENTAX 50mm F1.2

The cream of standard lenses in terms of speed and all-around shooting capabilities. While it is unsurpassed for general applications, its ultra-fast maximum aperture of f/1.2 for a 50mm lens is of special value to professionals and serious amateurs seeking artistic results in a wide variety of situations. Its sharp resolution and wide maximum aperture make focusing in low light a snap. Excellent for all types of low-light photography—night street scenes, poorly lit rooms, theatrical performances, and similar applications.



③ SMC PENTAX-M 50mm F1.7

Although approximately 1/2 stop slower than the 50mm f/1.4 lens, SMC Pentax-M 50mm f/1.7 is still considered very fast and is even more compact than the f/1.4 lens. An excellent choice for a person seeking a lens with the speed for low-light versatility at a moderate price. Its small size also gives it added convenience when used in conjunction with close-up accessories.

④ SMC PENTAX-M 50mm F2

The 50mm f/2 standard lens is economically priced and second to none in performance for its aperture range. Other attractive features include its compact M-type design for easy operation, and a lens speed which is adequate for most dim-light shooting situations.



Great for Travel!

⑤ SMC PENTAX-M 40mm F2.8

This is the incredible "pancake" lens that everyone has been talking about. Weighing a mere 110 grams (3.88 ozs.) and extending a mere 18mm (0.7 in.) from the camera body, it enables you to convert your already compact Pentax into a "pocket" SLR, slipping easily into handbags, coat pockets and light luggage. Moreover, its shorter 40mm focal length gives a perspective which is still natural enough for beautiful portraits and snapshots, while the extra 10° angle of view lets you get more into the picture. And, using today's fast films, it's also fast enough for indoor snapshots without flash. A great lens for hikes, traveling and everyday use.

WIDE-ANGLE LENSES



If much of your photography is of buildings, interiors, landscapes and gardens, spacious travel scenes and the like, or if you are fond of taking pictures that offer a dramatic perspective, you will find one or more of the SMC Pentax Wide-Angle Lenses to be a welcome addition to your camera bag. This is because wide-angle lenses feature a greater angle of view than the standard lenses, enabling you to get more into the picture. They are great for working in close quarters and also produce what is known as the "expansive" effect, whereby the foreground appears to expand, creating a panoramic perspective (this effect is especially pronounced with the shorter focal length wide-angle lenses which have wider angles of view).

SMC Pentax Wide-Angle Lenses are broken down into two basic types: normal wide-angle lenses which cover the focal lengths from 35mm down to 28mm, and ultra-wide-angle lenses, covering the 24mm to 15mm focal lengths. The 35mm to 28mm wide-angle lenses are most commonly used for general photography and the expansive effect is not as extreme as with ultra-wide-angles. These lenses offer a slight to moderately wider-than-normal perspective, and also create greater sense of depth than the standard lenses. Ultra-wide-angles, on the other hand, feature extreme view angles running from 84° with the 24mm lens to 110° with the 15mm lens. Although ultra-wide-angles are still used widely for general photography, they require some skill to use effectively. They are nevertheless indispensable for encompassing large buildings, interiors and sweeping landscapes, and their dynamic perspective provides special impact for creative and commercial photography.

The extensive depth of field and breadth of coverage of wide-angle lenses also makes them useful for candid photography and quick snapshots.



⑥ SMC PENTAX-M 35mm F2
⑦ SMC PENTAX-M 35mm F2.8

Either of the SMC Pentax 35mm lenses is an excellent starting point for the newcomer to wide-angle photography. Moreover, many experienced photographers even prefer the 35mm lens as their standard lens because of its versatility. It offers almost the natural perspective of the standard lens, which makes it useful for most general applications; yet, its wider coverage makes it useful for crowds, market places, street shops and other photography in close quarters. It also conveys a greater sense of depth than the 50mm lens, enabling more dramatic compositions with skillful use. SMC Pentax-M 35mm f/2 is a superb example of Pentax space-age optical technology at work. This lens fully equals the fine optical quality and speed of its predecessor, the SMC Pentax 35mm f/2 lens, yet it is 33% shorter and 36% lighter. In addition, its fast maximum aperture makes it highly suited for taking pictures indoors and in other available light situations. SMC Pentax-M 35mm f/2.8, on the other hand, is a stop slower than the 35mm f/2 lens, but fully equals its optical quality and at a more attractive price; it is also an additional 20% shorter than the f/2 compact.

⑧ SMC PENTAX 30mm F2.8

This unique focal length lens is for the photographer who seeks a wider angle of view than the 35mm lens permits, but less of the effect of the 28mm wide-angle lens. The 30mm f/2.8 lens offers a full 10° greater view than the 35mm lens, and 3° less than the 28mm lens, which is sufficient to tone down the wide-angle effect. The relatively fast lens speed also enables good results at wide aperture, especially with high speed films.

ULTRA-WIDE-ANGLE LENSES



9 **SMC PENTAX-M 28mm F2**

10 **SMC PENTAX-M 28mm F2.8**

The 28mm wide-angle lens produces a pronounced wide-angle effect, but one which is not as extreme as that of the ultra-wide-angles. The perspective effects of this lens still enable wide use for general photography, while it is quite manageable for newcomers with a little practice. Although 28mm wide-angle lenses are not recommended for close-range portraits, their angle of view is even more useful than that of the 35mm lens for large groups, buildings, interiors and expansive scenery. In addition, they are excellent for candid snapshots or capturing the panorama of sports events, carnivals and other festive scenes. **SMC Pentax-M 28mm f/2** is the fastest of the 28mm wide-angle lenses and offers high performance with sharp focus even at close range. Its fast speed also makes it a fine lens for available-light photography and facilitates accurate focusing in low light. **SMC Pentax-M 28mm f/2.8**, although a stop slower than the f/2 lens, is one of the smallest wide angles on the market. It offers outstanding resolution and contrast throughout, yet weighs a mere 156 grams (1 1/4 ozs.).



11 **SMC PENTAX 24mm F2.8**

The 24mm f/2.8 ultra-wide-angle lens is highly popular for scenic, commercial and architectural photography. Many photographers prefer it over the 28mm wide-angle lens because of the added coverage it gives for buildings and interiors, and because of the intriguing effect of its 84° angle-of-view, which though ultra-wide, is not extreme. Its fast maximum aperture and shallow depth of field for an ultra-wide-angle lens facilitate easy focusing.

12 **SMC PENTAX-M 20mm F4**

The 20mm wide-angle lens is useful for a variety of wide-angle applications. It is capable of engulfing towering structures and huge interiors at close range. And, its extreme depth of field makes it useful for fast moving subjects and quick candid shots. Moreover, precise computer calculations assure optimum performance at all apertures, while, thanks to miniaturized M-type optics, it has been designed an unbelievable 50% lighter than the previous 20mm f/4 lens.

13 **SMC PENTAX 18mm F3.5**

With a focal length approximately midway between the 15mm f/3.5 and 20mm f/4 lens, the 18mm wide-angle lens offers greater speed than the 20mm lens (f/3.5 vs f/4) and a sweeping 100° angle of coverage — 6° wider than that of the 20mm lens. It has also been well corrected to eliminate distortion. Four built-in filters are featured along with a clip-type holder for gelatin filters at the rear (which is not feasible with the 15mm lens because of its protruding element).

14 **SMC PENTAX 15mm F3.5**

Despite its extreme focal length and 111° diagonal vs 100.5° horizontal field of view, this lens produces spectacular effects without distortion. Its unique optical design virtually eliminates all traces of distortion, even at the edges, while Super-Multi-Coating assures flare-free images and brilliant color rendition. Four built-in filters are also provided along with a built-on lens hood. A fantastic lens for creative, commercial and special effects photography.



The telephoto lens is a wonderful tool for the photographer. It enables him to photograph in sharp detail distant objects which appear too small to be photographed interestingly with a standard or wide-angle lens at the same shooting distance. Telephotos are thus considered great lenses for action sports, news photography, portraits and distant wildlife. They are also useful for candid and surveillance photography, highlighting distant scenes against the background, and other special creative effects.

Like SMC Pentax wide-angle lenses, SMC Pentax telephotos are divided into two categories: normal telephotos, which range in focal length from 85mm to 200mm, and super telephotos, which cover the 300mm to 2000mm focal-length range. Of the normal telephoto lenses, the shorter 85mm through 135mm lenses are especially suited for portraiture, as they are readily used indoors in most rooms, and they offer a pleasing perspective for head and shoulder portraits of the subject—nicely highlighting facial features. Although classification overlaps some, the 120mm to 200mm telephotos are highly suited for action sports and on-the-spot news coverage, photographing wildlife at medium range, candid portraits of children, animals and other general applications. They also offer more flexibility than super telephotos in photographing distant subjects as they bring the subject relatively close, yet offer a more natural perspective and include more of the surroundings. Super telephoto lenses, on the other hand, are specifically for long distant work and also produce special effects because of their high magnifications. The 300mm and 400mm super telephotos are also exceptionally compact lenses for their class and permit handheld shooting at relatively fast shutter speeds.



15 SMC PENTAX-M 85mm F2

A great all-around portrait lens with a focal length just right for capturing the natural expression of children, pets, and animals in captivity. Features appear natural, while a soft-focus effect highlights the subject just beyond the depth-of-field. Sharp resolution and contrast are apparent even on close focusing. Thanks to its fast lens speed, the 85mm f/2 lens also makes a fine lens for the theater, night street scenes and other available-light photography.

16 SMC PENTAX-M 100mm F2.8

The 100mm lens is another fine compact portrait lens. Its somewhat longer focal length permits the option of either producing a larger image when working at the same distance as the 85mm lens, or of producing the same size image but with greater working distance. A highly useful lens for theatrical performances, portraits of children, sports events at close range, school activities and the like.

17 SMC PENTAX-M 120mm F2.8

One of the latest lenses in the line, the 120mm f/2.8 lens is an ideal compromise for situations where the 85mm and 100mm lenses fail to bring the subject close enough, and where the 200mm lens has too strong a pull. In addition, it offers closer focusing than the 135mm lens, making it quite handy for portraits. It's also a great lens for action sports and news photography, isolating subjects at medium range, and scenic snapshots. The compact M-type design makes it splendid for hand-held shooting.



18 **SMC PENTAX 135mm F2.5**
19 **SMC PENTAX-M 135mm F3.5**

Like the 120mm lens, the SMC Pentax 135mm lenses represent a good compromise between short and long telephoto lenses. These highly popular lenses have a "reach" which steps beyond the shorter lenses to bring distant objects quite close, with greater convenience than the longer lenses. They are also highly effective for highlighting the main subject by using wide apertures to throw the background out of focus. **SMC Pentax 135mm f/2.5** is one of the fastest telephotos in the line and particularly valuable for action sports, moderate distances, and low-light shooting. **SMC Pentax-M 135mm f/3.5** offers the advantage of almost three times the image size of a standard lens, yet, thanks to its M-type compact design, it is only 13% heavier than the 50mm f/1.4 standard lens. It's a fine moderately priced alternative to the 135mm f/2.5 lens.

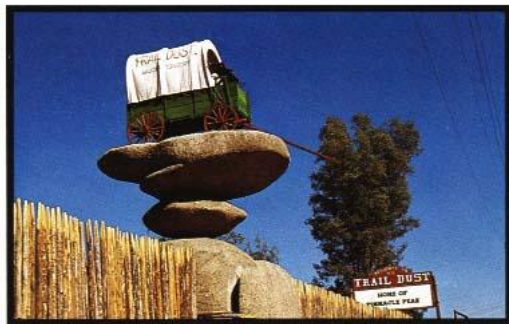


20 **SMC PENTAX-M 150mm F3.5**

The 150mm lens offers a larger image than the 135mm f/2.5 lens, yet, due to its M-type compact design it is almost 40% lighter than the 135mm f/2.5 and it weighs even less than the 50mm f/1.2 standard lens. In spite of its focal length, it's highly versatile for following the action. It's also useful for candid photography, portraiture and "close-ups" of distant subjects.

21 **SMC PENTAX 200mm F2.5**
22 **SMC PENTAX-M 200mm F4**

While not as compact as the 200mm M lens, the **SMC Pentax 200mm f/2.5** lens serves as testimony to Asahi Optical's advanced technology. The world's first f/2.5 200mm lens, it is well suited for available-light photography along with action sports, general subjects at medium range, candid photography and portraits. Its 6-element, 6-group design assures high contrast and definition at wide aperture, beautifully highlighting the main subject against the background. **SMC Pentax-M 200mm f/4**, although 1½ stops slower than the 200mm f/2.5 lens, is even lighter than many conventional 100mm lenses, giving it fantastic maneuverability for its class. Both 200mm telephotos are splendid lenses for bringing medium-range images extremely close.



SUPER TELEPHOTO LENSES



- 23 SMC PENTAX-M * 300mm F4
- 24 SMC PENTAX 300mm F4
- 25 SMC PENTAX-M 400mm F5.6
- 26 SMC PENTAX 500mm F4.5
- 27 SMC PENTAX 1000mm F8

The giant airliner setting down on the far edge of the runway, the slowly sinking sun filling the whole frame, or the evening moon looming over the horizon. These photographs all fall in the realm of long distance photography with SMC Pentax Super Telephoto Lenses. And, Pentax offers you a rich choice. Magnifications run all the way from 6X with the 300mm super tele, to 40X with the mighty 2000mm telephoto lens. Moreover, the extra-lightweight 300mm and 400mm models are quite adequate for hand-held shooting in many situations. SMC Pentax-M* 300mm f/4, an entirely new generation telephoto lens utilizing low-dispersion glass for excellent correction of chromatic aberration and an ultra-compact design which not only makes



it the smallest and most compact 300mm lens on the market, but opens up an entirely new range of handheld shooting possibilities from action sports to distant wildlife and beautiful soft-focus portraits. SMC Pentax 300mm f/4, with its compressed tele perspective and sharp depth of field, is a great lens for dynamic action and nature photographs. Even with the diaphragm fully opened, aberrations are reduced to a minimum, offering needle-sharp resolution with every picture. SMC Pentax-M 400mm f/5.6 is also extremely lightweight, compact for its focal length, and hand-holdable at relatively fast shutter speeds. Its powerful 8X magnification makes it especially valuable for outdoor sports, news and nature photography. Likewise, SMC Pentax 500mm f/4.5 is extremely lightweight for its focal length and has a powerful long focus to bring objects inaccessible with shorter lenses to within reach. Its relatively fast maximum aperture and built-on sight also simplify focusing and composition. SMC Pentax 1000mm f/8 is the fastest of the two 1000mm telephoto lenses and the ultimate in fine optics for

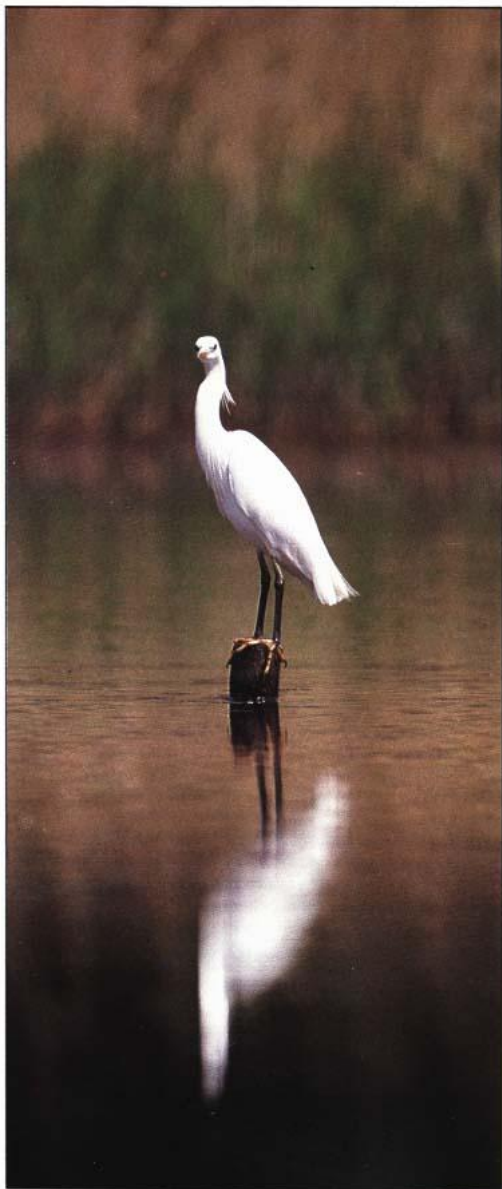
surveillance, research, and high-impact wildlife and news photography. The 20X magnification of this lens is so powerful that it brings subjects into focus which are invisible to the naked eye. A built-on sight and rack and pinion focusing system permit fast focusing, while a specially designed tripod is available which holds the lens in perfect balance, assuring steady shooting without camera movement.

28 SMC PENTAX REFLEX 1000mm F11

The 1000mm reflex telephoto lens provides the powerful reach of the SMC Pentax 1000mm f/8 telephoto lens, but is only 1/3 as long and weighs less than half as much. The dramatic size reduction of this lens is made possible by employment of reflex optics, whereby the optical path is folded by the combined use of mirrors and lenses. The use of mirrors also eliminates the need for optical correction, making the reflex lens almost totally free of aberrations. Another benefit of the reflex design in this 1000mm lens is its incredibly close minimum focusing distance of 8 meters (24 ft.) — approximately equal to the minimum focus of the 400mm tele lens, but with over twice the magnification. As the reflex design does not permit inclusion of a lens diaphragm, light control for the 1000mm Reflex is via four built-in ND (neutral density) filters and shutter speed variation. Other features include four built-in standard filters, and a built-on sight to facilitate focusing.

29 SMC PENTAX REFLEX 2000mm F13.5

Offering incredible portability for its focal length, the new 2000mm reflex lens has revolutionized surveillance, scientific and news photography. This lens has an ultra-powerful magnification 40 times that of a standard lens, yet it is amazingly compact — actually 20cm (8 in.) shorter than the conventional SMC Pentax 1000mm f/8 lens. Moreover, it weighs a relatively light 8 kilograms, less than half the weight of its competitor. As with the 1000mm reflex lens, the reflex optical system of the 2000mm lens automatically eliminates aberrations; exposure is controlled by four built-in ND filters. Other features include four built-in standard filters, a built-on lens shade, rotatable tripod socket, built-on sight and a lightweight metal-alloy trunk-type carrying case (sold separately). Both the 1000mm and 2000mm reflex lenses are capable of the unique highlighting doughnut effect which adds interest to photographs taken with reflex lenses.



THE PENTAX ZOOM SYSTEM



Traditionally the zoom lens has been valued for its versatility. By combining several single lenses into one and offering continuously variable focal length, it enables the photographer to zoom either in or out, swiftly framing his subject at will, without taking a step. Thus, it eliminates the need for frequent lens changes and permits fast-action shots which would otherwise be lost. On the other hand, zoom lenses have been notorious for their traditional drawbacks: slow lens speed, excessive bulk and weight, and a perceptible loss of optical quality. Designed to capitalize heavily on the traditional zoom virtues and to minimize the drawbacks, the modern Pentax zoom lenses have changed all this. They are new generation zooms which have literally ushered in a new era of zoom photography. Thanks to the latest space-age optical advances of Asahi Optical Co., they are as sharp as any fixed focus lens at any aperture. Moreover, all but the 135mm — 600mm super telephoto zoom are highly compact, and 6 of the 8 are M-type zooms, which are characteristically lighter, easier to handle and a good bit faster than the older generation zooms, as demonstrated by the new 35mm f/2.8 — 70mm f/3.5 wide-to tele zoom.

The focal length coverage obtained with Pentax Zoom lenses is also extremely practical and does not needlessly overlap. Moreover, it provides a working system, whereby in choosing two of the compact zooms (which give the coverage of approximately 10 fixed-focal length lenses), today's Pentax photographer can literally "go it zoom."

30 SMC PENTAX-M ZOOM 24mm — 35mm F3.5

Incredibly small for a zoom lens and weighing a mere 290 grams (10-1/4 ozs.), this M-type compact zoom is order-made for the wide-angle photographer. Produces an ultra-wide-angle effect at 24mm, a moderate wide-angle effect at 28mm and 30mm, and a near standard effect when focused for medium distances at 35mm. Its versatility and handling ease are hard to beat.



31 SMC PENTAX-M ZOOM 24mm — 50mm F4

A truly all-purpose wide-angle lens for everything under the sun or rooftop. The 24 ~ 50mm model is the most versatile lens in the line and also highly compact, considering it offers full coverage all the way from ultra-wide to standard. In addition, the latest optical advances have enabled optical performance equaling a fixed-focus lens at all settings. Great for action sports, snapshots, architectural photography, nature or street scenes, creative applications—you name it.

32 SMC PENTAX-M ZOOM 28mm F3.5 — 50mm F4.5

This sensational wide-to-standard M compact zoom is unbelievably handy and actually as small as a conventional size standard lens. Its 28mm wide-angle to full 50mm standard coverage is highly practical, and utilization of a variable aperture design enables superb image rendition and maximum performance at all apertures.

33 SMC PENTAX-M ZOOM 35mm F2.8 — 70mm F3.5

Unprecedented speed and compactness for its range make this new generation zoom another highly popular lens which many photographers have already adopted as their standard lens. And no wonder. Both its maximum wide-angle and tele settings are as fast as their respective fixed-focal length counterparts, while the aperture is relatively wide at 50mm as well. Needless to say, its fast maximum aperture at the wide-angle setting permits versatile shooting in fairly well-lit rooms and available-light use with high speed films.

34 SMC PENTAX-M ZOOM 40mm F2.8 — 80mm F4

Here's a zoom that's difficult for any photographer to exclude from his system. Fast, small and economical, the new 40mm — 80mm M-type compact zoom has all the credentials to qualify as a variable focal length standard lens. At 40mm it gives you a pleasant wide-angle touch, at 50mm it matches the ever-so-familiar and pleasing perspective of the fixed standard lens, and at 80mm it gives you striking portraits that fill the viewfinder. In addition, you need only zoom a little further to engage the macro override system, for high quality ultra close-ups at magnifications up to 1/4X.



35 SMC PENTAX-M ZOOM 45mm-125mm F4

36 SMC PENTAX-M ZOOM 75mm-150mm F4

37 SMC PENTAX-M ZOOM 80mm-200mm F4.5

38 SMC PENTAX-M ZOOM 135mm-600mm F6.7

Combine your choice of the short focal length zooms with either the 45mm — 125mm f/4, the 75mm — 150mm f/4, or the 80mm — 200mm f/4.5 zoom and you can match the performance of approximately 10 fixed lenses focal length for focal length without great loss of speed. **SMC Pentax Zoom 45mm-125mm f/4** is a fine multipurpose zoom for action sports and news photography, portraits of children and pets, isolation of distant scenery and other general applications. Its 3:1 zoom ratio offers 2.7 times the magnification of the standard lens at the maximum focal length. **SMC Pentax Zoom-M 75mm — 150mm** is a new easy-to-handle M compact zoom that's a mere 111 millimeters in length and features one-touch zoom/focus control to let you frame your subject in no time at all. Its highly practical focal length range gives you six highly popular telephoto lens settings in one. **SMC Pentax Zoom-M 80mm-200mm f/4.5** is another outstanding M compact lens which features a short barrel design, making it excellent for hand-held shooting. It's ideal for the quick action demands of news, sports and wildlife photography, for zeroing in on medium range subjects, and also for portraits and candid photography. **SMC Pentax Zoom 135mm-600mm f/6.7** with its powerful zoom ratio and fast maximum aperture for its class is the ultimate in distance photography for professional press, sports and wildlife photographers. Convenient features include a rotatable tripod socket, a sight for quick focusing and a provision to accept filters at the rear.



17mm



28mm



50mm



200mm



500mm

MACROPHOTO LENSES



39 SMC PENTAX-M MACRO 50mm F4

40 SMC PENTAX-M MACRO 100mm F4

Both the SMC Pentax 50mm and 100mm macrophoto lenses are lenses which are optimized for close-up photography, but offer continuous focusing from macro range to infinity for use in general photography as well. They are particularly valuable for close-ups of insects, flowers and other nature photos; also for photographing flat, inanimate objects such as coins, stamps, documents and so on. **SMC Pentax-M Macro 50mm f/4** offers continuous focus to infinity and enables magnifications up to greater than life-size when used in conjunction with Reverse Adaptor K (shown on page 35). You can also use it as a standard focal length lens in the general focusing range.

SMC Pentax-M Macro 100mm f/4 offers greater magnifications than the 50mm macro lens in both the macro and general focusing ranges. In the macro range, this highly versatile lens lets you take close-ups of flowers that are beyond the reach of the 50mm lens. It also lets you shoot small insects at greater distances so that they are not frightened away. Moreover, in the general focusing range, you can use it as a regular 100mm telephoto for shooting distant mountains and scenery when focused at infinity, or for portraits when focused at close range.



41 SMC PENTAX BELLOWS 100mm F4

The compact and lightweight 100mm f/4 bellows lens offers applications similar to those of the 100mm macro lens, except that it is designed specifically for use with bellows equipment. With Auto Bellows M, it offers magnifications to greater than life-size and also permits automatic diaphragm operation. When used with Bellows Unit M, diaphragm control is manual and magnifications run to 0.9X. A fine lens for the wide range of macrophotography with the bellows. It is also highly suited for both academic and creative nature photography, whether it's a pine cone dangling from a branch or an insect basking in the sun.

SPECIAL PURPOSE LENSES



42 SMC PENTAX FISH-EYE 17mm F4

The fisheye lens is an invaluable tool for the creative photographer. Characteristics enjoyed by professional photographers include its exaggerated perspective, incredible depth-of-field and ability to bend straight lines. **SMC Pentax Fish-Eye 17mm f/4** has an enormous 180° angle of view which enables it to engulf the tallest building or most expansive landscape. Its compact size and four built-in filters are also attractive features, as well as its provision to accept gelatin filters at the rear.

43 SMC PENTAX SHIFT 28mm F3.5

A problem constantly plaguing photographers, especially in architectural photography, is that of converging lines. The 28mm shift lens is both the solution to the above dilemma and a highly creative tool as well. In addition to having a 360° rotating lens barrel permitting you to correct undesired perspectives, it offers you the choice of not correcting or overcorrecting for attractive and dynamic creative effects. It also permits striking double-negative panorama photos, by splicing two corrected negatives together. Four built-in filters are provided, and there's provision for gelatin filters at the rear.

Uncorrected



Corrected



LENS SPECIFICATIONS

● Type	● Name of Lens	● Minimum Aperture	● Angle of View (Degrees)	● Lens Construction (Group Elements)	● Diaphragm	● m.	● ft.	● Minimum Focusing Distance	● Maximum Diameter & Length (mm x mm)	● g.	● oz.	● Weight	● Filter Size (mm)
FISH-EYE	SMC Pentax Fish Eye 17mm f/4	22	180	7-11	FA	0.2	0.66	64.5 x 34	235	8.29	81		
ULTRA-WIDE-ANGLE	SMC Pentax 15mm f/3.5	22	111	12-13	FA	0.3	1.0	80 x 81.5	600	21.16	81		
	SMC Pentax 18mm f/3.5	22	100	11-12	FA	0.25	0.79	63 x 61.5	295	10.40	81		
	● SMC Pentax-M 20mm f/4	22	95	8-8	FA	0.25	0.9	63 x 29.5	150	5.29	49		
	SMC Pentax 24mm f/2.8	22	84	8-9	FA	0.25	0.79	63 x 41.5	195	6.88	52		
WIDE-ANGLE	● SMC Pentax-M 28mm f/2	22	75	7-8	FA	0.30	1.0	63 x 41.5	215	7.58	49		
	● SMC Pentax-M 28mm f/2.8	22	75	7-7	FA	0.30	1.0	63 x 31	155	5.47	49		
	SMC Pentax 30mm f/2.8	22	72	7-7	FA	0.30	1.0	63 x 39.5	215	7.58	52		
	● SMC Pentax-M 35mm f/2	22	63	7-7	FA	0.30	1.0	63 x 42	205	7.23	49		
	● SMC Pentax-M 35mm f/2.8	22	63	6-6	FA	0.30	1.0	63 x 35.5	170	6.00	49		
STANDARD	● SMC Pentax-M 40mm f/2.8	22	57	4-5	FA	0.60	2.0	63 x 18	110	3.88	49		
	SMC Pentax 50mm f/1.2	22	47	6-7	FA	0.45	1.5	65 x 48.5	385	13.58	52		
	● SMC Pentax-M 50mm f/1.4	22	47	6-7	FA	0.45	1.5	63 x 37	235	8.29	49		
	● SMC Pentax-M 50mm f/1.7	22	47	5-6	FA	0.45	1.5	63 x 31	185	6.52	49		
	● SMC Pentax-M 50mm f/2	22	46	5-5	FA	0.45	1.55	63 x 31	137	4.83	49		
TELEPHOTO	● SMC Pentax-M 85mm f/2	22	28.5	4-5	FA	0.85	2.8	62.5 x 46	250	8.82	49		
	● SMC Pentax-M 100mm f/2.8	22	24.5	5-5	FA	1.0	3.3	62.5 x 55.7	225	7.94	49		
	● SMC Pentax-M 120mm f/2.8	32	20.5	5-5	FA	1.2	4	62.5 x 63	270	9.52	49		
	SMC Pentax 135mm f/2.5	32	18	6-6	FA	1.5	5	67.5 x 85.9	480	16.93	58		
	● SMC Pentax-M 135mm f/3.5	32	18	5-5	FA	1.5	5	62.5 x 65.7	270	9.52	49		
	● SMC Pentax-M 150mm f/3.5	32	16.5	5-5	FA	1.8	6	62.5 x 75	290	10.23	49		
	SMC Pentax 200mm f/2.5	32	12.5	6-6	FA	2.0	6.5	89 x 145	950	33.51	77		
	● SMC Pentax-M 200mm f/4	32	12.5	5-6	FA	2	6.5	63.5 x 111	400	14.11	52		
ULTRA TELEPHOTO	● SMC Pentax-M 300mm f/4	32	8.3	7-8	FA	4	13	84 x 132	825	29.10	77		
	SMC Pentax 300mm f/4	32	8.3	5-7	FA	4	13	85 x 188	1,020	35.98	77		
	● SMC Pentax-M 400mm f/5.6	45	6.2	5-5	FA	5	17	85 x 276.5	1,220	43.03	77		
	SMC Pentax 500mm f/4.5	45	5	4-4	M	10	35	126.5 x 440	3,370	118.86	52		
	SMC Pentax 1000mm f/8	45	2.5	5-5	M	30	100	143 x 738	5,290	186.58	52		
	SMC Pentax Reflex 1000mm f/11	—	2.5	4-6	ND	8	27	119 x 248	2,300	81.12	81/52		
	● SMC Pentax-M Reflex 2000mm f/13.5	—	1.2	4-6	ND	20	66	180 x 530	8,000	282.16	81/52		
ZOOM	● SMC Pentax-M Zoom 24mm ~ 35mm f/3.5	22	84-63	9-9	FA	0.5	2	64 x 48	290	10.23	58		
	● SMC Pentax-M Zoom 24mm ~ 50mm f/4	22	84-47	10-12	FA	0.4	1.4	64 x 66.5	380	13.40	58		
	● SMC Pentax-M Zoom 28mm f/3.5 ~ 50mm f/4.5	22	75-47	10-10	FA	0.6	2.1	65 x 52	310	10.93	52		
	※ SMC Pentax AF Zoom 35mm ~ 70mm f/2.8	22	63-34.5	7-7	FA	1.2	4	73 x 76.5	580	20.46	58		
	● SMC Pentax-M Zoom 35mm f/2.8 ~ 70mm f/3.5	22	63-34.5	7-7	FA	1	3.5	67 x 76	470	16.58	67		
	● SMC Pentax-M Zoom 40mm f/2.8 ~ 80mm f/4	22	57-30.5	7-7	FA	1.2	4	65.5 x 76	395	13.93	49		
	SMC Pentax Zoom 45mm ~ 125mm f/4	22	51-19.5	11-14	FA	1.5	5	69 x 127	615	21.69	67		
	● SMC Pentax-M Zoom 75mm ~ 150mm f/4	32	32-16.5	9-12	FA	1.2	4	63.5 x 111	465	16.40	49		
	● SMC Pentax-M Zoom 80mm ~ 200mm f/4.5	32	30.5-12.5	12-15	FA	1.6	5.5	65 x 141.5	560	19.75	52		
	SMC Pentax Zoom 135mm ~ 600mm f/6.7	45	18-4.1	12-15	M	6	20	105 x 582	4,070	143.55	52		
MACRO	● SMC Pentax-M Macro 50mm f/4	32	47	3-4	FA	0.234	0.77	63 x 42.5	165	5.82	49		
	● SMC Pentax-M Macro 100mm f/4	32	24.5	3-5	FA	0.45	1.48	64.6 x 77.5	360	12.70	49		
	SMC Pentax Bellows 100mm f/4	32	24.5	3-5	FA/M	—	—	60 x 40	185	6.52	52		
SHIFT	SMC Pentax Shift 28mm f/3.5	32	75	11-12	M	0.3	1.0	80 x 92.5	610	21.51	81		

BI ... Filters built-in FA ... Fully automatic M ... Manual ND ... ND filters built-in
 ● ... Compact lens * (M) ... 300mm f/4 lens is an ultra-compact telephoto utilizing specially ground glass. * ... AF stands for Auto Focus; auto focusing possible only with ME F.

Note: Lens length does not include mount portion.



FILTERS

Filters play an important role in photography. Skillful use of them enables the photographer to increase his depth of expression and creativity manifold. Filters serve a variety of purposes such as removing harmful ultra-violet rays, reducing reflections, emphasizing the contrast of a scene, improving results in cloudy weather, at dusk or dawn, and so forth. A wide selection of sizes and types is available as indicated in the chart on the opposite page. For convenience sake, they have been classified into black & white and color filters. However, some color filters are used specifically with certain types of color films, while others, such as the polarizing and UV filters, may be used with all films.

Filters for Color Films

Skylight Filter—Absorbs blue, green and ultra-violet light rays. Tones down the bright sky for landscape photography.

Cloudy—Suitable for cloudy or rainy days to lighten excessive blue.

Morning and Evening—Lightens excessive red at sunset and sunrise.

Flash Filter—Brings the white flash from black and white flash bulbs into balance with daylight color film.

Floodlight Filter—Balances daylight color film with white floodlights.

Fluorescent—Eliminates the greenish tint produced when using color films with fluorescent lighting.

Filters for Black & White Film

• **UV (ultra-violet) filter**—Absorbs ultra-violet rays and reduces haze in the picture so that distant scenery photographs clearly.

• **Y1, Y2, O2, R2**—These filters absorb blue so that skies are made darker and clouds are sharply silhouetted; they also increase the contrast of distant scenery. Effects become progressively stronger in order from Y1. The R2 filter is indispensable for infrared photography.

• **YG**—Absorbs ultra-violet, purple, blue to darken the sky and all red tones; darkens flesh tones to aid in outdoor portraits.

Polarizing Filter

The polarizing filter is effective for both black & white and color photography. This filter reduces or eliminates surface reflections when photographing subjects that are behind glass, beneath the surface of the water or behind other high gloss surfaces. It also darkens blue skies without affecting the rest of the scene.



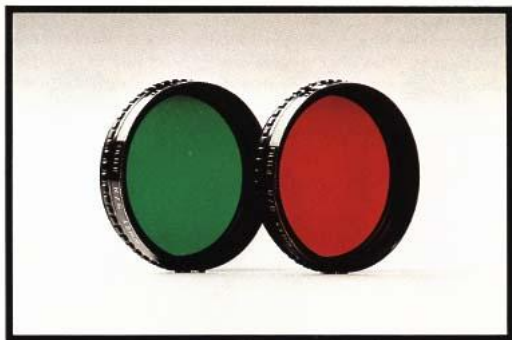
SMC Filters

SMC filters are multi-layer coated with Pentax Super-Multi-Coating just as precisely as the SMC Pentax lenses themselves to give added assurance of high quality performance and maximum contrast of the lenses under filtration. Check the chart below for available types and sizes.



Filter Types & Sizes

		Type	Color					Black & White							
			•Skylight	•Cloudy	•Morning & Evening	•Flash	•Flood	Fluorescent	•UV	•Y1	•Y2	•O2	•R2	•YG	•Polarizing
49mm	Standard		●	●	●	●	●	●	●	●	●	●	●	●	●
	SMC		●	●				●	●	●	●	●	●		●
52mm	Standard		●	●	●	●	●	●	●	●	●	●	●	●	●
	SMC		●	●				●	●	●	●	●	●		●
58mm	Standard		●					●	●	●	●	●			●
	SMC		●	●				●	●	●	●	●			
67mm	Standard		●					●	●	●	●	●			
	SMC		●	●				●	●	●	●	●			
77mm	Standard		●					●	●	●	●	●			
	SMC		●	●				●	●	●	●	●			



Special Filter Series

The Pentax filter selection also features a series of seven special-effects filters which screw into the front of the lens to enable a host of special creative applications such as central focusing, producing multiple images, instantly changing the color tone of the picture and so forth. These filters come in two groups; each filter is available in both 49mm and 52mm sizes.

Fantasic Color Filters

- **Fantasic Color Filter R/B** — A rotating filter which changes color from red to blue and produces hues inbetween as you turn the ring. Ideal for the reds of sunsets and the autumn leaves or the blue of the sky and the sea. Also creates pseudo night effects with daylight scenes.
- **Fantasic Color Filter R/G** — A screw-in variable color filter which changes color from red to amber and then to green as you rotate the ring. Good for portraits, fashion photography and hundreds of other creative applications.

Magic Image Attachments

- **Magic Image Attachment 5C** — A prism filter with five facets and a flat center to produce six images of the highlighted center subject.
- **Magic Image Attachment 4C** — Four prism facets and a flat center area rendering five images of the main subject.
- **Magic Image Attachment 2C** — Two prism facets plus a flat center which give three images of the main subject.
- **Magic Image Attachment 6M** — Five parallel prism facets are arranged on an arch on one-half of this filter while the other half is flat to give six images of the subject.
- **Magic Image Attachment CF** — The CF (Central Focusing) attachment gives a sharp image in the center and produces a soft and hazy effect on the periphery. Creates especially beautiful effects with portraits and nature photography, etc.



GELATIN FILTER HOLDER

The Pentax Gelatin Filter Holder holds three-inch square Kodak or other gelatin filters. The accessory filter frame is used in conjunction with the holder, while the Kodak gelatin filter frame can also be used. Once the filter is inserted into its frame it is simply sandwiched in the holder—a feature which makes filter changes extremely easy.

LENS HOODS

The lens hood shields the lens from extraneous light from outside the picture area which often causes unwanted reflections to reach the film. The hood also protects the lens against dust, fingerprints, even snow and rain; thus, it is often used solely for protection.

Pentax lens hoods come in various types and sizes to meet the specific requirements of the different lenses. Metal hoods are available in both rectangular and round shapes; these either screw into or clip firmly to the front of the lens and will remain fastened, even if the camera is handled roughly. Soft lens hoods made of flexible rubber are also available for certain lenses; these screw to the lens' filter threads.



CLOSE-UP ACCESSORIES



SMC CLOSE-UP LENSES

The brightly colored butterfly resting atop a flower, dewdrops gleaming in the morning sun, and countless other of the myriad formations of nature. This is the fascinating world of close-up photography. SMC Pentax Close-up Lenses are an economical and troubleless way to break into this world. These attachments screw over the front of the master lens and convert it for close focusing. Moreover, they do not interfere with the automatic diaphragm action of the master lens and do not require exposure compensation.

Close-up lenses are available in different types and sizes to meet the specifications of the different SMC Pentax lenses. Each is precision designed and treated with Super-Multi-Coating to maintain the high quality performance and light transmission characteristics of the lens for which it is specified.

Type	SMC Pentax Lens	Lens-to-subject distance range	Magnification
S40	40mm f/2.8	48.0~27.0cm (with 50mm f/1.7 lens)	1/7.6~1/3.5 (with 50mm f/1.7 lens)
	50mm f/1.4		
	50mm f/1.7		
S25	40mm f/2.8	32.6~22.0cm (with 50mm f/1.7 lens)	1/4.8~1/2.7 (with 50mm f/1.7 lens)
	50mm f/1.4		
	50mm f/1.7		
T80	85mm~150mm	91.6~50.5cm (with 85mm f/1.8 lens)	1/9.4~1/4.2 (with 85mm f/1.8 lens)
T160	100mm~150mm	175.0~89.5cm (with 135mm f/3.5 lens)	1/11.9~1/4.9 (with 135mm f/3.5 lens)
T95	135mm f/2.5	114.0~84.0cm (with 200mm f/4 lens)	1/4.8~1/2.6 (with 200mm f/4 lens)
	200mm f/4		
T183	135mm f/2.5	202.0~113.0cm (with 200mm f/4 lens)	1/9.1~1/3.8 (with 200mm f/4 lens)
	200mm f/4		



1 AUTO EXTENSION TUBE SET K

Another way to obtain high quality close-ups is by use of extension tubes which are also useful for macrophotography (close-ups greater than life-size). Auto Extension Tube Set K consists of three different rings which can be used either individually or in combination for varied magnifications from 1/2X to 1X (3X with lens reversed), depending upon the lens it is used with. Auto Extension Tube Set K is also more convenient to use than the manual extension tube set as it retains the automatic diaphragm operation and open-aperture metering characteristics of the lens.

2 MANUAL EXTENSION TUBE SET K

Basically the same as the auto extension tube set except that diaphragm operation is manual with stopped-down metering. Magnifications are approximately the same but vary slightly due to different specifications.

3 AUTO EXTENSION TUBE K 50mm

A single fixed-length extension tube offering automatic diaphragm operation and open-aperture metering. For its range, it is an economical alternative to Auto Extension Tube Set K. Magnifications up to life-size (with the 100mm f/4 macro lens), 0.4X (with 120mm to 135mm lenses), 0.25X (with 200mm lenses).

4 AUTO EXTENSION TUBE K 100mm

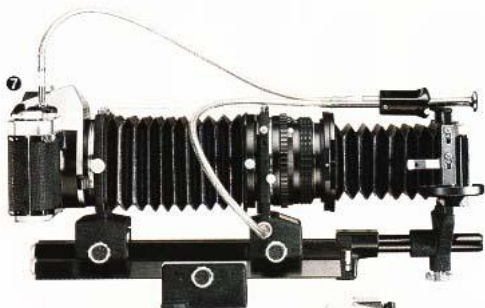
A fixed-length extension tube with twice the focal length of Auto Extension Tube K 50mm. It offers all the advantages of the above, plus striking magnification with telephoto lenses: 1X with 100mm telephoto lenses, 0.8X with 120mm to 135mm lenses, 0.5X with 200mm lenses, and 0.35X with 300mm lenses.

5 HELICOID EXTENSION TUBE K

A manual extension tube featuring an adjustable internal helicoid permitting length variation of the tube for covering magnification gaps that are not covered with fixed-length extension tubes. Magnifications are 0.47X to 0.99X with the 50mm lens.

6 REVERSE ADAPTOR K

When working with magnifications greater than life-size, the lens must be reversed for optimum results. This adaptor is available in both 49mm and 52mm sizes. One side of the appropriate adaptor screws into the front threads of the lens, and the other bayonets into the camera.



7 AUTO BELLOWS M & SLIDE COPIER M

If you do a lot of high magnification photographs you will probably find Auto Bellows M the most convenient method. There is less fiddling and changing, and higher magnifications are possible than with extension tubes alone. The Auto Bellows

unit has an extension range from 38mm to 170mm; magnification is freely variable within that range. Other features include a lens-reversing system, double cable release for retaining automatic diaphragm and open-aperture metering, and a scale to check bellows extension. The tripod receptacle is moveable. Minimum magnification is 0.73X with a 50mm lens. The Slide Copier M unit attaches to the Auto Bellows for quick, accurate slide duplication and partial magnification.

8 BELLOWS UNIT III

This bellows unit is an economical, non-automatic alternative to Auto Bellows M. More compact, it has an extension range from 32mm to 137mm and a minimum magnification of 0.62X with a 50mm lens. The tripod receptacle is moveable, a scale shows magnification; the lens is reversed by employing the optional reverse adaptor.

9 SLIDE HOLDER 1x, K/ SLIDE HOLDER K

Slide Holder 1x, K serves the same purpose as Slide Copier of Auto Bellows. When used with an Auto Extension Tube K or Extension Tube K, this unit allows the standard lens or Macro 50mm f/4 lens to make slide duplications with 1x magnification. Slide Holder K enables the magnifications from 1.1 ~ 1.15x with the Macro 50mm lens and Auto Extension Tube No. 3.

10 FINE FOCUS ADJUSTOR

This attachment comes in handy for larger-than-normal magnifications where depth of field is minutely shallow and focusing with the lens is difficult or would alter the desired magnification. Used with a tripod, the Macrophoto Stand or copy stand, the Fine Focus Adjustor solves the problem achieving pinpoint focus by moving the entire camera without adjusting the lens (altering magnification thereby), or by moving the support system. (Fine Focus Adjustor Units II and III are also available.)

11 MACROPHOTO STAND/LIGHTING TABLE

The Pentax Macrophoto Stand and its optional Lighting Table are highly compact accessories which make a very convenient combination for ultra close-ups and macrophotography. When employed in conjunction with the 50mm f/4 macro lens, Auto Extension Tube K, Reverse Adaptor K, and the Fine Focus Adjustor, magnification is continuously variable from 1/2X to 1.9X. Used with Auto Bellows M, magnification runs from 0.7X to 3X. The Stand is supplied with a reversible gray/black stage plate which offers ideal reflectance for test exposure readings. Optional accessories include extension columns (two), a mechanical stage, Fine Focus Adjustor Units, and both 35mm and 6x7 slide carriers for copywork.

The Lighting Table fits neatly to the base of the Macrophoto Stand and provides permeable lighting from beneath the subject by fitting the accessory transparent glass stage plate in place of the gray/black stage plate. Light is supplied internally via a built-in tungsten light source, while a built-in rotatable mirror can be used to reflect both internal and external lighting sources (i.e., electronic flash, reflector lamps, slide projector bulb, etc.). Standard accessories for the Lighting Table are the glass stage plate, frosted filter, 25W bulb and AC Cord.

COPYING ACCESSORIES

1 COPY STAND III & III P

The Copy Stand aligns the camera quickly and accurately for copywork. It is equipped with a fine adjustment device which facilitates accurate focusing.

Model III is a fixed type. Model III P is portable, its base serving as a carrying case when the unit is disassembled. Each model has an 18% standard reflector which facilitates exposure measurement.

2 TABLE CLAMP

The table clamp is useful for fixing the Copy Stand III's leg to a table top less than 6cm thick.

3 CABLE RELEASES

A cable release is a "must" for preventing camera movement, especially when the camera is being used on a tripod, copy stand or copipod. This unit has a locking collar to allow time exposures. Available in the following two types:

Cable Release 30 — Loosen the stopper and release the shutter at B (Bulb); the release is locked automatically. It is 30cm long.

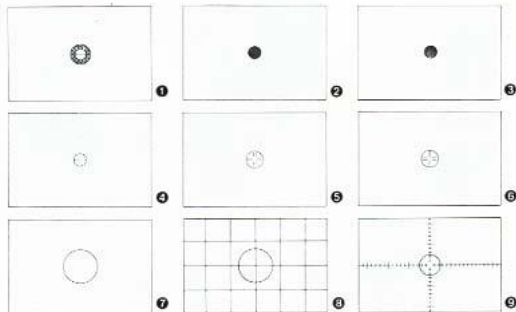
Cable Release 50 — 50cm long, convenient for releasing the shutter from a distance.



FOCUSING SCREENS (For the Pentax MX)

While the standard focusing screen supplied with the Pentax MX is highly adequate for most general photographic purposes and works well with most all lenses, interchangeable focusing screens have been provided as part of the MX system to facilitate certain specialized and professional applications. Certain screens serve solely as alternatives to the standard screen to meet individual preferences, and others aid photographers working extensively with a wide range of lenses. Interchangeable screens are easily installed and removed via the camera body mount. The following types are available:

- 1 **SC-1** The standard screen for the MX with 3-way focusing capabilities. This is the most versatile of all focusing screens. Comprised of a central split-image circle surrounded by a microprism collar in a ground-glass field.
- 2 **SA-1** This screen is also highly versatile, yet relatively simple consisting of a central microprism grid surrounded by a ground glass field without the split-image circle. Ideal for those who find the split-image distracting.
- 3 **SA-3** Similar to SA-1, but features sharper prism angles to simplify focusing with high speed ($f/1.2$ – $f/2.8$) lenses.
- 4 **SB-1** A relatively plain screen consisting of a split-image circle, without the microprism grid, on a ground-glass field. Almost as versatile as the standard screen and used with as many lenses.
- 5 **SD-1** An all mat focusing screen with central cross hairs. Ideal for photomicrography and astrophotography. The large magnification also makes it suitable for macrophotography when working with a dark viewfinder.
- 6 **SD-11** Similar to SD-1 but with no mat.
- 7 **SE** An all mat ground-glass screen which is especially suited for focusing with super telephoto lenses having small apertures; also suited for work with macro lenses and general work emphasizing composition.
- 8 **SG** Similar to the SE screen but also with etched crosslines forming 6mm squares which serve as guidelines for aligning the subject for architectural photography and for double exposures; (especially useful with the shift lens).
- 9 **SI** Also similar in design and function to the SE, but with engraved scales to help determine subject size for bellows and microscope photography.



FOR CRITICAL FOCUSING

1 CORRECTION LENS ADAPTOR CORRECTION LENS ADAPTOR-M

A clip-on prescription eyepiece designed for eyeglass wearers. Specially ground corrective lenses are available in 8 diopters. Adaptor-M is designed for use with the Pentax MX, MV, MV-1, ME and ME SUPER. For the Pentax K1000, KM, KX, and K2, use the adaptor without the "M" designation.

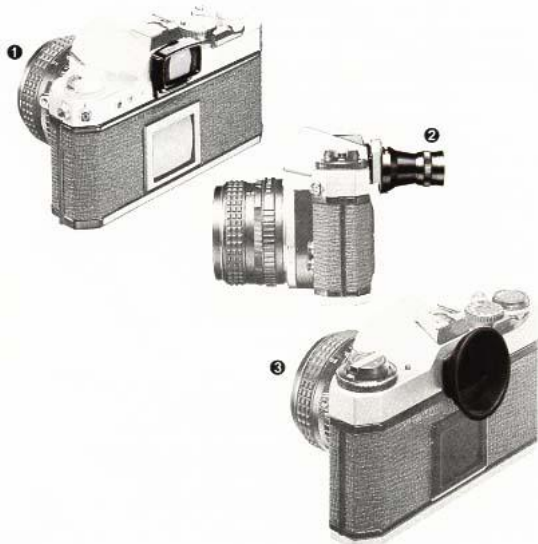
SMC CORRECTION LENSES SMC CORRECTION LENSES-M

SMC Correction Lenses are available in -5, -4, -3, -2, -1, +1, +2 and +3 D (Diopter). Since the eyepiece lens of your Pentax camera is between -0.5 D and -1.0 D, a farsighted person normally requiring +2 D, should utilize a +3 D (+2 D - [-1.0 D] = +3D) SMC Correction Lens. Similarly, a nearsighted person normally requiring -2 D should utilize a -1 D (-2 D - [-1.0 D] = -1 D) SMC Correction Lens.

SMC Correction Lenses-M are designed for use with the Pentax MX, MV, MV-1, ME and ME SUPER. For the Pentax K 1000, KM, KX, and K2, use the correction lenses without the "M" designation.

2 MAGNIFIER MAGNIFIER-M

Simply attach it to the grooves of the eyepiece to magnify the central portion of the focusing screen 2X for critical focusing. The hinged magnifier can be raised to view the entire focusing screen, and is designed to accept SMC Correction Lenses as well. Magnifier-M is for use with the Pentax MX, MV, MV-1, ME and ME SUPER. For the Pentax K 1000, KM, KX, and K2, use the magnifier without the "M" designation.



3 EYECUP II EYECUP-M

A useful aid for non-eyeglass wearers as it eliminates reflections for clear viewing, and also prevents extraneous light from entering the eyepiece and influencing the meter.

Use Eyecup-M for the MX, MV, MV-1, ME and ME SUPER, and Eyecup II for the Pentax K1000, KM, KX, or K2.

4 REFCONVERTERS

Asahi Pentax Refconverters, also referred to as right-angle finders, serve as an invaluable aid when copying, working from a low angle, or whenever it is difficult to directly view through the viewfinder.

REFCONVERTER II REFCONVERTER-M

These Refconverters are extremely easy to use as the image appears exactly as it does when directly viewing through the viewfinder of the camera, non-reversed and laterally correct. The Refconverters have provision for diopter adjustment, and come with rubber eyecups.

Refconverter-M has a built-in 2X magnifier which is brought into action by simply moving a switch. For the Pentax MX, MV, MV-1, ME and ME SUPER, use Refconverter-M. For the Pentax KX or K2, use Refconverter II.

REFCONVERTER

The image in the Refconverter without the "II" designation appears laterally reversed. Therefore, if it were to be used with the KX or K2, the figures in the shutter speed scale or aperture readout in the viewfinder would appear backwards, making it inconvenient to use. For the above reason, this Refconverter is only recommended for use with the Pentax K 1000 or KM.



LENS ADAPTORS • PHOTOMICROGRAPHY

1 REAR CONVERTER K T6-2X

This handy lens adaptor is a high performance telephoto converter unit which doubles the length of the lens in use; thus, converting shorter telephoto lenses to medium range, and midrange to super telephotos. It was designed to offer optimum performance when used with telephoto lenses in the 135mm to 300mm range. The rear converter unit fits conveniently between the lens and camera body mount; it retains both the automatic diaphragm action and the open-aperture metering characteristics of the lens in use.

2 90° MIRROR ADAPTOR II

This adaptor was designed specifically for candid and surveillance photography. The front of the adaptor features a dummy lens which leads onlookers to believe that the photographer is shooting in the normal manner; while the actual photography is taken through a porthole on the side of the adaptor unit. 90° Mirror Adaptor II attaches to the filter threads of almost all SMC Pentax and Takumar lenses in the 135mm to 200mm range—the ideal range for sharp candid shots while hand-holding the camera.

3 49mm AND 52mm STEREO ADAPTOR

4 STEREO VIEWER II

Stunning 3-D slides are extremely simple to make. Merely attach the Stereo Adaptor to your standard 50 or 55mm lens and shoot at f/5.6 or f/8. After receiving the slides back from your photofinisher, view them in Stereo Viewer II.



5 6 x 7 LENS MOUNT ADAPTOR K

This Adaptor fits Pentax bayonet-mount cameras and permits a 6 x 7 lens to be used with them. With this adaptor, the lens will focus to infinity but can only be used for manual diaphragm operation and stop-down metering.

When used with a super-telephoto lens, this Adaptor allows the camera to change its position vertically or horizontally while the lens remains on the tripod.

6 MOUNT ADAPTOR K

The Mount Adaptor K fits bayonet-mount Pentaxes and permits screw-mount Takumar lenses to be used on them. When used with this adaptor, a screw-mount lens will focus to infinity but it cannot be used for automatic diaphragm operation or open-aperture metering.

7 MICROSCOPE ADAPTOR K

This adaptor is designed to fit the camera body directly onto a microscope. It can be used with any microscope having a 25mm diameter tube.

8 MICROSCOPE LENS ADAPTOR K

Microscope Lens Adaptor K is used to adapt special-purpose objective lenses (Olympus Mplan 1.3X, 2.5X, 5X, 10X, 20X) or special-purpose macro lenses (Zuiko Macro 20mm f/3.5, Zuiko Macro 38mm f/3.5) to the Pentax bayonet mount. The special lenses are merely screwed into one side of the adaptor and the other fits directly to the mount. When fitted to Auto Bellows M or Bellows Unit III, this adaptor permits varied macro magnifications from 2X to 10X.





1 AF 200S AUTO FLASH (Dedicated-type)

More powerful than the AF-160, this fully thyristorized auto flash unit features two auto flash settings plus manual and has a top guide number of 20 (ASA 100 in meters). It also accepts accessory wide-angle and telephoto adaptors (available optionally) for greater beam control, and offers fast recycle along with prolonged battery life when operated in the low auto output mode. In addition to fitting all 35mm Pentax SLRs with hotshoe synch, it has provision for dedicated flash when operated with the ME SUPER, MV, MV-1 and later model Pentaxes: with these cameras it synchronizes automatically on charging and couples with a special flash ready indicator inside the viewfinder. Operates on four AA-size batteries.

2 AF 160 AUTO FLASH (Dedicated-type)

A less expensive dedicated-flash counterpart to the AF 200S and ideal for situations where light weight and compactness are of prime importance. In addition to dual auto flash output modes plus manual override, the AF 160 also offers dedicated-flash with the ME SUPER, MV, MV-1 and later model Pentaxes (see AF 200S, above). Color-coded exposure guide, open flash button and pilot lamp. Operates on 2 AA-size batteries, Guide Number 16 (ASA 100 in meters). Hotshoe synch only.

3 AF-280T AUTO FLASH (Dedicated/TTL Auto)

A highly versatile thyristorized auto flash unit featuring a top guide number of 28 (ASA 100 in meters) and mounting with all cameras offering standard hot-shoe synch. Operating modes include standard auto with two-way high/low settings, TTL Auto (in conjunction with the Pentax LX), standard manual and "MS" manual. Features "dedicated flash" (automatic synchronization with the camera on charging and viewfinder flash ready indication) in the auto modes and the MS manual (manual with auto synch) mode when used with the Pentax LX, ME SUPER, MV and MV-1. Other convenient features include a rotating flash head with 180° horizontal, and 90° vertical rotation, plus a -15° setting for close-up work. In the



4 AF-400T Systems Electronic Flash (Dedicated/TTL Auto)

TTL Auto mode, the unit integrates fully with the LX's IDM (Integrated Direct Metering) System enabling use of all apertures within the flash range for the shot at hand and eliminating special calculations for close-up flash, bounce flash, etc. Accessory wide-angle and telephoto adaptors are available optionally. Flash control panel on back of unit includes open flash button and flash ready lamp. Powered by 4 AA-size batteries.

A totally professional flash for photographers requiring added power and power source options. The AF-400T is a bracket-mount systems type electronic flash featuring a top guide number of 40 (ASA 100 in meters) and multi-mode operation. In the standard auto mode, three power settings are offered, while in the TTL Auto mode the unit integrates fully with the Pentax LX's IDM film-plane metering system. In addition, a standard manual mode and an "MS" manual mode (dedicated manual) are also featured, both with four power settings. "Dedicated flash" operation (auto synch and viewfinder flash ready indication) is also offered in the auto modes as well as MS manual with the Pentax LX, ME SUPER, MV and MV-1. Among the power sources available are the Grip Battery Pack, the transistorized TR Power Pack, power packs for both 510V and 270/240 volt high voltage batteries and an AC adapter for household current. Like the AF 280T, the AF-400T features 180° horizontal and 90° vertical flash head rotation, plus a -15° setting for close-up work. Other accessories include a quick release bracket, 4P Synchronization cord A, Wide angle and telephoto adaptors, Hot Shoe Adaptor (required for synchronization with Pentax MV and MV-1) and 4P Synchronization Cord B.



MISCELLANEOUS

1 49mm AND 52mm LENS CAPS

These spring-loaded caps can be attached to or removed from the lens just as easily as lens hoods, and fit most lenses (large diameter lenses use slip-on lens caps). For SMC Pentax-M 50mm f/1.4, 50mm f/1.7, and 40mm f/2.8 lenses, use a 49mm lens cap. For SMC Pentax 50mm f/1.2, 50mm f/1.4, and 55mm f/1.8 lenses, use a 52mm lens cap.

2 LENS MOUNT CAP K

Whenever the lens is not attached to the camera body, a lens mount cap should be fitted onto it so that dust, dirt or other foreign matter will not get in. A lens mount cap is furnished with each SMC Pentax lens.

3 BODY CAP K

A body cap should be fitted onto the camera body whenever the lens has been removed so that dust, dirt and other foreign matter cannot get in. A body cap is furnished with each SMC Pentax camera body.

4 49mm → 52mm ADAPTOR

This adaptor permits the use of a 52mm diameter SMC Pentax filter where normally you would use a 49mm diameter Takumar lens filter.

5 52mm → 49mm ADAPTOR

This adaptor permits the use of a 49mm diameter Takumar lens filter where normally you would use a 52mm diameter SMC Pentax lens filter. Note that this adaptor cannot be used for the SMC Pentax 85mm f/1.8 lens.



AUTOMATIC FILM WINDER



WINDER ME II

Designed for use with the Pentax ME, ME SUPER and MV-1, this very compact high performance automatic film winder features dual-mode operation. When set to the S mode, it advances the film a frame at a time after you release the shutter; in the C mode, it offers continuous film advance at a top speed of 2 frames-per-second when shutter speeds permit. Moreover, it synchronizes with all shutter speeds in both auto and manual modes (except B) and has a winding capacity of 20 rolls of 36-exposure film on a set of four AA size batteries. Other features include an LED function indicator, tripod socket, built-in trigger release button, and remote control operation when used with the optional Remote Connector Cord.

Specifications

Power Source:	4 AA-size alkaline or manganese penlight batteries (6V).
Film Transport Rate:	Single-frame exposures and consecutive exposures up to 2 fps.
Shutter Release:	Via built-in Trigger Release Button on Winder Grip.
Shutter Speed	All speeds on AUTO or "M,"
Coupling Range:	including 125X mechanical setting and "B."
Film Advance Indicator:	A red LED illuminates when film advances.
Tripod Socket:	Built-in standard tripod socket.
Optional Accessories:	Remote Connector Cord.
Weight:	348g (12.3 oz.) with batteries.

PROFESSIONAL SPOTMETERS



1 SPOTMETER V/SPOTMETER V-FL

The Pentax Spotmeters are the ideal instruments for the photographer who needs the pinpoint exposure readings required for delicate contrast balance beyond the range of the standard exposure meter. Model V has an acute metering angle of 1°, enabling spot measurements of sections of primary interest. In addition, it utilizes a silicon photo diode to offer virtually instantaneous response and has a broad metering range of EV 1 — 19. In addition to Model V, Spotmeter V-FL is available for T.V. and film metering. This model gives its exposure information directly in foot lamberts and also calculates illuminance ratios.

2 DIGITAL SPOTMETER

This highly compact and lightweight model has an LED digital readout in the viewfinder, thereby offering maximum visibility regardless of the prevailing lighting conditions. Moreover, greater resistance to shock is a natural consequence of the elimination of a moving needle. When the exposure measurement button is depressed, the correct exposure is immediately displayed within the viewfinder as an EV number rounded off to the nearest 1/3 EV.

CASES and BAGS

SOFT EVEREADY CASES

Perfectly contoured to fit your Pentax cameras, thereby offering optimum protection. The front cover of the soft case for the MX, MV, MV-1, ME and ME SUPER is designed to hold the SMC Pentax-M 50mm f/1.4 or f/1.7 lens. Separate front cases are available for the SMC Pentax-M 40mm f/2.8 and SMC Pentax 50mm f/1.2 lenses. Soft cases are available in three types: M-type for MX, MV, MV-1, ME and ME SUPER; K2, and KX/KM.

TELEPHOTO LENS FRONT CASES

These large front cases are designed to hold telephoto and large wide-angle lenses in conjunction with soft eveready cases for the MX, MV, MV-1, ME and ME SUPER; also K2 and KX/KM. Medium size fits 18mm f/3.5, 20mm f/4, 28mm f/2, and 85-105mm tele lenses. Jumbo size fits 120-150mm telephoto lenses.

SOFT CASE M-50

A soft "crumple" case for ME, ME SUPER, MX, MV or MV-1 with 50mm f/1.7, f/1.4 and f/2 lenses.

SOFT CASE M-40

A crumple case which accommodates the ME, ME SUPER, MX, MV or MV-1 with the 40mm f/2.8 lens.

SHORT SOFT CASE

The short soft case fits around the lens, rather than over it, and allows you to shoot with the camera in the case. It makes the shutter "click" practically inaudible, so it is very useful for shooting on-stage performers, etc. It also protects the camera against rain, snow and cold; permits focusing, film advance and lens changing also without removing the case. Comes complete with an exclusive short cable release. Available for MX, ME, ME SUPER, MV, MV-1, K2, KX, KM.

STANDARD LENS CASE (HARD)

This case protects a standard lens while it is not in use.



- ① K2 Soft Eveready Case
- ② MX Soft Eveready Case
- ③ ME Soft Eveready Case
- ④ Jumbo Front Case
- ⑤ Short Soft Case
- ⑥ Soft Case M-50
- ⑦ Soft Case M-40

SOFT LENS CASES

Black, buckskin cases available in two sizes:

Large: (80mm D x 200mm L) Accepts telephoto lenses up to 200mm.

Small: (80mm D x 135mm L) Accepts lenses up to 135mm; however, will not accept 15mm f/3.5 or Shift 28mm f/3.5.

CAMERA BAGS AND CASES

Ten handy camera bags and cases in assorted sizes and capacities, especially designed for photographers who like variety in their shooting and need a sure way to carry their equipment. Whether it's just two or three extra accessories, or lots of lenses, filters and a second camera, Pentax bags and cases make the carrying easy. Compact, safe and in style, too. For a short trip downtown or even a long journey overseas.

