

PENTAX LENSES AND ACCESSORIES



INDEX

The new enlarged family of SMC Pentax lenses	2
The advantages of interchangeable lenses	3
Super-Multi-Coating: Why SMC Pentax lenses are the finest in the world	3
Choosing your SMC Pentax lenses	4
Fish-eye lens	8
Ultra-wide-angle lenses	9
Wide-angle lenses	11
Standard lenses	14
Telephoto lenses	16
Ultra-telephoto lenses	19
Zoom lenses	23
Macrophotographic lenses	28
Shift lens	29
Specifications of SMC Pentax lenses	30
Lens accessories	32
Close-up accessories	38
Copying accessories	45
For critical focusing	46
For flash photography	48
Lens adaptors	52
Automatic film winder	53
Cases and bags	54
For special photography	57
Miscellaneous	58
Interchangeable focusing screens	59
For professional photography	60
For photomicrography	61

THE NEW ENLARGED FAMILY OF SMC PENTAX LENSES



THE ADVANTAGES OF INTERCHANGEABLE LENSES

UNIQUE PENTAX BAYONET MOUNT PERMITS INSTANT AND PRECISE LENS CHANGING WITH THE PENTAX LX, ME-SUPER, ME-F, ME, MX, MG, MV, MV-1 AND K SERIES CAMERAS.

Today, the single-lens reflex (SLR) offers maximum versatility and handling ease, for focusing is done directly on the large, bright focusing screen of the viewfinder which shows exactly what will be recorded by the film.

Among the many benefits of an SLR are the facts that ultra-close-up (macro) photography and accurate through-the-lens metering are readily accomplished. But the most notable advantage of all is that the lenses are freely interchangeable. It is for this very reason that SLR's are now widely used throughout the world.

INTERCHANGEABLE LENSES ARE ECONOMICAL.

If you were to purchase a wide-angle and a telephoto lens in addition to the standard lens of your camera, you would effectively own three cameras: a wide-angle lens camera, a standard lens camera, and a telephoto lens camera. Each additional lens you purchase is equivalent to purchasing an additional camera. Thus, inter-

changeable lenses offer the user considerable savings. Not only are interchangeable lenses economical, but they permit one to instantly change from wide-angle to telephoto, for example, on the same roll of film.

This is not to imply, however, that you should purchase as many lenses as possible. It is only to help you realize and take advantage of the enormous capabilities of your Pentax camera. The purpose of this booklet is to assist you in selecting the SMC Pentax lenses best suited to your needs.

SUPER-MULTI-COATING: WHY SMC PENTAX LENSES ARE THE FINEST IN THE WORLD

A lens is an amazing device for capturing light rays. However, even under normal conditions a significant percentage of those rays may be lost through internal reflection — reflections within the lens that cause ghosts, flare and an overall loss of contrast.

To combat this, Asahi Pentax applies a 7-layer chemical coating to most glass surfaces of every SMC Pentax lens. Thanks to this Super-Multi-Coating, internal reflection is reduced to less than 0.2%. Contrast is heightened, details are brightened, colors are truer — and flare and ghost images are practically eliminated. No wonder SMC

Pentax lenses are now recognized by professional photographers as being among the finest in the world.

CHOOSING YOUR SMC PENTAX LENSES

1. POINTS FOR CONSIDERATION

The four points most frequently considered when choosing lenses are the following:

- a. Focal length/angle of view
- b. Maximum aperture
- c. Dimensions and weight
- d. Price

2. THE RELATIONSHIP BETWEEN IMAGE SIZE AND FOCAL LENGTH

When camera-to-subject distance remains constant, image size (magnification) is dependent upon focal length.

For example, when a 135mm lens is used, the image will appear 2.7x larger than that of a 50mm standard lens used at the same distance. Long focal length lenses (longer than approx. 50mm) are referred to as **TELEPHOTO LENSES**.

When a 28mm lens is compared to a 50mm lens, image size or magnification is 0.56x that of the standard lens. In other words, the image will appear slightly larger than 1/2 the image produced by the 50mm lens. The reason for using a 28mm

lens is not to deliberately shrink image size, but (as explained later) to increase the angle of view. It is for this reason that lenses with a focal length shorter than approx. 50mm are called **WIDE-ANGLE LENSES**.

3. CAMERA-TO-SUBJECT DISTANCE, FOCAL LENGTH AND IMAGE SIZE

When the camera-to-subject distance is changed in proportion to the focal length, image size remains constant. For example, when the same subject is photographed from 10 meters with a 50mm lens, 27 meters with a 135mm lens, and 5.6 meters with a 28mm lens, image size will be the same.

4. THE RELATIONSHIP BETWEEN FOCAL LENGTH AND ANGLE OF VIEW

The shorter the focal length of a lens, the wider the angle of view; the longer the focal length of a lens, the narrower the angle of view. For example, a 28mm wide-angle lens has an angle of view of 75° while a 24mm wide-angle lens has an angle of view of 84°. The angle of view is 18° for a 135mm telephoto lens, but it is 12° for a 200mm telephoto lens.

5. THE NEED FOR TELEPHOTO LENSES

At times, it is impossible to approach the

subject close enough to obtain a satisfactory image size. Of course, the negative can be cropped and greatly enlarged, but it is an unsatisfactory solution because of the resultant loss of sharpness and increase in grain. It is at just such a time that the need for a telephoto lens most clearly manifests itself.

6. THE NEED FOR WIDE-ANGLE LENSES

When photographing a group of people indoors, it is sometimes impossible to include everyone, even if you stand in the furthest corner of the room. Similarly, it is often impossible to photograph a large church, for example, or a panoramic scene with the 50mm standard lens. On such an occasion the need for a wide-angle lens is strongly felt.

7. WHICH SHOULD I PURCHASE FIRST, A WIDE-ANGLE OR A TELEPHOTO LENS?

Before attempting to make the above decision, it is necessary to use the 50mm or 55mm standard lens for about three months. After this period, it will become clear to you which need is greater by simply asking yourself which type of situation you most frequently encounter, No. 5 or No. 6 mentioned above.

8. WHAT FOCAL LENGTH LENS SHOULD I PURCHASE FIRST?

It would be inadvisable for a beginner, who is accustomed to using only the standard lens, to suddenly purchase an ultra-wide-angle or ultra-telephoto lens, for the enormous difference in angle of view would most likely confuse him. The key to success, in any field, is to advance a step at a time.

Those lenses considered to be ultra-wide-angle are the 24mm, 20mm, 18mm, and 15mm; we can also include the 17mm Fish-eye. Lenses representing ultra-telephoto are the 300mm, 400mm, 500mm, and 1000mm focal lengths.

Thus, the clever beginner will select the 28, 30, or 35mm as his first wide-angle and the 85, 100, 120, or 135mm as his first telephoto lens.

9. WHAT ABOUT LENS SPEED?

The maximum aperture of a lens is often referred to as the "speed" of a lens. An $f/2$ lens, for example, is said to be "faster" than an $f/4$ lens since faster shutter speeds are usually used at larger lens openings; just how much more or less light enters the lens, when $f/2$ is compared to other maximum apertures, is indicated in the chart on page 6.

For example, if a picture is taken with an $f/2$ lens at $f/2$ (diaphragm completely open), and the same picture is taken with an $f/4$ lens at $f/4$, only $1/4$ of

the amount of light will reach the film with the f/4 lens. Therefore, the shutter speed must be 4x longer to compensate for the loss of light. Of course, if both of the above lenses are used at the same aperture, for example f/8, the amount of light reaching the film will be exactly the same. Generally speaking, if one desires to take pictures indoors, with the camera handheld and without the use of a flash unit, an f/2 or "faster" (f/1.4, f/1.2) lens will be required. For brightly-lit interiors, an f/2.5 or f/2.8 lens should suffice. If the lens is just to be used outdoors, a maximum aperture of f/3.5, f/4, or f/4.5 will be sufficient. Thus, if you wish to purchase an SMC Pentax 35mm lens, you have a choice of an f/2 or f/2.8. Similarly, if you wish to buy a 135mm lens, you can select from the f/2.5 and f/3.5 lenses.

10. DIMENSIONS AND WEIGHT

Over thirty of the SMC Pentax lenses are so compact and lightweight that they do not require the use of a tripod. For handheld lenses, you can choose from the 15mm wide-angle to the 300mm telephoto, including seven zoom lenses.

Maximum Aperture	1.2	1.4	2	2.5	2.8	3.5	4	4.5	5.6	8
Amount of Light	2.8x	2x	1	Approx. 2/3x	1/2x	Approx. 1/3x	1/4x	1/5x	1/8x	1/16x

11. PURCHASING TWO LENSES SIMULTANEOUSLY

- a. **Wide-angle and telephoto.** If two lenses are to be purchased simultaneously, the most common choice is that of a wide-angle and a telephoto. However, depending upon the needs of the individual, some users prefer to select two wide-angle or two telephoto lenses.

Among those selecting a wide and tele, the most usual procedure is to select a focal length that is relatively close to the standard lens (and consequently easy to handle). Thus, for the wide-angle, the 35mm is most popular, and for the telephoto lens, the 85, 100, or 120mm is usually chosen.

For those wishing to travel light, the 85mm and 35mm are often used while the standard lens is left at home.

Although we can not say it is the best choice for everyone, those seeking optimum flexibility often choose to use a 28mm and 135mm lens along with their standard lens.

- b. **Two wide-angles.** The most frequently selected pair of wide-angle lenses is the 35 and 28mm

set, although a new trend exhibited by camera enthusiasts favoring wide-angle lenses is to select the 28 and 24mm focal lengths.

- c. **Two telephotos.** For those who favor telephoto lenses, the 135 and 200mm combination proves to be most popular. For maximum versatility the following combinations are recommended (they are listed in order of usefulness for the average amateur): 85 & 135mm, 100 & 150mm, 120 & 200mm. Not only is the 85mm moderate telephoto lens ideal for portraits, but it also excels as a lens for scenics whenever the angle of view of the standard lens proves too wide.
- d. Whatever your choice, a wide and tele, two wide-angles, or two telephotos, it would be a good idea to first purchase the focal lengths that are relatively close to the standard lens. Extreme (ultra) wide and tele lenses are much more difficult for the beginner to master than are their moderate focal length cousins.

12. SPECIAL NEEDS.

- a. **Macrophotography.** For those who are chiefly interested in macro (close-up) photography there are the 50 and 100mm macro lenses.
- b. **Versatility with a single lens.** For versatility without the need to change lenses, the 35 ~

70mm and 80 ~ 200mm zoom lenses are ideal.

- c. **When traveling abroad.** When going abroad and desiring to keep weight down to an absolute minimum, the 28mm lens is ideal as it can encompass picturesque buildings and panoramic landscapes. The 40mm semi-standard lens is also great for travel.
- d. **For sports events.** The 135 and 150mm lenses are very useful at sports events.

13. THE WORLD OF INTERCHANGEABLE LENSES

For those who have mastered the standard, moderate wide, and moderate tele lenses; for those who wish to capture dramatic "close-ups" of wild life, or fill the frame with the slowly sinking sun; for those seeking new and fantastic perspective; in a word, for those who wish to be introduced to new worlds of photographic expression, there are the SMC Pentax 300, 400, 500, and 1000mm ultra-telephotos, as well as the 17mm Fish-eye, 135 ~ 600mm telephoto zoom, and 15, 18 and 20mm ultra-wide-angle lenses to choose from.

FISH-EYE LENS



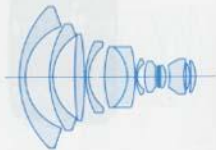
SMC PENTAX FISH-EYE 17mm f/4

The world's most efficient fish-eye lens with a maximum brightness of f/4. The angle of view is approx. 180°, enabling you to view and focus through the viewfinder without locking the reflex mirror up.



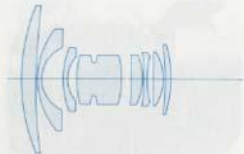
SMC PENTAX 15mm f/3.5

This is an ultra-wide-angle lens with a 111° diagonal field of view and a 100.5° horizontal field of view. An angle of view so large that it will encompass the tallest building or engulf a sweeping landscape. All traces of distortion, even at the edges, have been virtually eliminated, because of its unique optical design. In addition to a colorless filter, there are four built-in filters: UV, Skylight, Y2, O2.

**SMC PENTAX 18mm f/3.5**

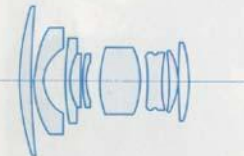
This lens lies between the SMC Pentax 15mm f/3.5 and 20mm f/4 ultra-wide-angle lenses in order of focal length. Compared to the 20mm f/4 ultra-wide, the 18mm f/3.5 offers additional lens speed ($f/3.5$ vs $f/4$), greater coverage (100° vs 94°), and four built-in filters. In addition to the built-in filters, the 18mm f/3.5 has provision to accept gelatin filters at the rear of the lens, which is not feasible on the 15mm f/3.5 because of its protruding rear element.





SMC PENTAX-M **20mm f/4**

A very compact ultra-wide-angle lens approximately 50% lighter than the standard 20mm f/4 wide-angle lens. Useful for almost every type of wide-angle photography, especially when photographing sweeping landscapes and towering structures, or when desiring extensive depth of field. 49mm screw-in filter diameter.

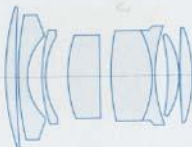


SMC PENTAX **24mm f/2.8**

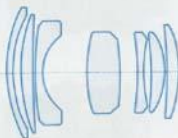
This 24mm optic offers a maximum aperture of f/2.8, which not only makes available-light photography more accessible to the photographer, but also simplifies focusing because of the shallower depth-of-field and brighter image. Moreover, despite its large maximum aperture, it weighs about the same as the standard SMC Pentax-M 50mm lens.

SMC PENTAX-M 28mm f/2

Utilizing a generous construction of 8 elements in 7 groups, this high-performance wide angle offers sharp focus even at close range. Highly useful for large groups, buildings, interiors and expansive scenery. In addition, its extra fast lens speed makes it a fine lens for available light photography and facilitates accurate focusing in low light.

**SMC PENTAX-M 28mm f/2.8**

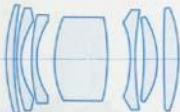
The ideal wide-angle lens for the photographer for whom light weight and compactness are of prime importance. At 156g it is the second lightest in weight and shares the same 49mm filter size as the SMC Pentax-M standard lenses.





SMC PENTAX 30mm f/2.8

The perfect solution for those trying to choose between the 35 and 28mm focal lengths, as it lies between the two, making an excellent compromise. Other attractive features include light weight and ample (f/2.8) lens speed.



SMC PENTAX-M 35mm f/2

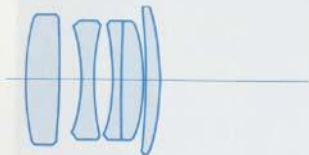
A masterpiece in optical design, because it retains the same lens speed and superb optical performance of its predecessor, the SMC Pentax 35mm f/2, which was 33% greater in length, 36% greater in weight, and used 52mm filters instead of 49mm.



SMC PENTAX-M 35mm f/2.8

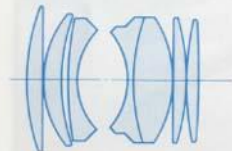
For those not requiring the one stop additional speed offered by the 35mm f/2 model, the SMC Pentax-M 35mm f/2.8 will be found very attractive, as it is approximately 20% lighter in weight and, needless to add, more attractively priced.





SMC PENTAX-M **40mm f/2.8**

The incredible standard lens everyone is speaking about. A mere 18mm in depth and 110g in weight, it represents the ultimate in compactness. Moreover, offering 10° more coverage than a 50mm lens, it is extremely versatile.

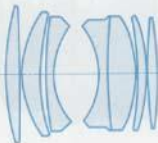


SMC PENTAX **50mm f/1.2**

A superlative standard lens, created out of Asahi Pentax's rich experience in the field of optical technology. Excellent in contrast and resolution, and suited for almost all picture-taking needs.

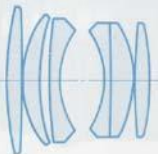
SMC PENTAX-M 50mm f/1.4

Designed in keeping with the compactness of the Pentax ME and MX cameras, this high speed standard lens weighs approximately 20% less than most other lenses of similar focal length and lens speed, and is one of the very few accepting 49mm filters.



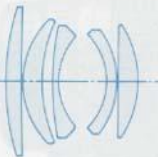
SMC PENTAX-M 50mm f/1.7

An excellent choice for those seeking both compactness and high speed combined in a single lens. It is more than a full stop faster than the SMC Pentax-M 40mm f/2.8 lens, as well as 16% shorter and 20% lighter than the SMC Pentax-M 50mm f/1.4 lens.



SMC PENTAX-M 50mm f/2

Slightly longer in focal length than the 40mm standard lens, this lens offers more pleasing perspective for portraiture. Additionally, it is "fast" enough for use in dim light without the need of flash.





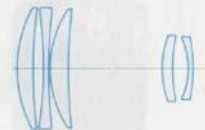
SMC PENTAX-M 85mm f/2

Creates a soft-focus effect in the areas just beyond the depth-of-field. Ideal for portraiture, indoors or out. The moderate distance required between the photographer and the subject makes this lens particularly excellent for pictures of children, animals, night time street scenes, illuminated buildings, and for theater and ceremonial pictures.



SMC PENTAX-M 100mm f/2.8

Although this lens is 15mm longer in focal length than the 85mm f/1.8, it is physically 1/2 millimeter shorter in length and weighs 32% less, making it an ideal telephoto lens. Moreover, it shares the 49mm filter size of the SMC Pentax-M standard lenses.



SMC PENTAX-M 120mm f/2.8

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. It offers close focusing, making it quite handy for portraits. It's also a great lens for action sports and news photography, and the compact M-type design makes it splendid for hand-held shooting.

SMC PENTAX 135mm f/2.5

One of the fastest of the SMC Pentax telephoto lenses. Well-balanced and lightweight with an unusually short lens barrel. Ideal for night scenes, theater shooting, sports and snapshot portraits. Highly effective for color photography.

**SMC PENTAX-M 135mm f/3.5**

Here is a lens that offers 2.7x greater magnification than the SMC Pentax-M 50mm f/1.4 lens and yet weighs only 13% more. It is ideal for all applications of telephotography: portraiture, wildlife, sports, and candid photography.

**SMC PENTAX-M 150mm f/3.5**

21mm shorter and 50g lighter than its highly popular predecessor, this new, compact 150mm lens weighs less than the standard SMC Pentax 50mm f/1.2 lens while offering 3x magnification. You will find this handholdable telephoto lens the ideal solution for following action, as well as useful for candid photography, portraiture, and "close-ups" of distant subjects.





SMC PENTAX 200mm f/2.5

In testimony of its role as a leader in the field of optics and ever mindful of the needs of the professional photographer, Asahi Optical has introduced the first 200 lens with an f/2.5 maximum aperture. This ultra high-speed telephoto lens is well suited for available light photography, such as at indoor and nighttime sporting events.

Even when used wide-open, its 6 element, 6-group optical design ensures high contrast and definition, as well as attractive out-of-focus highlights.

SMC PENTAX-M 200mm f/4

It is easy to smash the distance barrier when you are working with this 4x magnification telephoto lens. Furthermore, the shallow depth of field automatically isolates your subject from a distracting background.

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**

Although larger than the M* 300mm f/4 lens, the standard 300mm f/4 is still light enough for handheld shooting in many situations, and is well corrected for aberrations to offer needle-sharp resolution with every shot. A great lens for all mid-range telephoto applications.





SMC PENTAX-M 400mm f/5.6

This long telephoto is ideal for outdoor sports, news and night-life photography. Improvements over its predecessor include a fully automatic diaphragm and rotatable tripod mount. Lightweight, M-compact design makes handling unbelievably easy for such a powerful lens.

SMC PENTAX 500mm f/4.5

Compact and lightweight for such a high-performance lens, this powerful long-focus lens brings the inaccessible within reach. The image is bright enough to make composing and focusing easy, and produces edge-to-edge coverage with very high resolution.

SMC PENTAX 1000mm f/8

Pulls in subjects which are too far away even to be seen by the naked eye. The ultimate in fine optics for the photographer who specializes in news, sports, scientific and wildlife photography. Fast, accurate focusing with manual diaphragm. Furnished with built-on lens hood (optional wooden tripod).



SMC PENTAX REFLEX 1000mm f/11

The Reflex 1000mm f/11 is approximately 1/3 that of the SMC Pentax 1000mm f/8 in length, and less than half of it in weight. In addition to its highly welcome portability, this new reflex optic focuses down to 8m, equalling the minimum focusing distance of most 400mm lenses while offering 2.5x additional magnification.



SMC PENTAX REFLEX 2000mm f/13.5

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. 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).



SMC PENTAX-M ZOOM 24 ~ 35mm f/4

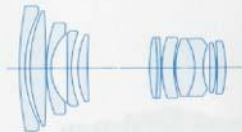
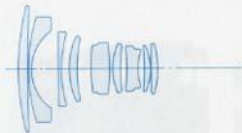
Weighing a mere 290g (10¼ ozs), this model is incredibly light and compact for a zoom, yet combines ultra-wide, moderate and near-standard perspectives in one lens. Order-made for the wide-angle photographer who likes to travel light.

SMC PENTAX-M ZOOM 24 ~ 50mm f/4

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.

SMC PENTAX-M ZOOM 28mm f/3.5 ~ 50mm f/4.5

Also an extremely practical wide-to-standard zoom model and an excellent alternative to the 24 ~ 50mm model for the photographer who doesn't need ultra-wide coverage. Use of a variable aperture design has kept weight and size down to a minimum (it weighs only slightly more than the 24 ~ 50mm zoom) for unbelievable compactness.



SMC PENTAX-M ZOOM

35mm f/2.8 ~ 70mm f/3.5

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. Moreover, 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.

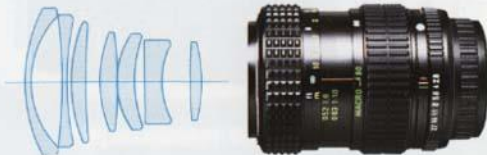
SMC PENTAX AF ZOOM 35 ~ 70mm f/2.8

The first auto focus lens in the Pentax series. The AF zoom is designed to work in conjunction with the TTL auto focus system of the Pentax ME-F camera, but also works as a conventional zoom with other bayonet mount Pentaxes. It features a more compact design than other AF lenses because the focusing control system is inside the camera. A micromotor to turn the focusing helicoid and battery compartment for four AAA-size batteries are on the lens. Other features include an on/off switch, and two focusing buttons (one for vertical and one for horizontal shooting). Lens performance equals that of the non auto focus 35 ~ 70mm zoom.

SMC PENTAX-M ZOOM

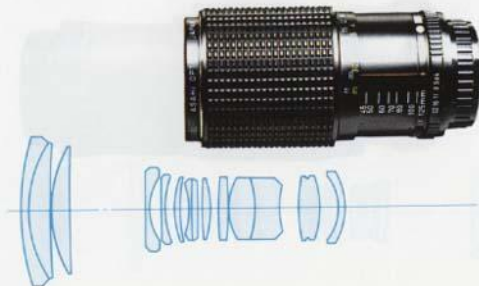
40mm f/2.8 ~ 80mm f/4

This compact zoom is at once ideal for general photography in the standard range, portraits and other short telephoto applications at the 80mm setting, and shots with a slight wide-angle accent at the 40mm setting. In addition, a maximum aperture of f/2.8 — fast for a zoom lens — makes it ideal for indoor applications as well as out. Other highly attractive features include MACRO capability for close-up photography — focusing down to 0.37 meters with a maximum 1X magnification at the MACRO setting.



SMC PENTAX ZOOM 45 ~ 125mm f/4

A multi-purpose lens capable of doing the work of half a dozen lenses: 45, 50, and 55mm standard lenses, as well as 85, 100, and 125mm telephoto lenses (and everything in-between). Zooming ratio is 3:1, and a broad focal length of 45mm to 125mm can be achieved in spite of its relatively short barrel. Useful for a wide scope of photographic assignments: landscapes, action shots, portraiture, travel shots, etc.





SMC PENTAX-M ZOOM 75 ~ 150mm f/4

This outstanding zoom is part of the Pentax new-generation zoom series. It's a mere 111 millimeters at minimum length, yet in terms of optical quality it ranks among the best — matching the performance of its fixed-focal length counterparts at each focal length setting. It's also priced well within reason. In addition, the highly practical 75mm - 150mm focal length coverage gives it a wide range of applications. And one-action zoom/focus control makes handling unbelievably easy.



SMC PENTAX-M ZOOM 80 ~ 200mm f/4.5

For today's age of compact cameras and lenses. Weighing only 555 grams and a mere 141.5mm long, the 80mm - 200mm zoom is a highly mobile variable focal length lens. It is easily hand-held and ideal for sports as well as the quick-action demands of wildlife and on-the-spot news photography. It is also an excellent lens for candid portraits. The ideal zoom for photographers on the go.

SMC PENTAX ZOOM 135 ~ 600mm f/6.7

Provides remarkable sharpness and contrast for its zooming ratio. The single action zooming of this lens makes it highly useful for professional sports, press and wildlife photographers.



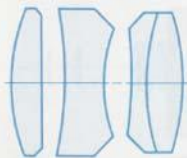
SMC PENTAX REFLEX ZOOM

400mm f/8 ~ 600mm f/12

The new Pentax 400mm – 600mm Super Telephoto Zoom, with virtually the same dimensions as a conventional 35mm – 70mm zoom, is so small and lightweight you can pan the horizon with amazing swiftness, as you cup the lens in your hand. It also focuses as close as three meters for exciting and dramatic close ups.

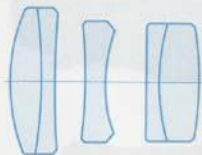


MACROPHOTOGRAPHIC LENSES



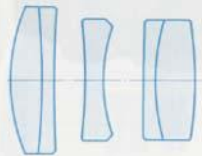
SMC PENTAX-M MACRO 50mm f/4

Designed chiefly for excellence in macrophotographic work, this highly versatile lens can also be used as a standard focal length lens. In combination with a Reverse Adaptor K, it can also provide greater-than-life-size magnification.



SMC PENTAX-M MACRO 100mm f/4

Suitable for close-up and macrophotography, as well as normal shooting. Especially useful for shooting nature pictures, for reproduction work and for portraiture. Because of its longer focal length, this lens provides greater magnification than the Macro 50mm f/4.

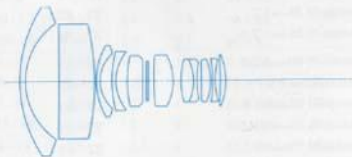


SMC PENTAX BELLWS 100mm f/4

This compact and lightweight lens and a Pentax Bellows unit III is all you need to be prepared for all types of nature studies. Whether it is a blackbird perched on a tree, a pine cone dangling from a branch, or an insect basking in the sun, they are all within your grasp, as the SMC Pentax Bellows 100mm f/4 offers uninterrupted focusing from infinity to greater than life-size.

SMC PENTAX SHIFT 28mm f/3.5

A problem constantly plaguing photographers, especially in architectural photography, is that of converging lines. This lens is the intelligent solution to the above dilemma. More than merely a solution, it serves as creative tool. For one always has a choice of correcting, not correcting, or overcorrecting to achieve the most attractive, dynamic, or creative effect. And because the shifting movement is continuously variable, any in-between setting may be used to accomplish the perfect effect.



● Type	● Lens	● Minimum Aperture		● Angle of View (Degrees)	● Lens Construction (Groups/Elements)	● Diaphragm	● Minimum Focusing Distance		● Maximum Diameter & Length (mm x mm)	● Weight		● Filter Size (mm)
							● m.	● ft.		● gr.	● oz.	
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 37	170	6.00	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	62	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	47	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

BI Filters built-in FA Fully automatic M Manual ND Controlled by ND filters ● Compact lens
 Note: Lens length does not include mount portion.

Type	Lens	Minimum Aperture		Angle of View (Degrees)	Lens Construction (Groups-Elements)	Diaphragm	Minimum Focusing Distance		Maximum Diameter & Length (mm x mm)	Weight		Filter Size (mm)
							m.	ft.		gr.	oz.	
SUPER TELEPHOTO	SMC Pentax-M* 300mm f/4	32	8.3	7-8	FA	4	13	84 x 132	825	29.1		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 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-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 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 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	9-12	FA	1.2	4	68 x 146	615	21.69		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
	SMC Pentax Reflex Zoom 400mm f/8~600mm f/12	—	6.2-4.1	7-12	ND	3	9.8	82 x 108	730	25.75		⊙
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

※ AF stands for Auto Focus; Auto focusing possible only with ME-F.

⊙ 67mm filters can be screwed in the lens front; 40.5mm special filters in the lens rear.

FILTERS

Filters have an important function in photography. They affect some of the light rays which pass through to the film so that the color or nature of this light is changed.

Filters may be classified roughly into three groups: (1) filters for black-and-white film, (2) filters for color reversal film, and (3) filters for all color (reversal and negative) film.

The principal filters for black-and-white film are: UV, Y1, Y2, O2, R2, and YG. Principal filters for color reversal work are: Skylight, Cloudy, and Morning and Evening. Available for all color films are: filters for flash and filters for photoflood.

Applications —

- UV (ultra-violet) filter — absorbs (or holds back) ultraviolet light rays (invisible to the human eye) and reduces distant haze in the picture. This filter is often kept on the lens constantly for protection.
- Y1 (pale yellow) filter — slightly absorbs blue, emphasizing the contrast between the blue sky and white clouds.
- Y2 (medium yellow) filter — has a stronger effect than Y1, bringing out the white of the clouds.
- O2 (orange) filter & R2 (red) filter — have stronger correction of blue than the Y2, giving the maximum sky/cloud contrast.
The R2 filter is absolutely necessary for infra-red photography.



- YG (yellow green) filter — slightly darkens the sky and all red tones. Recommended for outdoor portraits as this filter darkens flesh tones slightly.

Of the above filters, the Y2 and O2 are a "must" for landscape photography.

- Skylight filter — absorbs blue and ultra-violet light rays. Preferable for landscape photography when the bright sky is to be toned down while the foreground requires no correction.

Note: The Skylight filter may be very useful for color photography. But remember that the color rendering abilities of a film vary according to its brand.

- Cloudy — suitable for use on cloudy days to lighten excess blue.
- Morning & Evening — suitable for use at sunset and sunrise to lighten excess red.
- Filter for flash — used to bring light from a flash into balance with daylight film. It should not be used with a color flash bulb, sealed in blue glass.
- Filter for photoflood — used to bring photoflood lighting into balance with daylight film. It should not be used with a color photoflood or photospot.



Size	COLOR					BLACK & WHITE						Polarizing
	Skylight	Cloudy	Morning & Evening	Flash	Flood	UV	Y1	Y2	O2	R2	YG	
49mm Standard	•	•	•	•	•	•	•	•	•	•	•	•
.. SMC	•	•				•		•	•	•		
52mm Standard	•	•	•	•	•	•	•	•	•	•	•	•
.. SMC	•	•				•		•	•	•		
58mm Standard	•					•		•	•			•
.. SMC	•	•				•		•	•	•		
67mm Standard	•					•		•	•			
.. SMC	•	•				•		•	•	•		
77mm Standard	•					•		•	•			
.. SMC	•	•				•		•	•	•		



Polarizing Filter/Circular Polarizing Filter

A polarizing filter reduces or eliminates surface reflections when photographing subjects behind glass, under the sea and against other high gloss surfaces; it also darkens blue skies without affecting the rest of the scene. Extremely effective for color photography. The ME-F (when using the auto/electro focus system) and the LX require the circular polarizing filter.

Fluorescent Light Filter

A special color correction filter for using daylight color film with fluorescent lighting. Eliminates the greenish tint produced with white fluorescent light for beautiful natural colors. Also effective for fluorescent colors other than white. Available in 49mm and 52mm screw-in filter sizes.

SMC Filters

SMC filters are multi-layer coated as precisely as SMC Pentax lenses themselves. They give added assurance of the high-quality performance of these lenses under filtration and preserve maximum sharpness and contrast. SMC filters are available in four sizes: 49mm (UV, Y2, O2, R2, Skylight, Cloudy), 52mm (UV, Y2, O2, R2, Skylight, Cloudy), 58mm (UV, Y2, O2, Skylight), 67mm (UV, Y2, O2, Skylight) and 77mm (UV, Y2, O2, Skylight).

SPECIAL FILTER SERIES

Seven special screw-in filters in two groups for producing a wide variety of creative effects. (available in 49mm and 52mm sizes).

FANTASIC COLOR FILTERS

• Fantastic Color Filter R/B

A rotating filter which changes color from red to blue and produces hues in between 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.

• Fantastic 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.

(NOTE: There may be some difficulty in focusing with these filters when using the ME-F with the Auto/electro focusing system. If this should occur, focus manually).



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.

The holder mounts conveniently to the front of the lens in the same manner as a spring-mounted lenshood. Three sizes are available: 49mm, 52mm, 58mm and 77mm.



LENS HOOD

The main purpose of a lens hood is to shield the lens from the light outside the picture area, which might otherwise cause unwanted reflections inside the lens.

In addition, a lens hood protects the lens against dust, dirt and fingerprints; it even helps keep out rain. Therefore, this lens accessory is often used simply for lens protection.

Using a spring mechanism, Pentax lens hoods fit directly onto the rim of the lens. They will not slip off easily, even if the camera is handled roughly. In addition to the metal lens hood, a flexible soft lens hood is also available. Ideal for avoiding the bumps and bruises of rough-handling.





CLOSE-UP LENSES

An SMC Close-Up Lens can be threaded into the front lens frame of an SMC Pentax lens for crisp macrophotography. The entire range gives you the convenience of automatic diaphragm setting and open-aperture metering.

These attachment lenses are available in the following types:

• Type	• SMC Pentax Lens	• Lens-to-subject distance range	• Magnification
S40	50mm f/2, 50mm f/1.7, 50mm f/1.4, 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)
S25	50mm f/2, 50mm f/1.7, 50mm f/1.4, 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)
T80	85mm~150mm	91.6~50.5cm (with 85mm f/2 lens)	1/9.4~1/4.2 (with 85mm f/2 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, 200mm f/4	114.0~84.0cm (with 200mm f/4 lens)	1/4.8~1/2.6 (with 200mm f/4 lens)
T183	135mm f/2.5, 200mm f/4	202.0~113.0cm (with 200mm f/4 lens)	1/9.1~1/3.8 (with 200mm f/4 lens)

AUTO EXTENSION TUBE K 50mm

When employed in conjunction with the SMC Pentax Macro 100mm f/4 lens, this extension tube enables magnifications from 1/2X to 1X (life size). For its range, it proves to be an economical alternative to purchasing the entire Auto Extension Tube Set K. With 120mm to 135mm lenses close-ups in excess of 0.4X can be obtained; with 200mm lenses, close-ups in the vicinity of 0.25X are obtainable. It also affords the convenience of automatic diaphragm operation and open-aperture metering.



AUTO EXTENSION TUBE K 100mm

Auto Extension Tube K 100mm permits both automatic diaphragm operation and open-aperture metering. Magnifications in the vicinity of 1X are obtainable with 100mm lenses; 0.8X close-ups with 120mm to 135mm lenses; 0.5 with 200mm lenses, and 0.35X with 300mm lenses.

Both Auto Extension Tubes K 50mm and K 100mm may also be employed to bring about striking increases in the close-up capabilities of telephoto lenses.





AUTO EXTENSION TUBE SET K

The Auto Extension Tube Set K consists of three different rings, which can be used either individually or in combination. Magnifications up to life-size can be provided by attaching the #3 ring to the SMC Pentax Macro 50mm f/4 lens. This set allows you the convenience of automatic diaphragm operation and open-aperture metering.



MANUAL EXTENSION TUBE SET K

The Manual Extension Tube Set K is identical with the automatic one except that it provides manual diaphragm operation and stop-down metering.

HELICOID EXTENSION TUBE K

The Helicoid Extension Tube K provides variable tube extension for close-up work. Magnification is 0.47x to 0.99x with the 55mm lens.



REVERSE ADAPTOR K

Regardless of the lens being used, whenever working with magnifications greater than life size, better results can be achieved by reversing the lens. This adaptor is available in two sizes: 49mm and 52mm. One side of the appropriate adaptor screws into the front threads of the lens, and the opposite side bayonets into the body mount.





AUTO BELLOWS M & SLIDE COPIER M

Auto Bellows M can be extended from 38mm to 170mm. This unit has a lens-reversing system, double cable release for operating the automatic diaphragm and a measuring scale that indicates how far the bellows has been drawn out. The tripod receptacle is movable. Auto Bellows M has a minimum extension of 38mm; the minimum magnification is 0.73 with a 50mm lens. The Slide Copier M attaches to the Auto Bellows for quick, accurate slide duplication and partial slide magnification.



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.

SLIDE HOLDER 1x, K/SLIDE HOLDER K

Slide Holder 1x, K serves the same purpose as Slide Copier M of Auto Bellows M. 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.



MACRO FOCUS RAIL III

When close-ups are to be made with a large magnification (e.g., 5X or more), focusing can easily be done by using the Fine Focus Adjustor for precisely setting the position of the lens, or extension tube. This device is also useful for making close-ups with a predetermined magnification. (If the lens alone is moved for focusing, it causes a change in magnification.) Provided with a tripod receptacle. (Fine Focus Adjustor units II and III are also available.)





MACROPHOTO STAND/LIGHTING TABLE

The Macrophoto Stand is an extremely compact unit convenient for ultra close-ups and macrophotography. Magnifications are continuously variable from 1/2X to 1.9X when the stand is employed with Fine Focus Adjustor III, the Macro 50mm f/4 lens, Auto Extension Tube Set K and Reverse Adaptor K. When employed with Auto Bellows M, magnifications from 0.7X - 3.1X are obtainable. Also, includes a reversible grey/black stage plate; the grey side has an 18% reflectivity, making it ideal for taking test exposure readings.

A "trans-illuminating" Lighting Table is also available as a Macrophoto Stand accessory. By replacing the grey/black stage plate of the Macrophoto Stand with a transparent glass stage plate, permeable lighting is provided from beneath the stage via a built-in tungsten lamp. For brighter lighting, a built-in mirror may be angled to reflect light from the Autorobo or other electronic flash units, reflector lamps, a 35mm slide projector and other commercially available lighting sources.

The Macrophoto Stand/Lighting Table combination also comes in handy for slide copying when the accessory 35mm format and 6 x 7 format slide carriers are employed. (Both items must be purchased separately.)

COPY STAND III & III P

The Copy Stand aligns the camera quickly and accurately for copy work. 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.

TABLE CLAMP

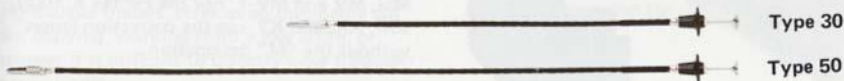
The table clamp is useful for fixing the Copy Stand III's leg to a table top less than 6cm thick.

CABLE RELEASES

A cable release is a "must" for preventing camera movement, especially when the camera is being used on a tripod or copy stand. This unit has a locking collar to allow time exposure.

Available in the following two types:

- Type 30 — Loosen the stopper and release the shutter at B (Bulb); the release is locked automatically.
- Type 50 — 50cm long, convenient for releasing the shutter from a distance.



FOR CRITICAL FOCUSING



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 ME-SUPER, ME-F, ME, MX, MG, MV, and MV-1. For the Pentax K 1000, 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 ($+2 \text{ D} - [-1.0 \text{ D}] = +3 \text{ D}$) SMC Correction Lens. Similarly, a nearsighted person normally requiring -2 D should utilize a -1 D ($-2 \text{ D} - [-1.0 \text{ D}] = -1 \text{ D}$) SMC Correction Lens.

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

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 LX, ME-SUPER, ME-F, ME, MX, MG, MV and MV-1. For the Pentax K 100, KM, KX and K2, use the magnifier without the "M" designation.

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 LX, ME-SUPER, ME-F, ME, MX, MG, MV and MV-1, and Eyecup II for the Pentax K 1000, KM, KX, or K2.

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.

RECONVERTER II RECONVERTER-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 LX, ME-SUPER, ME-F, ME, MX, MG, MV and MV-1, 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 read-out 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.



AF-200S AUTO FLASH (Dedicated type)

A fully thyristorized auto flash with power to spare for most general flash photo situations. The AF-200S features two-way auto flash via a built-in sensor and has a flash range running from 0.6 meters all the way up to 7.1 meters. Manual flash override is provided for special flash applications. Mounts with all cameras featuring standard hot-shoe synch. Also features "dedicated flash" (automatic synchronization on charging and viewfinder flash ready indication) with the Pentax LX, ME-SUPER, ME-F, MG, MV, MV-1 and other late model Pentaxes. Wide-Angle and Telephoto lens adaptors available as optional accessories. Guide number 20 (ASA 100 in meters). Powered by four AA-size batteries.

AF-160 AUTO FLASH (Dedicated type)

A highly compact and less expensive counterpart to the AF-200S. Mounts with all cameras featuring standard hot-shoe synch and offers "dedicated flash" LX and other late model Pentaxes (see AF-200S above). Although less powerful as the AF-200S, the AF-160 has a flash range of 0.5 — 6 meters at guide number 16 (ASA 100 in meters) and is especially handy for situations where compactness is of prime importance. Other features include color-coded exposure guide,

open flash button and flash ready lamp. Operates on two AA-size batteries.

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, ME-F, MG, 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 TTL Auto mode, the unit integrates fully with the LX's IDM (Intergrated 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.





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

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, ME-F, MG, 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.

AF-080C Ring Light

Also a professional flash, but optimized for close-up work and macrophotography. A 360° circular flash head gives direct shadowless lighting ideal for close range work. Good for medical, dental and scientific photography of small animals and insects. The AF-080C offers TTL auto operation at the film plane with the Pentax LX, plus conventional two-way manual flash with a guide number of 8 (at FULL) and GN 4 (at 1/4th), ASA 100 in meters. A separate AF Control Pack fits directly to the flash head and houses four AA-size penlight batteries as internal power source. Other features include dedicated manual flash, optional power units include TR Power Pack, 510V and 270/240 high voltage power packs, and AC Adaptor II.





REAR CONVERTER K T6-2X

This high performance telephoto converter unit doubles the focal length of the lens in use, converting short telephotos to medium range, and midrange to super telephotos. Designed to offer optimum performance when used with lenses in the 135mm to 300mm range. Retains both the automatic diaphragm action and open-aperture metering characteristics of automatic diaphragm lenses.

MOUNT ADAPTOR K

Mount Adaptor K permits use of screw-mount Takumar lenses with bayonet-mount Pentaxes. While it leaves the optical performance of the lens in use fully in tact, it does not carry the diaphragm action or open-aperture metering characteristics of automatic diaphragm lenses.

6 x 7 LENS MOUNT ADAPTOR K

This adaptor permits a 6 x 7 camera lens to be used with Pentax bayonet-mount cameras. When used with ultra telephoto lenses it also permits turning the camera while the lens remains mounted to the tripod. Diaphragm action is manual and metering is stop-down.

WINDER ME II

Designed for use with the Pentax ME, ME-SUPER, ME-F, MG and MV-1, this highly compact and 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, while, 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.



CASES AND BAGS



SOFT EVEREADY CASES ●

Perfectly contoured to fit your Pentax cameras, thereby offering optimum protection. The front covers of the soft case for the MX, ME-F, MG and ME-SUPER is designed for 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 50mm f/1.2 lenses. Soft cases are available in four groups: 1. M-type for the ME-SUPER, ME, MG, MV and MV-1 2. ME-F type 3. LX type, and 4. MX type.

TELEPHOTO LENS FRONT CASES ●

These large front cases are designed to hold telephoto and large wide-angle lenses when used with the ME-SUPER, ME, MG, MX, MV and MV-1. These is also available in LX type. Front cases T1, T2, T3 cover the lenses 18mm f/3.5 to 200mm f/4.

AF ZOOM FRONT CASE

A specially designed case for carrying the 35mm - 70mm Zoom Lens together with the ME-F.

SOFT CASE M-40/M-50 ●

Soft Case M-50 is a crumble case which accommodates the ME, ME-SUPER, MX, MG or MV-1 with the 50mm f/1.7, f/1.4 and f/2 lens. Soft case M-50 accommodates these cameras with the 40mm f/2.8 lens.

SHORT SOFT CASE ●

The short soft case fits around the lens, rather than over it, allowing you to shoot without taking the camera out of the case. It quiets the shutter release making it very practical for shooting on-stage performers, etc., and it also protects the camera against the elements and permits focusing, film advance and lens changes without removing the case. Available for the ME-SUPER, ME, MX, MG, MV, and MV-1.

BLIMP CASE LX/ME-F ●

Blimp Case LX is a special case designed for quiet operation of the LX and to protect the camera while shooting in bad weather. The Blimp Case LX also may be used with the ME-F.

STANDARD LENS CASES (HARD) ●

This case protects the standard lens when not in use.

AF ZOOM LENS CASE

A special case for carrying the 35mm - 70mm zoom lens without camera.

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.

49mm AND 52mm STEREO ADAPTOR 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. The most dramatic effects are obtained when the subject is photographed from a distance of four meters or less. **Note:** The stereo viewer and adaptor will not function in conjunction with the auto and electronic focusing systems of the ME-F.

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.





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.

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.

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.

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.

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.

MX FOCUSING SCREENS

A wide assortment of interchangeable focusing screens are available to meet specific focusing requirements with the various SMC Pentax lenses when used in conjunction with the Pentax MX. For most general applications, the standard SC-1 Screen offering three-way focusing (split-image/microprism collar on a mat field) is highly suitable. On the other hand, the SC-1 Screen, which lacks the central split-image/microprism collar, is more suitable. For use with super telephoto lenses. For close-up work (Photomicrography, Astrophotography, Macro photography, etc.) the all-mat SD-1 Screen with central crosshairs or the SI Screen with engraved scales are highly convenient. Among the other screens available are those for highly specialized work such as the SG Screen with etched crosslines which is very useful for aligning perpendicular lines in architectural photography in conjunction with the SMC Pentax 28mm Shift lens. A total of nine screens are available in all to meet individual focusing needs or preferences.

SA-1



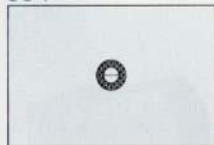
SA-3



SB-1



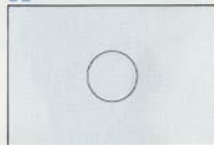
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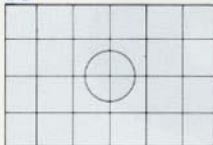
SD-1



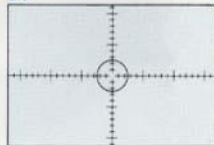
SE



SG



SI





SPOTMETER V/SPOTMETER V-FL

To expand the scope of the Asahi Pentax Spotmeter even further, model V utilizes a silicon photo diode which makes possible a virtually instantaneous response as well as a broad measuring range of EV-19. The perfect exposure measurement tool for the professional photographer. 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.

DIGITAL SPOTMETER

This highly compact and lightweight model has an LED digital read-out 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.

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.

**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 K Mount. The special lenses are merely screwed into one side of the adaptor and the other fits directly to the K Mount. When fitted to Auto Bellows M or Bellows Unit III, this adaptor permits varied macro magnifications from 2X to 10X.





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