

PENTAX

LENSES & ACCESSORIES

A Comprehensive and Versatile
Photographic System



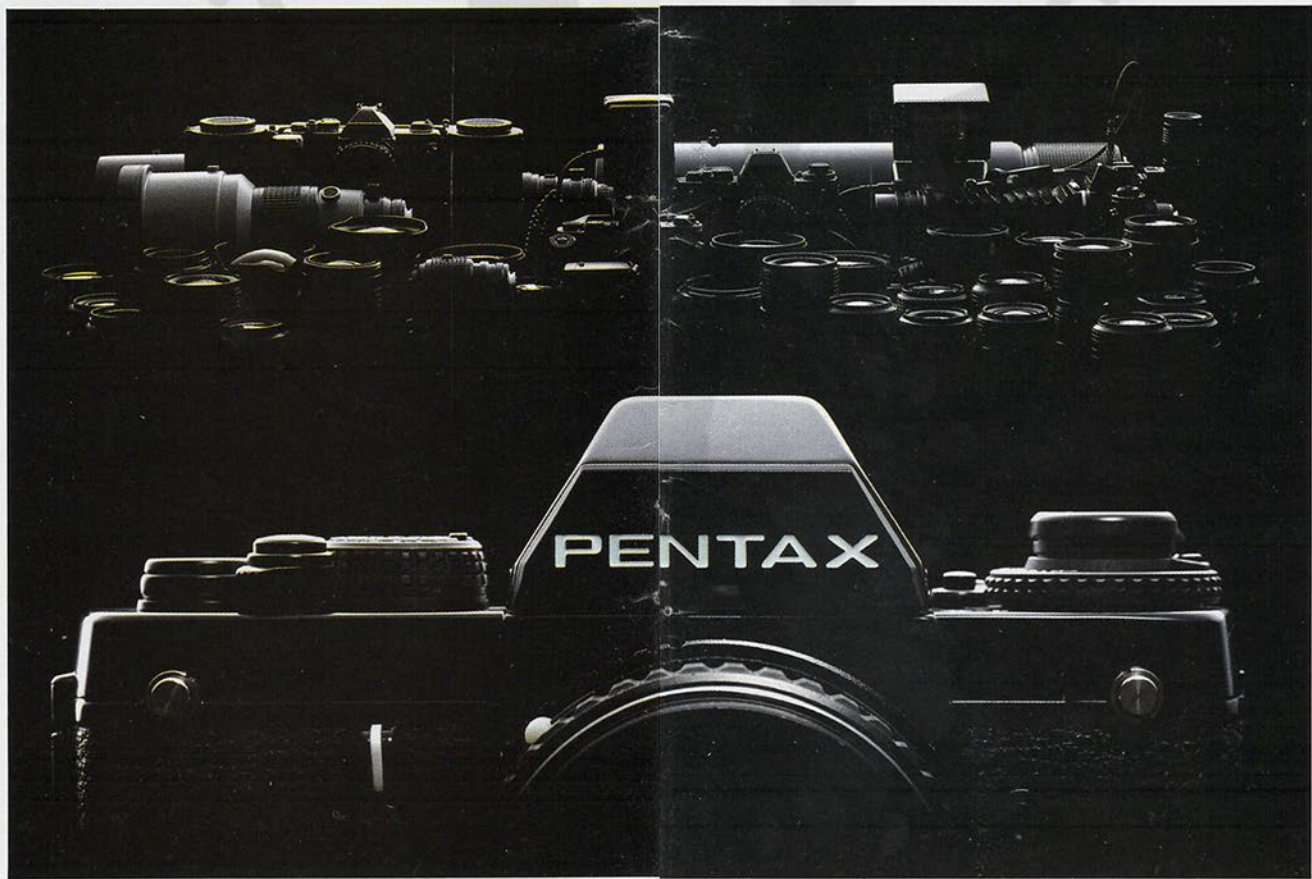
THE PENTAX SYSTEM M

A Pentax 35mm SLR camera is much more than a superior photographic tool: it is the starting point for an exceptionally comprehensive and versatile system of photography. Used with any Pentax 35mm body, the complete range of Pentax lenses and accessories can help the photographer to capture the most inaccessible images, to produce the most specialized creative effects.

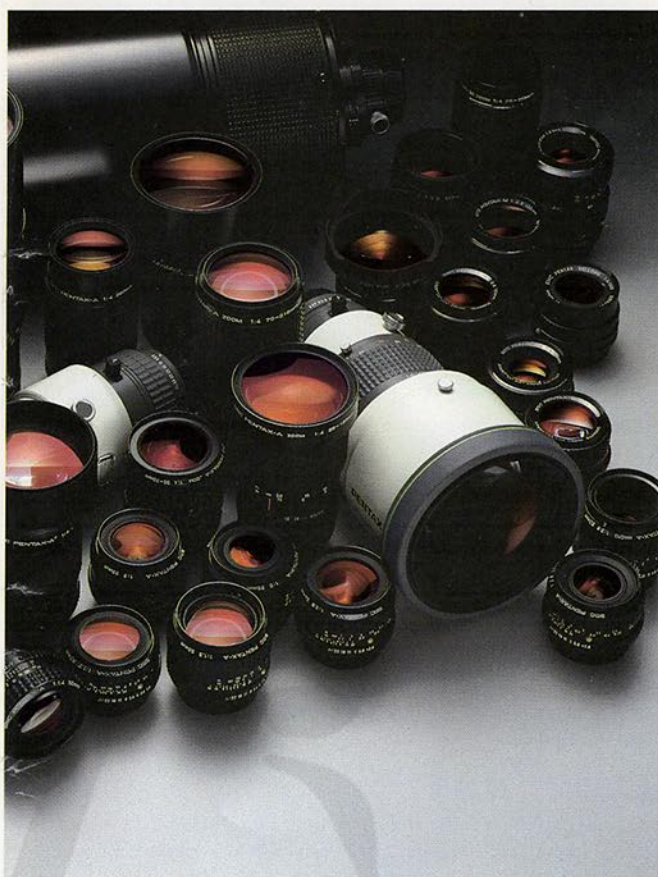
The extensive line of SMC Pentax lenses offers an extremely broad choice of photographic perspectives. Focal lengths range from a 15mm ultra wide angle to a 2000mm super telephoto, and there is a wide choice of zoom, macro and special-purpose lenses.

Pentax accessories are available to fit every photographic need. There is a complete collection of equipment for close-up and macro work. There are interchangeable viewfinders, eyepieces and focusing screens. There is a sophisticated system of flash accessories and an infrared remote control system. There is a complete line of filters, power cords, cases, straps and other accessories.

The Pentax System offers the photographer unlimited creative possibilities.



LENS SYSTEM



A new perspective on photography

The beauty of the Pentax system is that it sees and records images the naked eye never could. Imagine viewing 180 degrees of a panoramic landscape at a glance. Or zeroing in on a single human subject from a hundred yards away. Or freezing faster-than-the-eye motion at point-blank range.

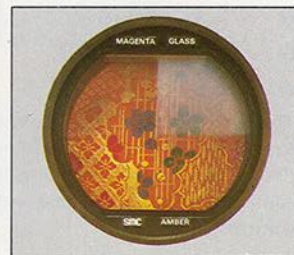
The Pentax system of interchangeable lenses can make each of these possibilities — and many more — a reality. Pentax makes interchangeable lenses for use with any Pentax 35mm SLR. Some are standard lenses that see much the way the human eye does. Others see the world in a different way, from macro to wide angle to telephoto. There is also an excellent selection of zoom and special application lenses.

Among the newest Pentax lenses is the Pentax A Series. These lenses have special contacts for automatic aperture control and programmed automation. Pentax M Series lenses are up to 60% shorter and much lighter than their standard counterparts, and while designed for use with compact M-series cameras, can also be used to advantage with larger models.

All Pentax lenses have the exclusive Super-Multi-Coating

(SMC), a remarkable seven-layer lens coating process that cuts the reflection ratio down to just 0.2% per lens surface. The result is a dramatic improvement in both color fidelity and brightness and the elimination of flare and ghost images. In multi-element zoom lenses, SMC can increase brightness up to 50% over conventional lens coatings. Pentax's ultra-modern production techniques, stringent quality control and SMC technology combine to make Pentax lenses unexcelled tools for the amateur or professional.

Make the most of your Pentax camera with a carefully selected system of Pentax lenses.



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

EXPAND YOUR HORIZONS WITH WIDE ANGLE LENSES



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1 SMC PENTAX 15mm f/3.5

This lens encompasses a spectacular 111° angle of view without distortion, even at the edges. Four built-in filters (UV, Skylight, Y2, O2) and a built-in lens hood make this a superb lens for creative and special effects photography.

2 SMC PENTAX 18mm f/3.5

This lens features a 100° angle of coverage and has been well corrected to eliminate distortion. It has four built-in filters (Skylight, Cloudy, Y2, O2) along with a clip holder at the rear for gelatin filters.

3 SMC PENTAX-M 20mm f/4

At only half the weight of the previous 20mm f/4 lens, this compact version features extended depth of field — perfect for quick candid shots or fast-moving subjects — and a convenient viewing angle of 95°.

4 SMC PENTAX-A 24mm f/2.8

5 SMC PENTAX 24mm f/2.8

Available with or without automatic aperture control, this lens is favored for scenic and architectural photography. It features a viewing angle of 84°, a fast maximum aperture, and shallow depth of field for easy focusing.

6 SMC PENTAX-A 28mm f/2

7 SMC PENTAX-M 28mm f/2

8 SMC PENTAX-A 28mm f/2.8

9 SMC PENTAX-M 28mm f/2.8

The 28mm focal length is one of the most popular and manageable for photographing groups, interiors or wide-angle scenery. Pentax offers four 28mm lenses, in the fast f/2 version or the super-compact f/2.8 version — and with or without automatic aperture control.

10 SMC PENTAX 30mm f/2.8

This unique focal length offers a 9° greater angle of view than a 35mm lens and 3° less than a 28mm lens, for a toned-down wide-angle effect. A relatively fast lens speed enables good results at wide aperture.

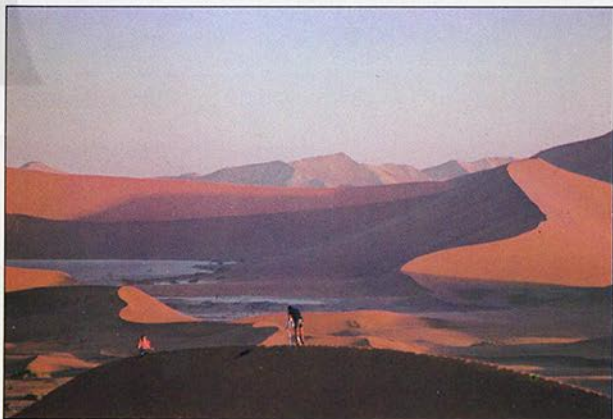
11 SMC PENTAX-A 35mm f/2

12 SMC PENTAX-M 35mm f/2

13 SMC PENTAX-A 35mm f/2.8

14 SMC PENTAX-M 35mm f/2.8

With its natural perspective and wide angle of view, a Pentax 35mm lens is versatile enough to be used as a standard lens, especially when photographing in close quarters. In both the f/2 and f/2.8 speeds and with or without automatic aperture control, Pentax 35mm lenses are compact and of excellent optical quality.



STANDARD AND TELEPHOTO LENSES: NEW OUTLOOK



① SMC PENTAX-M 40mm f/2.8

This incredible "pancake" lens weighs in at 110 grams (3.88oz.) and extends just 18mm (0.7in.) from the camera body. The 40mm length lets you get more into the picture while preserving a natural perspective. Great for travel.



② SMC PENTAX-A 50mm f/1.2 ④ f/1.4 ⑥ f/1.7

⑤ SMC PENTAX-M 50mm f/1.4 ⑦ f/1.7 ⑧ f/2

③ SMC PENTAX 50mm f/1.2

Pentax standard lenses are the most versatile for all-purpose shooting. They approximate the natural viewing perspective of the human eye and their fast maximum apertures make low-light shooting easy. Pentax offers a full line of compact 50mm lenses, from the super-fast f/1.2 to the economical f/2. All except the f/2 are available with or without automatic aperture control.



⑨ SMC PENTAX-M 85mm f/2

This is a great all-around portrait lens, with just the right focal length for capturing faces in the most pleasing perspective. The large maximum aperture makes it suitable for available-light shooting.



⑩ SMC PENTAX-M 100mm f/2.8

⑪ SMC PENTAX-M 120mm f/2.8

Also fine for portraits, both lenses are excellent for candid shooting, hand-held action sports, news photography and other medium-range applications.



⑫ SMC PENTAX 135mm f/2.5

⑬ SMC PENTAX-A 135mm f/2.8

⑭ SMC PENTAX-M 135mm f/3.5

This medium-telephoto lens brings the subject quite close, and can be used to isolate the subject by throwing the background out of focus. But it is compact enough for easy hand-held shooting. Available with automatic aperture control and in a fast f/2.5 maximum aperture.



⑮ SMC PENTAX-M 150mm f/3.5

Despite its focal length, this compact telephoto is even lighter than the standard 50mm f/1.2. It is useful for following sports action, for candid shooting, and for close-up portraiture.



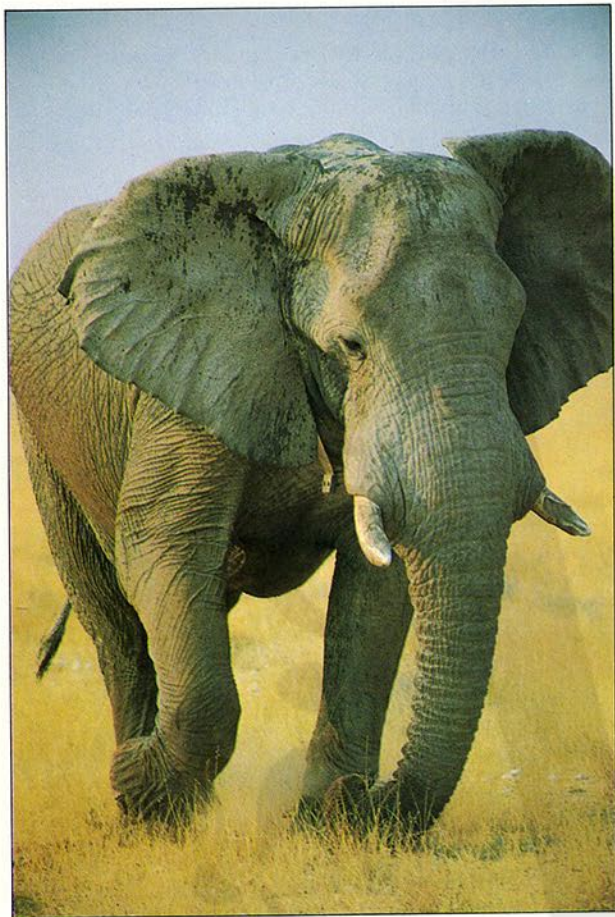
⑯ SMC PENTAX 200mm f/2.5

⑰ SMC PENTAX-A 200mm f/4

⑱ SMC PENTAX-M 200mm f/4

The 200mm focal length is well suited to action sports, candid photography and general subjects at medium range. Pentax offers an extremely fast 200mm f/2.5 lens — fast enough for long-range available light photography. The f/4 lenses are among the lightest in their class.

EXTEND YOUR VISION WITH SUPER TELEPHOTO LENSES



❶ SMC PENTAX-A* 300mm f/2.8ED(IF)

The special extra-low-dispersion lens elements used in this lens reduce chromatic aberration to a minimum. An inner focusing system improves balance, reduces bulk and weight and allows closer focusing.

❷ SMC PENTAX-A* 300mm f/4

❸ SMC PENTAX-M* 300mm f/4

❹ SMC PENTAX 300mm f/4

With a magnification of 6X, the 300mm telephoto lens is ideal for long-range photography, yet is compact enough for hand-held shooting. The M* and A* lenses are a new generation of telephoto lens — among the most compact on the market, and they incorporate low-dispersion glass to reduce chromatic aberration.



❺ SMC PENTAX-M 400mm f/5.6

This lens is also extremely lightweight for its focal length. Despite its 8X magnification power, it is still hand holdable at faster shutter speeds.



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1 SMC PENTAX 500mm f/4.5

Another extremely lightweight telephoto, this lens is equipped with a relatively fast maximum aperture and a built-on sight for easy composition and focus. Brings subjects inaccessible to shorter lenses within reach. Excellent for nature photography.

2 SMC PENTAX-A* 600mm f/5.6 ED (IF)

The extra-low-dispersion optical element used in this lens reduces chromatic aberration, for performance levels not possible with conventional optical glass. The rear focus system features a rear element group that moves inside the barrel. This allows a far more compact lens design, as well as better balanced, smoother and faster focusing. The focal length is ideal for most long-distance applications.



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3 SMC PENTAX 1000mm f/8

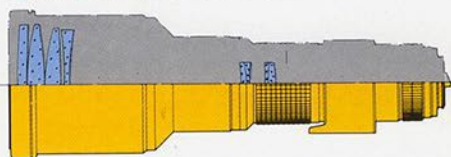
The 20X magnification of this lens brings distant subjects into the closest focus. A built-on sight, rack-and-pinion focusing system and specially designed tripod (optional) make focusing fast and sure.

4 SMC PENTAX REFLEX 1000mm f/11

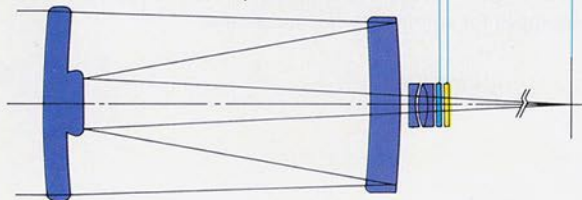
5 SMC PENTAX-M REFLEX 2000mm f/13.5

The reflex optical design of these two super telephotos make possible a dramatic reduction in the size of the lens. Besides reducing size, the use of mirrors in the design eliminates the need for optical correction and makes possible an extremely close minimum focusing distance. Since the reflex design does not allow a lens diaphragm, light control is accomplished by means of three built-in ND (neutral density) filters and shutter speed variation. Both lenses are equipped with built in standard filters and sights.

• SMC PENTAX-A* 600mm f/5.6 ED (IF)



Sharp-Cut Filter • Film Plane •
ND Filter •



ZERO IN WITH ZOOM LENSES



① SMC PENTAX-M ZOOM 24mm-35mm f/3.5

This lens is an excellent tool for the wide-angle photographer. It is exceptionally light and compact and covers the entire range from ultra-wide angle to near-standard.

② SMC PENTAX-A ZOOM 24mm-50mm f/4

③ SMC PENTAX-M ZOOM 24mm-50mm f/4

This compact wide-to-standard lens is the most versatile in the line. Optical performance is superb from 24mm ultra-wide angle all the way to 50mm standard.

④ SMC PENTAX-M ZOOM 28mm f/3.5-50mm f/4.5

Another versatile wide-to-standard zoom, this lens is as compact as a conventional standard lens. The focal length coverage is highly practical and the variable aperture design enables optimum speed and performance at any setting.

⑤ SMC PENTAX-A ZOOM 28mm-135mm f/4

This triumph of lens technology is the most versatile of all Pentax zooms. It's fast, compact and covers the complete range from wide angle to medium telephoto plus a macro setting. And it is equipped for automatic aperture control.



⑥ SMC PENTAX-M ZOOM 35mm f/2.8-70mm f/3.5

⑦ SMC PENTAX-A ZOOM 35mm-70mm f/4

Unprecedented speed and compactness along with an extremely functional range of focal lengths makes this an excellent choice for a standard lens. Maximum wide-angle and telephoto settings are as fast as their fixed-length counterparts.

⑧ SMC PENTAX-A ZOOM 35mm-105mm f/3.5

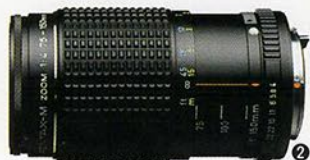
Also equipped for automatic aperture control, this lens has a slightly narrower range than the 28mm-135mm, but a faster maximum aperture. It is an extremely compact and practical all-purpose lens, complete with macro setting.

⑨ SMC PENTAX-M ZOOM 40mm f/2.8-80mm f/4

Fast, compact and economical, this M-type zoom is another impressively versatile variable-focal-length standard lens. Beyond the maximum telephoto setting is a macro override system for quality close-up photography.

⑩ SMC PENTAX ZOOM 45mm-125mm f/4

A 3:1 zoom ratio makes this a versatile multi-purpose zoom for sports, news photography, portraits and a variety of other subjects. At the maximum setting, magnification is 2.5 times that of a standard lens.



① SMC PENTAX-A ZOOM 70mm-210mm f/4

Compact and equipped for automatic aperture control, this is an excellent zoom for all medium telephoto focal lengths and close-up macro photography. Combine it with the Pentax-A 24-50mm zoom and you can shoot almost any subject with automatic aperture control.

② SMC PENTAX-M ZOOM 75mm-150mm f/4

Only 111mm in length, this zoom offers six popular telephoto lens lengths in one. A one-touch zoom-focus control lets you frame and focus quickly and easily.

③ SMC PENTAX-M ZOOM 80mm-200mm f/4.5

A compact short-barrel design makes this an ideal zoom for hand-held photography over the entire medium telephoto range. Excellent for news, sports, candid shots and other applications.

④ SMC PENTAX ZOOM 135mm-600mm f/6.7

Powerful and fast for its class, this is the ultimate zoom lens for professional-quality distance photography. Features a rotatable tripod socket, a sight for quick focusing and a rear filter mount.



⑤ SMC PENTAX AF ZOOM 35mm-70mm f/2.8

This is a fast, versatile all-purpose zoom designed especially for use with the ME-F Auto Focus Camera. Mechanisms and power supply for automatic focus adjustment (available with the ME-F only) are built into the lens body.

⑥ SMC PENTAX REFLEX ZOOM 400mm f/8-600mm f/12

A compact and lightweight reflex design makes this an ideal lens for hand-held sports and landscape shots. The reflex design also ensures reduced chromatic aberrations and sharp images at all times.

15mm



28mm



50mm



100mm



210mm



400mm



MACROPHOTO LENSES



① **SMC PENTAX-A MACRO 50mm f/2.8**

② **SMC PENTAX-M MACRO 50mm f/4**

These lenses offer continuous focus to infinity, and when used with Reverse Adapter K and extension tube(s), offer magnifications greater than life size. Also operate as standard-focal-length lenses. The Pentax-A 50mm Macro features automatic aperture control and an exceptionally fast maximum aperture.

③ **SMC PENTAX-M MACRO 100mm f/4**

This lens offers greater magnification than the 50mm macro lens, for closer close-ups or to permit close-ups of subjects at a greater distance. It also operates as a regular 100mm telephoto.



SPECIAL PURPOSE LENSES



④ **SMC PENTAX FISH-EYE 17mm f/4**

The exaggerated perspective of this fisheye lens and its amazing depth of field make it an invaluable creative tool, covering nearly 180° angle of view. It is compact and comes with four built-in filters (UV, Skylight, Y2, O2) and a rear mount for gelatin filters.

⑤ **SMC PENTAX SHIFT 28mm f/3.5**

The 360° rotating lens barrel of this lens allows you great flexibility in solving the problem of converging lines: you may choose either to correct the perspective or exaggerate it for creative effect. It is indispensable for architectural photography. Comes with four built-in filters and a rear gelatin filter mount.

Uncorrected



Corrected



REAR CONVERTERS

① **SMC Pentax Rear Converter-A 1.4X-S**

② **SMC Pentax Rear Converter-A 2X-S**

③ **SMC Pentax Rear Converter-A 1.4X-L**

④ **SMC Pentax Rear Converter-A 2X-L**

Fitting between the lens and the camera body, these rear converters increase effective focal length of the lens. 1.4X models boost focal length 40%, nearly doubling image area; 2X models double focal length. Models S are usable with most lenses up to 300mm while models L are for lenses over 300mm. All four can be used with automatic aperture control and open-aperture metering.

⑤ **SMC Pentax Rear Converter K T6-2X**

Effectively doubles the focal length of lenses from 135 to 300mm. Automatic aperture control is not available.



LENS SPECIFICATIONS

| Type | Name of Lens | Minimum Aperture | Angle of View (Degrees) |
|------------------|---|------------------|-------------------------|
| FISH-EYE | SMC Pentax Fish-Eye 17mm f/4 | 22 | 180 |
| ULTRA-WIDE ANGLE | SMC Pentax 15mm f/3.5 | 22 | 111 |
| | SMC Pentax 18mm f/3.5 | 22 | 100 |
| | SMC Pentax-M 20mm f/4 | 22 | 95 |
| | SMC Pentax 24mm f/2.8 | 22 | 84 |
| WIDE-ANGLE | SMC Pentax-M 28mm f/2 | 22 | 75 |
| | SMC Pentax-M 28mm f/2.8 | 22 | 75 |
| | SMC Pentax 30mm f/2.8 | 22 | 72 |
| | SMC Pentax-M 35mm f/2 | 22 | 63 |
| | SMC Pentax-M 35mm f/2.8 | 22 | 63 |
| STANDARD | SMC Pentax-M 40mm f/2.8 | 22 | 57 |
| | SMC Pentax 50mm f/1.2 | 22 | 47 |
| | SMC Pentax-M 50mm f/1.4 | 22 | 47 |
| | SMC Pentax-M 50mm f/1.7 | 22 | 47 |
| | SMC Pentax-M 50mm f/2 | 22 | 47 |
| TELEPHOTO | SMC Pentax-M 85mm f/2 | 22 | 28.5 |
| | SMC Pentax-M 100mm f/2.8 | 22 | 24.5 |
| | SMC Pentax-M 120mm f/2.8 | 32 | 20.5 |
| | SMC Pentax 135mm f/2.5 | 32 | 18 |
| | SMC Pentax-M 135mm f/3.5 | 32 | 18 |
| | SMC Pentax-M 150mm f/3.5 | 32 | 16.5 |
| | SMC Pentax 200mm f/2.5 | 32 | 12.5 |
| | SMC Pentax-M 200mm f/4 | 32 | 12.5 |
| | SMC Pentax-M* 300mm f/4 | 32 | 8.3 |
| | SMC Pentax 300mm f/4 | 32 | 8.3 |
| ULTRA TELEPHOTO | SMC Pentax-M 400mm f/5.6 | 45 | 6.2 |
| | SMC Pentax 500mm f/4.5 | 45 | 5 |
| | SMC Pentax 1000mm f/8 | 45 | 2.5 |
| | SMC Pentax Reflex 1000mm f/11 | — | 2.5 |
| | SMC Pentax-M Reflex 2000mm f/13.5 | — | 1.2 |
| ZOOM | SMC Pentax-M Zoom 24mm—35mm f/3.5 | 22 | 84-63 |
| | SMC Pentax-M Zoom 24mm—50mm f/4 | 22 | 84-47 |
| | SMC Pentax-M Zoom 28mm f/3.5—50mm f/4.5 | 22 | 75-47 |
| | * SMC Pentax AF Zoom 35mm—70mm f/2.8 | 22 | 63-34.5 |
| | SMC Pentax-M Zoom 35mm f/2.8—70mm f/3.5 | 22 | 63-34.5 |
| | SMC Pentax-M Zoom 40mm f/2.8—80mm f/4 | 22 | 57-30.5 |
| | SMC Pentax Zoom 45mm—125mm f/4 | 22 | 51-19.5 |
| | SMC Pentax-M Zoom 75mm—150mm f/4 | 32 | 32-16.5 |
| | SMC Pentax-M Zoom 80mm—200mm f/4.5 | 32 | 30.5-12.5 |
| | SMC Pentax Zoom 135mm—600mm f/6.7 | 45 | 18-4.1 |
| | SMC Pentax Reflex Zoom 400mm f/8—600mm f/12 | — | 6.2-4.1 |
| MACRO | SMC Pentax-M Macro 50mm f/4 | 32 | 47 |
| | SMC Pentax-M Macro 100mm f/4 | 32 | 24.5 |
| | SMC Pentax Bellows 100mm f/4 | 32 | 24.5 |
| SHIFT | SMC Pentax Shift 28mm f/3.5 | 32 | 75 |

BI Filters built-in FA Fully automatic M Manual ND Controlled by ND filters.
 * ... AF stands for Auto Focus; auto focusing possible only with MEF.
 ▲ 67mm filters can be screwed in the lens front; 40.5mm special filters in the lens rear.
 Note: Lens length does not include mount portion.

| Lens Construction (Groups-Elements) | Diaphragm | Minimum Focusing Distance | | Maximum Diameter & Length (Ømm x mm) | Weight | | Filter Size (mm) |
|-------------------------------------|-----------|---------------------------|------|--------------------------------------|--------|--------|------------------|
| | | m. | ft. | | g. | oz. | |
| 7-11 | FA | 0.2 | 0.66 | 64.5x34 | 235 | 8.29 | BI |
| 12-13 | FA | 0.3 | 1.0 | 80x81.5 | 600 | 21.16 | BI |
| 11-12 | FA | 0.25 | 0.79 | 63x61.5 | 295 | 10.40 | BI |
| 8-8 | FA | 0.25 | 0.9 | 63x29.5 | 150 | 5.29 | 49 |
| 8-9 | FA | 0.25 | 0.79 | 63x41.5 | 195 | 6.88 | 52 |
| 7-8 | FA | 0.30 | 1.0 | 63x41.5 | 215 | 7.58 | 49 |
| 7-7 | FA | 0.30 | 1.0 | 63x37 | 170 | 6.00 | 49 |
| 7-7 | FA | 0.30 | 1.0 | 63x39.5 | 215 | 7.58 | 52 |
| 7-7 | FA | 0.30 | 1.0 | 63x42 | 205 | 7.23 | 49 |
| 6-6 | FA | 0.30 | 1.0 | 63x35.5 | 170 | 6.00 | 49 |
| 4-5 | FA | 0.60 | 2.0 | 63x18 | 110 | 3.88 | 49 |
| 6-7 | FA | 0.45 | 1.5 | 65x48.5 | 385 | 13.58 | 52 |
| 6-7 | FA | 0.45 | 1.5 | 63x37 | 235 | 8.29 | 49 |
| 5-6 | FA | 0.45 | 1.5 | 63x31 | 185 | 6.52 | 49 |
| 5-5 | FA | 0.45 | 1.5 | 63x31 | 160 | 5.64 | 49 |
| 4-5 | FA | 0.85 | 2.8 | 62.5x46 | 250 | 8.82 | 49 |
| 5-5 | FA | 1 | 3.3 | 62.5x55.7 | 225 | 7.94 | 49 |
| 5-5 | FA | 1.2 | 4 | 62.5x63 | 270 | 9.52 | 49 |
| 6-6 | FA | 1.5 | 5 | 67.5x85.9 | 480 | 16.93 | 58 |
| 5-5 | FA | 1.5 | 5 | 62.5x65.7 | 270 | 9.52 | 49 |
| 5-5 | FA | 1.8 | 6 | 62.5x75 | 290 | 10.23 | 49 |
| 6-6 | FA | 2 | 6.5 | 89x145 | 950 | 33.51 | 77 |
| 5-6 | FA | 2 | 6.5 | 63.5x111 | 400 | 14.11 | 52 |
| 7-8 | FA | 4 | 13 | 84x132 | 825 | 29.10 | 77 |
| 5-7 | FA | 4 | 13 | 85x188 | 1,020 | 35.98 | 77 |
| 5-5 | FA | 5 | 7 | 85x276.5 | 1,220 | 43.03 | 77 |
| 4-4 | M | 10 | 35 | 126.5x440 | 3,370 | 118.86 | 52 |
| 5-5 | M | 30 | 100 | 143x738 | 5,290 | 186.58 | 52 |
| 4-6 | ND | 8 | 27 | 119x248 | 2,300 | 81.12 | BI/52 |
| 4-6 | ND | 20 | 66 | 180x530 | 8,000 | 282.16 | BI/52 |
| 9-9 | FA | 0.5 | 2 | 64x48 | 290 | 10.23 | 58 |
| 10-12 | FA | 0.4 | 1.4 | 64x66.5 | 380 | 13.40 | 58 |
| 10-10 | FA | 0.6 | 2.1 | 65x52 | 310 | 10.93 | 52 |
| 7-7 | FA | 1.2 | 4 | 73x76.5 | 580 | 20.46 | 58 |
| 7-7 | FA | 1 | 3.3 | 67x76 | 470 | 16.58 | 67* |
| 7-7 | FA | 1.2 | 4 | 65.5x76 | 395 | 13.93 | 49 |
| 11-14 | FA | 1.5 | 5 | 69x127 | 615 | 21.69 | 67* |
| 9-12 | FA | 1.2 | 4 | 63.5x111 | 465 | 16.40 | 49 |
| 9-12 | FA | 1.2 | 4 | 68x146 | 615 | 21.69 | 52 |
| 12-15 | M | 6 | 20 | 105x582 | 4,070 | 143.55 | 52 |
| 7-12 | ND | 3 | 9.8 | 82x108 | 730 | 25.75 | ▲ |
| 3-4 | FA | 0.234 | 0.77 | 63x42.5 | 165 | 5.82 | 49 |
| 3-5 | FA | 0.45 | 1.48 | 64.6x77.5 | 360 | 12.70 | 49 |
| 3-5 | FA/M | — | — | 60x40 | 185 | 6.52 | 52 |
| 11-12 | M | 0.3 | 1.0 | 80x92.5 | 610 | 21.51 | BI |

* - 67mm w/lens hood
 58mm w/o lens hood

..... For Rear Converter-K T6-2X
 For Rear Converter-A 1.4X-S
 For Rear Converter-A 2X-S
 For Rear Converter-A 1.4X-L
 For Rear Converter-A 2X-L

"A" SERIES LENS SPECIFICATIONS

| ● Type | ● Name of Lens | ● Minimum Aperture | | ● Angle of View (Degrees) | | ● Lens Construction (Groups-Elements) | | ● Diaphragm | | ● Minimum Focusing Distance | | ● Maximum Diameter & Length (ø mm x mm) | | ● Weight | | ● Filter Size (mm) | |
|-----------------|------------------------------------|--------------------|---------|---------------------------|----|---------------------------------------|------|-------------|-------|-----------------------------|----|---|--|----------|--|--------------------|--|
| | | | | | | | | | | | | | | | | | |
| WIDE-ANGLE | SMC Pentax-A 24mm f/2.8 | 22 | 84 | 8-9 | FA | 0.25 | 0.79 | 63x41.5 | 205 | 7.2 | 52 | ● ● | | | | | |
| | SMC Pentax-A 28mm f/2 | 22 | 75 | 7-8 | FA | 0.3 | 1.0 | 63x41.5 | 215 | 7.6 | 49 | ● ● | | | | | |
| | SMC Pentax-A 28mm f/2.8 | 22 | 75 | 7-7 | FA | 0.3 | 1.0 | 63x36.5 | 170 | 6.0 | 49 | ● ● | | | | | |
| | SMC Pentax-A 35mm f/2 | 22 | 63 | 7-7 | FA | 0.3 | 1.0 | 63x41.5 | 205 | 7.2 | 49 | ● ● | | | | | |
| | SMC Pentax-A 35mm f/2.8 | 22 | 63 | 6-6 | FA | 0.3 | 1.0 | 63x36.5 | 170 | 6.0 | 49 | ● ● | | | | | |
| STANDARD | SMC Pentax-A 50mm f/1.2 | 22 | 47 | 6-7 | FA | 0.45 | 1.5 | 64.5x47.5 | 345 | 12.2 | 52 | ● ● | | | | | |
| | SMC Pentax-A 50mm f/1.4 | 22 | 47 | 6-7 | FA | 0.45 | 1.5 | 63x37 | 235 | 8.3 | 49 | ● ● | | | | | |
| | SMC Pentax-A 50mm f/1.7 | 22 | 47 | 5-6 | FA | 0.45 | 1.5 | 63x31 | 165 | 5.8 | 49 | ● ● | | | | | |
| TELEPHOTO | SMC Pentax-A 135mm f/2.8 | 32 | 18 | 4-4 | FA | 1.2 | 4 | 63x76.5 | 340 | 12.0 | 52 | ● ● ● | | | | | |
| | SMC Pentax-A 200mm f/4 | 32 | 12.5 | 6-6 | FA | 1.9 | 6.2 | 63.5x111 | 410 | 14.5 | 52 | ● ● ● | | | | | |
| SUPER TELEPHOTO | SMC Pentax-A* 300mm f/2.8ED[IF] | 32 | 8.3 | 8-8 | FA | 3 | 10 | 133x236 | 2,970 | 104.8 | 49 | ● ● ● ● | | | | | |
| | SMC Pentax-A* 300mm f/4 | 32 | 8.3 | 7-8 | FA | 4 | 13 | 84.5x132 | 850 | 30.0 | 77 | ● ● ● | | | | | |
| | SMC Pentax-A* 600mm f/5.6ED[IF] | 45 | 4.1 | 6-8 | FA | 5.5 | 18 | 133x386 | 3,280 | 115.7 | 49 | ● ● ● ● | | | | | |
| ZOOM | SMC Pentax-A Zoom 24mm—50mm f/4 | 22 | 84-47 | 10-11 | FA | 0.4 | 1.4 | 64x67.5 | 375 | 13.2 | 58 | ● ● ● | | | | | |
| | SMC Pentax-A Zoom 28mm—135mm f/4 | 22 | 75-18 | 15-17 | FA | 1.7 | 5.6 | 80x112 | 820 | 28.9 | 77 | ● ● ● | | | | | |
| | SMC Pentax-A Zoom 35mm—70mm f/4 | 22 | 63-34.5 | 7-7 | FA | 0.25 | 0.85 | 65x62 | 330 | 11.6 | 58 | ● ● ● | | | | | |
| | SMC Pentax-A Zoom 35mm—105mm f/3.5 | 22 | 63-23.5 | 13-15 | FA | 1.5 | 5 | 70x97.5 | 615 | 21.7 | 67 | ● ● ● | | | | | |
| | SMC Pentax-A Zoom 70mm—210mm f/4 | 32 | 34-12 | 10-13 | FA | 1.2 | 4 | 72x149 | 680 | 24.0 | 58 | ● ● ● | | | | | |
| MACRO | SMC Pentax-A Macro 50mm f/2.8 | 22 | 47 | 4-6 | FA | 0.24 | 0.79 | 63x50 | 220 | 7.8 | 49 | ● ● ● | | | | | |

FA Fully automatic

Note: Lens length does not include mount portion.

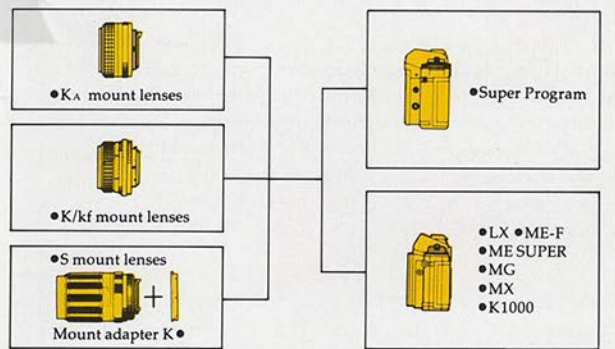
ED Extra low dispersion glass to reduce chromatic aberration.

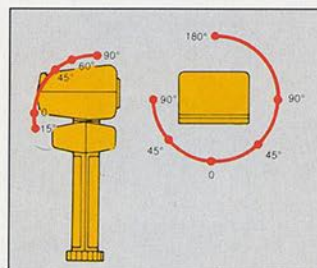
[IF] Internal focusing.

• For Rear Converter-K T6-2X
 • For Rear Converter-A 1.4X-S
 • For Rear Converter-A 2X-S
 • For Rear Converter-A 1.4X-L
 • For Rear Converter-A 2X-L

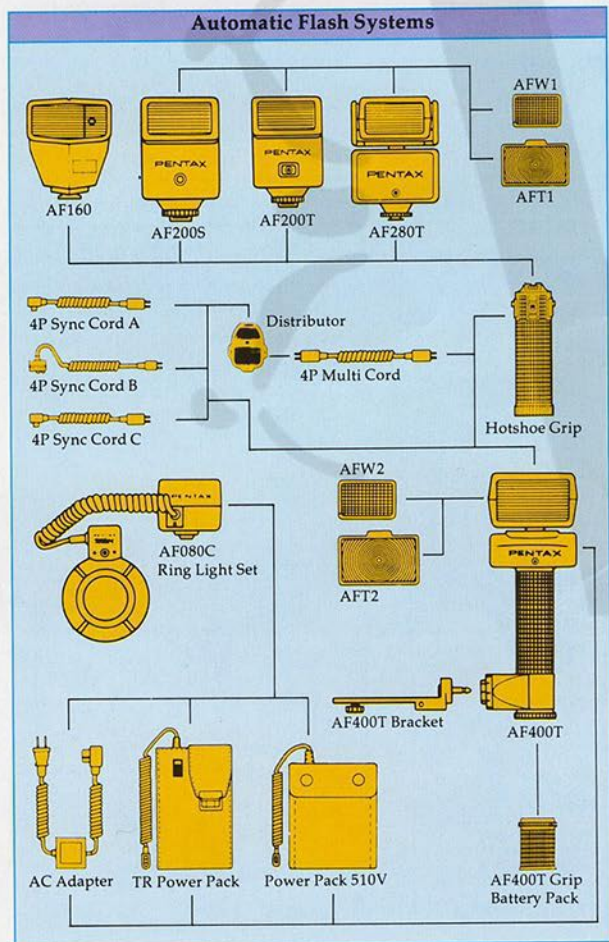
Interchangeable Pentax Lenses

Switching to a new Pentax programmed body does not make your old Pentax lenses obsolete, since any Pentax 35mm lens can be used with any Pentax 35mm body. Note that only KA mount lenses allow automatic aperture control with the Super Program camera. KA mount lenses, however, can be used with all other bodies without loss of automatic shutter-speed control. Older S-mount lenses can be used on all current Pentax cameras with Mount Adapter K.





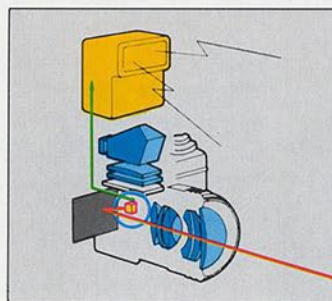
The head of the AF400T rotates 270° horizontally (90° to the right, 180° to the left), and 90° vertically (plus a -15° setting for close-ups). The vertical angle can be further adjusted by changing the attachment angles of the bracket and clamp.

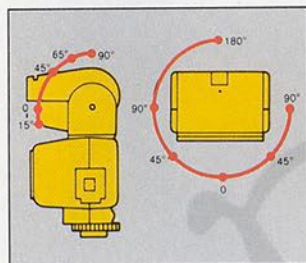


① AF400T Electronic Flash System (Dedicated/TTL Auto)

The AF400T is a sophisticated and powerful professional flash unit featuring TTL Auto Flash with Pentax TTL-capable cameras. TTL (through-the-lens) photography assures exposure accuracy at any aperture and with any amount of ambient light. A metering cell in the camera measures both ambient light and electronic flash light as it reflects off the film plane. When the light dosage is sufficient, the electronic brain immediately terminates flash discharge. The TTL flash system eliminates the need for complicated calculations for close-up work, bounce flash, multiple flash, etc.

The rotating head of the AF400T permits bounce and indirect flash without detaching the flash unit from the camera. It rotates 270° horizontally and 90° vertically, with a -15° vertical setting for close-up work. Three output levels are available for conventional auto flash and dedicated flash operation with recent model Pentax cameras. Dedicated flash features include automatic setting of flash sync speed and viewfinder flash displays. Four output levels are available in the manual operating mode. Accessories include three DC power source options, an AC adapter and attachment brackets.





② AF280T Auto Flash (Dedicated/TTL Auto)

The AF280T, like the AF400T, offers highly versatile TTL Auto Flash operation when used with Pentax TTL-capable cameras. Creative flash photography has never been simpler. When used as an auto or manual flash, two light levels are available. More recent Pentax cameras permit dedicated functions such as automatic flash sync speed setting and viewfinder flash displays. The rotating head of the AF280T turns 270° horizontally and 90° vertically (plus -15° for close-ups), making it easy to create varied effects using bounce and indirect lighting.

③ AF200T Auto Flash (Dedicated/TTL Auto)

When used with Pentax TTL-capable cameras, the AF200T offers TTL Auto Flash operation, the sophisticated system that ensures perfect flash exposures. As a dedicated or auto flash, AF200T functions include two light levels and automatic flash sync speed setting and viewfinder display of flash readiness with recent Pentax cameras plus audible confirmation of successful flash exposure. Four-level manual flash operation is also possible.

Flash Adapters: Wide Angle and Telephoto

When using a telephoto lens in the 85-200mm range with a Pentax hotshoe-mounted flash, flash adapter AFT1 concentrates the flash. When using a wide-angle lens down to 24mm, flash adapter AFW1 spreads flash coverage. Adapters AFT2 and AFW2 perform the same function with the AF400T flash unit.



④ AF080C Ring Light Set

The AF080C is specifically designed for close-up and macro flash photography. It provides direct, shadowless light by means of a 360° circular flash head that attaches easily to any 49mm-diameter lens (or 52mm with an adapter). When used with Pentax TTL-capable cameras, error-free TTL Auto Flash operation is possible. With other recent Pentax cameras, the AF080C offers dedicated manual operation with automatic setting of flash sync speed and viewfinder flash ready indication.





5 AF200S Auto Flash (Dedicated type)

This very compact flash easily attaches to the hotshoe of any Pentax camera. Two flash output levels, high and low, are available in both auto and manual modes. With recent Pentax cameras, it also offers automatic setting of flash sync speed and viewfinder flash-ready display.

6 AF160 Auto Flash (Dedicated type)

Our most compact flash, the AF160 offers a choice of two flash output levels, high and low, in both auto and manual operation modes. When used on recent Pentax cameras, additional functions include automatic setting of flash sync speed and viewfinder flash-ready display.

7 Power Pack 510V encloses a 510V multi-cell battery and is designed specifically for use with AF400T or AF080C flash system via accessory power cord. A powerful, reliable power source for professional use.

8 TR Power Pack is a convenient external power source, using six "C" batteries (regular or Ni-Cd).

9 Grip Battery Pack is for use with the AF400T flash and attaches to its grip. It uses six "AA" batteries (regular or Ni-Cd).

10 AC Adapter II powers flash units AF400T or AF080C from standard household AC current.

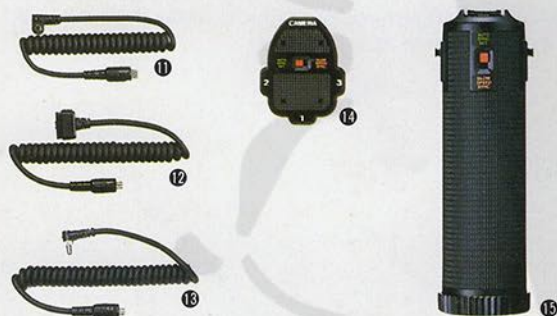
| ● Camera | ● Flash Unit | ● TTL Auto Flash | ● Auto Flash | ● Manual | ● Automatic Shutter Sync | ● Automatic Flash Prevention at High Shutter Speed | ● Audible Exposure Check by PCV | ● Viewfinder Flash Ready | ● Viewfinder Flash Confirmation |
|------------------------|--------------|------------------|--------------|----------|--------------------------|--|---------------------------------|--------------------------|---------------------------------|
| LX Super Program | AF400T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF280T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF080C | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200S/AF160 | ● | ● | ● | ● | ● | ● | ● | ● |
| ME-F ME SUPER MG | AF400T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF280T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF080C | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200S/AF160 | ● | ● | ● | ● | ● | ● | ● | ● |
| MX K1000 | AF400T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF280T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF080C | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200T | ● | ● | ● | ● | ● | ● | ● | ● |
| | AF200S/AF160 | ● | ● | ● | ● | ● | ● | ● | ● |

Note: Automatic aperture setting for Super A/Super Program not possible with AF200S/AF160

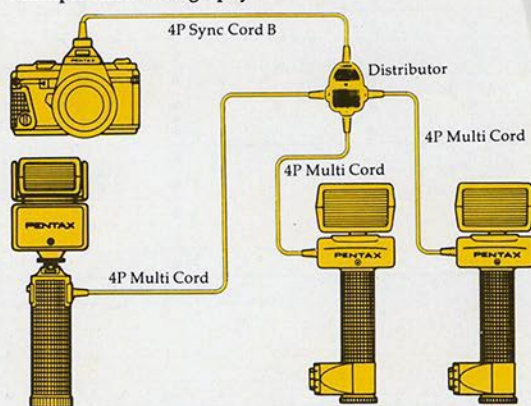
MOTOR DRIVE & WINDER SYSTEMS

- * **① 4P Sync Cord A** connects the 4P sync socket of the LX camera to AF400T, Hotshoe Grip or Distributor for TTL Auto Flash photography. For multiple flash photography, a hotshoe such as on finder FA-1 can be used for shoe-mount type auto flashes.
- * **② 4P Sync Cord B** connects the hotshoe of LX finder FA-1, FA-1W or Super Program finder to AF400T, Hotshoe Grip or Distributor. This cord is necessary for multiple flash photography in the TTL Auto Flash mode.
- ③ **4P Sync Cord C** connects an X sync socket to a flash unit such as AF400T for auto and manual flash photography.
- **4P Multi Cord** connects distributor to hotshoe or AF400T for multi-flash photography. 5m. (16.4 ft.)
- ④ **Distributor** connects up to 3 flash units for multiple flash photography in the TTL Auto Flash mode.
- ⑤ **Hotshoe Grip** has a variety of sync sockets, including one for the TTL Auto Flash mode. It attaches to the camera by means of the AF400T's bracket and clamp. It is designed for fully coupled off-camera flash with shoe-mount Pentax flash units.

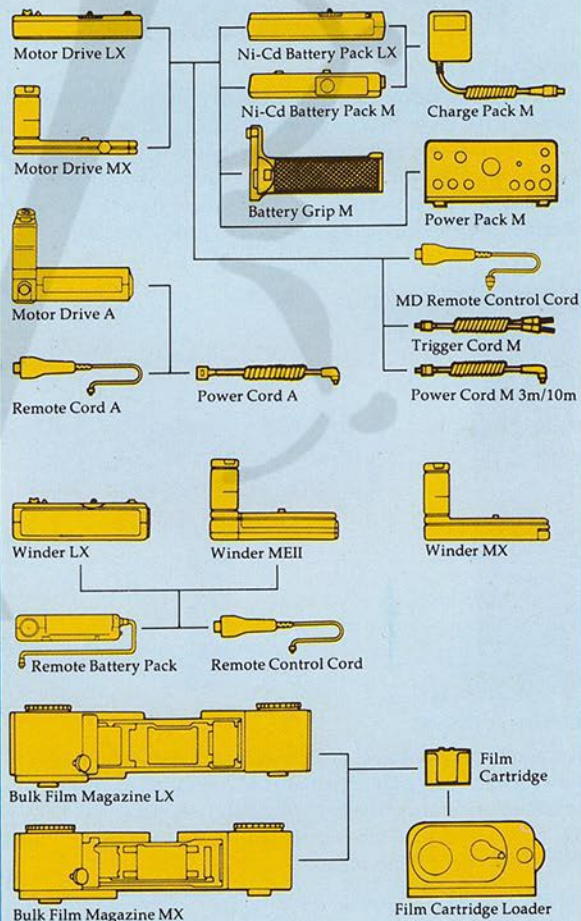
*Also available in 5m (16.4 ft.) lengths.



Multiple Flash Photography



Motor Drive and Winder Systems



❶ Motor Drive LX

Motor Drive LX is one of the accessories that makes the Pentax LX camera such a popular choice with professional and action photographers. Mounting quickly and easily on the tripod mount of the LX, Motor Drive LX permits sequential photography at speeds from 5 to 0.5 frames per second plus single-frame. The shutter can be triggered by the camera's shutter release button, the release on the optional Battery Grip M or by remote control. Other features include end-of-film rewind, full synchronization at all shutter speeds (except "B") and an LED end-of-film warning/battery check.



❷ Ni-Cd Battery Pack LX

This compact, lightweight power source attaches to the base of motor drive LX or MX. Fully recharged, it will power the motor drive through about 20 rolls of 36-exposure film. A trigger button is located along the side to facilitate shooting when holding the camera vertically and for remote control shooting. Recharging requires Charge Pack M or Power Pack M.

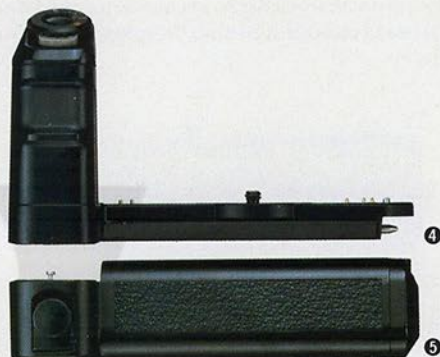


❸ Battery Grip M

For maximum portability and convenience, this powerful battery pack attaches to the bottom of Motor Drive LX or MX, doubling as a grip. A trigger-type shutter release is built in. With 12 "AA" size alkaline-manganese cells, it will last through about 30 rolls of 36-exposure film.

❹ Motor Drive A

For action photography with the Super Program camera, we have developed Motor Drive A, a very compact unit that permits speeds up to 3.5 frames per second plus single frame. The convenient grip has a built-in shutter release that is ideally positioned for standard horizontal shots.

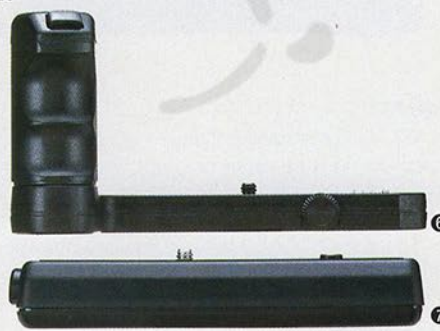


❺ Battery Pack A

Powers Motor Drive A, using 8 "AA" cells. Can be used together with Motor Drive A or separately via Power Cord A. A second shutter release button is provided, ideally positioned for vertical shots.

❻ Motor Drive MX

Designed for use with the Pentax MX camera, this compact motor drive provides continuous photography up to five frames per second, plus single frame. It can be activated by the shutter release on the battery pack or by a trigger-type shutter release located on the grip. Frame advance speed is continuously adjustable.



❼ Ni-Cd Battery Pack M

Like Ni-Cd Battery Pack LX, a dial lets you choose continuous or single frame advance mode. Up to 20 rolls of 36-exposure film can be shot with one set of batteries.

⑧ Winder LX

Winder LX operates the Pentax LX at speeds up to two frames per second with full synchronization at all shutter speeds (except "B"). Single frame advance is also available. The auto rewind feature rewinds a 36-exposure roll of film in just seven seconds. Winder LX attaches securely to the camera's tripod mount with a special gasket to keep moisture and dust out. An LED flashes to indicate film end. Remote control operation is possible.



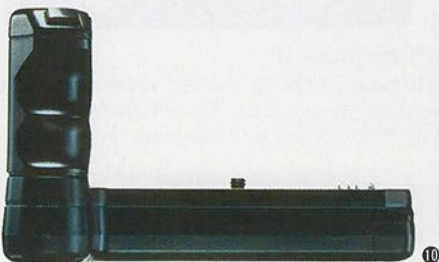
⑨ Winder ME II

This compact winder fits the Pentax Super Program, ME-F, ME SUPER, MG, ME and MV-I. In the S mode, it automatically advances the film one frame at a time, and in the "C" mode, it offers continuous film advance at up to two frames per second.



⑩ Winder MX

Winder MX, designed for the Pentax MX camera, offers two-frame-per-second continuous or single frame advance. The comfortable, lightweight grip enhances the versatility of the MX and, for added convenience, a shutter release is located on the grip. Using four "AA" Alkaline-Manganese batteries, about 20 rolls of 36-exp film can be shot.



⑪ Bulk Film Magazine LX

For extended time-lapse photography, laboratory work and fast-action sports photography, a bulk film magazine is essential. Bulk Film Magazine LX snaps on in place of the regular camera back of the Pentax LX. Its large capacity film cartridge holds 10 meters of film, enough for up to 250 exposures. A subtracting-type film counter is built in. Coupler LX, included, permits use of Bulk Film Magazine LX on the Pentax LX without a motor drive.

⑫ Bulk Film Magazine MX

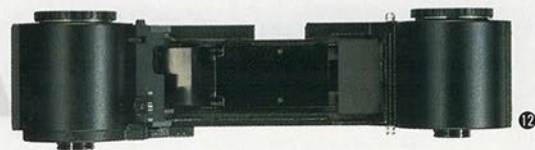
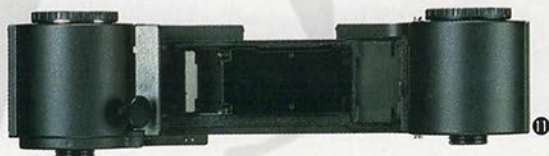
Bulk Film Magazine MX, specially designed for use with the Pentax MX camera, has the same convenient features and large capacity as Bulk Film Magazine LX.

⑬ Film Cartridge

Extra film cartridges for use with Pentax bulk film magazines.

⑭ Film Cartridge Loader

The Pentax Film Cartridge Loader is used to load bulk film (sold in 30.5 meter lengths) into cartridges for use with Pentax bulk film magazines. Darkroom use is required.



REMOTE CONTROL SYSTEMS

Infrared Remote Control System

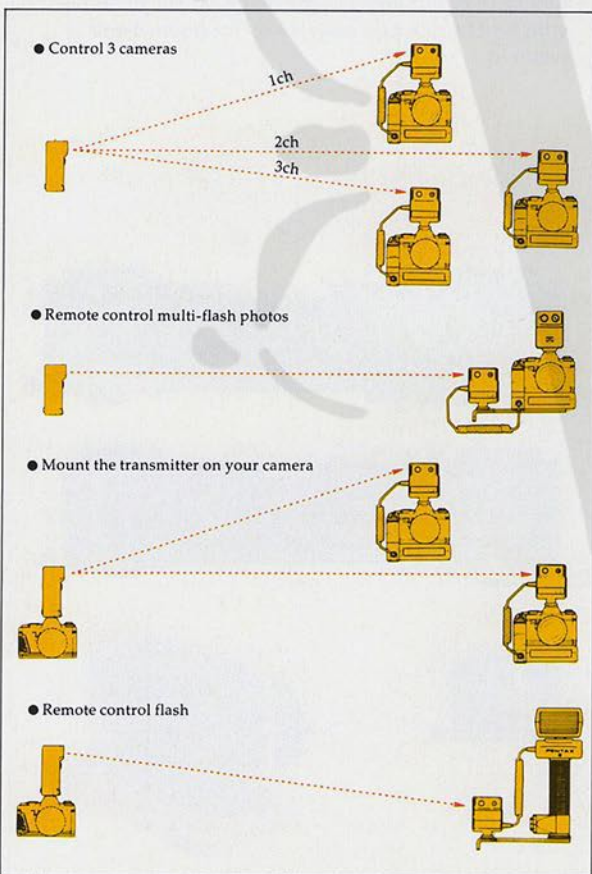
This is one of the most versatile system accessories available to Pentax owners. Consisting of a separate transmitter and any number of receivers, it enables the photographer to operate one or more cameras or flash units from up to 60 meters away. Single or continuous shooting is possible with any motor drive or winder-equipped Pentax camera. It's a perfect system for nature study, surveillance, scientific applications or multiple flash setups.

Control 3 cameras — Three different channels let you control up to three separate cameras or flash units independently with a single transmitter.

Remote-control flash — For special effects, position flash units around your subject and trigger them simultaneously with the transmitter mounted on your camera's hotshoe.

Mount the transmitter on your camera — When mounted on your camera, the transmitter sends out a pulse to activate other cameras each time you release the shutter.

Remote-control multi-flash photos — With a handheld transmitter, send pulses to a receiver connected to a motor driven camera. A second transmitter located in the camera's hotshoe and set to a second channel activates remote flash units, each equipped with a receiver.

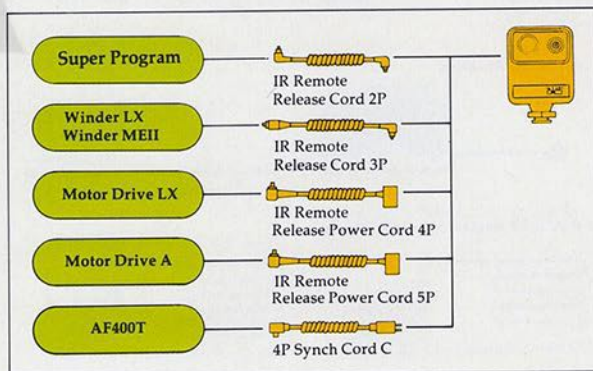


① Three-Channel Infrared Transmitter

The infrared remote control transmitter has a range of approximately 60 meters and a choice of 3 channels, letting you activate up to 3 different receivers individually. Both single frame and consecutive shooting is possible. When mounted on a camera's hotshoe, the transmitter automatically emits a pulse when the camera's shutter is released.

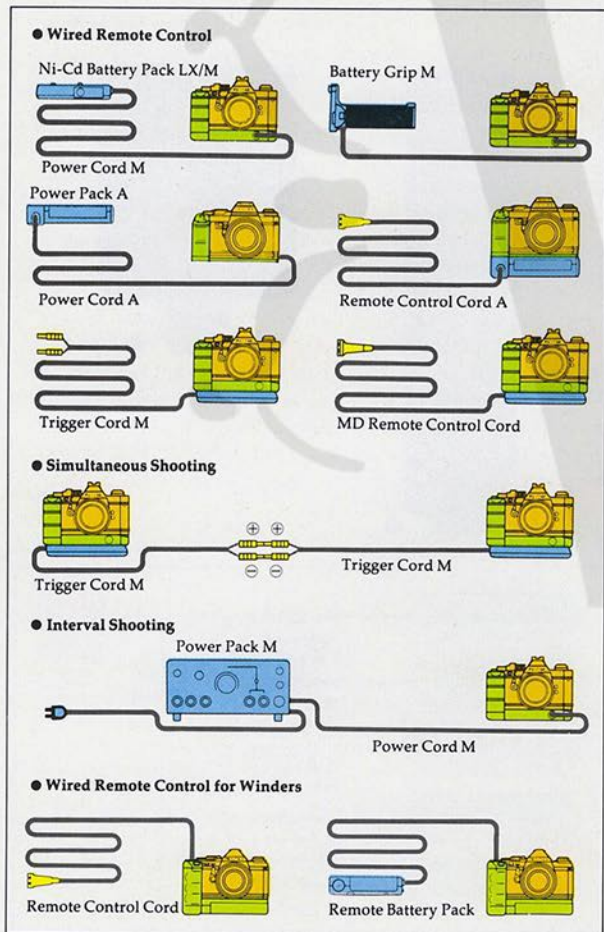
② Infrared Receiver

Mounts on a camera's hotshoe (or on a bracket when a flash is used). Automatically activates the camera's shutter when it receives a pulse from the infrared transmitter. A selector lets you match the receiver channel to any of the three transmitter channels. Powered by one 6V battery; Motor Drive A and LX are alternate power sources. Equipped with terminals for connection with multiple flashes.



Wired Remote Control System

When the infrared remote control system is not available, a variety of remote control and other special shooting situations can be set up using equipment selected from Pentax's complete line of cords and accessories. Multiple camera shooting, interval shooting, bulk film shooting, time exposures, close-up and macro photography and photo copying are possible with all Pentax cameras with or without motor drive or winder, remote power source, flash systems, etc. The right accessories can greatly expand the creative possibilities of your Pentax photographic system.



1 Power Cord M

Connects Ni-Cd Battery Pack LX or M, Battery Grip M, or Power Pack M to Motor Drive LX or MX. It also allows shutter release from a remote power source. (3m/10m)

2 Power Cord A

Connects Motor Drive A to a power source (Power Pack A) for remote control shooting. The power source can be stored in a warm place for better performance in cold weather. (3m)

3 Trigger Cord M

Attaches to a remote control socket of Ni-Cd Battery Pack LX or M. A shutter release switch or other remote-control accessories can be attached to the other end. This cord can also be used for simultaneous operation of two cameras equipped with motor drive units or Ni-Cd battery packs. (3m)

4 Remote Cord for Motor Drives

Connects to Ni-Cd Battery Pack LX or M. Shutter release button on the other end controls cameras equipped with Motor Drive LX or MX. (5m)

5 Remote Cord A

Connects to the socket on the battery pack of Motor Drive A. A trigger button on the other end releases the shutter for remote control shooting. (5m)

6 Remote Cord for Winders

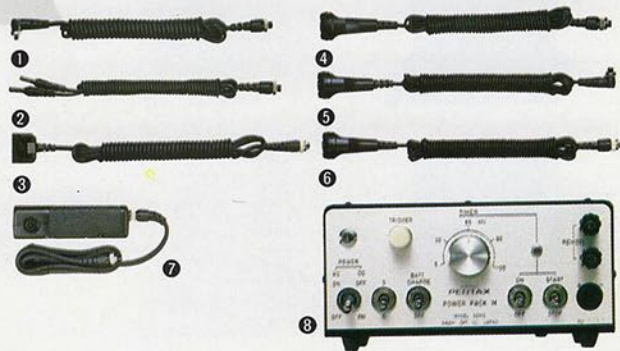
Shutter release button connects via cord to socket on Winder LX or MEII.

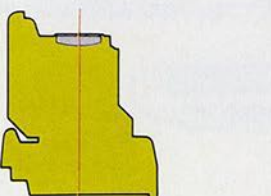
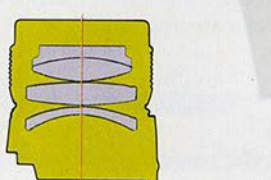
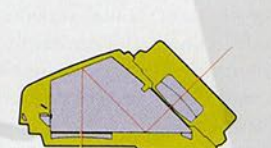
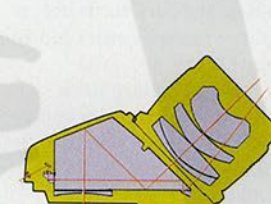
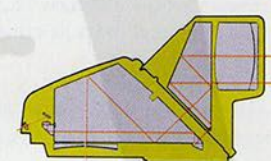
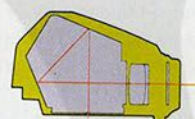
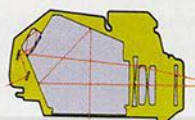
7 Remote Battery Pack

This power source for Winder LX or MEII connects to the winder via power cord (included). It is useful for keeping the power source warm during cold weather.

8 Power Pack M

A multi-purpose timer and power-supply unit that connects directly to AC power outlet (cord included) or car battery. A built-in timer allows continuous shooting at intervals from 5 to 120 seconds. Long-term timed sequences are possible when camera is equipped with bulk film magazine. Used with Power Cord M, also acts as a power source for Motor Drive LX or MX. Control panel includes a shutter release button, timer control, remote control cord terminals and switch for continuous and single shutter release.





Finders

The Pentax System includes a complete selection of easily interchangeable viewfinders for the LX camera. Since light metering is done inside the body, full exposure automation is available with any viewfinder. Pentax has the right finder for your focusing and composition needs.

1 FA-1 Eye-Level Finder

This is the LX standard pentaprism viewfinder. Bright, eye-level viewing is combined with full data visibility and a TTL-coupled "X" sync hotshoe. Continuous diopter correction is from -1.5 to 0.

2 FA-1W Eye-Level Finder

This finder has all the convenient features of the FA-1 with the addition of extended diopter range from -3 to +1.

3 FA-2 Eye-Level Finder

The FA-2 finder is for those who want the convenience of the FA-1 finder but without the built-in hotshoe for electronic flash. F-stop information is not visible.

* FB-1 System Finder

This exclusive Pentax system viewfinder features the versatility of three optional viewing eyepieces plus full data visibility. The following three eyepieces are quickly attached to the FB-1 finder with a sturdy bayonet mount.

4 FC-1 Action Eyepiece

This eyepiece rotates a full 360° for total versatility in viewing angle from waist level to eye level. High eyepoint design allows image visibility up to 60mm from the eyepiece.

5 FD-1 Magni-Eyepiece

A 45° angle of view is combined with built-in diopter correction from -4.5 to +3.

6 FD-2 Standard Eyepiece

The 45° angle of view of this eyepiece makes it ideal for microscope use, copy work or general photography.

7 FE-1 Magni-Finder

This waist-level finder features both high image magnification and diopter correction from -5 to +4. It is ideal for close-up photography and situations where precise focusing is critical. All data except aperture setting is visible in the viewfinder.

8 FF-1 Waist-Level Finder

This space-saving finder provides bright, clear, waist-level viewing yet folds almost flat when not in use. All data is visible in the viewfinder except aperture setting.

| Finder | Magnification | Diopter | Eyepoint | Shutter Speed Indication | Aperture Indication |
|-----------|------------------|--------------|----------|--------------------------|---------------------|
| FA-1 | 0.9X | -1.5—0Dpt | 15.8mm | • | • |
| FA-1W | 0.84X (0.8—0.88) | -3—+1Dpt | 15mm | • | • |
| FA-2 | 0.9X | -1.5—0Dpt | 15.8mm | • | • |
| FB-1+FC-1 | 0.55X | -0.95Dpt | 60mm | • | • |
| FB-1+FD-1 | 0.95X | -4.5—+3.5Dpt | 15mm | • | • |
| FB-1+FD-2 | 0.84X | -1Dpt | 15mm | • | • |
| FE-1 | 1.35X | -5—+4Dpt | 20mm | •* | • |
| FF-1 | 1.05X | -1.1Dpt | 15mm | •* | • |

*Laterally incorrect

Focusing Screens

A choice of interchangeable focusing screens is available for both the LX and MX cameras. There is a screen for any photographic requirement, including technical and scientific applications. MX screens may be used with the LX camera.

Split-Image/Micropism/Matte (SC-21/SC-26/SC-1)

This versatile screen is standard on both the LX and MX. It features a center split-image spot surrounded by a micropism collar on a matte background. Model SC-26 is extra-bright for use with telephoto lenses.

Micropism/Matte (SA-21/SA-1/SA-23/SA-26/SA-3)

This versatile yet simple screen provides a micropism grid on a matte background. Models SA-21 and SA-1 are for use with normal lenses. Models SA-23/SA-26/SA-3 feature sharper micropism angles for easier focusing with fast lenses ($f/2.8$ to $f/1.2$). Model SA-26 is for use with lenses 300mm and over.

Split-Image/Matte (SB-21/SB-1)

This versatile screen for general applications features a convenient split-screen spot on a matte background.

Matte with Central Cross Hairs (SD-21/SD-1)

Perfect for scientific applications or macrophotography where lighting is dim, this screen features central cross hairs on an all-matte field.

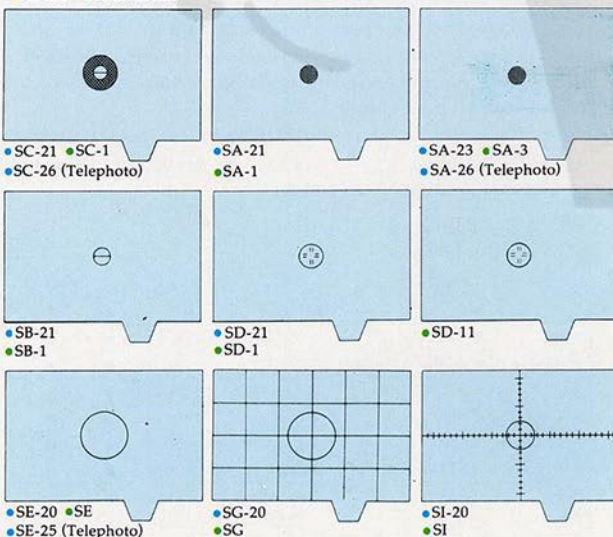
Clear Screen with Central Cross Hairs (SD-11)

Central cross hairs are superimposed on a clear glass screen. Ideal for astronomical studies, microscopy or other applications where maximum light transmission is required.

Matte (SE-20/SE-25/SE)

This all-matte ground glass screen is well suited for super-telephoto photography or situations where no distractions to composition are wanted. Model SE-25 is especially for use with lenses 300mm and over.

• For LX • For LX & MX



Scale Matte (SI-20/SI)

An engraved scale on a matte field allows the macro photographer to determine image magnification and subject size while viewing through the finder.

① Refconverter-M/Refconverter-A

This right-angle viewer is ideal for copying, low-angle viewing and other situations where eye-level viewing is inconvenient. Image is non-reversed and laterally correct. Comes equipped with eyecup, 2X magnifier and provision for diopter correction.

② Magnifier-M/Magnifier

For ultra-precise focusing, this clip-on eyepiece magnifies the central portion of the screen 2X. The hinged magnifier can be raised to view the entire focusing screen and accepts SMC correction lenses. Magnifier-M is for use with M-series, Super Program and LX cameras.

③ Eyecup-M/Eyecup II

The eyecup attaches to the eyepiece grooves to eliminate reflections and prevent extraneous light from affecting metering.

④ SMC Correction Lenses-M

Specially ground SMC (Super-Multi-Coat) corrective lenses are available in eight diopters, from -5 through +3. Since Pentax standard eyepiece lenses are around -1 diopter, those normally requiring +2 diopter correction should use a +3 diopter correction lens; those normally requiring -2 diopters should use a -1 diopter correction lens.

Refconverter

The image in the Refconverter without "A" or "M" designation appears laterally reversed. Recommended only for use with the K1000 camera.



DATA BACK SYSTEMS

Data recording systems, in the form of interchangeable LX or MX backs or add-on units for other M-series or A-series cameras, are capable of transferring valuable data directly onto the finished photograph. Data recording is extremely useful for scientific and industrial applications where an accurate time record is needed, or simply for keeping track of vacations or family events.

Dial Data LX

A compact data back interchangeable with LX back cover. With 3 dials following data can be recorded in the lower left-hand corner: (1) Year/F-stop; (2) Month/Alphabet/Shutter-speed; and (3) Date/Number. Settings are available for three ISO ranges for color film and all black and white film.

Data LX

Interchangeable with LX back cover. Time elements, including hour minute and second, are recorded in clock shape in orange on a black background along with hand-written data. All data is clearly visible regardless of the background photo.

Digital Data M

Connects to ME-F, Super Program and MG without cord and to ME SUPER with accessory Digital Data M cord. With built-in quartz clock, year/month/date or hour/minute is clearly recorded. Seven-segment LCD display is provided outside for reference.

Dial Data ME

Used with ME-F, Super Program, ME SUPER, and MG. Recordable data are same as Dial Data LX. Connects to ME-F, Super Program and ME SUPER via sync socket and to MG via Hotshoe adapter 2P (optional).

Hot Shoe Adapter 2P

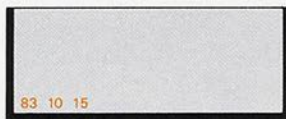
Attaches to hotshoe of MG to an X-sync socket. In addition to the MG, it can be used for all cameras without sync socket.

Dial Data MX

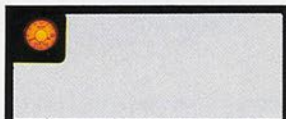
Interchangeable with MX back cover. Functions are same as Dial Data LX and ME. Can be used with Motor Drive MX.

*Data MX

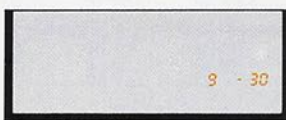
MX camera body with data capability same as Data LX.



Dial Data LX



Data LX



Digital Data M

83 10 15
(YEAR • MONTH • DAY)
9 - 30
(HOUR • MINUTE)



Dial Data LX



Data LX



Digital Data M



Dial Data ME



Dial Data MX

FILTERS

FOR BLACK & WHITE FILM

UV (ultraviolet) — Absorbs ultraviolet rays and reduces haze for better definition of distant scenery.

Y1, Y2, O2, R2 — Ranging in strength from yellow to red, these filters absorb blue so that skies are darker and clouds more sharply defined. Also increases contrast of distant scenery. The R2 filter is indispensable for infrared photography. Exposure factors: Y1, 1.5X; Y2, 2X; O2, 3X; R2, 6X.

YG — Absorbs ultraviolet, purple and blue to darken the sky and all red tones and flesh tones to aid in outdoor portraits. Exposure factor 2X.

FOR COLOR FILM

Skylight Filter — Absorbs blue, green and ultraviolet rays and tones down bright sky for better results in landscape photography.

Cloudy — Softens excessive blue on cloudy or rainy days. Exposure factor 1.5X.

Morning & Evening (ME) — Softens excessive red at sunset and sunrise. Exposure factor 1.5X.

Flash Filter (FL) — Adjusts light from clear wire-filled flash bulbs for use with color film. Exposure factor 2X.

Floodlight Filter (FD) — Balances white light from floodlights for use with daylight color film. Exposure factor 3X.

Fluorescent (FLR) — Eliminates greenish tint produced by fluorescent lights when using daylight film. Exposure factor 2X.

• 49mm • 52mm • 58mm • 67mm • 77mm

| • Black & White | | | | | |
|-------------------------|---|---|---|---|---|
| UV | • | • | • | • | • |
| Y1 | • | • | | | |
| Y2 | • | • | • | • | • |
| O2 | • | • | • | • | • |
| R2 | • | • | • | • | • |
| YG | • | • | | | |
| • Color | | | | | |
| Skylight | • | • | • | • | • |
| Cloudy (81A) | • | • | • | • | • |
| Morning & Evening (82A) | • | • | | | |
| Flash (80C) | • | • | | | |
| Flood (80B) | • | • | | | |
| Fluorescent | • | • | | | |
| • Black & White/Color | | | | | |
| Polarizing | • | • | • | | |
| Circular Polarizing | • | • | | | • |

Polarizing Filters — Polarizing filters can be used with both black & white and color film to reduce or eliminate surface reflections or to darken skies without affecting the rest of the scene. Just rotate the filter until desired effect is reached. In addition to standard linear polarizing filters, circular polarizing filters are available for the LX and ME-F cameras.



Gelatin Filter Holder — For special filter effects not possible with standard screw-on filters, Pentax provides a gelatin filter holder designed for three-inch-square Kodak or other gelatin filters. The holder accommodates either Kodak gelatin filter frames or the accessory filter frame supplied with the holder. Changing filters is extremely simple and quick. (Available in 49, 52, 58 and 77mm sizes.)



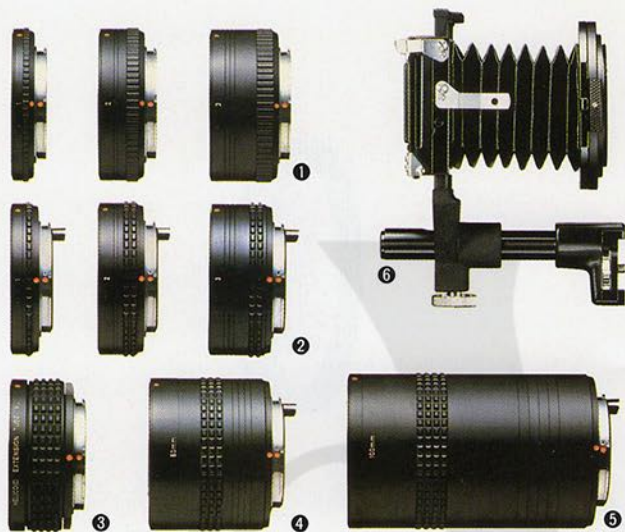
CLOSE-UP ACCESSORIES



SMC Close-Up Lenses

Pentax SMC Close-Up Lenses are a practical and economical way to enter the fascinating world of close-up photography. By simply screwing them onto the front of a master lens, the lens can be used for close focusing. Close-up lenses do not affect operation of automatic exposure control mechanisms and require no exposure compensation. Pentax offers close-up lenses in a variety of types and sizes to match different SMC Pentax lenses. Each is treated with the exclusive Pentax Super-Multi-Coating to preserve the high-quality performance of the Pentax master lens.

| Type | SMC Pentax Lens | Lens-to-Subject Distance Range | Magnification |
|------|--|---|--|
| S40 | 40mm f/2.8 50mm f/1.4 50mm f/1.7 | 48.0—27.0cm (with 50mm f/1.7 lens) | 1/7.6—1/3.5 (with 50mm f/1.7 lens) |
| S25 | 40mm f/2.8 50mm f/1.4 50mm f/1.7 | 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/1.8 lens) | 1/9.4—1/4.2 (with 85mm f/1.8 lens) |
| T160 | 100mm— 150mm | 174.2—79.1cm (with 135mm f/2.8 lens) | 1/12.3—1/4.31 (with 135mm f/2.8 lens) |
| T95 | 135mm f/2.5 200mm f/4 | 111.7—80.3cm (with 200mm f/4 lens) | 1/4.96—1/2.61 (with 200mm f/4 lens) |
| T183 | | 108—200cm (with 200mm f/4 lens) | 1/9.5—1/3.77 (with 200mm f/4 lens) |



1 Manual Extension Tube Set K

This set features the same characteristics as Auto Extension Tube Set K, except that diaphragm operation is manual with stopped-down metering. The three tubes are 9.5mm, 19mm and 28.5mm in length, and provide magnifications from 0.38X to 1.61X with a standard 50mm f/1.4 lens.

2 Auto Extension Tube Set K

Extension tubes are another way to create close-up photographs with a regular Pentax lens. They are also useful for macro-photography. Auto Extension Tube Set K consists of three rings (12mm, 19mm and 26mm in length) that fit between the camera body and the master lens. Used together or in any combination, they produce magnifications from 0.38X to 1.02X (1.8X with lens reversed), using a standard 50mm f/1.4 master lens. With this set, automatic diaphragm and open-aperture metering functions are retained.

3 Helicoid Extension Tube K

This is a manual extension tube with an internal helicoid that permits variable magnification from 0.57X to 1.05X with a 50mm lens. Useful for magnification values not covered by fixed-length extension tubes.

4 Auto Extension Tube K 50mm

This single, fixed-length extension tube is an economical alternative to the auto extension tube set. It provides automatic diaphragm operation and open-aperture metering and magnifications up to life size with the 100mm f/4 macro lens.

5 Auto Extension Tube K 100mm

This fixed-length extension tube has twice the focal length of the Auto Extension Tube K 50mm for striking magnification using telephoto lenses. Magnification is 1X to 1.5X with a 100mm macro lens and 0.35X with a 300mm f/4 lens. Diaphragm operation and metering is fully automatic.



6 Slide Copier A/M & 7 Auto Bellows A/M

Auto Bellows A/M is a convenient and flexible system for high-magnification photography and slide copying. The bellows unit is freely adjustable between 38mm and 170mm for a minimum magnification of 0.73X with a 50mm lens. Feature include a lens-reversing system, double cable release for automatic diaphragm and open-aperture metering, and a moveable tripod receptacle. Slide Copier A attaches easily to the bellows unit for fast and accurate slide duplication. Slides can be copied at normal to 1.5X size.

8 SMC Pentax Bellows 100mm f/4

This compact and lightweight lens is designed specifically for use with bellows equipment. With Auto Bellows M, it offers magnifications to greater than life size with automatic diaphragm operation. With Bellows Unit M, diaphragm control is manual and magnification is up to 0.9X.

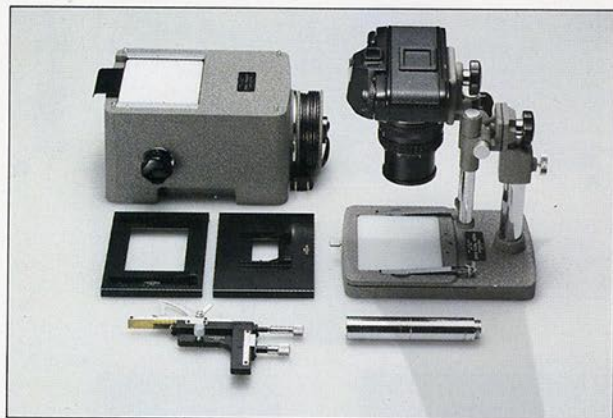
9 Reverse Adapter K

To produce greater-than-life-size magnifications with many lenses, the lens must be reversed for easier focusing and better results.

This adapter, available in 49mm and 52mm sizes, screws onto the front of the lens and attaches to extension tubes or bellows with a bayonet mount.

10 Slide Holder 1x/K & Slide Holder K

Used with Auto or Extension Tube K, Slide Holder 1X,K allows 1X duplication of slides with a standard 50mm or Macro 50mm lens. Slide Holder K permits magnifications from 1.1 to 1.15X with the Macro 50mm lens and Auto Extension Tube No. 3.



Macrophoto Stand/Lighting Table

This Macrophoto Stand with its optional lighting table is an extremely convenient and compact accessory for macrophotography and ultra-closeups. Used with the 50mm macro lens, Auto Extension Tube K, Reverse Adapter K, magnifications from 1/2X to 0.9X are available. With Auto Bellows M, magnification is from 0.7X to 3X. The Macrophoto Stand comes with a reversible gray/black stage plate offering ideal reflectance for exposure readings. Optional accessories include two extension columns, a mechanical stage, Fine Focus Adjustor Units and 35mm and 6×7 slide holders for copywork.

The Lighting Table provides permeable lighting from beneath the subject when the grey/black stage plate is replaced with the supplied transparent glass stage plate. Light is supplied via a built-in tungsten light source or outside light sources using the built-in rotatable mirror. The Lighting Table fits neatly under the base of the Macrophoto Stand. It is supplied with a glass stage plate, frosted filter, 25W bulb and AC cord.

① Copy Stand III

② Copy Stand III P

The Copy Stand fixes the camera accurately and firmly above the subject for copy work. It is equipped with a fine height adjustment device to aid in focusing and an 18% standard reflector to facilitate exposure measurement. Model III P is portable, the base serving as a carrying case. Model III is a fixed type.

③ Table Clamp

The Table Clamp can be used to fix the Copy Stand's leg to a table top up to 6cm thick.

④ Cable Switch A

Cable release for cameras equipped with electro-magnetic shutters. (1m)

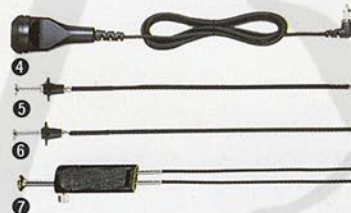
⑤ Cable Release 30

⑥ Cable Release 50

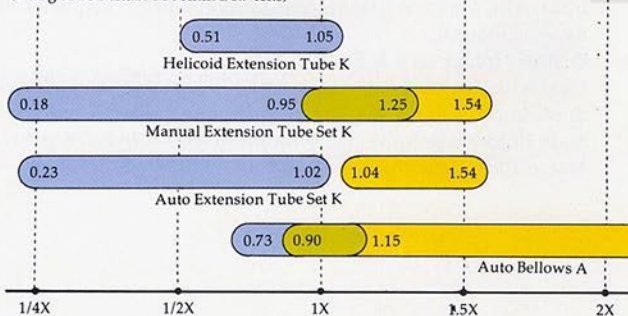
Prevents camera movement when shutter is released. Cable Release 50 is 50cm long and 30 is 30cm long.

⑦ Double Release A

Allows automatic aperture control and open-aperture metering with Auto Bellows A.



MAGNIFICATION RANGE OF BELLOWS & TUBES (Using SMC Pentax-M 50mm f/1.7 lens)



● NORMAL
● REVERSE

Magnification in Photography

Magnification, in photography, refers to the size of the subject compared to the size of the image on film. It is most easily calculated by dividing the length of the image along the longer side of the finder by 36mm — the length of the film frame. When the image is magnified to more than life size, it is called macrophotography. In life-size and macro photography, focusing is much easier when the lens is reversed. Wide retro-focus type lenses such as 28mm, 30mm and 35mm provide higher magnifications when reversed.

CASES & BAGS



• Soft Case LX



• Soft Case Super Program



• Standard Front Case



• Front Case T-1



• Front Case T-2



• Front Case T-3



• Soft Case Z-1



• Soft Case Z-2



• Soft Case Z-3

Pentax produces durable, practical and attractive cases and bags. Standard soft cases for each model camera are available with interchangeable front cases for different lenses. For lenses, camera systems, and specialty uses, Pentax provides a complete line of cases and camera bags. All Pentax cases and bags offer superior protection and convenience, along with a touch of style.



• Soft Case M-40/M-50



• Soft Case W/Winder



• Short Soft Case



• Blimp Case LX



• Holster Case T

Special-Purpose Cases

Pentax produces a variety of special-purpose camera cases in addition to the standard soft cases. There are two super-soft "crumple" cases, a convenient holster case, a short case that fits around the lens, soft cases for bodies with Dial Data ME/MX, Digital Data M, and cases for cameras with winders.

| PENTAX SYSTEM FRONT CASES | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|----|---------------|------------------|------------------|---------------|---------|---------------|------|------|----------|----|------|---------------|---------|----------|----|----|--------|----|---------------|---------------|----------------------|----------------------------------|--------------------------------------|-----------------------------|
| | LX | Standard Case | Front Case LX-T2 | Front Case LX-T3 | Standard Case | Super A | Super Program | ME-F | ME-F | ME-SUPER | MX | ME-F | Super Program | Super A | ME-SUPER | MG | MX | K 1000 | MG | Standard Case | With lens cap | With filter/lens cap | With filter/rubber hood/lens cap | With filter/hood (reversed)/lens cap | With filter/hood (reversed) |
| Front Case for 50/1.2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case for AF Zoom | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case for 40/2.8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standard Case | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case for 50/1.2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case T-1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case T-2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Front Case T-3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Soft Case Z-1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Soft Case Z-2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Soft Case Z-3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Standard Case | | | | | | | | | | | | | | | | | | | | | | | | | |



Lens Cases

Hard lens cases are available for most Pentax lenses.



Viewfinder Cases

For interchangeable LX viewfinders, Pentax offers two cases — a small one for finder units and a larger one for system finders.



Straps

The Pentax line of camera straps includes the Fashion Strap, Hand Strap, Fastener Strap, and Camera Strap.

Camera Bags

- ① Joy Bag S — A slimmer version of Joy Bag L. Holds a camera, standard lens and a wide angle or medium telephoto lens, and features front and back zippers for easy access.
- ② Joy Bag L — Roomy enough for a camera, standard lens and telephoto lens, this compact bag also features two zipper compartments for accessories.
- ③ Speed Bag M — This rugged, hard case holds a camera, two lenses and a complete system of accessories. Features hinged lid, built-in accessory pockets and foam padding.
- ④ Travel Bag II — Drop-down front provides easy access for the action photographer. Roomy enough for a camera, two lenses, motor wind, filters and close-up lenses.



OTHER ACCESSORIES

❶ 6×7 Lens Mount Adapter K

This adapter permits Pentax 6×7 lenses to be used with bayonet-mount Pentax 35mm cameras. With the adapter, lenses will focus to infinity, but must be used with manual diaphragm and stopped-down metering. When used with telephoto 6×7 lenses, the adapter allows the camera to move both vertically and horizontally while the lens remains on the tripod.

❷ Microscope Adapter K

This adapter will fit the camera body directly onto any microscope having a 25mm outside diameter eyepiece tube.

❸ Battery Cord LX

To ensure proper battery performance in cold weather, this cord allows the photographer to store LX batteries in a warm pocket.

❹ 52→49mm/49→52mm/58→77mm Adapter Rings

A variety of adapter rings are available to fit filters to different size lenses. The 52→49mm adapter is also used to attach the AF080C Ring Light to 52mm-diameter lenses such as the Bellows 100mm f/4.

❺ Mount Adapter K

This adapter allows screw-mount Takumar lenses to be used on bayonet-mount Pentax cameras. Screw-mount lenses will focus to infinity, but cannot be used for automatic diaphragm operation or open-aperture metering.

❻ Telescope Adapter

Pentax telescopes 65, 85, and 100 can be used as super-telephoto lenses using this adapter. TTL metering is possible.

❼ Eyepiece Adjuster

This tool is used to correct diopters on the LX viewfinders. Also convenient for opening and closing battery compartment lid.

❽ 49mm and 52mm Stereo Adapters

❽ Stereo Viewer II

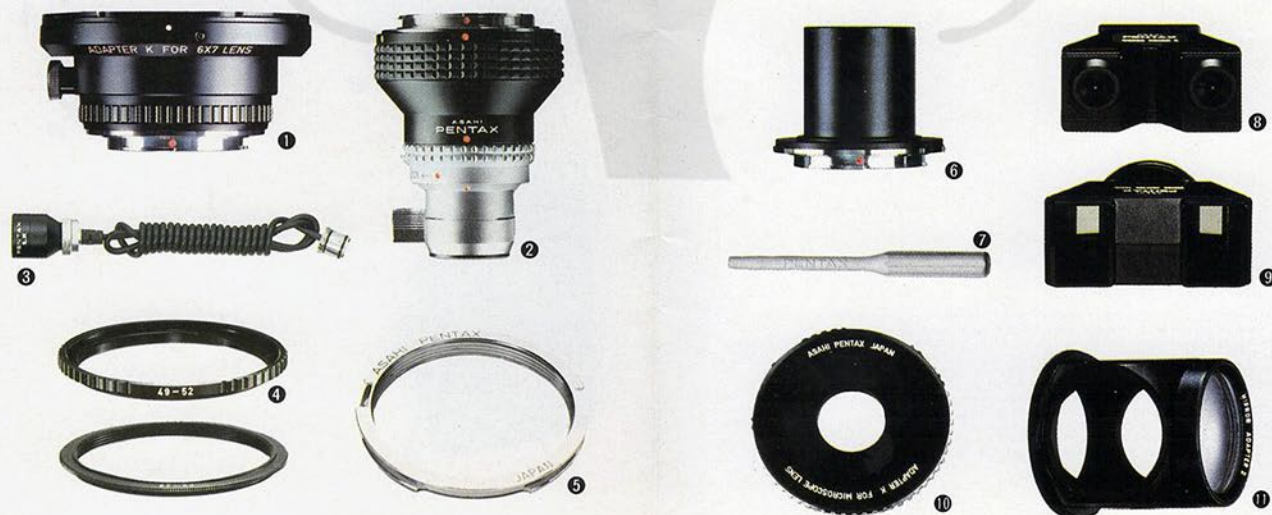
With this stereo adapter, striking three-dimensional slides are easy to make. Simply attach Stereo Adapter II to a standard 50mm lens and shoot at f/5.6 or f/8. After the slides are processed, simply view them in Stereo Viewer II.

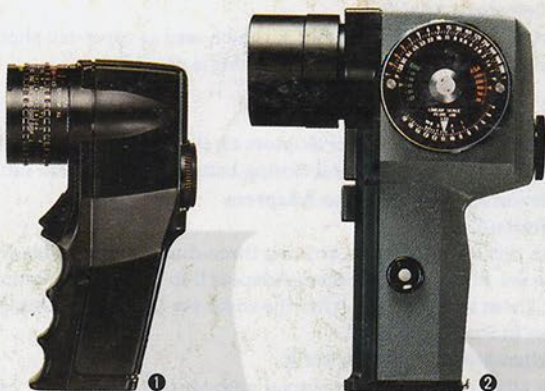
❿ Microscope Lens Adapter K

This adapter is used to fix special purpose objective lenses (such as Mplan 1.3X, 2.5X, 5X 10X, 20X) to Pentax bayonet-mount cameras. Simply screw the lens into one side of the adapter and fit the other side into the bayonet mount. The adapter permits variable macro magnifications from 2X to 10X when fitted to Auto Bellows-M, Auto Bellows-A or Bellows Unit III.

⓫ 90° Mirror Adapter II

For candid or surveillance photography, this mirror adapter allows the photographer to shoot 90° to either side while pretending to shoot straight ahead in the normal manner. Mirror Adapter II attaches to 49mm, 52mm, and 58mm filter threads, allowing use with all Pentax lenses in the 135mm to 200mm focal lengths — the ideal range for hand-held candid photography.





① Digital Spotmeter

The LED digital readout in this compact and lightweight spotmeter offers excellent visibility even in the worst light conditions. Also, since there is no moving needle, the unit is more durable and resistant to shock. Exposure from EV 1–20 is displayed in the viewfinder rounded off to the nearest 1/3 EV.

② Spotmeter V/Spotmeter V-FL

For pinpoint-accurate exposure readings of points of primary interest, Spotmeter V has an acute metering angle of 1°. Its silicon photo diode offers virtually instantaneous response and a broad metering range of EV 1–19. Spotmeter V-FL gives exposure information directly in foot lamberts and calculates illuminance ratios — perfect for TV and film metering.

PENTAX®

Asahi Optical Co., Ltd. C.P.O. 895, Tokyo 100-91, JAPAN
 Asahi Optical Europe N.V. Weiveldlaan 3-5, 1930 Zaventem Zuid-7, BELGIUM
 Pentax Handelsgesellschaft mbH. Postfach 54 0169, 2000 Hamburg 54, WEST GERMANY
 Pentax U.K. Limited Pentax House, South Hill Avenue, South Harrow, Middlesex HA2 0LT, U.K.
 Pentax France S.A. 72-76 Rue Paul, Vaillant Couturier, 92300 Levallois Perret, FRANCE
 Pentax Neerland Spineveld 25,4815 HR Breda, THE NETHERLANDS
 Pentax (Schweiz) AG Industriestrasse 2, 8305 Dietlikon ZH, SWITZERLAND
 Pentax Svenska AB Hornsgatan 50A, 11721 Stockholm, SWEDEN
 Pentax Corporation 35 Inverness Drive East, Englewood, Colorado 80112, U.S.A.
 Pentax Canada Inc. 1760 West 3rd Avenue, Vancouver, B.C. V6J 1K5, CANADA
 Asahi Optical Brasileira R. Capitão Antonio Rosa 376, Sala 121 Ed. PBK, São Paulo, BRASIL

