

Complete Syste<mark>m of Photography</mark>

SUPERB TAKUMAR INTERCHANGEABLE LENSES FOR ASAHI PENTAX

Takumar lenses for the Asahi Pentax are ranked among the very finest lenses produced in the world today. Only the finest quality optical glass is used. This superior glass, combined with years of experience in optical design, has resulted in lenses noted for their superb resolving power and edge-to-edge sharpness even at full aperture. Most Takumar lenses are painstakingly Super-Multi-Coated for greater light transmission, for proper rendition of truer colours and for higher contrast and detail.

In addition to their superior optics, the lenses incorporate outstanding mechanics. Each lens barrel is precision machined for accurate positioning of elements and smooth operation.

All engraved markings are highly legible. To protect the fine optics, each lens is supplied with a front and rear cap and rugged leather case. Most are equipped with lenshoods.



Super-Multi-Coated Takumar lens



Conventional lens

Super-Multi-Coating (SMC)

With Takumar's new super-multicoating, there's higher light transmission. With 7-layer multi-coated lenses, reflection is reduced to only 0.2%, allowing the remaining 99.8% of light to pass through. There are no ghost images or flare ... even when shooting against the light. The lens is brighter. All colours pass through with equal intensity. You get improved contrast and richer colours. The super-multi-coated lens is one of the most dramatic improvements in the history of optical technology. And Asahi Pentax is the first and only camera maker to offer it!

SMC Fish-Eye Takumar 17mm f/4

The world's most efficient fish-eye lens with maximum brightness of f/4. Covers an angle of vision of about 180° . Enables you to view and focus through the viewfinder without keeping the reflex mirror flipped up.





SMC Takumar 20mm f/4.5

The SMC Takumar 20mm f/4.5—the widest of the Takumar wide-angle family—lets you view and focus at a 94° angle of vision without keeping the reflex mirror flipped up. Superb perspective effect and a minimum focusing distance of 20cm also make it one of the most exciting lenses of the whole range.

SMC Takumar 24mm f/3.5

The SMC Takumar 24mm f/3.5 is an ultra-wide-angle lens that increases even further the versatility of your Asahi Pentax. Compact in size and light in weight, it enables you to view and focus at an 84° angle of vision without keeping the reflex mirror flipped up. A wonderful lens to create pictures with dramatic impact.





SMC Takumar 28mm f/3.5

A new super-wide-angle lens of 7 elements, designed and produced to meet the most exacting of the professional requirements, this is *the* lens professionals and advanced amateurs need to shoot more artistic photographs. Equipped with fully automatic diaphragm; ideal for architecture, fast-action and *artistic* photography.

SMC Takumar 35mm f/2

One of the fastest wide-angle lenses for 35mm single-lens reflex cameras. Edge-to-edge sharp resolution at full aperture; unique lens design without distortion; perfect for pictures of large groups, buildings, sports events, and other large spectacles.





SMC Takumar 35mm f/3.5

A medium speed lens with extremely high resolving power, this is an excellent general purpose wideangle optic extremely useful for scenic, industrial, and architectural photography. Compact and light in weight.

SMC Macro-Takumar

50mm f/4

The new SMC Macro-Takumar 50 mm f/4 lens is equipped with a fully automatic diaphragm to further increase its high performance. The magnification range is from 1/2 to infinity, but by using the Auto Extension Tubes, you can shoot from infinity to larger than life size. The automatic diaphragm enables you to shoot difficult moving subjects, while holding your camera and looking through the viewfinder.





SMC Takumar 50mm f/1.4

High-speed 7-element standard lens for ES. Super-Multi-Coated for higher light transmission, it has become a much brighter lens. You get improved contrast and richer colours. No irritating "ghost" images or flare when shooting directly against the light. An ideal all-round lens for colour or black and white photography.

SMC Takumar 55mm f/1.8

Also Super-Multi-Coated standard lens for ES, it reduces flare and boosts contrast to a degree far beyond what was previously possible in optical technology. You get pictures with more detail and richer colours than is possible with any other system at any price. All supermulti-coated lenses are more scratch-resistant and durable.





SMC Takumar 85mm f/1.8

This lens is brighter than the predecessor, 85 mm f/1.9 lens, but smaller in size. With a focal length of 85 mm, perfect for portraiture, and a maximum aperture of f/1.8, this lens is also very suitable for indoor stage shots and outdoor night photography.

SMC Bellows-Takumar 100mm f/4

Used with a Bellows Unit, this shortbarrel lens enables you to photograph from life size to infinity. Extremely convenient for close-ups from a distance.





SMC Takumar 105mm f/2.8

A quality medium telephoto lens of 5 elements, with well corrected aberrations. Light-weight design for portability and easy handling. Recommended for scenery, portrait, news photos, other moderate telephoto effects. Equipped with fully automatic diaphragm; supplied with special lenshood.

SMC Takumar 120mm f/2.8

The latest addition to the Super-Multi-Coated Takumar medium telephoto family. So lightweight and compact, this fast lens is most ideal for taking snapshots, portraits and telephotographs.







SMC Takumar 135mm f/3.5

Produces a brilliant image in all corners of the picture even with the diaphragm fully open. Indispensable for distant subject matter and for portrait. Ideal for close-ups of animals or plants even at a distance. Recommended as the ideal long telephoto lens for handheld camera operation. Equipped with fully automatic diaphragm: supplied with special lenshood.

SMC Takumar 135mm f/2.5

A faster f/2.5 lens has joined the superb Takumar 135mm lens family. Well balanced, its total length is rather short so it is light in weight. Most suitable for shooting night scenes, stage, indoors, sports and snap portraits. An excellent lens also for colour photography.





SMC Takumar 150mm f/4

This new fully automatic 150mm Super-Multi-Coated Takumar with a focal length three times as long as the standard lens has been designed and produced to suit the purpose of photographing subjects requiring an intermediate angle between the 135 mm and 200mm lenses. So compact, so lightweight, it looks like a 135mm lens, yet it is only 7mm longer. Allpurpose telephoto lens ... for candid shots, sceneries, sports, news events, stage photographs, nature, etc.



SMC Takumar-Zoom 85~210mm f/4.5

With the new SMC Takumar-Zoom $85 \sim 210 \,\mathrm{mm}$ f/4.5, zooming and focusing are done in one action. So you get the kind of speed that's so essential to zoom shooting. With a zoom ratio of 2.5 and focal calibrations of 85, 100, 120, 135, 150, 180, 210, and any point within this range, this one lens takes the place of the most frequently used group of interchangeable lenses. It's compact and lightweight, too. Truly the most versatile lens you can own.



SMC Takumar 200mm f/4

A new member to the superb Takumar telephoto lens family. Equipped with a fully automatic diaphragm. Compact, light, and elegantly designed for fast handleability.



SMC Takumar 300mm f/4

Light enough for hand-held picture taking, this lens is the most ideal for spectacular telephotographic effects. Even with the diaphragm fully open, the aberrations are corrected to the greatest extent possible. Gives needle-sharp resolution to every corner of the picture. Equipped with fully automatic diaphragm; supplied with special lenshood.



SMC Takumar 400mm f/5.6

Especially designed for those professionals who specialize in outdoor sports, news and nature-life photography. Because of its f/5.6 aperture, this tele-lens is extremely compact and light for its focal length of 400mm. Also because of its portability; it can be easily hand-held for fast and successive shooting, depending upon the shutter speed to be used. Equipped with click-stop manual diaphragm; supplied with special lenshood.



SMC Takumar 500mm f/4.5

Comparatively light and small for its performance, this powerful long-focus lens brings the inaccessible within reach. Its bright f/4.5 image simplifies composition and focusing, and it produces edge-to-edge coverage of high resolution. Equipped with manual diaphragm; supplied with special lenshood.



SMC Takumar 1000mm f/8

Photographs subjects which are too far away to be seen by the naked eye. The ultimate in fine optics for the photographer who specializes in news, sports, scientific or wildlife photography. Fast, accurate focusing with manual diaphragm. Furnished with built-on lenshood, rigid wooden tripod and in wooden cases.

Ultra-Achromatic-Takumar 85mm f/4.5

The new Ultra-Achromatic-Takumar 85 mm f/4.5 is corrected against chromatic aberration from ultraviolet to infrared wavelength bands. Not only is it a high-resolution lens for visible light photography, but also gives unmatched optical performance in ultraviolet and infrared photography.

The lens uses no glass; it uses fluorite and quartz. This unique lens answers some of the optical quality and performance problems in ultraviolet and infrared photography. Although it is superb for infrared and visible light photography, its main design emphasis is placed on ultraviolet photography at a close distance. It is corrected against chromatic aberration from $220 \mathrm{m} \mu$ to $1000 \mathrm{m} \mu$, and photographic tests without filters show good results within these wavelength bands.





Ultra-Achromatic-Takumar 300mm f/5.6

The new Ultra-Achromatic-Takumar 300mm f/5.6 uses glass and fluorite elements to achieve high resolution and extreme chromatic aberration correction over a wide range wavelength. It is corrected against chromatic aberration from $400 \mathrm{m} \mu$ up to $850 \mathrm{m} \mu$. The visible portion of the spectrum extends from $400 \mathrm{m} \mu$ to $700 \mathrm{m} \mu$. This lens is excellent for telephotography in the visible and infrared portion of the spectrum. The use of fluorite elements allows a design that is very compact for its focal length and sharp contrast and definition.

Complete System of Superb Takumar Lenses

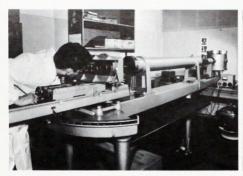
NAME OF LENSES	FOCAL LENGTH & MAXIMUM APERTURE	MINIMUM	LENS	DIAPHRAGM	MINIMUM FOCUSING DISTANCE		ANGLE OF VIEW	WEIGHT		FILTER SIZE	LENSHOOD SIZE	LENS CAP SIZE
					m.	ft.	degrees	gr.	ozs.	mm	mm	mm
SMC Fish-Eye Takumar	17mm f/4	22	11	FA	0.2	0.66	180®	228	7.98	BI	-	60
SMC Takumar	20mm f/4.5	16	11	FA	0.2	0.65	94	251	8.79	77	58*	60
SMC Takumar	24mm f/3.5	16	9	FA	0.25	0.8	84	247	8.71	58	60*	60
SMC Takumar	28mm f/3.5	16	7	FA	0.4	1.3	75	218	7.6	49	51*	51
SMC Takumar	35mm f/2	16	8	FA	0.4	1.25	62	242	8.53	49	49*	51
SMC Takumar	35mm f/3.5	16	5	FA	0.45	1.5	62	152	5.4	49	49	51
SMC Takumar	50mm f/1.4	16	7	FA	0.45	1.5	46	252	8.8	49	49	51
SMC Macro-Takumar	50mm f/4	22	4	FA	0.234	0.77	46	248	8.74	49	-	51
Super-Takumar	55mm f/2 ^②	16	6	FA	0.45	1.5	43	215	7.5	49	49	51
SMC Takumar	55mm f/1.8	16	6	FA	0.45	1.5	43	201	7.0	49	49	51
SMC Takumar-Zoom	85~210mm f/4.5	22	11	FA	3.5	12	11~29	705	24.9	58	58	60
SMC Takumar	85mm f/1.8	16	6	FA	0.85	2.75	29	341	11.9	58	58*	60
SMC Bellows-Takumar	100mm f/4	22	5	PS	_	-	24	139	4.9	49	49*	51
SMC Takumar	105mm f/2.8	22	5	FA	1.2	4	23	290	10.2	49	49*	51
SMC Takumar	120mm f/2.8	22	5	FA	1.2	4	20	340	11.9	49	49*	51
SMC Takumar	135mm f/3.5	22	4	FA	1.5	5	18	343	12.1	49	49*	51
SMC Takumar	135mm f/2.5	22	5	FA	1.5	5	18	444	15.5	58	58*	60
SMC Takumar	150mm f/4	22	5	FA	1.8	6	16.5	324	11.3	49	49*	51
SMC Takumar	200mm f/4	22	5	FA	2.5	8.2	12.5	550	19.3	58	58*	60
SMC Takumar	300mm f/4	22	5	FA	5.5	18	8	946	33.1	77	*	85
SMC Takumar	400mm f/5.6	45	5	М	8	27	6	1300	45	77	*	85
SMC Takumar	500mm f/4.5	45	4	М	10	32.8	5	3500	122.5	49	*	127
SMC Takumar	1000mm f/8 ³	45	5	М	30	98	2.5	5500	192.5	49	*	143
UA Takumar	85mm f/4.5	22	5	FA	0.6	2	29	248	8.7	49	49	51
UA Takumar	300 mm f/5.6	22	5	FA	4.85	16	8	8 25	29.1	58	*	65

All these lenses fit any Pentax model which has a 42mm threaded lens mount. BI=3 filters built-in. M=Manual. FA=Fully Automatic. PS=Preset. SMC=Super-Multi-Coated. UA=Ultra-Achromatic. ①=Diagonal coverage. ②=Supplied only with SP 500 body as its standard lens. ③=Supplied with wooden tripod and carrying cases. All lenses, including standard lenses purchased separately, are supplied with leather case, straps, front and rear caps. All filters and lenshoods are screw-in type unless otherwise indicated. (*Lenshood supplied with lens. *Clip-on type)





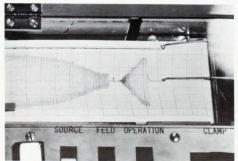
Part of Takumar lens production process from design to final inspection















SHORT SOFT CASE

Especially designed soft case without a nose for the lens. This allows you to take pictures with the camera in the case for quieter operation.

For use with SV and S1a only.



SOFT CASE JUMBO FRONT

Jumbo-size front for the soft camera case to contain an Asahi Pentax with a 135mm, 105mm or 85mm telephoto lens.



LEATHER CASE FOR STANDARD LENSES

When the standard Takumar lens is removed from your Asahi Pentax camera body, protect it in this leather case, available as a separate accessory.



FILM MAGAZINE

For bulk film loading.



GADGET BAG

A deluxe Asahi Pentax Gadget Bag for an assortment of Asahi Pentax camera, lenses and accessories with inside partition and strong shoulder strap and front clasp.



MISCELLANEOUS CAPS

Front and rear lens caps, and Asahi Pentax body mount cap are also available.

AUTO-BELLOWS & SLIDE COPIER

The Asahi Pentax Auto-Bellows is a highly flexible close-up and macro-photographic instrument. The bellows extension is longer than the extension of the standard Bellows Unit. The Auto-Bellows is more versatile. With the double cable release supplied with the Auto-Bellows, you release the shutter and activate the automatic diaphragm simultaneously if you use a fully-automatic diaphragm lens. With its lens reverse system, you can use a lens in reversed position for higher macro resolution.

The geared rail of the Auto-Bellows is meticulously engineered with high precision. The freely movable tripod seat underneath the rail rod maintains the whole equipment on tripod in complete balance. Micro-action extension knobs are equipped on the camera body and lens sides for precise bellows extension.

The Slide Copier attaches to the front end of the Auto-Bellows for easy duplication of colour films.

With the Bellows-Takumar 100mm f/4 lens, you can photograph from $1.32\times$ magnification to infinity (∞). You can easily obtain high magnification with a 28mm to 35mm lens. By adding the standard Bellows Unit or Extension Tubes to the front or back of the Auto-Bellows, you can reach $10\times$ to $20\times$ magnification.

The Asahi Pentax Auto-Bellows is a precisely designed close-up and macro equipment for professional photographers, research workers, scientists and specialists in close-up and macro works.





EXTENSION TUBE SET

A set of 3 rings, #1, #2 and #3 of 9.5mm, 19mm and 28.5mm respectively. They may be used singly or in combination as desired. When all three are used simultaneously with the 55mm lens, the subject is enlarged on film to a magnification of 1.17 life size.



AUTO EXTENSION TUBE SET

New extension tube set of 3 rings, 9.5mm (\sharp 1), 19mm (\sharp 2) and 28.5mm (\sharp 3), with coupled automatic diaphragm release pins. Mounted singly or in combination between an Asahi Pentax and a 55mm automatic diaphragm lens, this set of Auto Extension Tubes permits focusing at magnification from 1.17× to 0.17 and operation of the automatic diaphragm.



HELICOID EXTENSION TUBE

Like the lens helicoid, the new Asahi Pentax Helicoid Extension Tube extends from 16.8mm to 30.6mm. It serves the purposes of the Asahi Pentax Extension Tubes \$2 and \$3. Mounted between an Asahi Pentax and a 55mm lens, it permits photography at magnification from 0.30× te 0.7×. It is extremely versatile variable extension ring.



BELLOWS UNIT I

Extremely flexible for ultra-close-up photography, the Bellows Unit I permits use of the camera's own lens. Provided with a special precision-calibrated gear shaft for reading continous magnification from 0.62 to 2.45 with the standard 55 mm lens.



REVERSE ADAPTER

This allows 50mm or 55mm SMC Takumar lenses to be used on bellows or extension tubes in reverse position for better macrophotographic results.



CLOSE-UP LENS

Ground and polished to the superb Takumar lens standards and has screw-in mount for lenses of 49mm thread. Magnification of 0.32 to 0.15 with the 55mm SMC Takumar lens.



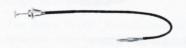
ASAHI MOUNT ADAPTER

For use of Asahiflex-mount Takumar lenses with your Asahi Pentax camera body.



MIRROR ADAPTER

An interesting adapter for detective photographers, this allows you to take photographs by NOT pointing your camera and lens to your subjects. Fits the Takumar 200mm f/3.5, SMC Takumar 200mm f/4 and Tele-Takumar 300mm f/6.3 lenses only.



CABLE RELEASE

With floating collar, thread mounting and locking screw for time exposure.



RIGHT ANGLE FINDER

Attaches quickly and easily to the view-finder of all Asahi Pentax models. Designed for added convenience in low angle and close-up photography, photomicrography, etc.



SPOTMETER III

A highly versatile tool for advanced amateurs and professionals, the Spotmeter measures a hair-splitting 1° in the centre of a 21° viewing field. It's unsurpassed for selectivity, giving you complete exposure control under any condition and at any distance. Also equipped with IRE scale useful for television filming.



CLIP-ON METER SL

The Asahi Pentax CdS Clip-on Exposure Meter is an accurate exposure meter, and it is easy to use properly. It is extremely sensitive and highly selective. As its name implies, it simply clips onto your Asahi Pentax model SL, and couples directly to the shutter speed dial. It is light, compact, and fits your camera like a glove. Unlike a glove, however, this precision instrument will help you take better pictures by showing you the proper shutter speed and aperture to use in order to correctly expose your film.



MICROSCOPE ADAPTER

Fitting between the Asahi Pentax camera body and the microscope tube, this adapter permits utilization of the microscope's optics in place of the camera's lens. It may be used with any microscope which has a tube of 25mm diameter. Complete set consists of an adapter tube, fastening knob, light sealing tube, and stopper.



COPIPOD

Light-weight, but extremely rigid and sturdy. This portable copying stand fits all models of the Asahi Pentax and can be used anywhere for copying documents, artwork, stamps, etc. Consists of a lens board complete with adapter rings for 46mm and 49mm lenses, and four calibrated telescoping leg. Set up easily in seconds and is quickly disassembled. Supplied in small black pouch for storage or carrying convenience.





ACCESSORY CLIP II

Deluxe type, precision-made accessory clip model II fits the viewfinder frame of Asahi Pentax cameras.



CLIP-ON MAGNIFIER

For added convenience in critical focusing for close-ups, copying, macro-photography, etc. This can be easily attached to the slotted frame of the viewfinder of your Asahi Pentax and enlarges your viewing image $2\times$.







CORRECTION LENS ADAPTER

A clip-on eyepiece for prescription lens (eyepiece only). Also a convenient eyecup for everyday photography.

STEREO ADAPTER SET





The new Asahi Pentax Stereo Adapter consists of a stereo adapter and a viewer. The adapter is for taking stereo pictures (reversal colour pictures) and the viewer is for viewing stereo colour slides. The Stereo Adapter fits the front frame of the SMC Takumar 55mm lens. The screw of the Stereo Adapter fastens itself onto the front frame of the lens after it is positioned in parallel with the camera body. Since the Stereo Adapter reduces the amount of light coming through the taking lens aperture, the diaphragm should be opened by a half f/stop for optimum exposure. The new Asahi Pentax Stereo Adapter is a valuable accessory for making stereo pictures of "ikebana", hair dressing, architecture, sculpture, etc.

FILTERS AND LENSHOODS



Asahi Pentax lenshoods are recommended for use whenever possible to guard against off-angle light which will cause flare in your pictures. (Most Takumar lenses are supplied with a special lenshood.)

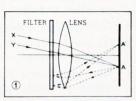
Improve your picture quality by using the Asahi Pentax filters that are precisionground, polished and coated for your Asahi Pentax. (The black dots in the following table show the available filters.)

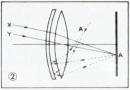
For the sizes of the filters and lenshoods, please refer to the inside table for Takumar lenses.

FILTER EXPOSURE FACTOR DESCRIPTION		FILTER SIZE IN MM						мм					
		OR	46	49	55	58	67	70	77	82			
FOR MONOCHROME FILMS	UV (Ultraviolet; haze-cutting)	1	•	•	•	•	•	•	•	•			
	Yl (Light yellow)	1.5	•	•									
	Y2 (Medium yellow)	2	•	•	•	•	•	•	•	•			
	O2 (Light orange)	3	•	•	•	•	•	•	•	•			
	YG (Yellow green)	2	•	•									
	R2 (R-60; red)	6	•	•									
FOR DAYLIGHT TYPE REVERSAL COLOUR FILMS	SKYLIGHT	1	•	•	•	•	•	•	•	•	For sunlight & skylight.		
	CLOUDY	1.5	•	•							For open shades, cloudy days and haze.		
	MORNING & EVENING	1.5	•	•							For early morning and late afternoon sunlight.		
	FLASH	2	•								For clear wire-filled flash bulbs.		
	FLOOD	3	•	•							For photo studio floods.		
CONVERSION A		2		•							Converts tungsten colour film for outdoor use.		
POLARIZING FILTER		2.5		•		•					Eliminates unwanted surface reflections and glare		
GHOSTLESS FILTER 1		1									Eliminates ghost images.		

ASAHI PENTAX GHOSTLESS FILTER

Diagram I shows how a ghost image (A') sometimes appears on film when pictures are taken against light (neon signs, street lights, moon, etc.) using a conventional filter. The Asahi Pentax Ghostless Filter is a breakthrough in filter design. With this curved U.V. filter, the image light reflected back to the Ghostless Filter and re-transmitted through the lens forms a duplicate image in the air (A' in Diagram 2), thus eliminating a ghost image on film plane. It is available in 49mm size only.





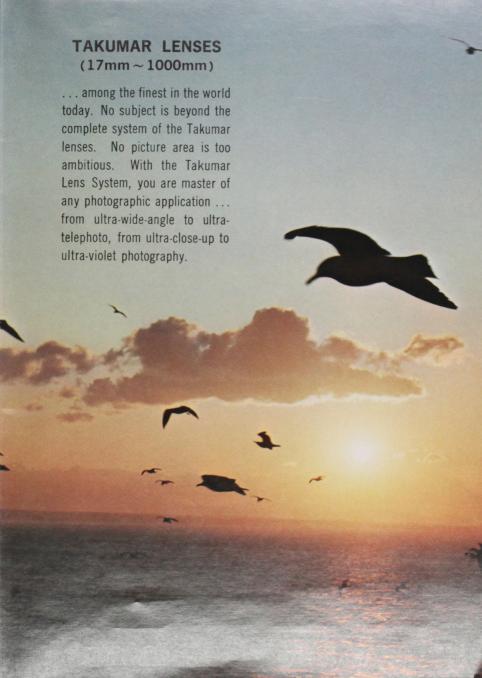
SUPER-LITE II ELECTRONIC FLASH

The Asahi Pentax Super-Lite II is a compact easy-to-operate electronic flash unit produced with the same engineering skill that perfects the Asahi Pentax System of Photography. Light and compact, it simply attaches to your Asahi Pentax camera.



- The angle of light distribution of most flash guns is designed to match the angle of standard lenses. The Super-Lite II is one of the widest-angle electronic flash units on the market today. Because of the specially designed curvature of the reflector, its angle of light distribution practically covers the angle of a 28mm super-wide-angle lens.
- The Super-Lite II has a unique automatic light output stabilizer. The light output of many other electronic flash units considerably decreases as you keep flashing the units. This means you will have to open up your lens aperture. The light output of some units goes down to as much as one f/stop extent after 40 flashes. The light output stabilizer of the Super-Lite II constantly maintains its output at its maximum at each flash.
- The Super-Lite II also operates on AC, powered by the AC Power Pack accessory.
- The circuitry of the Super-Lite II is designed for economical power consumption.
 Pen-light batteries are inexpensive—and you will not waste the battery power.
- The 1/2000 second flash duration of the Super-Lite II is so short, you may capture practically anything you may like to photograph.
- The recycling time (time interval between each flash) is short. You will be ready to follow fast actions if you act fast.

The Asahi Pentax Super-Lite II is a highly versatile electronic flash for Asahi Pentax enthusiasts — as ordinary flash — as bounce flash — as fill-in flash (when photographing back-lighted subjects.)



ASAHI PENTAX Prism Binoculars With Coated Interference Filter



The coated interference filter, another achievement of the Asahi Pentax engineering and unique with the Asahi Pentax prism binoculars, eliminates ultraviolet and infrared rays which may be harmful to the eye. Available in many sizes.





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