

ASAHI PENTAX SP 500



OPERATING MANUAL

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Asahi Pentax SP 500

This is the Pentax SP 500 — another proud member of the world-famous Pentax family whose name has become synonymous with design innovations and precision craftsmanship in 35mm single-lens-reflex cameras.

When the first Pentax Spotmatic was introduced to the public at the 1960 PHOTOKINA, the world's largest photographic fair, in Cologne, Germany, it attracted the instant and close attention of photographers and photographic engineers alike. Not available for purchase at that time, it was a model of the advanced design and features that would be incorporated into cameras of the future. Pentax cameras and other brands as well.

Several years of extensive research preceded its introduction, and four more years of research and experimentation followed before the meticulous Pentax engineers and technicians felt the camera was truly ready. At last, in late 1964, it reached the eager hands of serious amateur and professional photographers around the world. Like that early Spotmatic, your Asahi Pentax SP 500 is a computer camera. Hidden within its body, its unique, behind-the-lens exposure meter utilizes two highly sensitive Cadmium Sulphide sensors to accurately measure the light gathered by the camera's lens as it is reflected from the subject being photographed. Therefore, by measuring the light as it passes through the lens and matching the exposure needle as seen through the viewfinder, you can be assured of properly exposed pictures under all but the most impossible lighting conditions. Whether you're using special, macro- or microphotographic lenses, telephoto lenses, or simply filters on normal lenses, your Asahi Pentax SP 500 will give you correctly exposed photographs without the use of external meters or the need for difficult, time-consuming exposure calculations!

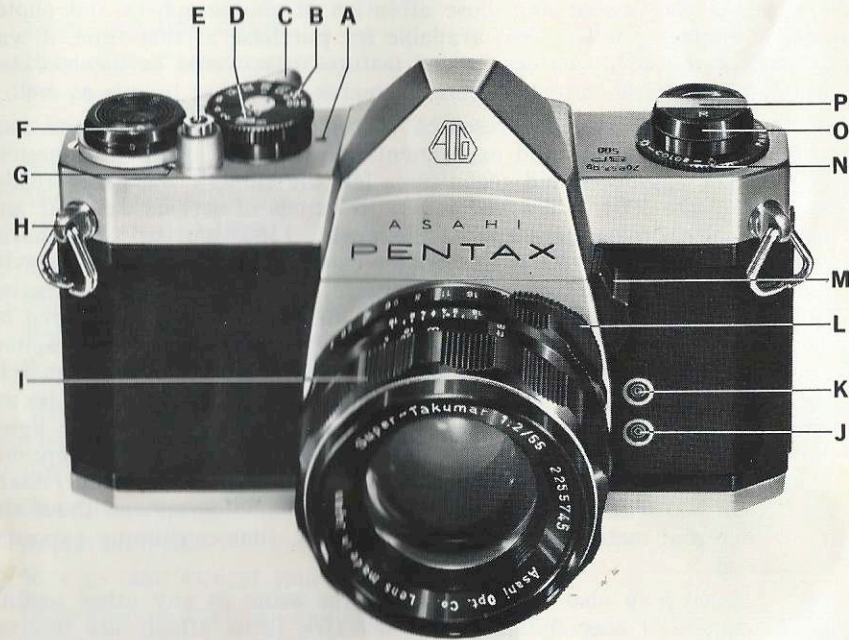
Your SP 500 may also be set manually the same as any other quality 35mm camera if special lighting or selective focus effects are desired. Just leave the exposure meter switch in its OFF position and select the f/stop and speed settings for the desired effect.

The traditional classic design and simple elegance associated with earlier models of the famous Pentax have been retained in the SP 500 despite the incorporation of many highly advanced features and many internal improvements that have been developed over the years.

Like the other members of the Pentax family, the Asahi Pentax SP 500 has a 42mm threaded lens mount that accepts any of the superb Takumar lenses from the ultra-wide-angle 17mm Takumar to the super-telephoto 1000mm Takumar, a wide range of optics that will satisfy the demands of even the most critical professional.

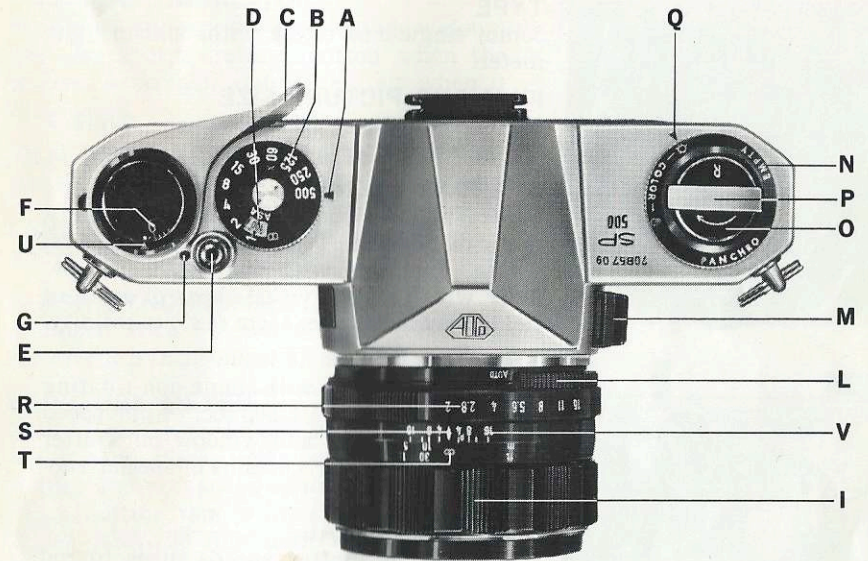
Moreover, the list of fine accessories is always growing — to help you keep growing photographically.

Major working parts of the



- | | |
|----------------------------|--------------------------------------|
| A - Shutter speed index | F - Automatic reset exposure counter |
| B - Shutter speed dial | G - 'Cocked' indicator |
| C - Rapid wind lever | H - D-ring lug |
| D - ASA film speed setting | I - Focusing ring |
| E - Shutter release | J - X flash terminal |

ASAHI PENTAX SP 500



- | | |
|-----------------------------|----------------------------------|
| K - FP flash terminal | Q - Film type index |
| L - Preview lever | R - Diaphragm ring |
| M - Exposure meter switch | S - Diaphragm and distance index |
| N - Film type reminder dial | T - Distance scale |
| O - Rewind knob | U - Exposure counter index |
| P - Rewind crank | V - Depth-of-field guide |

PLEASE READ THIS
OPERATING MANUAL THOROUGHLY.

Specifications



TYPE

35mm single-lens reflex with built-in light meter.

FILM AND PICTURE SIZE

35mm film (20 or 36 exposures). 24mm x 36mm.

STANDARD LENS

Super-Takumar 55mm f/2 with fully automatic diaphragm. Filters and lenshood size: 49mm. Equipped with diaphragm preview lever which affords visual check of depth of field. Distance scale: 45cm (18") to infinity.

SHUTTER

Focal plane shutter, with single non-rotating dial. Speeds: B, 1-1/500 sec. Film speed (ASA) setting dial and window on shutter speed dial. Shutter curtains of special rubberized silk.

WARNING SIGNAL

The index of shutter speeds turns to red when the shutter and film speed settings are off the meter's measurability range. Refer to page 16.

FINDER

Pentaprism finder with microprism Fresnel lens for instant focusing; approximately life-size magnification with 55mm lens.

FOCUSING

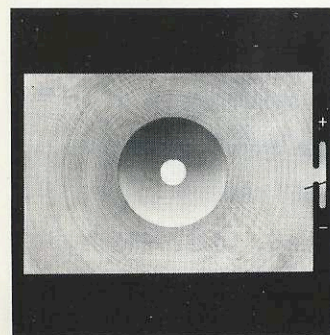
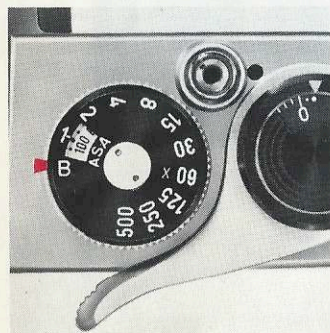
Turn the distance scale ring until the subject image on the ground glass comes into focus.

REFLEX MIRROR

Instant return type with special shock absorbers for minimum vibrations.

FILM ADVANCE

Ratchet-type rapid wind lever (for film advance and shutter cocking). 10° pre-advancing and 160° advancing angle.



"COCKED" INDICATOR

A red disk appears in a small window alongside the shutter release button when the shutter is cocked, and blacks out when it is released.

FILM EXPOSURE COUNTER

Automatic re-set type.

LENS MOUNT

42mm threaded lens mount.

FLASH SYNCHRONIZATION

Equipped with FP and X flash terminals. Electronic synchronization at 1/60 sec.

EXPOSURE METER

Built-in meter measures the brightness of the ground glass, and couples directly to shutter and film speed settings. Film speed (ASA) setting ranges from 20 to 1600 (LV1-18 for ASA-100 film with standard lens). Meter is powered with a mercury battery.

FILM REWIND

Rapid rewind crank for speedy film take-up. Film rewind release button on bottom of camera body rotates while film is being rewound.

LOADED FILM INDICATOR

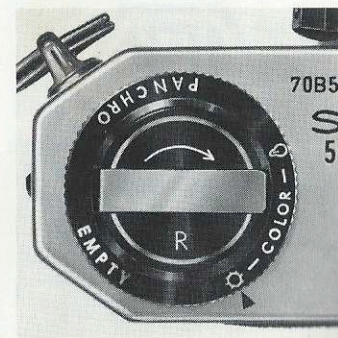
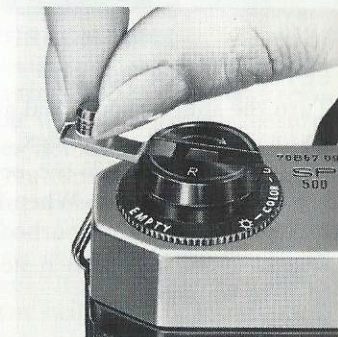
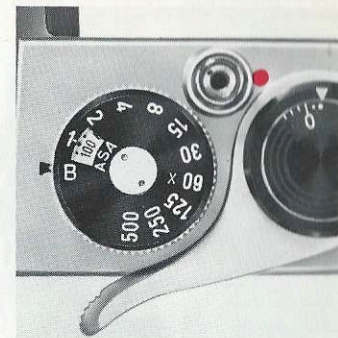
Loaded film reminder dial underneath film rewind knob is marked "PANCHRO" (black-and-white), "COLOR" and "EMPTY".

DIMENSION

Width 143mm (5.6") x height 92mm (3.6") x thickness 88mm (3.4").

WEIGHT

820 grams (1 lb. 13 oz.) with standard lens. Body alone: 610 grams (1 lb. 6 oz.).



Short operating course

A mercury battery for the light meter is packed separately. Be sure to insert it into the battery housing when operating the camera. For battery insertion, refer to page 17.

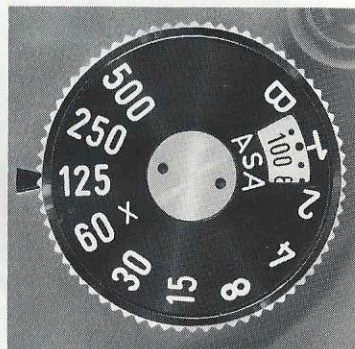


SET FILM SPEED

Lift the outer ring of the shutter speed dial, turn it around and set the same number as the ASA number of the loaded film to the small red index which appears alongside the figure 1. Then cock the rapid wind lever.

SET SHUTTER SPEED

Turn the shutter speed dial and set the speed you wish to use to the index. When outdoors, set the speed at 1/125 sec. or faster, depending upon the lighting. When indoors, set it at 1/30, or in its neighbourhood. Change the shutter speed later, when necessary. (Refer to item 5, page 7.)

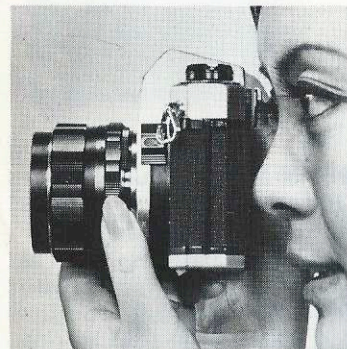
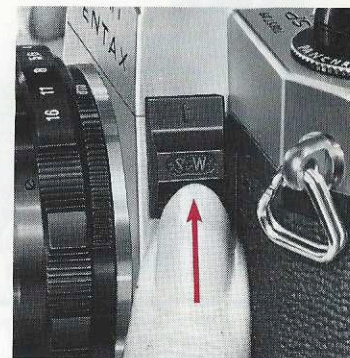


COMPOSE AND FOCUS

While viewing through the viewfinder, turn the distance scale ring with your thumb and index finger until you get the sharpest image of your subject at the microprism centre of the finder.

TURN ON LIGHT METER SWITCH

Push up the switch button with your thumb. Through the viewfinder, you will observe the movement of the meter's needle on the right side of the ground glass. Be sure to turn off the meter's switch when not actually taking readings.



ROTATE DIAPHRAGM RING

The needle moves up and down with the turn of the diaphragm ring. When the needle rests at the centre, you will get correct exposure. If the needle does not come to the centre no matter how far you turn the diaphragm ring, change the shutter speed. When the needle is off centre and close to the (+) mark, you will get over-exposure: change the shutter speed to a faster setting. If the needle is closer to the (-) mark, you will get under-exposure: change the shutter speed to a slower setting.

RELEASE SHUTTER

Hold your camera firmly and trip the shutter. When the shutter is released, the meter switch will automatically turn off, and the needle will remain fixed off and underneath the centre. The diaphragm will reopen to its full aperture and the overall image will look brighter. Cock the rapid wind lever for the next picture. (When taking a series of pictures under the same lighting conditions, it is not necessary to repeat instructions 4 and 5.)



How to hold your camera



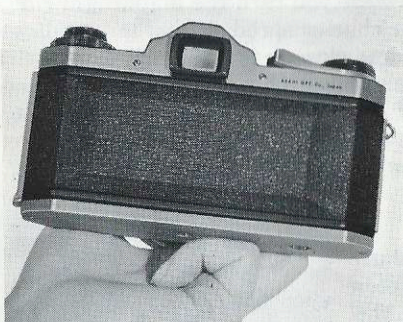
In horizontal position A. Hold the camera firmly with your left hand, and draw your arm close to your body.



In vertical position B. Hold your camera tightly to your forehead with your left hand, and draw your right arm close to your body.



In vertical position C. Hold your camera tightly to your forehead with your left hand, raise your right arm and draw your left arm to your body.



As a general rule, your camera should be held more firmly by the left hand which does not release the shutter. If you hold your camera with the right hand—the hand which releases the shutter—it may cause camera movement. Very often, pictures

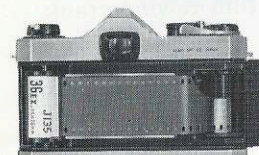
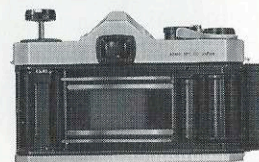
which are not sharp are due to movement of the camera. When you focus with the camera held horizontally (Position A), hold the lens barrel as illustrated. Cradle the camera with your left hand thumb and little finger. Turn the distance scale ring with your thumb and index finger. When holding the camera vertically, some people release the shutter with the thumb (Position B), while others release it with the index finger (Position C). Position C is more desirable for fast focusing and shooting. With the Asahi Pentax, whether held vertically or horizontally, you see your subject image through the taking lens, enabling you to compose, focus and shoot with a minimum of time and effort.

Film loading

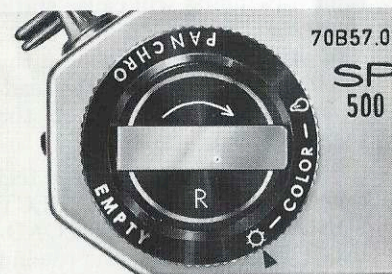


Avoid direct sunlight when loading your film.

1. Open the back by pulling out the rewind knob until back cover snaps open.
2. Place the film cassette into the cassette chamber, and push back the rewind knob. Draw out the film leader and insert it into slot of the take-up spool.
3. Advance the film by alternately turning the rapid wind lever and releasing the shutter until both sprockets have properly engaged the film perforations. Close the back by pressing it firmly.
4. If the film is properly loaded, the rewind knob will turn counter-clockwise when you advance the film by turning the rapid wind lever.

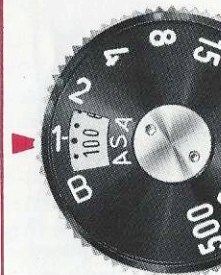


Film type reminder dial



Use the film type dial to show what type of film is in your camera. Simply turn the dial so that the type of film in the camera is opposite the ▲ mark. To check whether the camera is loaded, turn the film rewind knob clockwise. If it turns freely, the camera is not loaded.

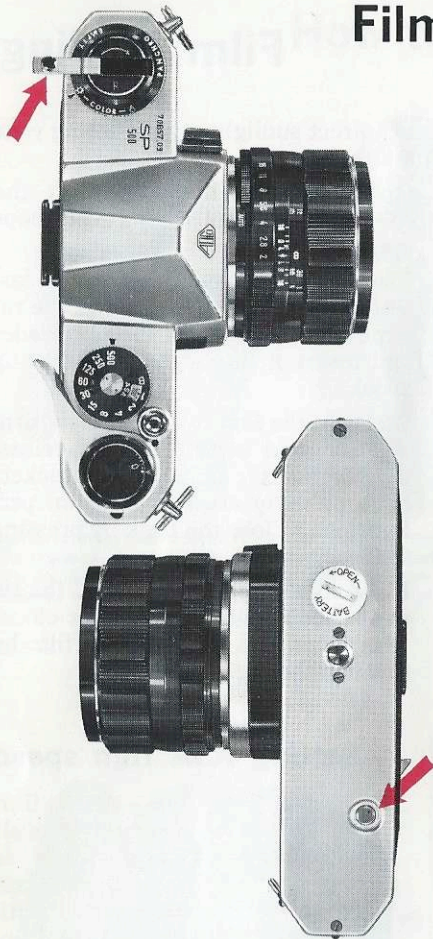
Setting ASA film speed



The ASA film speed rating of all 35mm films is given in the data sheet packed with each roll of film. The higher the ASA number, the more sensitive the film. Lift the outer ring of the shutter speed dial and rotate it until the ASA number of your film is opposite the red index mark.

Be sure to set your film speed on the shutter speed dial because the dial is connected to the exposure meter system.

Film wind and rewind



1. The first portions of the film cannot be used for picture taking as they have already been exposed to light. Generally, two blank exposures should be made before taking your first picture. Cock the rapid wind lever until it stops. Watch to see that the film rewind knob automatically turns counter-clockwise, indicating that the film is moving from cassette to take-up spool. Trip the shutter.
2. After the final picture on the roll (20 or 36 exposures) has been taken, the rapid wind lever will not turn all the way as you stroke it. This indicates that the final picture has been taken on your film, and that the film must be rewound. **DON'T** open the back of the camera, or *all* exposed frames will be ruined.
3. Unfold the film rewind crank.
4. Depress the film rewind release button. Turn the rewind crank to rewind the film into the film cassette. The film rewind crank permits rewinding at a smooth, even rate. (Under some atmospheric conditions, erratic or too rapid rewinding will cause static electricity marks on the film.) You will feel the tension on the rewind crank lessen as the leader end of the film slips off the take-up spool.
5. Pull out the film rewind knob (the back will open automatically), and remove the film cassette.

Stop rewinding when you feel this happen. **AVOID DIRECT SUNLIGHT WHEN UNLOADING YOUR FILM.** (The rewind release button will return to normal position as you load your next film and turn the rapid wind lever.)

Bright field focusing



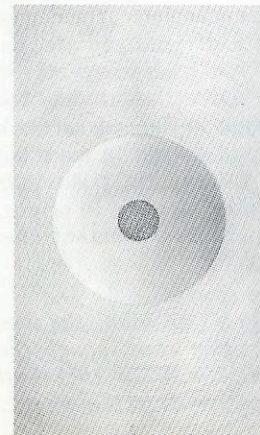
- 1 You can start viewing and focusing before and after cocking the rapid wind lever. When the preview lever is in "AUTO" (automatic) position, and the meter is at "OFF", the diaphragm is fully open except for the moment of exposure.
- 2 Turn the distance scale ring until your subject image is clearly in focus. It is not always necessary for you to view and focus with the diaphragm fully open. In bright sunlight, you can easily focus with diaphragm closed to f/5.6 or f/8 and still observe the depth of field. It is easier, however, to focus with the diaphragm fully open as your subject image is much brighter.

When the letters "MAN" appears beside the lever, the lens is in manual position; when "AUTO" appears, it is in automatic position.

Microprism

Asahi Pentax cameras have a Fresnel lens with a microprism centre underneath the ground glass. As you look through the finder, you will see that the Fresnel lens consists of many concentric rings which provide the brightest possible image on the ground glass.

The microprism is the centre portion of this diagram. When your subject is in focus, the image in the microprism will be sharp and perfectly clear. If your subject is not in focus, the microprism will break the image up into many small dots, much like engraver's screen. You can focus your subject on any portion of the ground glass.



Automatic diaphragm*



OUT OF FOCUS



IN FOCUS

When the preview lever is in "AUTO" (automatic) position, and the exposure meter is turned to "OFF", the fully automatic diaphragm is at its largest aperture at all times, except for the instant of exposure, no matter what aperture is set on the diaphragm ring. When you release the shutter, the diaphragm automatically stops down to the predetermined aperture and the shutter curtains start traveling instantly. When the exposure is completed, the diaphragm reopens to maximum aperture completely automatically and you are ready to compose, focus and shoot your next pictures. If you wish to visually check exact depth of field before making the exposure, move the preview lever to "MAN" (manual) position. This stops the diaphragm to the aperture selected and shows you exactly how much depth-of-field will appear in your picture. The preview lever may be moved back to "AUTO" (automatic) position before or after making your exposure, or, if you are making pictures in bright sunlight, it may be left in manual position, which permits a constant check of depth of field.

*When the exposure meter switch is turned to the "on" position, the lens diaphragm changes from the automatic to manual position even though the preview lever is in the "AUTO" (automatic) position. When the shutter is released, the lens diaphragm will automatically return to its automatic position if the lever is set on "AUTO".

Shutter



Turn the shutter speed dial clockwise or counter-clockwise to the shutter speed desired. The shutter speed may be set either before or after cocking the rapid wind lever. As you cock the shutter by turning the rapid wind lever, the "cocked" indicator turns to red showing that the shutter is cocked.

The indicator window blacks out as you trip the shutter button. For use of the X setting on the shutter speed dial, refer to page 18.

With the shutter speed dial set on B (bulb), the shutter will stay open as long as you depress the shutter button. As you release your finger from the shutter button, the shutter closes. When a long exposure is desired while using the B setting, attach a shutter release cable with a locking device to the shutter button. This will permit a "Time" exposure.

Cautions

1. At slow speeds—slower than 1/30—support your camera rigidly or use a tripod to prevent movement of your camera.
2. To protect the shutter mechanism, trip the shutter release before putting the camera out of use for any extended period.

Depth-of-field guide



If you want to know how great the depth of field is at a certain aperture, look at the depth-of-field guide. In the above photograph, the distance scale is set at 15 feet ... the lens is focused on a subject 15 feet away. The calibrations on each side of the distance index correspond to the diaphragm setting and indicate the range of in-focus distance for different lens apertures. For example, if the lens opening of f/8 is to be used, the range on the distance scale ring covered within the figure 8 on the depth-of-field guide indicates the area in focus at the lens opening. You will note from the depth-of-field guide in the photograph that the range from approximately 10 to 25 feet is in focus. Note that as the lens apertures change, the effective depth of field also changes. For the depth of fields at different apertures and distances, refer to page 15.

Depth of field is the range between the nearest and farthest distances which are in focus at different lens apertures.

Depth-of-field table: Super-Takumar 55mm lens

Distance Scale f Setting	0.45 m.	0.6 m.	1 m.	1.5 m.	2 m.	5 m.	10 m.	∞
f/2	0.45 0.45	0.59 0.61	0.98 1.02	1.46 1.54	1.92 2.08	4.53 5.59	8.24 12.72	46.15 ∞
f/2.8	0.45 0.45	0.59 0.61	0.98 1.03	1.44 1.56	1.89 2.12	4.36 5.86	7.70 14.27	32.98 ∞
f/4	0.44 0.46	0.59 0.61	0.97 1.04	1.42 1.59	1.85 2.17	4.13 6.33	7.01 17.48	23.10 ∞
f/5.6	0.44 0.46	0.58 0.62	0.95 1.05	1.39 1.63	1.80 2.25	3.87 7.09	6.27 24.97	16.52 ∞
f/8	0.44 0.46	0.58 0.62	0.93 1.08	1.34 1.70	1.73 2.38	3.53 8.65	5.41 70.27	11.58 ∞
f/11	0.44 0.47	0.57 0.63	0.91 1.11	1.29 1.79	1.64 2.57	3.18 11.93	4.62 ∞	8.44 ∞
f/16	0.43 0.47	0.56 0.65	0.87 1.17	1.22 1.96	1.52 2.95	2.73 32.75	3.71 ∞	5.82 ∞

Distance Scale f Setting	1'6"	2'	3'	5'	10'	15'	30'	∞
f/2	1' 5.9" 1' 6.1"	1' 11.8" 2' 0.2"	2' 11.4" 3' 0.6"	4' 10.3" 5' 1.8"	9' 4.9" 10' 8"	13' 8.3" 16' 7.1"	25' 1.3" 37' 3.2"	151' 4.8" ∞
f/2.8	1' 5.9" 1' 6.1"	1' 11.6" 2' 0.4"	2' 11.2" 3' 0.8"	4' 9.6" 5' 2.6"	9' 2.3" 10' 11.5"	13' 2.8" 17' 4"	23' 7" 41' 3.4"	108' 2.3" ∞
f/4	1' 5.8" 1' 6.2"	1' 11.5" 2' 0.5"	2' 10.8" 3' 1.2"	4' 8.6" 5' 3.8"	8' 10.7" 11' 5.3"	12' 7.1" 18' 6.7"	21' 7.2" 49' 2.8"	75' 9.5" ∞
f/5.6	1' 5.6" 1' 6.4"	1' 11.4" 2' 0.7"	2' 10.4" 3' 1.8"	4' 7.4" 5' 5.4"	8' 6.1" 12' 1.7"	11' 10.1" 20' 6.2"	19' 5.2" 66' 3.4"	54' 2.3" ∞
f/8	1' 5.5" 1' 6.5"	1' 11" 2' 1"	2' 9.8" 3' 2.5"	4' 5.6" 5' 8.2"	8' 13' 4.4"	10' 10.3" 24' 4.6"	16' 10.7" 138' 2.8"	37' 11.9" ∞
f/11	1' 5.4" 1' 6.7"	1' 10.8" 2' 1.3"	2' 9" 3' 3.6"	4' 3.6" 5' 11.8"	7' 5.4" 15' 3.7"	9' 10.1" 31' 10.8"	14' 6.2" ∞	27' 8.2" ∞
f/16	1' 5.2" 1' 7"	1' 10.3" 2' 2"	2' 7.8" 3' 5.5"	4' 0.6" 6' 6.8"	6' 8.2" 20' 3"	8' 6.2" 66' 9.2"	11' 9.4" ∞	19' 1" ∞

Range of light measurement

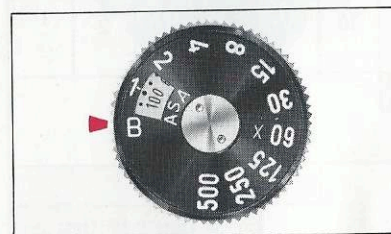
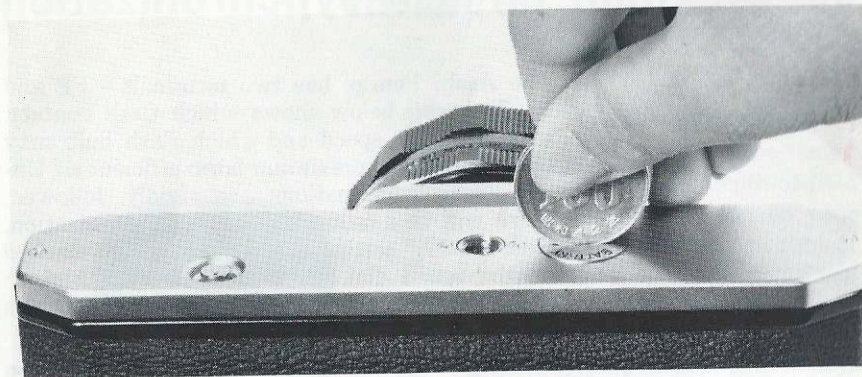
The exposure meter of the Spotmatic measures the brightness of the ground glass. Therefore, the meter should be turned on *after* you have focused your subject on the ground glass. The following table shows the range of the meter's light measurement, and should not be interpreted as the camera's total range of f/stop-shutter speed combinations. As you will note from the table below, with an ASA100 film, you may use any shutter speed from 1 sec. to 1/500 sec. in combination with any aperture that will bring the meter needle to the midpoint in the viewfinder. The total range of the aperture settings is, of course, determined by the minimum and maximum apertures of the lens being used. For example, with the 55mm f/2 lens and ASA100 film, an aperture from f/2 (the maximum aperture of this lens) to f/16 (the minimum aperture) may be used with any shutter speed from 1 sec. to 1/500 sec. that will bring the meter needle to midpoint.

ASA \	B	1	1/2	1/4	1/8	1/15	1/30	1/60	1/125	1/250	1/500
20											
• 25											
32											
• 40											
• 50											
64											
• 80											
100											
• 125											
• 160											
200											
• 250											
• 320											
400											
• 500											
• 640											
800											
• 1000											
• 1250											
1600											

The area A indicates the reading range of the meter. The area B indicates that although the shutter speed index is black and the meter needle moves, the meter is NOT operating properly.

When the meter needle is centered with the shutter speed dial set at B using ASA 20-50 films, this indicates that the exact shutter speed required is 2 seconds. Please expose your picture for 2 seconds.

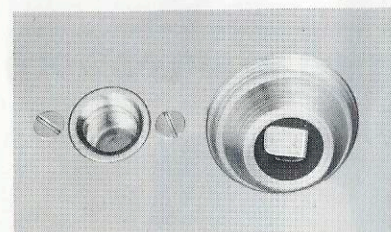
Mercury battery



How to check it

1. Set the shutter speed dial to B (bulb) position.
2. Turn the ASA dial to ASA 100.
3. Push the meter switch to "on" position.

Look at the meter's needle through the viewfinder. If the needle rapidly drops, the meter battery has sufficient capacity; if it does not, replace the mercury battery.



How to replace it

Open the battery housing cover on the bottom cover plate with a coin. Remove old battery and insert new battery with (+) side toward the top of the camera. For replacement, use Mallory PX-400 or RM-400-R or equivalent.



CAUTION: The mercury battery is like a phonograph record. It can be damaged by skin acids. Handle by the edges with a dry cloth only. Be sure the battery is cleaned with the cloth before insertion into the camera. The battery is not rechargeable.

DANGER! A serious accident has been reported of a small child who has put a mercury battery into his mouth and has been hospitalized for serious gripes and stomach inflammation. Please always keep a mercury battery from the reach of small children.

Flash synchronization

The Asahi Pentax has two terminals – FP and X. The table below shows which flash contact, which shutter speed and which flash bulb may be combined for maximum lamp efficiency. Unless these combinations are rigidly followed, there will be a failure in flash synchronization. Note the “X” setting is exactly at the 60 marked on the speed dial. This indicates the highest shutter speed at which electronic flash units may be used.

FLASH TERMINAL \ SHUTTER SPEED	1/500	1/250	1/125	1/60 x	1/30	1/15	1/8	1/4	1/2	1
FP	FP Class (Screw Base)									
	FP Class (Bayonet Base)									
X						F Class				
						M Class & MF Class				
	Electronic Flash									

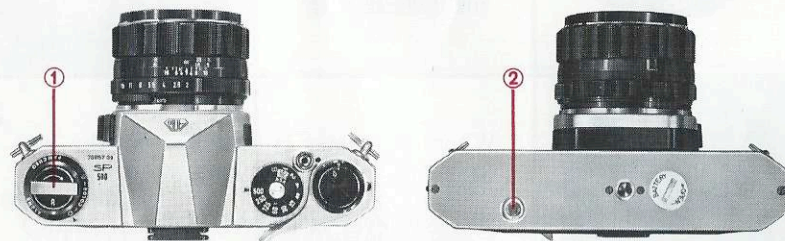


Infra-red photography

If you intend to take infra-red photographs, remember to use the small “R” index marked on the depth-of-field guide. First, focus your lens on your subject. Determine the lens to subject distance from the distance scale. Then match your lens to subject distance to the “R” mark by turning the distance scale accordingly. For instance, if your subject is in focus at infinity, turn the distance ring and move the infinity (∞) mark to the “R” index.

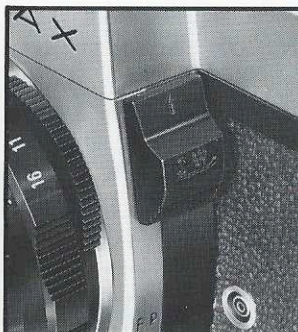
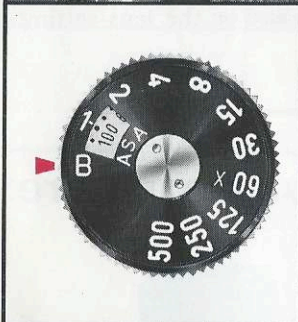
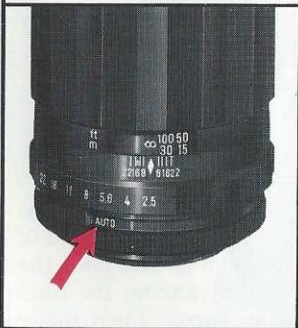
The “R” index marking on the Takumar lenses is based on the lens setting at infinity.

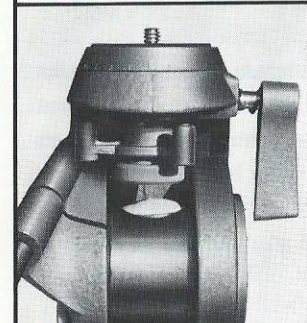
How to make deliberate double exposure



For deliberate double exposures, make the first exposure in the normal way. Then tighten the film by turning the rewind knob ①, and keep hold of the rewind knob. Depress the film rewind release button ② and cock the rapid wind lever. This tensions the shutter without advancing the film. Finally, release the shutter to make the second exposure. Then make one blank exposure, before taking the next picture, to avoid overlapping.

Important notes

	<p>1</p> <p>Always keep the meter switched off when not actually taking readings. Leaving the meter switched on will rapidly exhaust the battery. It is also necessary to keep the meter switched off when mounting a Super-Takumar lens on the Spotmatic camera body. If it is switched on, the tip of the automatic diaphragm release pin of the lens will hit the pin release plate inside the camera body and it may get damaged.</p>
	<p>2</p> <p>When the index of the shutter speeds turns to red, it indicates that the shutter and film speed settings are off the meter's measurability range. Change the shutter speed setting to a faster or slower setting. Refer to page 16.</p>
	<p>3</p> <p>When the meter is switched on, the lens (any Super-Takumar lens) is in its manual position even when the diaphragm preview lever is in "AUTO" (automatic) position. When the meter is switched off manually, or automatically after shutter release, the lens returns to its automatic position when it is set in "AUTO" position.</p>

<p>No!</p> <p>Exposure factor</p> <ul style="list-style-type: none"> x1.63 x1.96 x3.20 x4.80 x5.46 	<p>4</p> <p>Exposure increase factors which apply when taking pictures with filters, close-ups, macro- and micro-photos, do not apply to the Spotmatic.</p>
	<p>5</p> <p>The length of the tripod's screw should not exceed the normal length of 3/16" (4.5cm). Do not extend it longer than this length when mounting your camera on tripod. Forcing longer screws into the tripod socket of the camera will damage the mechanism.</p>
<p>No!</p>	<p>6</p> <p>We do not guarantee the quality of photographs when brands other than Takumar lenses and Pentax accessories, such as lens extenders, are used.</p>

How to take care of your camera

1. STORAGE

- a) The instrument, when not in use, should be protected from dampness and dust. Preferably, it should be kept in its case and, as an additional precaution, inserted into a polyethylene bag.
- b) Care should be taken to see that the camera is not kept in abnormally high or low temperatures – normal room temperature is best.
- c) Take the precaution of removing any batteries since, no matter how well made these may be, there is always a risk of deterioration and corrosion.

2. EXERCISE

All mechanical instruments need to be exercised regularly to keep them in good condition. Cameras are no exception to this rule. If you put your car in storage for the winter, the first thing a prudent owner does in the spring is to have it serviced before putting it back on the road. There is not quite the same parallel between a motor car and a camera, nevertheless, you should store your camera where you can get at it easily and put it through its normal operations at least once per month. i.e.

- a) Set the shutter release and fire.
- b) Turn to a slow shutter speed and again set the shutter release and fire. Also operate delayed action device (self-timer).
- c) Examine the exposure meter for correct operation.
- d) Check film transport.
- e) Check the range finder or pentaprism viewfinder.

These actions will keep the mechanism in good order, retaining the natural qualities of the lubricant – thus ensuring the camera is ready for instant use when required.

3. RUNNING TEST BEFORE USE

Before embarking on a holiday where your camera will be your constant companion or, in fact, any other reason for the camera being required on an important assignment, make a few trial exposures. It is advisable to test the camera at least four weeks prior to your departure to give time for a test film to be exposed and processed. Many spoiled holiday records would have been avoided if this precaution had been taken.

4. DUSTY CONDITIONS

When your camera is used on the beach, or other conditions where dust or sand can easily infiltrate the mechanism, take the precaution of putting the instrument with its case into a polyethylene bag or other container so that flying dust or sand are prevented from entering the camera. This applies particularly, of course, if it is laid down on a sandy beach. Furthermore, avoid leaving the camera in such a position that direct sunlight is allowed to fall upon it for a long length of time.

5. LOOSE PIECES OF FILM

This nuisance is often the cause of trouble with a camera. Small chips of film can easily damage the mechanism. Therefore, check your camera every time it is loaded. Always make sure it is free from small pieces of film.

6. TREATING YOUR CAMERA TENDERLY

Your camera is a fine, precision instrument. It has been produced with great care and attention to detail. Do not allow it to be swung by its shoulder strap, thrown into the back of a car, or in any other way treated as if it were as robust as a battleship. If you protect the camera against possible damage due to a knock, you will be amply repaid by years of excellent and trouble-free service.

Interchangeable Lenses

The Asahi Pentax offers many interchangeable lenses in a wide variety of focal lengths, all of which are highly respected by both professional and amateur photographers for their fine resolution. The photographic coverage of the various Takumar lenses is illustrated on page 25. With focal length longer than 55mm, the subject image is seen through the viewfinder larger than its life size.

Regardless of the lens selected for your Asahi Pentax, there is never need for an accessory viewfinder, ordinarily required for rangefinder type cameras.

When interchanging lenses, hold the lens by the distance scale ring. When attaching a lens, filter, or lenshood, do not screw it too tightly, as you may find it difficult to remove.

Fixed Focusing Setting

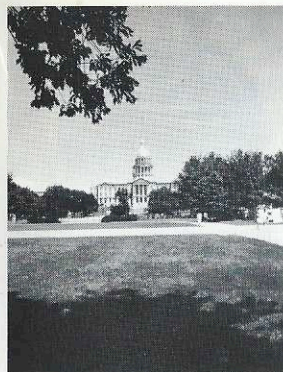
Because of the considerable depth of field of wide-angle lenses, you can use them as fixed focus lens if the diaphragm and distance scales are set properly. For your convenience, the Super-Takumar and SMC Takumar lenses shown on pages 26 and 27

(marked with *) have a fixed focus mark. Just align with the index the orange-coloured figures of the diaphragm and distance scales, and the lens will be in fixed focus from foreground to infinity. You'll find this extremely convenient for fast shooting.

Super-Multi-Coated (SMC) Takumars

Pentax SMC Takumar lenses are the world's first 7-layer multi-coated lenses. A truly remarkable optical achievement. Conventional lenses have only 1-3 layer coatings. The additional coating of SMC Takumar lenses let in more lighting resulting in truer colours. Reflection is reduced to 0.2% allowing the remaining 99.8% of light to pass through. This means higher light transmission, and the brightest lens possible. Colours pass through with equal in-

tensity so colour balance is strikingly improved. Brighter blues. Vibrant reds. Truer yellows. SMC Takumar lenses make it possible. And, no ghosts or flares even when shooting against the sun. Ultra violet light is reflected off the glass surface. So, only true colours are absorbed. Undesired rays are kept out. SMC Takumar lenses are for people interested in the ultimate in photographic lenses.



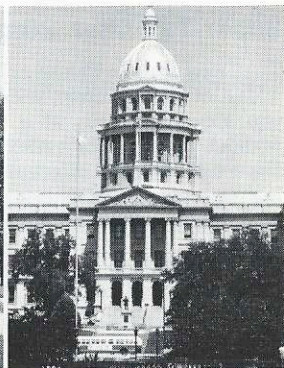
28mm



50~55mm



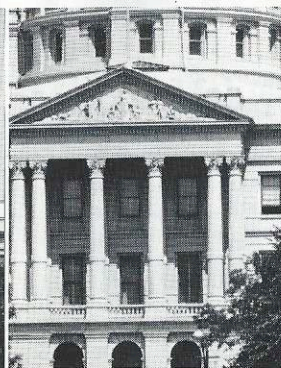
85mm



135mm



200mm



400mm



1000mm

DIFFERENCE OF ANGLE OF TAKUMAR LENSES

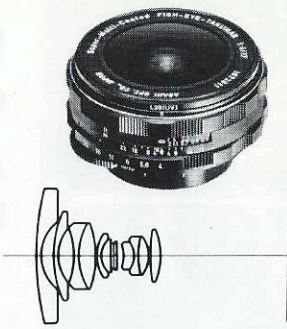
All photographs were taken from the same location and distance from the subject.

X Zeiss 29mm

Super-Takumar Fish-Eye 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.

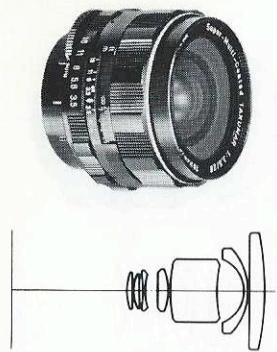
Lens element 11 (including 3 filters)
 Minimum aperture f/22
 Minimum distance 0.66 ft. (0.2 m)
 Angle of view 180° (diagonal)
 Weight 7.98 ozs. (228 gr.)



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 you professionals and advanced amateurs need to shoot more artistic photographs. Equipped with fully automatic diaphragm; ideal for architecture, fast-action and *artistic* photography.

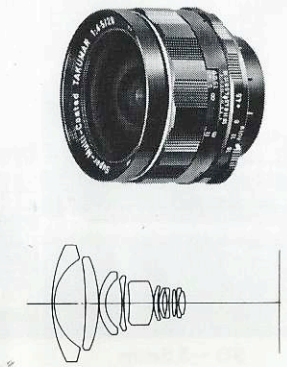
Lens element 7
 Minimum aperture f/16
 Minimum distance 1.3 ft. (40 cm)
 Angle of view 75°
 Weight 7.6 ozs. (218 gr.)



Super-Takumar 20mm f/4.5 *

The new Super-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.

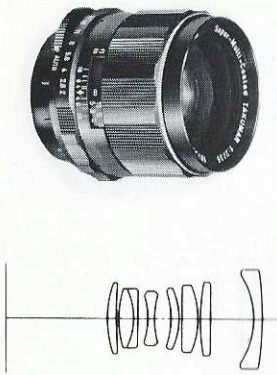
Lens element 11
 Minimum aperture f/16
 Minimum distance 0.65 ft. (0.2 m)
 Angle of view 94°
 Weight 8.79 ozs. (251 gr.)



Super-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.

Lens element 8
 Minimum aperture f/16
 Minimum distance 1.25 ft. (0.4 m)
 Angle of view 62°
 Weight 8.53 ozs. (242 gr.)



Super-Takumar 24mm f/3.5 *

The new Super-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.

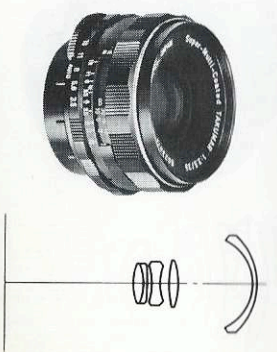
Lens element 9
 Minimum aperture f/16
 Minimum distance 0.8 ft. (0.25 m)
 Angle of view 84°
 Weight 8.71 ozs. (247 gr.)



SMC Takumar 35mm f/3.5 *

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

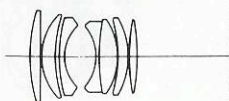
Lens element 5
 Minimum aperture f/16
 Minimum distance 1.5 ft. (45 cm)
 Angle of view 62°
 Weight 5.4 ozs. (152 gr.)



SMC Takumar 50mm f/1.4

Newest high-speed 7-element standard lens for Spotmatic II. 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-around lens for colour photography.

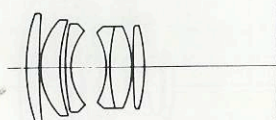
Lens element 7
 Minimum aperture f/16
 Minimum distance 1.5 ft. (45 cm)
 Angle of view 46°
 Weight 8.1 ozs. (230 gr.)



SMC Takumar 55mm f/1.8

Also super-multi-coated standard lens for Spotmatic II, it reduces flare and boosts contrast to a degree far beyond what was previously possible in optical technology. You can get pictures with more detail and richer colours than is possible with any other system at any price. It also features a tougher coating which means the super-multi-coated lenses are more scratch-resistant and durable.

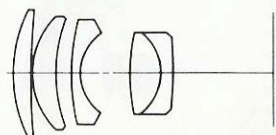
Lens element 6
 Minimum aperture f/16
 Minimum distance 1.5 ft. (45 cm)
 Angle of view 43°
 Weight 7.5 ozs. (215 gr.)



SMC Takumar 85mm f/1.9

A new, ultra-fast 5-element lens which produces an image slightly larger than the standard lens. Perfect for available light portraiture, nature studies, and sport coverage. Used as a standard, general purpose lens by many photographers. Equipped with fully automatic diaphragm; supplied with special lenshood.

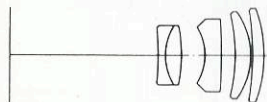
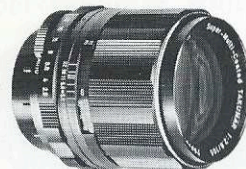
Lens element 5
 Minimum aperture f/16
 Minimum distance 2.75 ft. (85 cm)
 Angle of view 28°
 Weight 12.3 ozs. (350 gr.)



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 and other moderate telephoto effects. Equipped with fully automatic diaphragm; supplied with special lenshood.

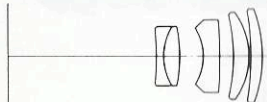
Lens element 5
 Minimum aperture f/22
 Minimum distance 4 ft. (1.2 m)
 Angle of view 23°
 Weight 10.2 ozs. (290 gr.)



SMC Takumar 120mm f/2.8

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

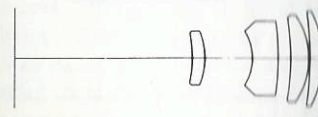
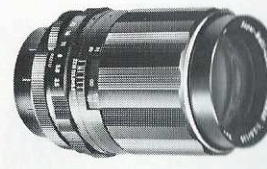
Lens element 5 in 4 groups
 Minimum aperture f/22
 Minimum distance 4 ft. (1.2m)
 Angle of view 20°
 Weight 11.9 ozs. (340 gr.)



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.

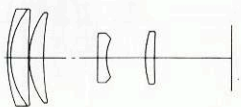
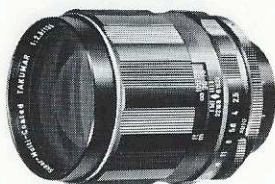
Lens element 4
 Minimum aperture f/22
 Minimum distance 5 ft. (1.5 m)
 Angle of view 18°
 Weight 12.1 ozs. (343 gr.)



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.

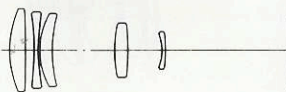
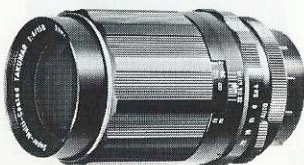
Lens element 5
 Minimum aperture f/22
 Minimum distance 5 ft. (1.5 m)
 Angle of view 18°
 Weight 15.5 ozs. (444 gr.)



SMC Takumar 150mm f/4

This new fully automatic 150mm SMC 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 135mm and 200mm lenses. So compact, so light-weight, it looks like a 135mm lens, yet it is only 7mm longer. New-type, all-purpose telephoto lens... for telephoto snaps, sceneries, sports, news events, stage photographs, nature life, etc.

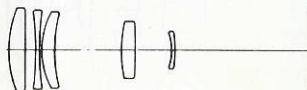
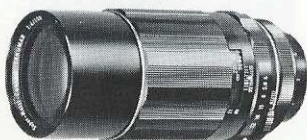
Lens element 5
 Minimum aperture f/22
 Minimum distance 6 ft. (1.8 m)
 Angle of view 16.5°
 Weight 11.3 ozs. (324 gr.)



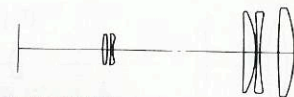
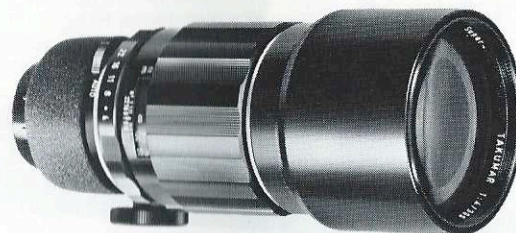
SMC Takumar 200mm f/4

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

Lens element 5
 Minimum aperture f/22
 Minimum distance 8.2 ft. (2.5 m)
 Angle of view 12.5°
 Weight 19.3 ozs. (550 gr.)



Super-Takumar 300mm f/4

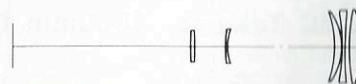


Light enough for hand-held picture taking, this lens is the most ideal for spectacular telephotographic effects. Even with the diaphragm fully open, the aberrations are corrected to the greatest extent possible. Gives needle-sharp resolution to every corner of the picture. Equipped with fully automatic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

with special lenshood.

Lens element 5
 Minimum aperture f/22
 Minimum distance 18 ft. (5.5 m)
 Angle of view 8°
 Weight 33.1 ozs. (946 gr.)

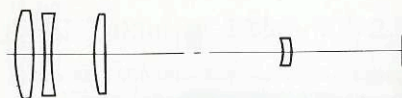
SMC Takumar 400mm f/5.6



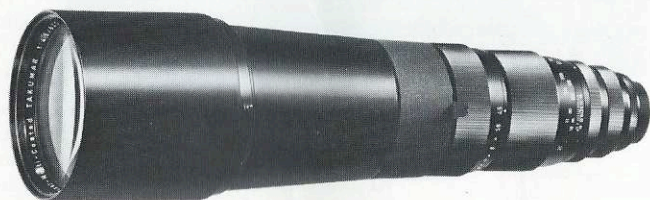
Especially designed for those professionals who specialize in outdoor sports, news and nature-life photography. Because of its f/5.6 aperture, this tele-lens is extremely compact and light for its focal length of 400mm. Also because of its portability, it can be easily hand-held for fast and successive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

stop manual diaphragm; supplied with special lenshood.

Lens element 5
 Minimum aperture f/45
 Minimum distance 27 ft. (8 m)
 Angle of view 6°
 Weight 45 ozs. (1300 gr.)



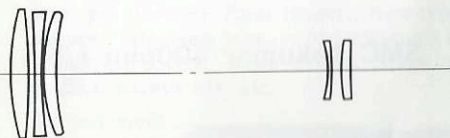
SMC Takumar 500mm f/4.5



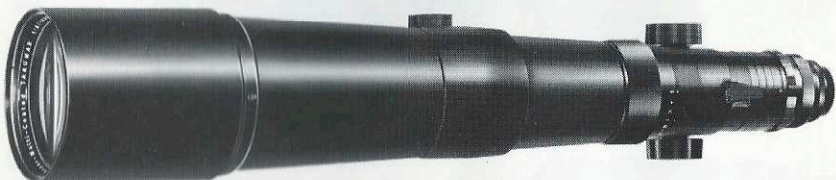
Comparatively light and small for its performance, this powerful long-focus lens brings the inaccessible within reach. Its bright f/4.5 image simplifies composition and focusing, and it produces edge-to-edge coverage of high resolution. Equipped with manual diaphragm; supplied with

special lenshood.

Lens element	4
Minimum aperture	f/4.5
Minimum distance	32.8 ft. (10 m)
Angle of view	5°
Weight	122.5 ozs. (3500 gr.)



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

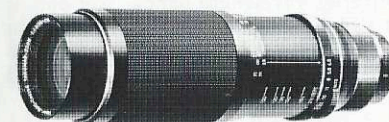
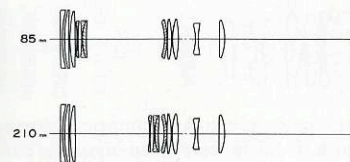
wooden tripod and in wooden cases.

Lens element	5
Minimum aperture	f/4.5
Minimum distance	98 ft. (30 m)
Angle of view	2.5°
Weight of lens	192.5 ozs. (5.5 kg.)
Weight of tripod	26 lbs. (11.8 kg.)

SMC Takumar-Zoom 85mm~210mm f/4.5

With the new SMC Takumar-Zoom 85~210mm 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.

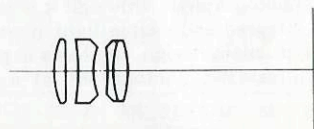
Lens element	11
Minimum aperture	f/22
Minimum distance	11.5 ft. (3.5m)
	6.24 ft. (1.9m) with attachment
Angle of view	28° 5'~11° 5'
Weight	24.86 ozs. (705 gr.)



SMC Macro-Takumar 50mm f/4

The new SMC Macro-Takumar 50mm 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 applying the Auto Extension Tubes, you can shoot from life size to infinity. The automatic diaphragm enables you to shoot such difficult subjects as moving insects, while holding your camera and looking through the viewfinder.

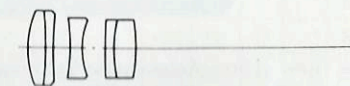
Lens element	4
Minimum aperture	f/22
Minimum distance	0.77 ft. (0.234 m)
Angle of view	46°
Weight	8.74 ozs. (248 gr.)



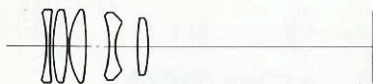
SMC Bellows-Takumar 100mm f/4

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

Lens element	5
Minimum aperture	f/22
Angle of view	24°
Weight	4.9 ozs. (139 gr.)



Ultra-Achromatic-Takumar 85mm f/4.5



The new Ultra-Achromatic-Takumar 85mm 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 it gives unmatched optical performance in ultraviolet and infrared photography.

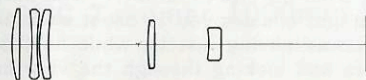
The lens uses no glass; it uses fluorite and quartz. This unique lens answers some of the optical quality and performance problems in ultraviolet and infrared photography. Although it is superb for infrared and visible light photography, its main design emphasis is placed on ultraviolet photography at a close



distance. It is corrected against chromatic aberration from 220m μ to 1000m μ , and photographic tests without filters show good results within these wavelength bands.

Lens element 5
 Minimum aperture f/22
 Minimum distance 2 ft. (0.6m)
 Angle of view 29°
 Weight 8.7 ozs. (248 gr.)

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 400m μ up to 850m μ . The visible portion of the spectrum extends from 400m μ to 700m μ . This lens is excellent for telephotography in the visible and infrared portion of the spectrum.

The use of fluorite elements allow a design that is very compact for its focal length and sharp in contrast and definition.

Lens element 5
 Minimum aperture f/22
 Minimum distance 16 ft. (4.85m)
 Angle of view 8°
 Weight 29 ozs. (825 gr.)

Complete System of Superb Takumar Lenses

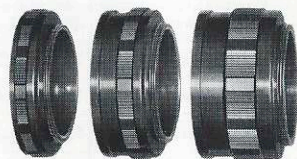
NAME OF LENSES	FOCAL LENGTH & MAXIMUM APERTURE	MINIMUM APERTURE	LENS ELEMENT	DIAPHRAGM	MINIMUM FOCUSING DISTANCE		ANGLE OF VIEW	WEIGHT		FILTER SIZE	LENSHOOD SIZE	LENS CAP SIZE
					m.	ft.		degrees	gr.			
Super-Takumar Fish-Eye	17mm f/4	22	11	FA	0.2	0.66	180 [Ⓧ]	228	7.98	BI	—	60
Super-Takumar	20mm f/4.5	16	11	FA	0.2	0.65	94	251	8.79	77	58*	60
Super-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
Super-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	230	8.1	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 [Ⓡ]	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	215	7.5	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/1.9	16	5	FA	0.85	2.75	28	350	12.3	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
Super-Takumar	300mm f/4	22	5	FA	5.5	18	8	946	33.1	77	*	85
SMC Takumar	400mm f/5.6	45	5	M	8	27	6	1300	45	77	*	85
SMC Takumar	500mm f/4.5	45	4	M	10	32.8	5	3500	122.5	49	*	127
SMC Takumar	1000mm f/8 [Ⓡ]	45	5	M	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	60
UA Takumar	300mm f/5.6	22	5	FA	4.85	16	8	825	29.1	58	*	68

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. [Ⓧ]=Diagonal coverage. [Ⓡ]=Supplied only with SP 500 body as its standard lens. [Ⓢ]=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)

Complete System of Asahi Pentax Accessories for Close-Ups, Macrophotography, Photomicrography, and other Miscellaneous Accessories

● 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 Super-Takumar 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 (#1), 19mm (#2) and 28.5mm (#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 1.17x to 0.17 and operation of the automatic diaphragm.



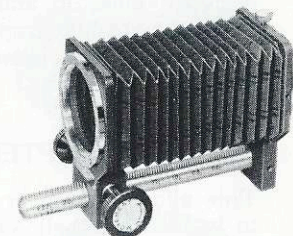
● HELICOID EXTENSION TUBE

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 0.30x to 0.7x. It is extremely versatile variable extension ring.



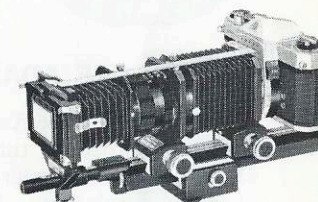
● BELLOWS UNIT I

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 continuous magnification from 0.62 to 2.45 with the standard 55mm lens.

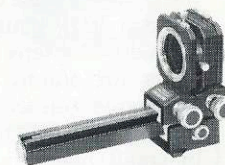
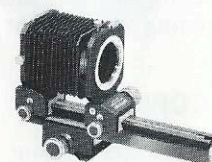


● AUTO BELLOWS & SLIDE COPIER

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 color films.



With the Bellows-Takumar 100mm f/4 lens, you can photograph from 1.32x magnification to infinity (∞). You 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 10x to 20x 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.

● REVERSE ADAPTER

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

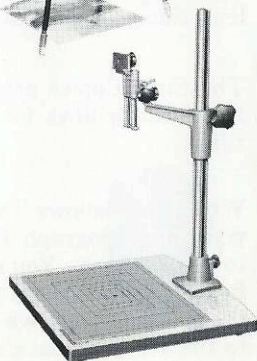
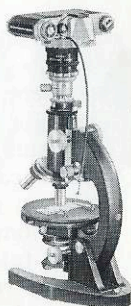
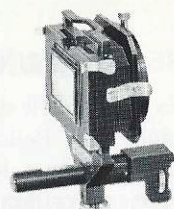
● MICROSCOPE ADAPTER

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.

● COIPOD

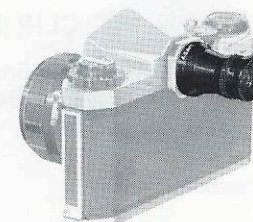
Light-weight, but extremely rigid and sturdy. This portable copying stand fits all models of the Asahi Pentax and can be used anywhere for copying documents, artwork, stamps, etc. Consists of a lens board complete with adapter rings for 46mm and 49mm lenses, and four calibrated telescoping legs. Sets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

● COPY STAND



● 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 2x.



● 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.



● RIGHT ANGLE FINDER

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



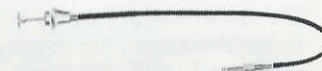
● MIRROR ADAPTER

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, Super-Takumar or 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.



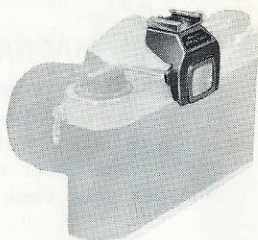
● FILTERS AND LENSHOODS

Asahi Pentax lenshoods are recommended for use whenever possible to guard against off-angle light which will cause flare in your pictures. (All Takumar lenses from 85mm up to 1000mm are supplied with a special lenshood.) Improve your picture quality by using the Asahi Pentax filters that are precision-ground, polished and coated for your Asahi Pentax.



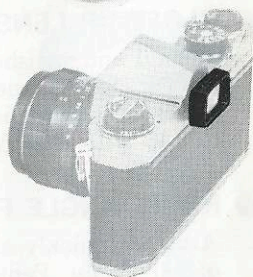
● ACCESSORY CLIP II

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



● CORRECTION LENS ADAPTER

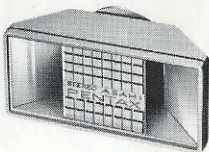
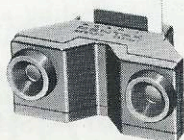
A clip-on eyepiece for prescription lens (*eyepiece only*). Also a convenient eye-cup for everyday photography.



● 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 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 valuable accessory for making stereo pictures of "ikebana," hair dressing, architecture, sculpture, etc.



● FILM MAGAZINE

For bulk film loading.

● SHORT SOFT CASE

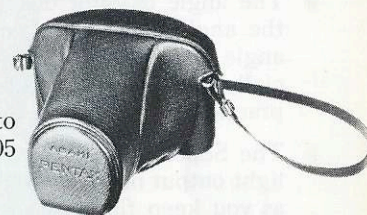
Especially designed soft case without a nose for the lens. This allows you to take pictures with the camera in the case for quieter operation.

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, 105 mm or 85mm telephoto lens.



● 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.



● 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.



● ASAHI MOUNT ADAPTER

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



● MISCELLANEOUS CAPS

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



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.)



Spotmeter III



Selective exposure photography ... the most advanced concept in reflected light meters. The Spotmeter III utilizes an optical reflect system which gives a 21° angle of view on the ground glass screen. In the centre of this viewing screen is a 1° circle which represents the angle covered by the meter's CdS sensing element. For this reason, it is extremely selective, permitting precise exposure reading at longer distances, and gives greater control over exposure problems. Light intensity is read directly from engraved scales on the viewing lens. For dark area reading, a scale illuminator glows when the button is depressed. Exposure is calculated easily by turning movable scales on the side of the meter. The Spotmeter III is also equipped with an IRE (Institute of Radio Engineers) scale, which is especially useful for television filming and other special readings.

ASAHI PENTAX Prism Binoculars

The unique coated interference filter of the Asahi Pentax prism binoculars, another achievement of the Asahi Pentax engineering, eliminates ultraviolet and infrared rays which may be harmful to the eyes.



	Magnification	Diameter of Objective Lens	Diameter of Exit Pupil	Angle of View	Relative Brightness	Field of View at 1000 yds	Weight	Height and Width
	6×, 15	15mm	2.5mm	7.5°	6	120m	6.0 oz. (170 g)	2½½" × 3¼" (6.4 cm × 9.1 cm)
	6×, 25 (Wide Angle)	25mm	4.2mm	11.0°	17	176m	16.2 oz. (459 g)	2¾" × 4¼" (6.7 cm × 11.1 cm)
	6×, 30	30mm	5.0mm	7.5°	25	120m	18.3 oz. (519 g)	4¾" × 6¾" (11.8 cm × 16.9 cm)
	8×, 30	30mm	3.7mm	7.5°	14	120m	18.3 oz. (519 g)	4¾" × 6¾" (11.1 cm × 16.9 cm)
	8×, 40 (Wide Angle)	40mm	5.0mm	9.5°	25	150m	28.3 oz. (802 g)	5¾" × 7½" (14.4 cm × 18.2 cm)
	7×, 35	35mm	5.0mm	7.0° (B.L.) 6.5°	25	112m	24.3 oz. (689 g)	5½" × 6¾" (13.0 cm × 17.1 cm)
	7×, 35 (Wide Angle)	35mm	5.0mm	11.0°	25	176m	28.3 oz. (802 g)	4¼" × 7½" (12.4 cm × 18.2 cm)
	7×, 50	50mm	7.1mm	7.1°	51	113m	38.8 oz. (1100 g)	7" × 8" (17.8 cm × 22.0 cm)
	10×, 50	50mm	5.0mm	5.5°	25	88m	35.8 oz. (1015 g)	6½" × 8" (17.3 cm × 22.0 cm)
	12×, 50	50mm	4.2mm	5.5°	17	88m	35.8 oz. (1015 g)	6½" × 8" (17.3 cm × 22.0 cm)
	16×, 50	50mm	3.1mm	4.0°	10	64m	35.8 oz. (1015 g)	6½" × 8" (17.3 cm × 22.0 cm)

ASAHI PENTAX Telescopes

The superb Asahi Pentax telescopes, also designed and produced by the Asahi Pentax engineering group, are available in the following sizes:

30X, 40mm telescope, in white or black finish, with tripod. 50X, 50mm telescope, in grey finish, with sun glass and tripod. 60mm astronomical telescope with micro-moving attachment, 4X finder, 4 eyepieces (6mm, 9mm, 12.5mm and 20mm), erecting and diagonal prisms, sun glass, wooden tripod and carrying case.



GUIDE BOOK FOR ASAHI PENTAX SYSTEM OF PHOTOGRAPHY

The operating manual for the Asahi Pentax cameras is merely an instruction book for the proper care and operation of the Asahi Pentax cameras. It does not, and can not, deal fully with every possible application of the Asahi Pentax System of Photography because those applications are almost limitless.

The following book is therefore recommended to those amateurs who are eager to learn more about the Asahi Pentax System of Photography and photographic technique in general. It is available in English, German and Italian languages, and each can be obtained from your photo dealers or directly from the publishers listed on the next page.

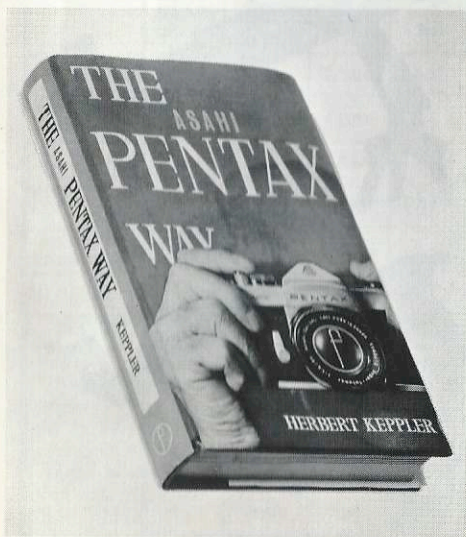
THE ASAHI PENTAX WAY by Herbert Keppler

Herbert Keppler has been associated with the U.S. photographic magazine *Modern Photography* for over 15 years as its editor and publisher. His column devoted exclusively to single-lens reflex cameras and photography is very famous throughout the world. He is well known for his objective outlook on all things photographic and for his healthy mistrust of any theory

that he has not tried out in practice. He has no interest in pushing the products of any particular manufacturer and brings to the Asahi Pentax Way a knowledgeable, independent and unprejudiced outlook.

This comprehensive book of 352 pages, containing 8 full-colour and 48 black-and-white picture pages, deals mainly with the following subjects:

OPERATION AND TECHNIQUE:
action, aperture, artificial light, camera care, carrying, choosing



films, close-ups, copying, depth of field, developers, exposure, exposure meter, films, film speed, filters, flash, focal length, focusing, holding, lighting, loading, long-range work, monocular, multiple flash, perspective, printing, shooting, slide projection, Spotmatic operation, storing negatives, telescope, tripod, unloading, viewing.

ACCESSORIES: accessory clip, bellows unit, body cover, cable release, cassettes, close-up lenses, copying unit, exposure meters, extension tubes, focusing magnifier, Leica adapter, lens cap, lenses, microscope adapter, prescription eyepiece, right-angle finder, slide copier, SPOT exposure meter.

ASAHI PENTAX SUBJECTS: animals, architecture, birds, candid, cinema, fireworks, flowers, groups, lights, low light, nature, night, portraits, scenics, sport, television, theatre, travel, under water, wildlife.

FINDING DATA: close-up exposure, colour temperature, depth of field, extension bellows, extension tubes, feet-metre conversion, films, film speed conversion, filters, filter equivalents, filters for colour film flash.

English edition:

Focal Press Ltd.
31 Fitzroy Square,
London, W1, U.K.

German edition:

Verlag Die Schonen Bucher
Dr. Wolf Strache,
7000 Stuttgart 1,
Postfach 1124,
WEST GERMANY

Italian edition:

Fotografare
Via Macalle 2,
Rome 00199, ITALY

Spanish edition:

Ediciones Omega, S.A.
Casanova, 220-Barcelona
SPAIN

ARRANTY POLICY

All Asahi Pentax cameras purchased through authorized bona fide photographic distribution channels are guaranteed against defects of material or workmanship for a period of twelve months from date of purchase. Service will be rendered and defective parts will be replaced without cost to you within that period, provided the equipment has not been abused, altered, or operated contrary to instructions. Because the tolerances, quality, and design compatibility of lenses other than Pentax-Takumar lenses are beyond our control, damage caused by use of such lenses will not be covered by this warranty policy. The manufacturer or its authorized representatives shall not be liable for any repair or alterations except those made with its written consent and shall not be liable for damages from delay or loss of use or from other indirect or consequential damages of any kind, whether caused by defective material or workmanship or otherwise; and it is expressly agreed that the liability of the manufacturer or its representatives under all guarantees or warranties, whether expressed or implied, is strictly limited to the replacement of parts as hereinbefore provided.

PROCEDURE DURING 12-MONTH WARRANTY PERIOD

Any Asahi Pentax which proves defective during the 12-month warranty period should be returned to the dealer from whom you purchased the equipment or to the manufacturer. If there is no representative of the manufacturer in your country, send the equipment to the manufacturer, with postage prepaid. In this case, it will take a considerable length of time before the equipment can be returned to you owing to the complicated customs procedures required in Japan in importing and re-exporting photographic equipment. If the equipment is covered by warranty, repairs will be made and parts replaced free of charge, and the equipment will be returned to you upon completion of servicing. If the equipment is not covered by warranty, regular charges of the manufacturer or of its representatives will apply. Shipping charges are to be borne by the owner. If your Asahi Pentax was purchased outside of the country where you wish to have it serviced during the warranty period, regular handling and servicing fees may be charged by the manufacturer's representatives in that country. Notwithstanding this, your Asahi Pentax returned to the manufacturer will be serviced free of charge according to this procedure and warranty policy. In any case, however, shipping charges and customs clearance fees are to be borne by the sender. To prove the date of your purchase when required, please keep the receipts or bills covering the purchase of your equipment for at least a year. Before sending your equipment for servicing, please make sure that you are sending it to the manufacturer's authorized representatives or their accredited repair shops, unless you are sending it directly to the manufacturer. Always obtain a quotation of the service charge, and only after you accept the quoted service charge, instruct the service station to proceed with the servicing required, or send the equipment for servicing, if not yet delivered.



All models, prices and specifications are subject to change without notice.

CAUTION

Mercury Battery

The mercury battery should be kept dry and clean. Don't touch it with your finger unnecessarily. Before inserting it into its housing, wipe its surface completely with a dry piece of cloth. To prevent rapid deterioration, don't try to measure the short current or to charge the battery. Don't throw a used battery into fire ... it may explode. If a mercury battery is put into a mouth, it causes serious gripes or stomach inflammation. Always keep the battery from the reach of small children. When you do not intend to use the battery for sometime, keep it out of its housing.

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