HONEYWELL PENTAX ES

OPERATING MANUAL

INDEX

HONEYWELL PENTAX ES

Your Honeywell Pentax ES is the most exciting 35mm SLR camera on the market today. It comes equipped with a through-the-lens metering system with focal-plane electronic shutter for automatic exposure control. The fully automatic electronic shutter operates just like an electronic computer assuring you of perfect exposures everytime. The new electronic shutter lets you shoot automatically at any speed between 1/1000 and 8 seconds! If the exact shutter speed should be 1/459, 1/733 or 1/952 seconds, then that's the shutter speed that will be automatically selected. The patented memory device and electronic shutter make it possible. There's also an exposure control dial for intentional over- or under-exposures.

The Pentax ES is the only automatic single-lens reflex camera that works automatically without special lenses. It operates automatically with virtually all Takumar lenses, as well as bellows, extension tubes, and other close-up accessories. The reason is, unlike other cameras, the automation is incorporated into the body itself, not into the lens. Your Pentax ES is equipped with a Super-Multi-Coated Takumar lens. Exclusively developed by Pentax, Super-Multi-Coated Takumar lenses reduce flare and boost contrast to a degree far beyond what was previously possible in optical technology. Your pictures will have more detail and richer colors than is possible with any other system at any price.

In addition to the exclusive new features of the Pentax ES, you'll find many of the refinements that have established Pentax as the leading fine camera maker in the world. The ES retains the same traditional compactness and classic feel. It also is designed for use with the accessories from the Pentax system, including all the superb Takumar lenses ranging from dynamic wide-angle to powerful telephoto. The Pentax system is ready to grow with you.

The Pentax ES is an excellent choice in a fine camera. We wish you exciting photography in the years to come.

NOMENCLATURE

X contact hot shoe

Shutter speed index

Rapid wind lever

Shutter speed dial

Shutter release button

Exposure counter

"Cocked" indicator

D-ring lug

D-ring

Diaphragm and distance index

Depth-of-field guide

Distance scale

Battery housing

Focusing ring

Battery check button

Exposure factor control dial

Film rewind knob/Back cover opener

Film rewind crank

ASA speed indicator

Reminder dial selector

Film type reminder dial

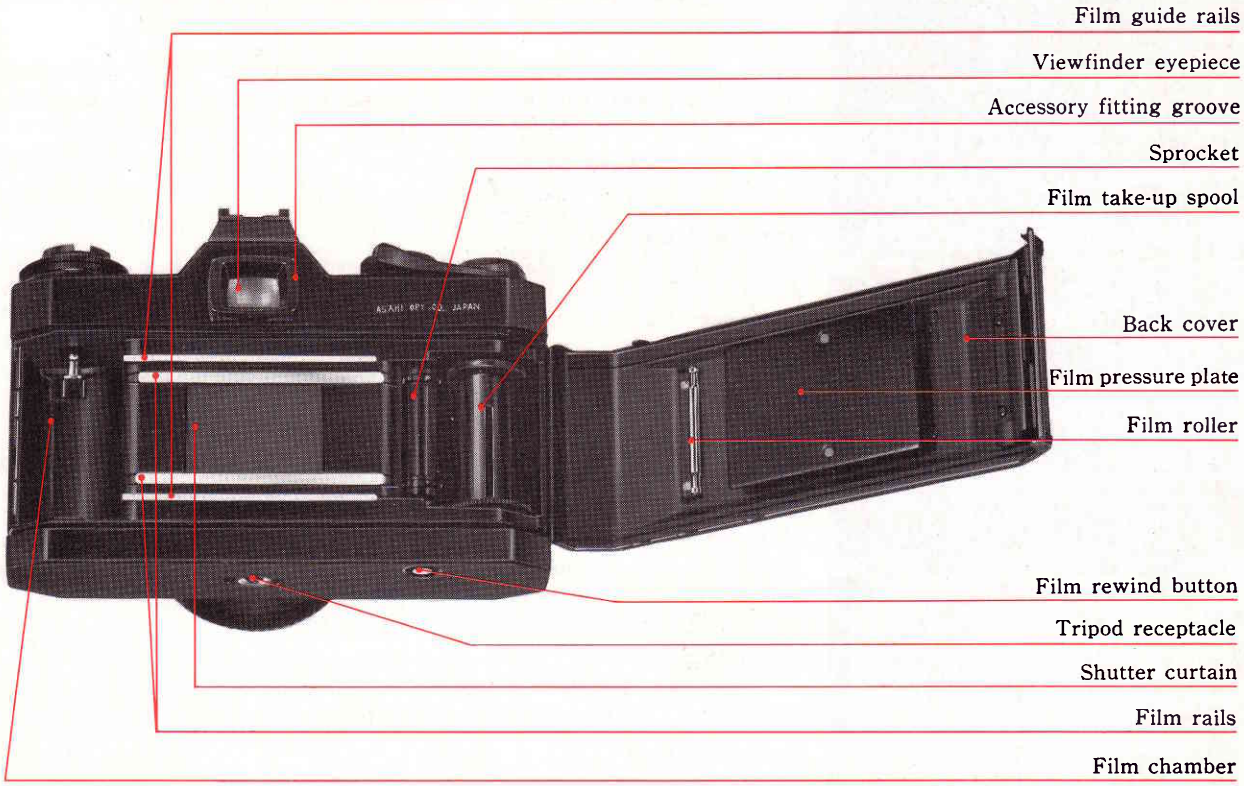
Stop-down lever

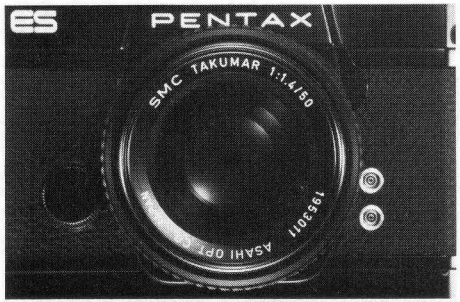
FP flash terminal

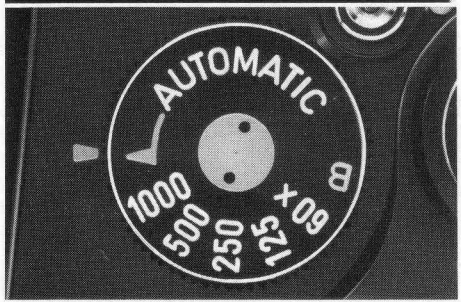
X flash terminal

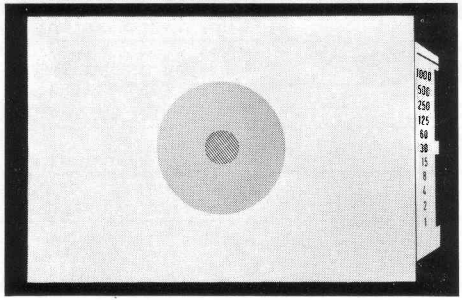
Diaphragm ring

Depth-of-field preview lever *(stays fixed except when the lens is mounted on a Pentax body other than the ES)*









SPECIFICATIONS

Type

35mm through-the-lens metering single-lens reflex camera with focal-plane electronic shutter for automatic exposure control.

Film and Picture Size

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

Standard Lenses

Super-Multi-Coatad Takumar 50mm f/1.4 and 55mm f/1.8 with fully automatic diaphragm. 7 elements in 6 groups. Distance scale: 1.5 feet (0.45m) to infinity. Filter size: 49mm. With depth-of-field scale.

Shutters

Through-the-lens metering electronic shutter for automatic exposure control + mechanical shutter for manual speed selection. Horizontal run focal plane shutter.

Electronic shutter speeds: Unlimited variation between 8 and 1/1000 sec.

Mechanical shutter: B, 1/60 (X), 1/125, 1/250, 1/500 & 1/1000 sec.

Viewfinder

Eye-level pentaprism finder with Fresnel lens + microprism. 0.89× magnification with 50mm lens. −1.0 dioptry. Shutter speed calibration, through-the-lens meter needle and battery "check" mark in the viewfinder screen.

Focusing

Turn the distance scale ring until the subject image in the viewfinder comes into sharp focus. Minimum focusing distance: 1.5 feet (0.45m).

Reflex Mirror

Instant return type.

Film Advance

Ratchet type rapid wind lever. 10° pre-advance and 160° advance angle.

Film Rewind
Rapid rewind crank. Film rewind button on base of camera body releases film from take-up spool for rewind.

Film Exposure Counter
Automatic re-set type.

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.

Lens Mount
42mm thread (Pentax-mount).

Flash Synchronization
FP + X contacts for conventional flash cord connection. X contact on hot shoe for convenient cordless flash connection.

Exposure Meter
CdS-activated through-the-lens meter for open-diaphragm and stop-down reading. Light measurement range: EV1 – 18 with ASA 100 film. ASA speed scale: 20 – 1600.

Exposure Factor Control Dial
1× for normal exposure. 2×, 4×, 1/2× for intentional over- or under-exposure.

Battery
6V silver battery (Eveready #544).

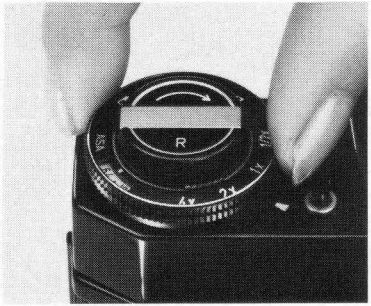
Film Type Indicator
(black & white), (color daylight), (color tungsten) and EMP. (empty).

Dimension
Width 5.6″ (143mm) × height 3.86″ (98mm) × thickness 3.6″ (91mm).

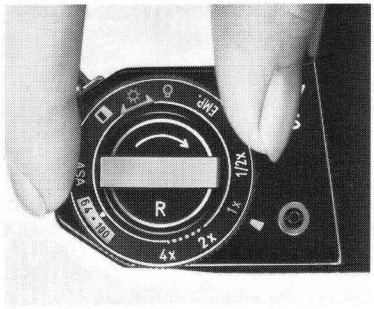
Weight
2 lb. 1 oz. (940 gr.)

HOW IT WORKS

A silver battery is packed separately. Be sure to insert it into the battery housing before operating the camera. For insertion, refer to page 19.

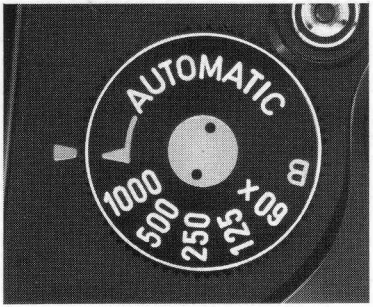


1. Load your film and set ASA film speed.

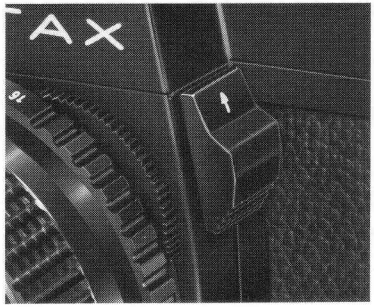


2. Keep this at "1x" for normal exposure.

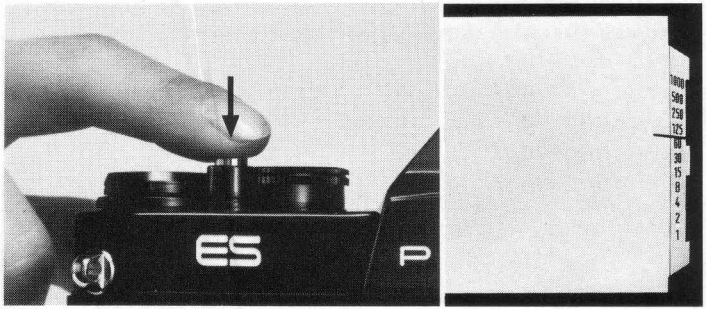
3. Pre-select f/stop.



4. Set shutter speed dial at "AUTOMATIC".



5. Keep this lever down for open-aperture exposure reading. (Lens aperture stays fully open, and stops down to pre-selected f/stop as you depress shutter release.) Move it up for depth-of-field preview or for stop-down exposure reading. (Lens aperture actually stops down to pre-selected f/stop.)



6. Through-the-lens meter reading. Softly depress shutter button. Electric circuit is now switched on. Meter needle starts moving and indicates correct shutter speed.

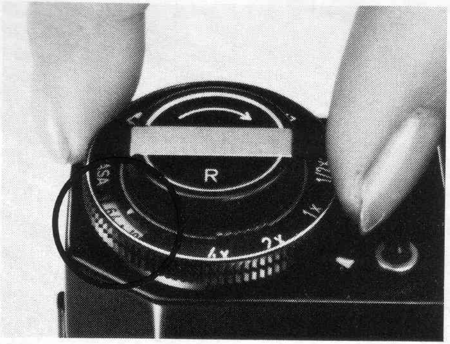
7. Electronic memory device stores exposure reading information, whether through open-aperture or stopped-down aperture.

8. Depress shutter release button completely.

9. Memory device automatically releases electronic shutter.

CORRECT EXPOSURE

SETTING ASA FILM SPEED



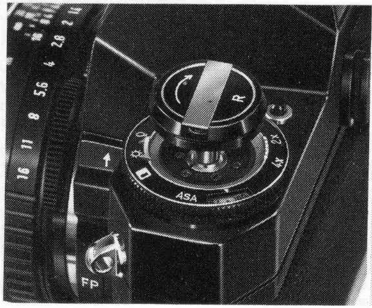
The ASA film speed is given in the data sheet packed with each roll of film. The higher the ASA number, the more sensitive the film.

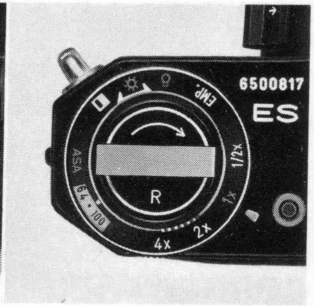
Lift the outer ring of the exposure factor control dial, and turn it until the same number as the ASA number of the loaded film appears in the ASA speed indicator window.

ASA	1600	1250	1000	800	640	500	400	320	250	200	160	125	100	80	64	50	40	32	25	20
DIN	33			30			27			24			21			18			15	

FILM TYPE REMINDER DIAL

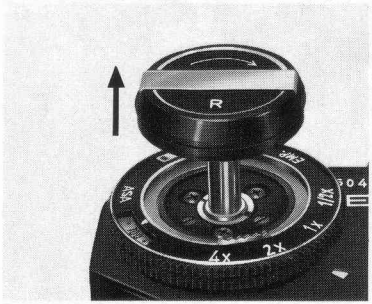
Use this dial as a reminder of the type of film loaded. To set the dial, pull out the rewind knob softly, and move the selector to ☼ for daylight type color film, 💡 for tungsten type color film, ▭ for black-and-white and **EMP**. when the film is not loaded.



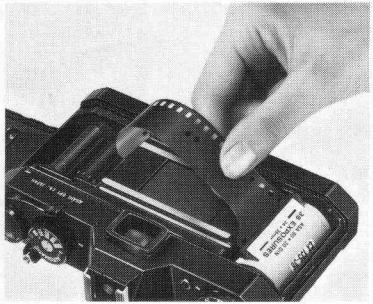


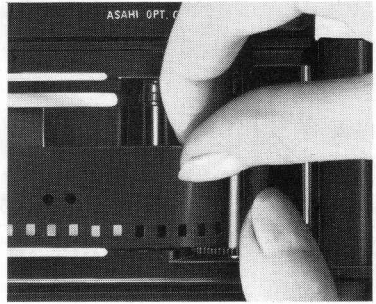
FILM LOADING AND WINDING

Avoid direct light when loading your film.

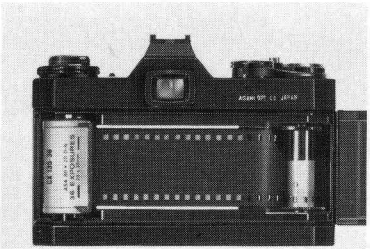


1. Open the back by pulling out the rewind knob until the back cover snaps open.

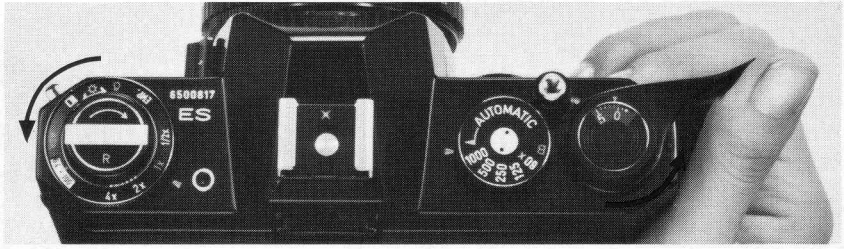




2. Place the film cassette properly into the cassette chamber, and push down the rewind knob. Insert the film leader into the slot of the take-up spool.



3. Advance the film by alternately turning the rapid wind lever and depressing the shutter button until both sprockets engage the film perforations properly. Close the back by pressing it firmly. Take up slack in the cassette by gently turning the rewind knob clockwise.



4. Cock the rapid wind lever, and watch to see that the film rewind knob automatically turns counter-clockwise, indicating that the film is properly loaded and is moving from cassette to take-up spool. Trip the shutter.

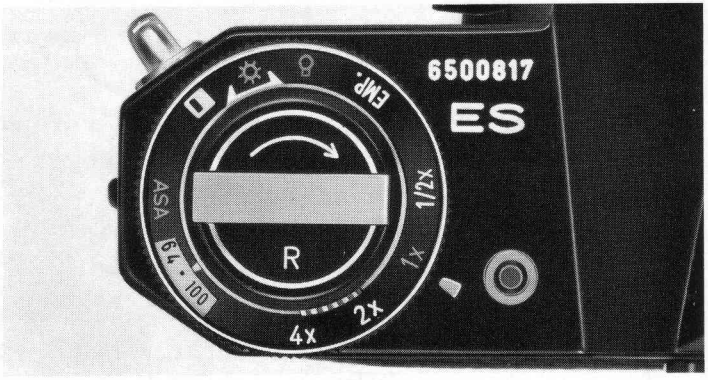
5. The first portions of the film cannot be used for picture taking as they have already been exposed to light. Generally, two or three blank exposures should be made before taking your first picture. Therefore, advance the film until the exposure counter turns to "1", indicating that the first picture is ready to be taken.

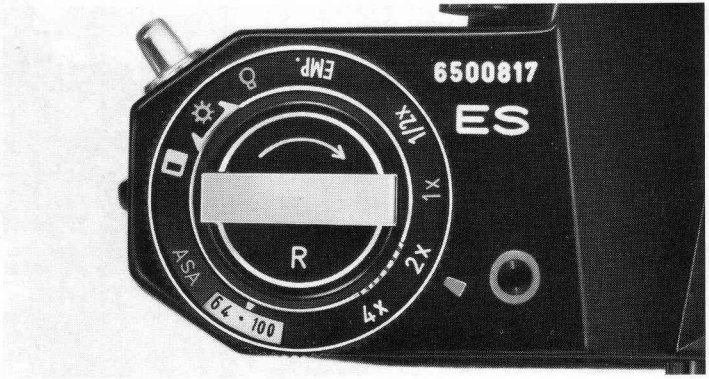
EXPOSURE FACTOR CONTROL DIAL

The scale (4× 2× 1× 1/2×) indicates exposure factor.

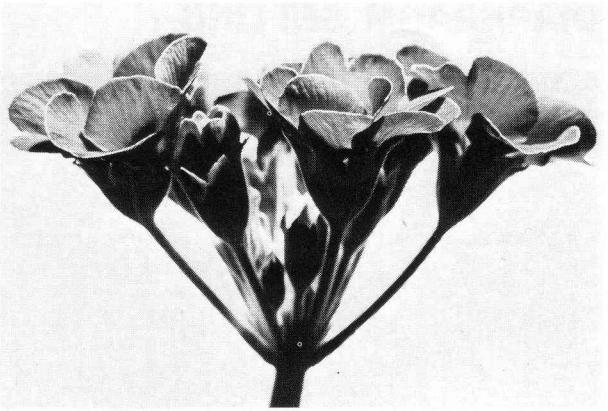
Turn the outer ring of the film type dial, and set 1× against the orange arrow for normal exposures.

Use this control only when necessary to give intentional over- or under-exposures within the range of these factors while working on "AUTOMATIC". For example, set the dial at 2× or 4× when shooting against the light, and at 1/2× against dark backgrounds. In addition, the dial can be set between the indicated positions to achieve more specific exposure control.

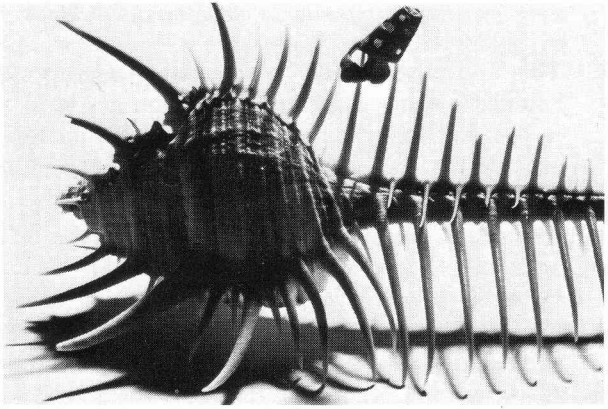




½×



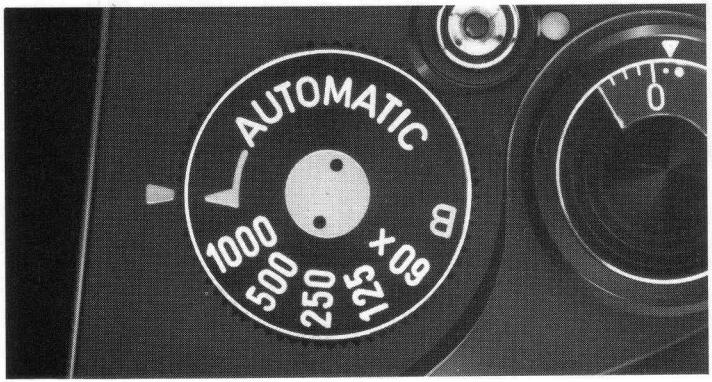
2×



2×

4×

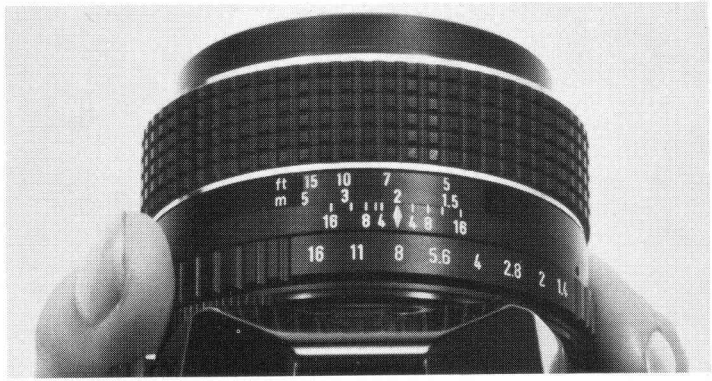
DIAPHRAGM SETTING



Set the shutter speed dial at "AUTOMATIC".

Rotate the diaphragm ring to pre-select the desired aperture such as follows:

Fine weather	f/8 – f/11
Cloudy weather	f/4 – f/5.6
Indoor	f/2 – f/2.8

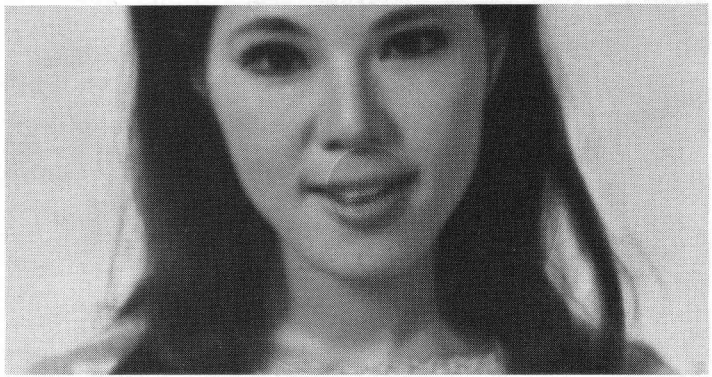


This is a rough guide to acquaint you with the automatic shutter operation. As you get used to it, you will have your own yardstick for aperture pre-selection depending on your subject and lighting conditions.

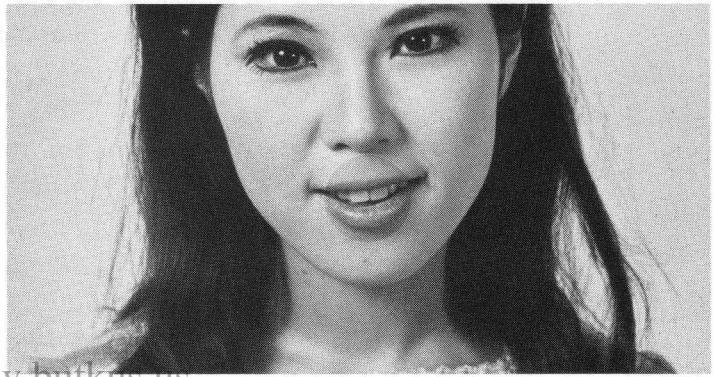
The shutter speed of the ES is automatically determined at any speed within the range of 8 to 1/1000 sec. according to the brightness of your subjects.

COMPOSE AND FOCUS

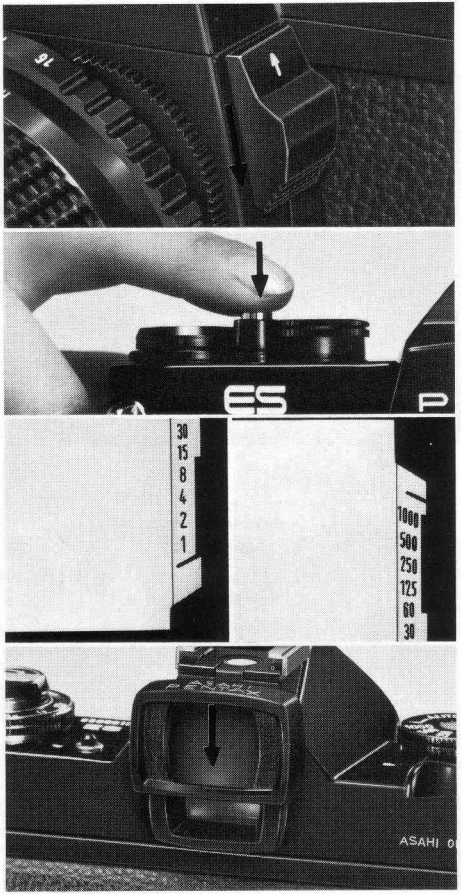
While viewing through the viewfinder, turn the focusing ring until your subject image comes into sharp focus.



Pentax cameras have a Fresnel lens with a microprism center 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 center 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 into many small dots, much like an engraver's screen. You can focus your subject on any portion of the ground glass.



THROUGH-THE-LENS METERING AND AUTOMATIC SHUTTER

For open-aperture reading, be sure that the stop-down lever is DOWN.

After cocking the rapid wind lever, press the shutter release button lightly to switch on the electric circuit. The meter needle in the viewfinder indicates the correct shutter speed.

If the needle goes above "1000", close down the diaphragm until the needle moves below "1000". If the needle goes below "1", the shutter speed indicates an exposure longer than 1 second. The electronic shutter of the ES is guaranteed to work properly down to 8 sec. (When making longer exposures with your eye off the viewfinder, use the viewfinder cap to shield the light coming in through the viewfinder, as it may interrupt the correct exposure.)

Caution: At slow speeds – slower than 1/30 sec. – support your camera rigidly or use a tripod to prevent camera movement.

Depress the shutter release button completely when ready to take your picture. When the shutter is released and your finger is off the shutter button, the meter circuit is off and the needle will return to the top of the scale.

OPEN-APERTURE OR STOP-DOWN READING

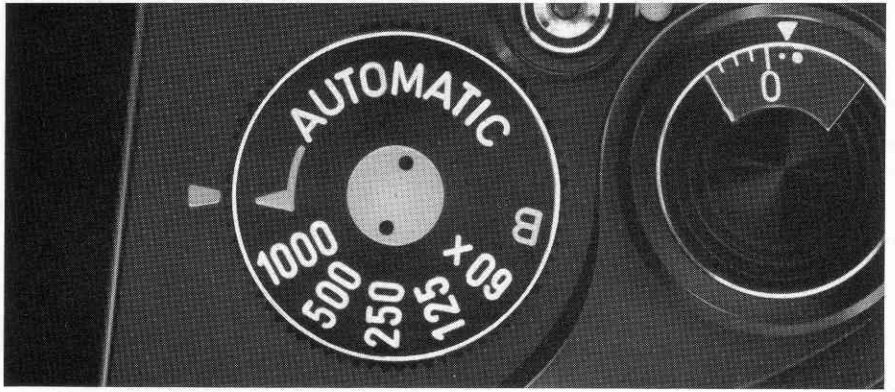
With the new Super-Multi-Coated (SMC) Takumar lenses with an open-aperture reading pin (1), mounted directly on the ES camera body, the through-the-lens meter reads exposure through the fully-open aperture or stopped-down taking aperture for correct automatic exposure, For open-aperture reading, the stop-down lever should be DOWN; for stop-down reading, push up the lever.

With all other lenses, or when using Extension Tubes, Bellows Unit or Microscope Adapter, remember always to push up the stop-down lever for stopped-down aperture reading and correct automatic exposure.

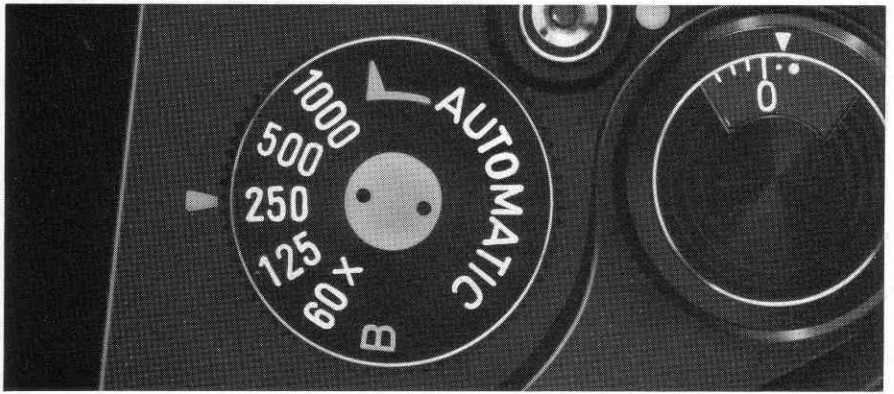
The SMC Takumar 85mm f/1.9 (photo at the top right) and SMC Takumar-Zoom 85mm~210mm lenses do not have the open-aperture reading pin ①, and therefore, they should be used on the ES for stop-down reading.

Also remember that the through-the-lens metering does not work unless the shutter dial is set at "AUTOMATIC".

MECHANICAL SHUTTER



In addition to the electronic shutter for automatic exposure control, the ES has a mechanical shutter for speeds: 1/60 X for electronic flash synchronization, 1/125, 1/250, 1/500, 1/1000 sec. plus B (Bulb).

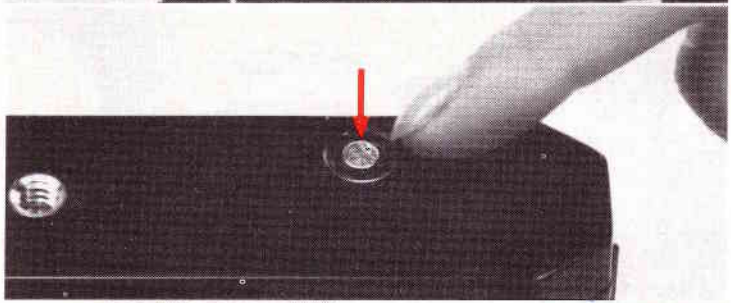


To operate at any one of these speeds, just turn the shutter dial from "AUTOMATIC" to the desired speed setting. Now the electric circuit and through-the-lens meter circuit are off.

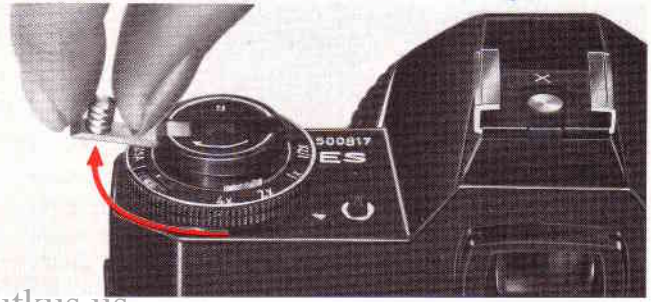
FILM UNLOADING

After the final picture on the roll has been taken, the rapid wind lever will not turn, indicating that the film must be rewound.

Unfold the rewind crank. Depress the film rewind release button and turn the rewind crank as indicated to rewind the film into the film cassette. Rewind until the tension on the crank lessens, indicating that the leader end of the film has been released from the take-up spool.



Pull out the film rewind knob (the back will open automatically), and remove the film cassette. AVOID DIRECT LIGHT WHEN LOADING OR UNLOADING THE FILM.



CAMERA HOLDING

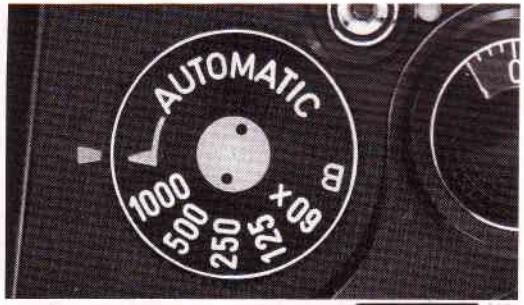
In horizontal position A.
Hold the camera firmly with your left hand, and draw your arm close to your body.

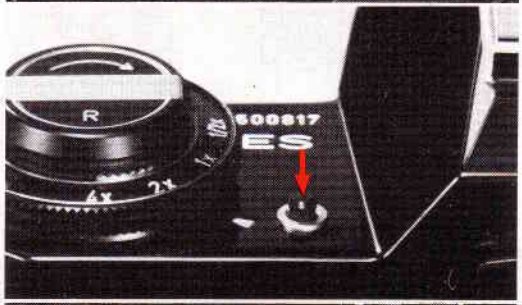
In vertical position B.
Hold your camera tightly to your forehead with your left hand, and draw your right arm close to your body.

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 focusing 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 Pentax, whether held vertically or horizontally, you see your subject image through the lens, enabling you to compose, focus and shoot with a minimum of time and effort.

BATTERY CHECK AND REPLACEMENT





A silver battery powers the through-the-lens meter and electronic shutter. The power circuit is on only when you depress the shutter release (lightly for meter reading and completely for electronic shutter) with the shutter speed dial set at "AUTOMATIC". When not operating the camera be sure to keep the shutter dial off the "AUTOMATIC" setting and set to any mechanical shutter setting so that you prevent wasting the battery power if the shutter release button is accidentally depressed.

The battery lasts about one year. To check its life, set the shutter speed dial at "AUTOMATIC", and push the black check button alongside the exposure factor control dial. If the meter needle drops to the notch facing "30", the battery has sufficient capacity. If it does not, replace the battery. (If you release the shutter at "AUTOMATIC" setting when the battery is dead, the shutter will operate at the mechanical shutter speed of 1/1000 sec.)

For replacement, use Eveready #544 6V silver battery. Open the battery housing cover on the body front. When inserting, be sure that the (−) of the battery faces inward.

Caution: Do not throw a dead battery into fire, as it may explode. Also, keep it beyond the reach of small children.

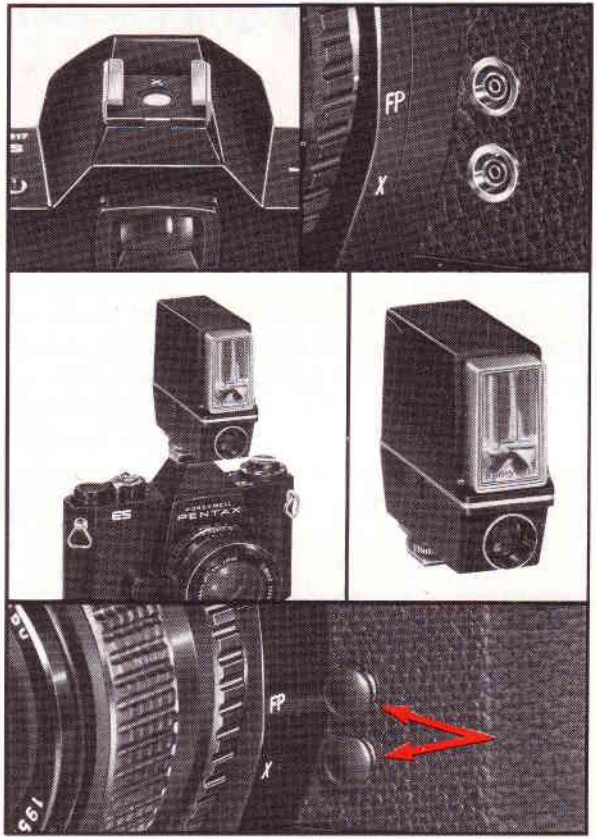
FLASH SYNCHRONIZATION

The Pentax ES has FP and X terminals at the front of the camera body, and an additional X contact on the built-in hot shoe atop the pentaprism housing. As indicated in the table, set the shutter dial at 1/60 X for electronic flash, with the flash cord plugged into the X terminal. Set the shutter dial at 1/60 or faster for FP class flash bulb, with the cord plugged into the FP terminal.

SHUTTER SPEED		1/1000	1/500	1/250	1/125	1/60X
FLASH TERMINAL	FP	FP CLASS				
	X					Electronic Flash

Use the hot shoe flash contact when using a shoe-mount electronic flash like a Honeywell Auto Strobonar with a flash contact on the foot. In this case, you do not have to plug the flash cord into the X terminal on the body front.

The hot shoe flash contact turns to "hot" (switched on) only when you insert a shoe-mount electronic flash. It remains "cold" (disconnected) and you never get a shock even when using an electronic flash with its cord plugged into the X terminal on the body front.

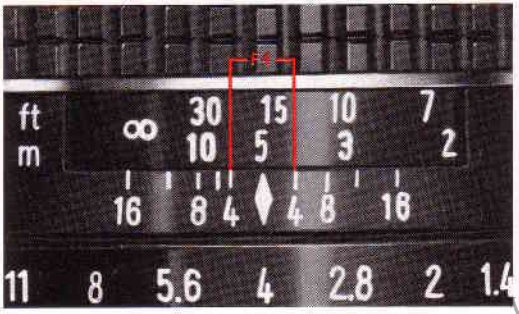


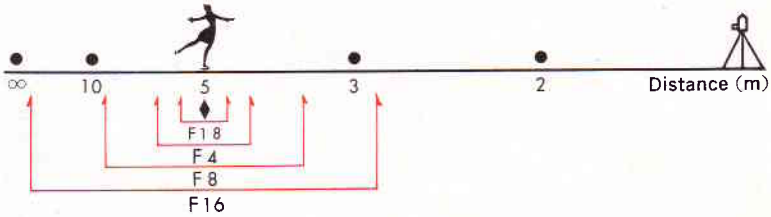
When not using these terminals, keep the plugs inserted in the terminals.

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 16 feet ... the lens is focused on a subject 16 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/4 is to be used, the range on the distance scale ring covered between the figures 4 on the depth-of-field guide indicates the area in focus at that lens opening. You will note from the depth-of-field guide in the photograph that the range from approximately 13 to 20 ft. 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 the next page.

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



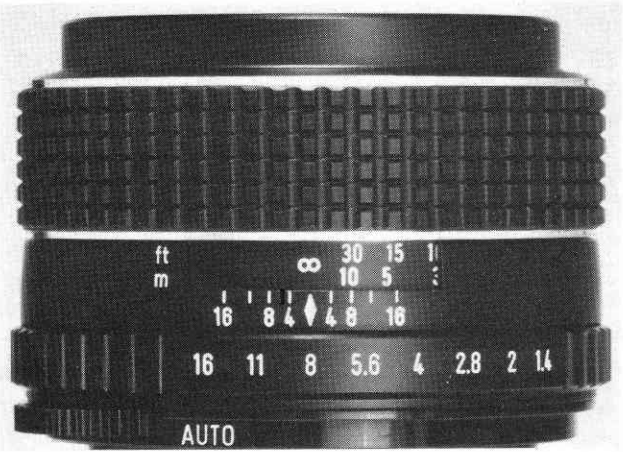


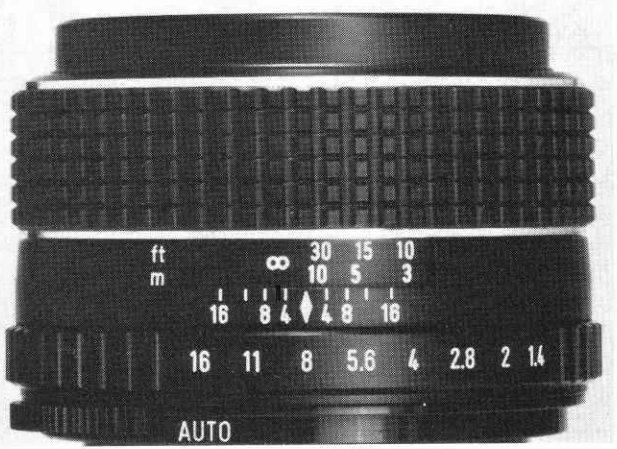
DEPTH-OF-FIELD TABLE: SMC TAKUMAR 50mm LENS

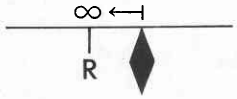
F Setting \ Distance Scale	0.45 m.	0.6 m.	1 m.	1.5 m.	2 m.	5 m.	10 m.	∞
F/1.4	0.45 ~ 0.453	0.59 ~ 0.61	0.98 ~ 1.02	1.46 ~ 1.54	1.93 ~ 2.07	4.57 ~ 5.52	8.40 ~ 12.36	51.75 ~∞
F/2	0.45 ~ 0.454	0.59 ~ 0.61	0.98 ~ 1.02	1.45 ~ 1.56	1.90 ~ 2.11	4.41 ~ 5.78	7.86 ~ 13.75	36.24 ~∞
F/2.8	0.44 ~ 0.46	0.59 ~ 0.61	0.97 ~ 1.03	1.43 ~ 1.58	1.87 ~ 2.16	4.21 ~ 6.16	7.24 ~ 16.19	25.90 ~∞
F/4	0.44 ~ 0.46	0.59 ~ 0.62	0.95 ~ 1.05	1.40 ~ 1.62	1.81 ~ 2.23	3.94 ~ 6.84	6.48 ~ 22.05	18.14 ~∞
F/5.6	0.44 ~ 0.46	0.58 ~ 0.62	0.94 ~ 1.07	1.36 ~ 1.68	1.75 ~ 2.34	3.64 ~ 8.03	5.68 ~ 42.68	12.97 ~∞
F/8	0.44 ~ 0.47	0.57 ~ 0.63	0.91 ~ 1.11	1.24 ~ 1.89	1.66 ~ 2.52	3.26 ~ 10.87	4.80 ~∞	9.10 ~∞
F/11	0.43 ~ 0.47	0.56 ~ 0.65	0.88 ~ 1.15	1.30 ~ 1.77	1.56 ~ 2.80	2.88 ~ 19.53	4.02 ~∞	6.63 ~∞
F/16	0.42 ~ 0.48	0.54 ~ 0.67	0.84 ~ 1.24	1.16 ~ 2.16	1.42 ~ 3.42	2.42 ~∞	3.16 ~∞	4.57 ~∞

F Setting \ Distance Scale	1′6″	2′	3′	5′	10′	15′	30′	∞
F/1.4	1′ 6.12″ 1′ 6.13″	1′11.8″ 2′ 0.2″	2′11.5″ 3′ 0.6″	4′10.4″ 5′ 1.7″	9′ 5.6″ 10′ 7.2″	13′ 9.7″ 16′ 4.9″	25′ 6.6″ 36′ 4.2″	169′ 9.2″ ~∞
F/2	1′ 5.9″ 1′ 6.1″	1′11.6″ 2′ 0.4″	2′11.3″ 3′ 0.8″	4′ 9.8″ 5′ 2.4″	9′ 3.1″ 10′10.6″	13′ 4.3″ 17′ 1.2″	24′ 0.2″ 39′11.8″	118′ 3.5″ ~∞
F/2.8	1′ 5.8″ 1′ 6.2″	1′11.5″ 2′ 0.5″	2′10.9″ 3′ 1.1″	4′ 9″ 5′ 3.4″	8′11.9″ 11′ 3.2″	12′ 9.6″ 18′ 1.4″	22′ 3″ 46′ 1.4″	84′11.6″ ~∞
F/4	1′ 5.6″ 1′ 6.4″	1′11.4″ 2′ 0.6″	2′10.6″ 3′ 1.7″	4′ 7.7″ 5′ 5″	8′ 7.4″ 11′11.2″	12′ 0.6″ 19′11″	20′ 0.4″ 59′11.6″	59′ 6.4″ ~∞
F/5.6	1′ 5.5″ 1′ 6.5″	1′11.2″ 2′ 1″	2′10″ 3′ 2.3″	4′ 6.2″ 5′ 7.2″	8′ 1.9″ 12′11.2″	11′ 2″ 22′10.7″	17′ 8.3″ 100′ 1.3″	42′ 6.8″ ~∞
F/8	1′ 5.4″ 1′ 6.6″	1′10.8″ 2′ 1.3″	2′ 9.1″ 3′ 3.4″	4′ 4.1″ 5′10.9″	7′ 6.8″ 14′ 9.5″	10′ 1″ 29′ 7.2″	15′ 0.7″ ~∞	29′10.2″ ~∞
F/11	1′ 5.2″ 1′ 7″	1′10.4″ 2′ 1.9″	2′ 8.2″ 3′ 4.8″	4′ 1.6″ 6′ 4.2″	6′11.3″ 18′ 0.6″	8′11.8″ 46′ 9.7″	12′ 8.4″ ~∞	21′ 9″ ~∞
F/16	1′ 4.8″ 1′ 7.3″	1′ 9.7″ 2′ 2.9″	2′ 6.7″ 3′ 7.6″	3′10″ 7′ 3″	6′ 1.2″ 28′ 7.6″	7′ 7.2″ ~∞	10′ 1″ ~∞	15′ ~∞

INFRA-RED PHOTOGRAPHY





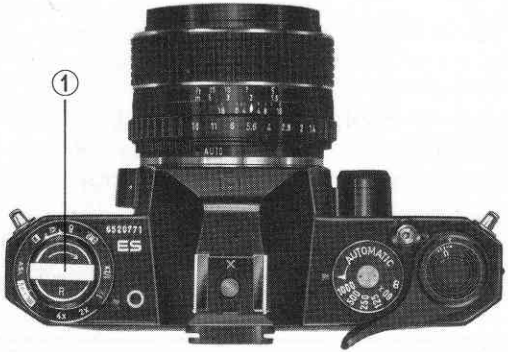


If you intend to take infra-red photographs, remember to use the infra-red index marked with an orange line or a small "R" on the depth-of-field guide.

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 infra-red index 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 index. The index marking on the Takumar lenses is based on the lens setting at infinity.

MULTIPLE EXPOSURE

For deliberate multiple 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. Registration may not be exact.



IMPORTANT NOTES

1.

Always keep the stop-down lever down for open-aperture reading. Also, be sure to keep it down when interchanging lenses, otherwise, the automatic diaphragm pin of the lens will hit the diaphragm activating lever in the body. Move it up only when checking the depth of field or using stop-down metering lenses or Extension Tubes, Bellows Unit, etc. inserted between the lens and the camera body.

2.

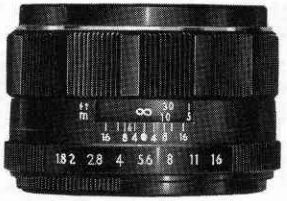
If you set the shutter dial of the ES at "AUTOMATIC" and release the shutter, the reflex mirror will be blocked up for safety, if 1) the lens cap is on.
2) the lens is removed from the body.
3) the stop-down lever is down, when using stop-down metering lenses or close-up accessories.

To bring the reflex mirror down, just turn the shutter dial off the "AUTOMATIC" setting, or move up the stop-down lever.

3.

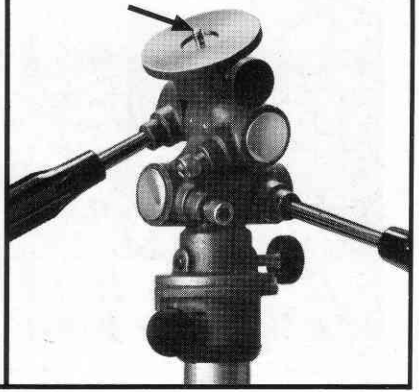
The following two lenses will not properly fit the Pentax ES camera body due to the difference of mechanical design and construction:

- Super-Takumar 50mm f/1.4
- Super-Takumar 55mm f/1.8 (with "1.8" engraved on the left of the diaphragm ring and "16" on the right.)



4.

The length of a tripod's screw should not exceed the normal length of 3/16″ (4.5mm). Do not extend it longer than this length when mounting your camera on a tripod. Forcing longer screws into the tripod receptacle of the camera will damage the mechanism.



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 coatings of SMC Takumar lenses let in more light resulting in truer colors. Reflection is reduced to 0.2%, allowing the remaining 99.8% of light to pass through each surface. This means higher light transmission, and the brightest lens possible. Colors pass through with equal intensity so color 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. Ultraviolet light is reflected off the glass surface. So, only true colors reach the film. Undesired rays are kept out. SMC Takumar lenses are for people interested in the ultimate in photographic lenses.

This portrait was taken with a conventionally coated 85mm lens. Notice the lack of contrast and the flare spots.

This portrait was taken under exactly the same conditions as the one on the left except the lens was a Super-Multi-Coated Takumar. Notice the full range of tones and absence of flare.

TAKUMAR INTERCHANGEABLE LENSES

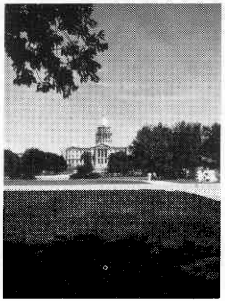
The Honeywell Pentax offers many interchangeable lenses in a wide variety of focal lengths, all of which are highly respected by both professional and amateur photographers for their fine resolution. The photographic coverage of the various Takumar lenses is illustrated below. With focal length longer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

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

When interchanging lenses, hold the lens by the focusing ring. When attaching a lens, filter, or lens-hood, do not screw it tightly, as you may find it difficult to remove.

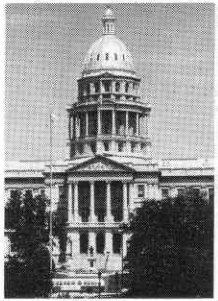
Because of the considerable depth of field of wide-angle lenses, you can use them as fixed focus lens if the diaphragm and distance scales are set properly. For your convenience, the Super-Multi-Coated Takumar lenses shown on pages 30~31 (marked with *) have a fixed focus mark. Just align with the index the orange-colored 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.

DIFFERENCE OF ANGLE OF TAKUMAR LENSES



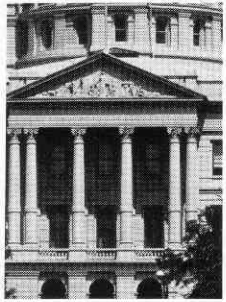
28mm

50~55mm



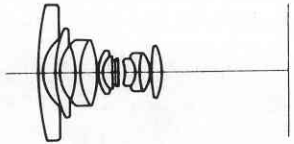
135mm

200mm



400mm

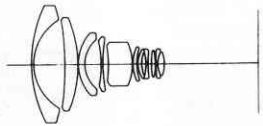
SMC Fish-Eye Takumar 17mm f/4*



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.

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.)

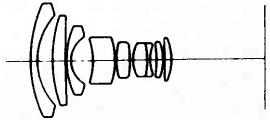
SMC Takumar 20mm f/4.5*



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.

Lens element	11
Minimum aperture	f/16
Minimum distance	0.65 ft. (0.2 m)
Angle of view	93°
Weight	8.79 ozs. (251 gr.)

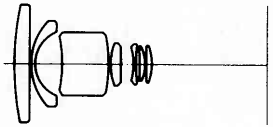
SMC Takumar 24mm f/3.5*



The SMC Takumar 24mm f/3.5 is an ultra-wide-angle lens that increases even further the versatility of your Honeywell 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.)

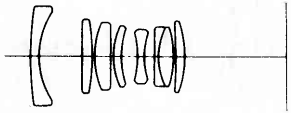
SMC Takumar 28mm f/3.5*



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.

Lens element	7
Minimum aperture	f/16
Minimum distance	1.3 ft. (0.4 m)
Angle of view	75°
Weight	7.6 ozs. (218 gr.)

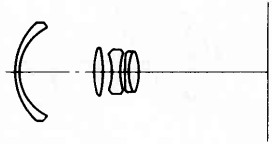
SMC Takumar 35mm f/2*



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.

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.)

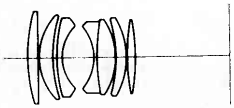
SMC Takumar 35mm f/3.5*



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. (0.45 m)
Angle of view	62°
Weight	5.4 ozs. (152 gr.)

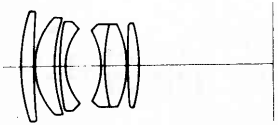
SMC Takumar 50mm f/1.4



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 colors. No irritating "ghost" images or flare when shooting directly against the light. An ideal all-around lens for color or black and white photography.

Lens element	7
Minimum aperture	f/16
Minimum distance	1.5 ft. (0.45 m)
Angle of view	46°
Weight	8.8 ozs. (252 gr.)

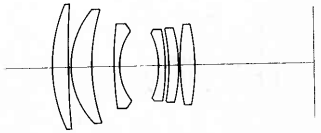
SMC Takumar 55mm f/1.8



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 colors than is possible with any other system at any price. All super-multi-coated lenses are more scratch-resistant and durable.

Lens element	6
Minimum aperture	f/16
Minimum distance	1.5 ft. (0.45 m)
Angle of view	43°
Weight	7.0 ozs. (201 gr.)

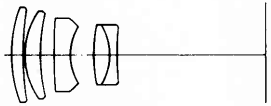
SMC Takumar 85mm f/1.8



This lens is brighter than the predecessor, 85mm f/1.9 lens, but smaller in size. With a focal length of 85mm, 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.

Lens element	6
Minimum aperture	f/16
Minimum distance	2.75 ft. (0.85 m)
Angle of view	29°
Weight	11.9 ozs. (341 gr.)

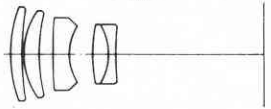
SMC Takumar 105mm f/2.8



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.)

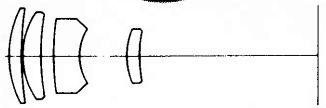
SMC Takumar 120mm f/2.8



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

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

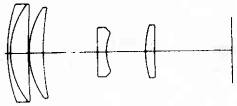
SMC Takumar 135mm f/3.5



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 hand-held 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.)

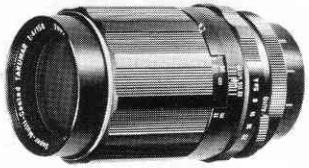
SMC Takumar 135mm f/2.5

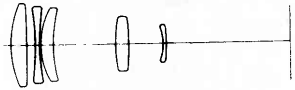


A faster f/2.5 lens has joined the superb Takumar 135mm lens family. Well balanced, its total length is rather short so it is light in weight. Most suitable for shooting night scenes, stage, indoors, sports and snap portraits. An excellent lens also for color photography.

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

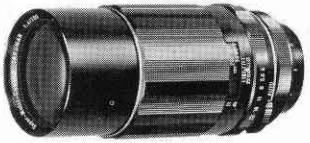


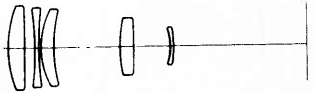


This new fully automatic 150mm Super-Multi-Coated Takumar with a focal length three times as long as the standard lens has been designed and produced to suit the purpose of photographing subjects requiring an intermediate angle between the 135mm and 200mm lenses. So compact, so lightweight, it looks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

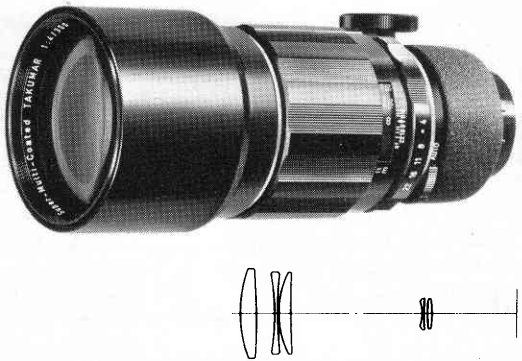




A new member to the superb Takumar telephoto lens family. Equipped with a fully automatic diaphragm. Compact, light, and elegantly designed for fast handling.

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.)

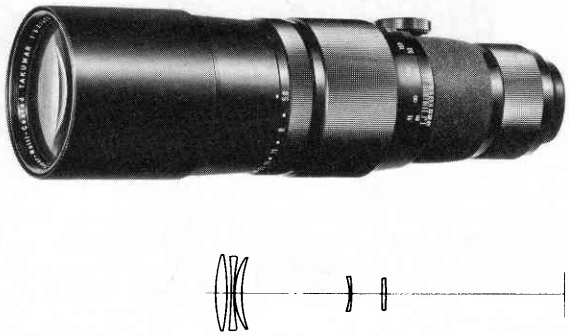
SMC Takumar 300mm f/4



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.

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.

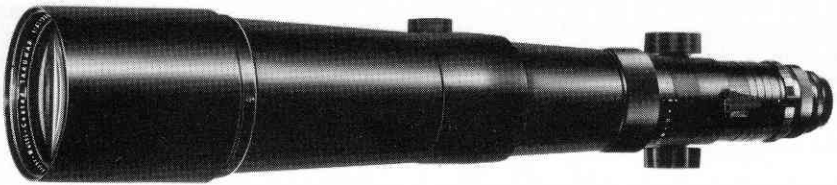
Lens element	5
Minimum aperture	f/45
Minimum distance	27 ft. (8 m)
Angle of view	6°
Weight	45 ozs. (1.3 kg.)

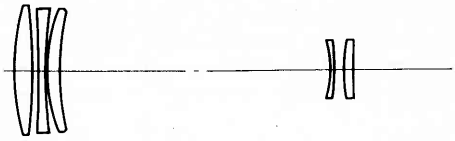
SMC Takumar 500mm f/4.5

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/45
Minimum distance	32.8 ft. (10 m)
Angle of view	5°
Weight	122.5 ozs. (3.5 kg.)

SMC Takumar 1000mm f/8

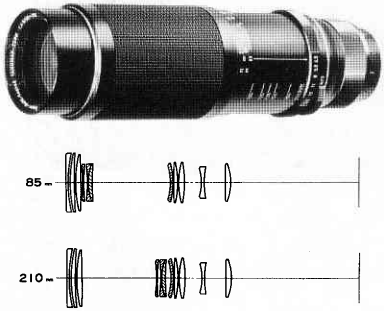




Photographs subjects which are too far away to be seen by the naked eye. The ultimate in fine optics for the photographer who specializes in news, sports, scientific or wildlife photography. Fast, accurate focusing with manual diaphragm. Furnished with built-on lenshood, rigid wooden tripod and in wooden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

Lens element	5
Minimum aperture	f/45
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. (3.5 m)
	6.24 ft. (1.9 m) 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 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.

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 a 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 220mμ to 1000mμ, and photographic tests without filters show good results within the wavelength bands.

Lens element	5
Minimum aperture	f/22
Minimum distance	2 ft. (0.6 m)
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 400mμ up to 850mμ. The visible portion of the spectrum extends from 400mμ to 700mμ. 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.

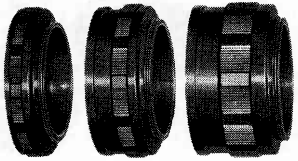
Lens element	5
Minimum aperture	f/22
Minimum distance	16 ft. (4.85 m)
Angle of view	8°
Weight	29 ozs. (825 gr.)

SPECIFICATIONS OF TAKUMAR LENSES

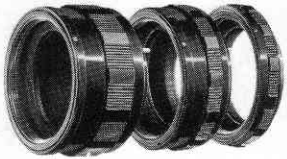
NAME OF LENSES	FOCAL LENGTH & MAXIMUM APERTURE	MINIMUM APERTURE	LENS ELEMENT	DIAPHRAGM	MINIMUM FOCUSING DISTANCE		ANGLE OF VIEW	WEIGHT		FILTER SIZE	LENSHOOD SIZE	LENS CAP SIZE
					m.	ft.	degrees	gr.	ozs.	mm	mm	mm
SMC Fish-Eye Takumar	17mm f/4	22	11	FA	0.2	0.66	180①	228	7.98	BI	—	60
SMC Takumar	20mm 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	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 ③	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	51
UA Takumar	300mm f/5.6	22	5	FA	4.85	16	8	825	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 lens-hoods are screw-in type unless otherwise indicated. *(*Lenshood supplied with lens. ‡Clip-on type)*

COMPLETE SYSTEM OF ASAHI PENTAX ACCESSORIES



EXTENSION TUBE SET



AUTO-EXTENSION TUBE SET

HELICOID EXTENSION TUBE

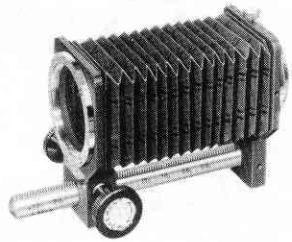
REVERSE ADAPTER

CLOSE-UP LENS

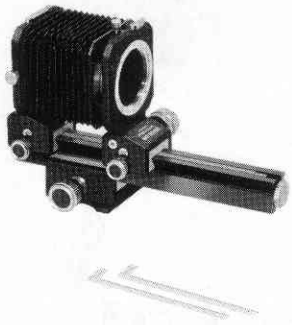
FILTERS

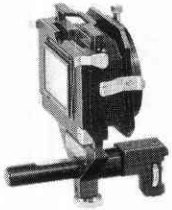
MISCELLANEOUS CAPS

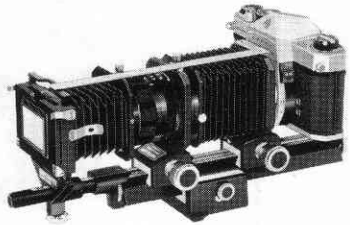
ASAHI MOUNT ADAPTER

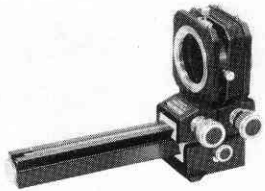


BELLOWS UNIT I

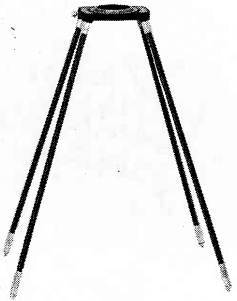








AUTO BELLOWS & SLIDE COPIER



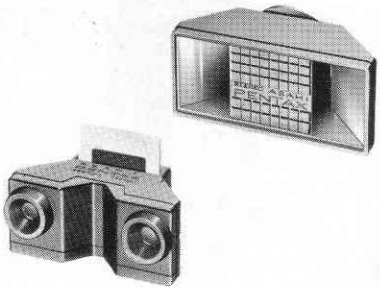
COPIPOD

RIGHT ANGLE FINDER

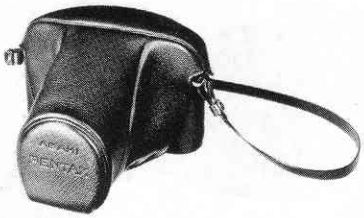
SPOT METER III

FILM MAGAZINE

MIRROR ADAPTER



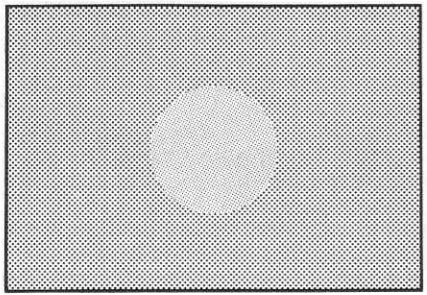
STEREO ADAPTER SET



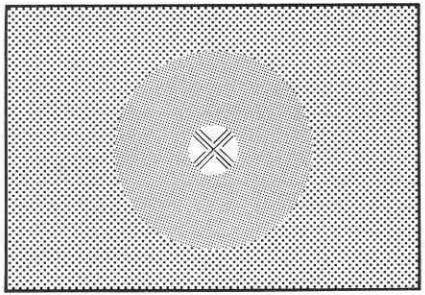
SOFT CASE JUMBO FRONT

LEATHER CASE FOR STANDARD LENSES

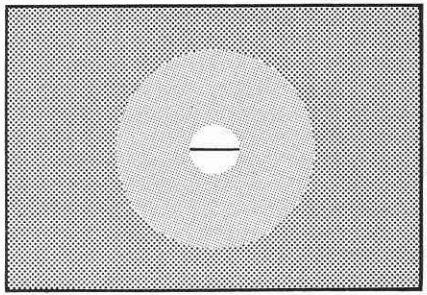
FOCUSING SCREENS



Matte Screen

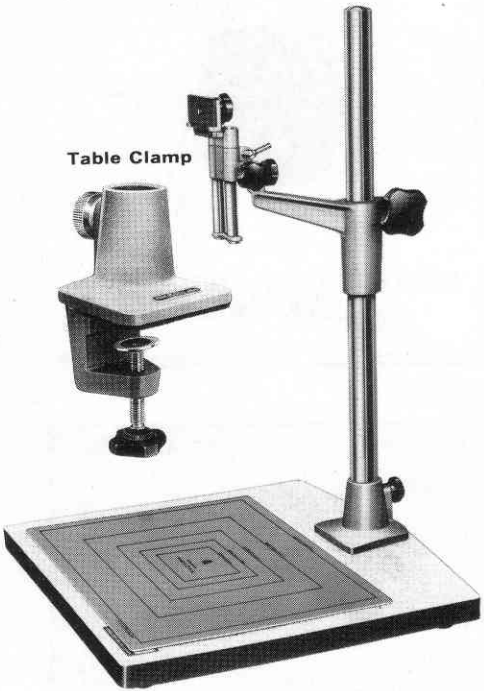


Ground Glass with Cross

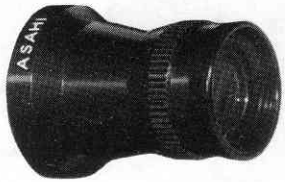


Split Image Rangefinder

These focusing screens may be custom fitted to your camera by any Honeywell Service Center.

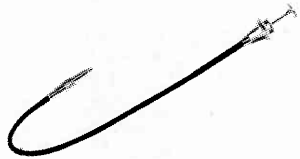


COPY STAND



CLIP-ON MAGNIFIER

MICROSCOPE ADAPTER



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