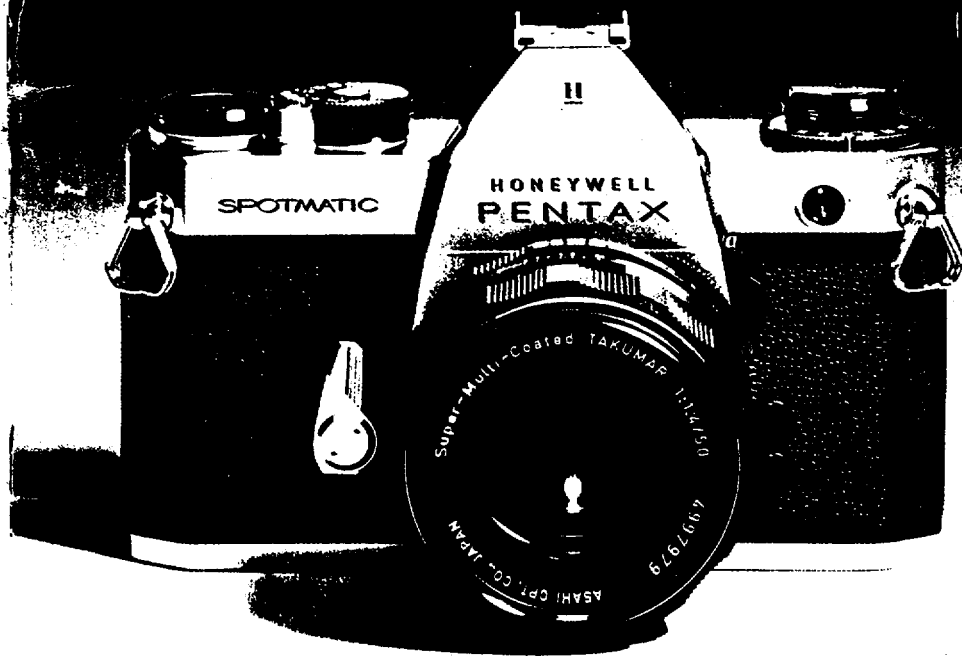


HONEYWELL PENTAX

SPOTMATIC IIa



OPERATING MANUAL

Index

Introduction.....	1
Major working parts of the Honeywell Pentax Spotmatic IIa	2
Specifications	4
Short operating course	6
How to hold your camera	8
Film loading	9
Film wind and rewind	10
Bright field focusing	11
Microprism	11
Automatic diaphragm	12
Shutter	13
Depth-of-field guide	13
Depth-of-field tables	14
Range of light measurement	15
Mercury battery	16
Flash synchronization	17
Strobo-eye remote sensor	18
Important notes	20
Self-timer	22
Infra-red photography	22
How to make deliberate double exposure	22
Difference of angle of Takumar lenses	24
Takumar interchangeable lenses	25
Specifications of Takumar lenses	34
Complete system of Honeywell Pentax accessories for close-ups, macrophotography, photomicrography and other miscellaneous accessories	35
Spot exposure meter III	41
Honeywell Pentax warranty policy	44

HONEYWELL PENTAX SPOTMATIC IIa

Your Honeywell Pentax Spotmatic IIa is the most advanced photographic tool on the market today.

With its unique Strobe-Eye you have the capability for automatic electronic flash ... off camera or on ... bounced or direct ... from 2' to 40' ... with a choice of f/stops.

There is no comparable system.

The Super-Multi-Coated Takumar is an unbeatable lens. The Super-Multi-Coated Takumar reduces flare and boosts contrast to a degree far beyond what was previously possible in optical technology. It is a tougher coating than is available on any competitive lenses and results in pictures with more detail and richer colors than is possible with any other system at any price.

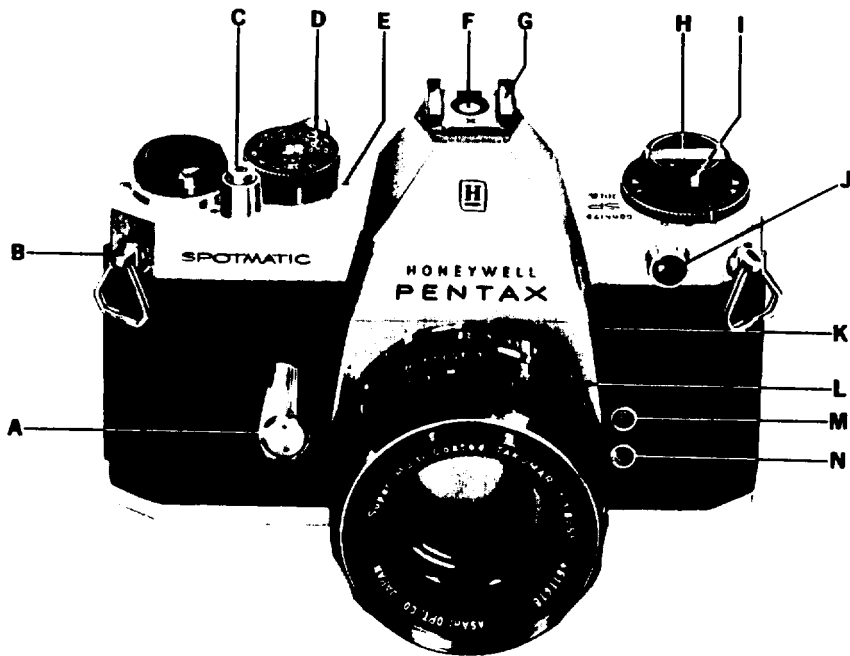
The Spotmatic IIa itself is an outgrowth and refinement of the original Spotmatic which introduced through-the-lens metering to the world of photography. Its stopped-down metering system is the most accurate method for perfect exposure determination. It also automatically gives you a depth-of-field preview. It is an averaging system for the easiest and most dependable exposures in typical picture-taking situations. This metering system has been refined and improved each year in the Spotmatic to a degree of accuracy unmatched in the industry.

The original Spotmatic was the most compact 35mm SLR made. The Spotmatic IIa retains that same traditional compactness and classic feel. It also is designed for use with the accessories from the Pentax system, including all of the superb Takumar lens ranging from the ultra-wide-angle 17mm Takumar up to the super-telephoto 1000mm Takumar. The Pentax system can grow with you as your interests develop in any direction.

This is today's most advanced photographic system. Its unique automatic electronic flash capability, its superior Super-Multi-Coated Takumar and classical Pentax body make this a camera we are very proud to market.

We are sure you will be just as proud to own it.

Major working parts of the



A — Self-timer cocking lever

B — D-ring lug

C — Shutter release

D — Shutter speed dial

E — Shutter speed index

F — Hot shoe flash contact

G — Hot shoe

H — Film rewind crank

I — Film rewind knob

J — Strobe-Eye sensor

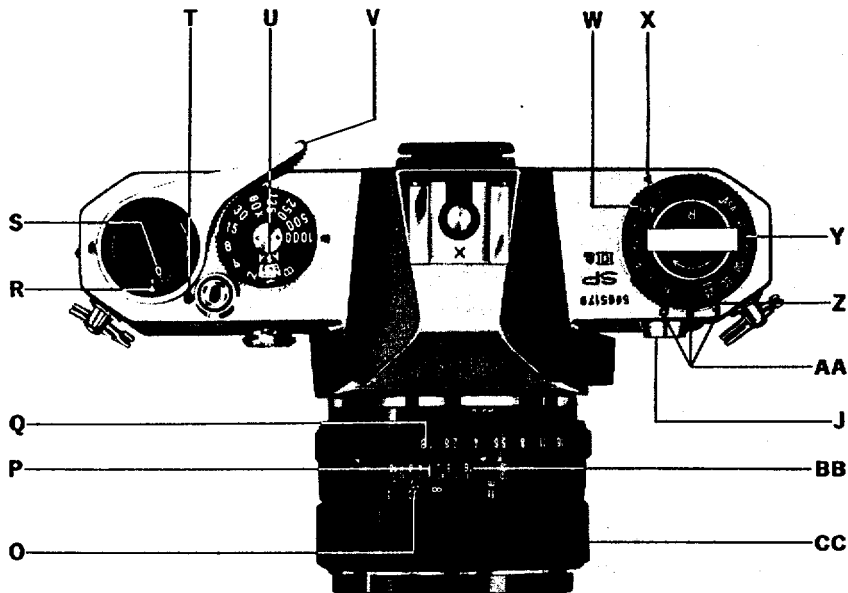
K — Exposure meter switch

L — Preview lever

M — FP flash terminal

N — X flash terminal

Honeywell Pentax Spotmatic IIa

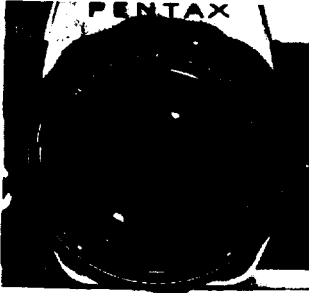


O — Distance scale
 P — Diaphragm and distance index
 Q — Diaphragm ring
 R — Exposure counter index
 S — Automatic reset exposure counter
 T — "Cocked" indicator
 U — ASA film speed setting

V — Rapid wind lever
 W — F/stop scale
 X — F/stop index
 Y — ASA scale
 Z — ASA index
 AA — Range indexes
 BB — Depth-of-field guide
 CC — Focusing ring

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 30 exposures). 24mm x 36mm.

Standard Lenses

Super-Multi-Coated Takumar 50mm f/1.4 or 55mm f/1.8 with fully automatic diaphragm. Filters and lenshood size: 49mm. Equipped with diaphragm preview lever which affords visual check of depth of field. Distance scale: 18" (45cm) to infinity.

Shutter

Focal plane shutter, with single non-rotating dial. Speeds: B, 1—1/1000 sec. Film speed (ASA) setting dial and window on shutter speed dial. Built-in self-timer releases shutter in 5-13 seconds. 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 20.

Finder

Pentaprism finder with microprism Fresnel lens for instant focusing; 0.88x magnification with 50 mm lens and approximately life-size with 55mm lens.

Focusing

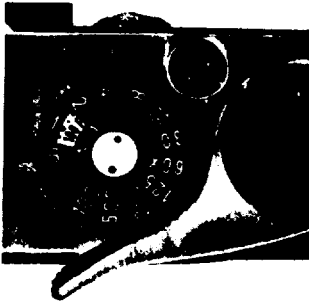
Turn the distance scale ring until the subject image on the ground glass comes into focus.

Reflex Mirror

Instant return type with special shock absorbers for minimum vibration.

Film Advance

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



Lens Mount

42mm threaded lens mount.

"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.

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 3200 (LV1-28 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.

Strobo-Eye Electronic Flash Sensor

Built-in sensor measures reflected light from Strobunar. Film Speed (ASA) setting ranges from 25 to 400. Selection of f/stop setting gives depth-of-field and/or range.

Strobo-Eye Sensor Measuring Angle

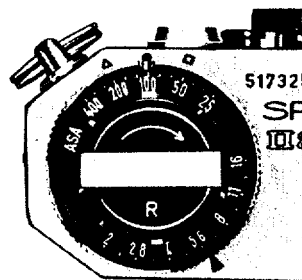
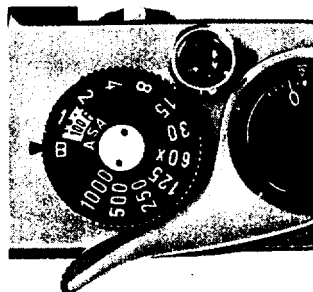
12 degrees.

Dimension

Width 5.6" (143mm) × height 3.66" (93mm) × thickness 3.4" (88mm).

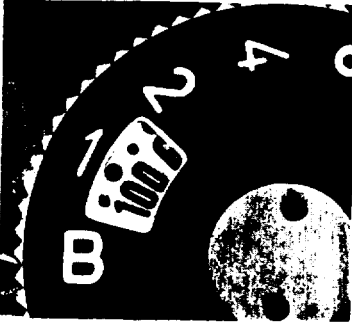
Weight

1 lb. 11 oz. (853 grams) with 50mm f/1.4 lens.
Body alone: 1 lb. 4 oz. (622 grams).



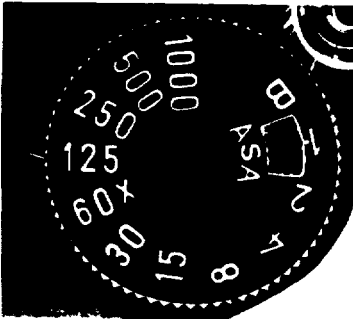
Short operating course

A mercury battery for the light meter is packed separately. Please be sure to insert it into the battery housing before operating the camera. For battery insertion, refer to page 16.



1. SET FILM SPEED

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



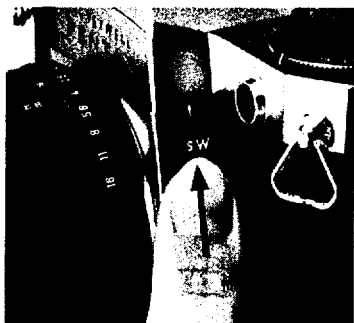
2. SET SHUTTER SPEED

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 neighborhood. Change the shutter speed later, when necessary. (Refer to instruction 5, page 7.)



3. 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 center of the finder.



4. 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.



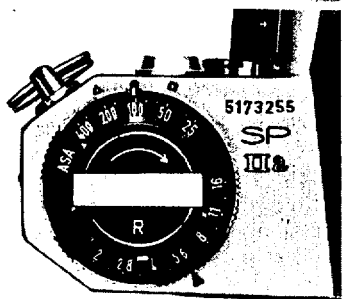
5. ROTATE DIAPHRAGM RING

The needle moves up and down with the turn of the diaphragm ring. When the needle rests at the center, you will get correct exposure. If the needle does not come to the center no matter how far you turn the diaphragm ring, change the shutter speed. When the needle is off center 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.



6. 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 drop to the "OFF" position below center. 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.)



7. SET STROBO-EYE FOR ELECTRONIC FLASH

Pull up the rewind knob. Set the ASA number of your film opposite the ASA index. Turn the outer dial to position the ASA index opposite the desired range mark. Set your lens to the f/stop indicated by the f/stop index. Refer to page 18.

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 in photograph. Put the camera on 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 Honeywell 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.

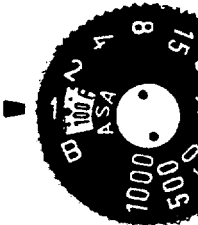
Film loading

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.



Setting ASA film speed

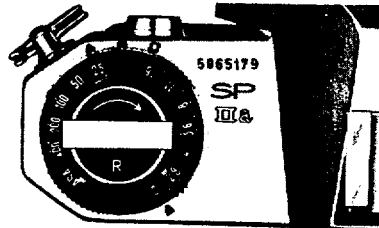


The ASA film speed rating of all 35mm films is given in the data sheet packed with each roll of film. The higher the ASA number, the more sensitive the film. Lift the out-

er 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.

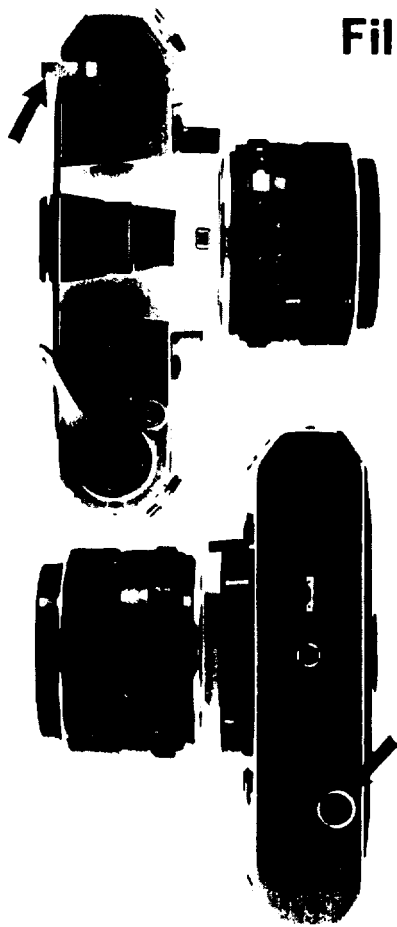
Setting Strobe-Eye



When you have pulled out the rewind knob to load your film, turn the inner dial until the ASA number of your film is opposite the ASA index.

Turn the outer dial until the ASA index is opposite the range mark desired and note the f/stop reading indicated by the f/stop index. A total range of 3 f/stops is available for each film speed.

Film wind and rewind



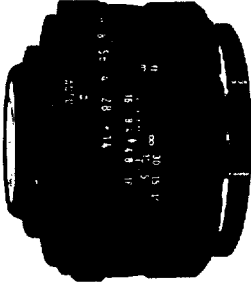
- 1 The first portions of the film cannot be used for picture taking as they have already been exposed to light. Generally, two blank exposures should be made before taking your first picture. Cock the rapid wind lever until it stops. Watch to see that the film rewind knob automatically turns counter-clockwise, indicating that the film is moving from cassette to take-up spool. Trip the shutter.

Cock the rapid wind lever for the first picture; the exposure counter automatically turns to '1', indicating that the first picture is ready to be taken.

- 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.

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.)
- 5 Pull out the film rewind knob (the back will open automatically), and remove the film cassette.

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

Honeywell 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 diaphragm. 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 an 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".

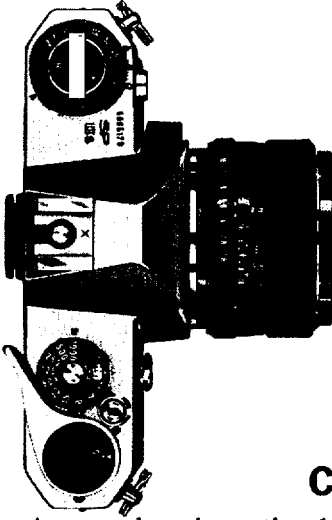
Shutter

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.

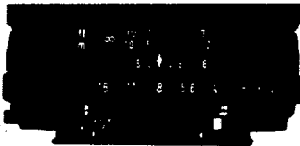
The indicator window blacks out as you trip the shutter button. For use of the X setting on the shutter speed dial, refer to page 17.

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.



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,

Depth-of-field guide

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 14.

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-Multi-Coated Takumar 50mm lens

Distance Scale f Setting	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' ∞

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

Distance Scale f Setting	1'6"	2'	3'	5'	10'	15'	30'	∞
f/1.8	1' 5.9" 1' 6.1"	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' 5"	25' 6.4" 36' 4.7"	168' 2.4" ∞
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

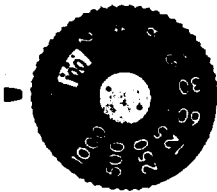
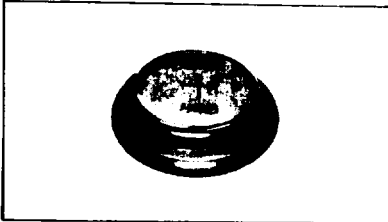
The exposure meter of the Spotmatic IIa measures the brightness of the ground glass. Therefore, the meter should be turned on *after* you have focused your subject on the ground glass. The following table shows the range of the meter's light measurement, and should not be interpreted as the camera's 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 1/1000 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 50mm f/1.4 lens and ASA100 film, an aperture from f/1.4 (the maximum aperture of this lens) to f/16 (the minimum aperture) may be used with any shutter speed from 1 sec. to 1/1000 sec. that will bring the meter needle to midpoint.

ASA \	B	1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{15}$	$\frac{1}{30}$	$\frac{1}{60}$	$\frac{1}{125}$	$\frac{1}{250}$	$\frac{1}{500}$	$\frac{1}{1000}$
20												
• 25												
32												
• 40												
• 50												
64												
• 80												
100												
• 125												
• 160												
200												
• 250												
• 320												
400												
• 500												
• 640												
800												
• 1000												
• 1250												
1600												
• 2000												
• 2500												
3200												

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 insert it

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

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.

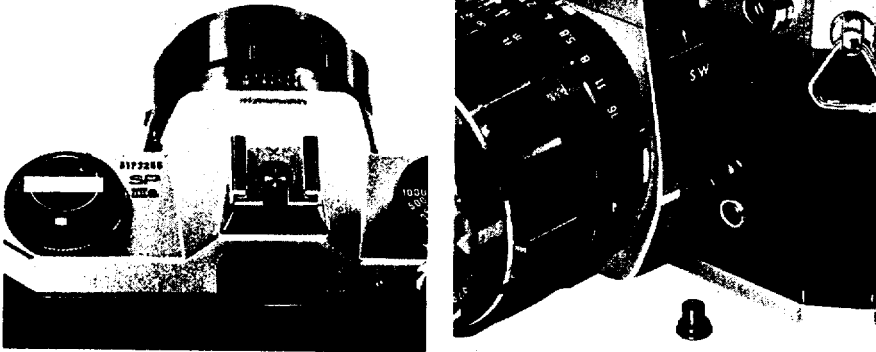
CAUTION: The mercury battery is like a phonograph record. It can be damaged by skin acids. Handle by the edges with a dry cloth only. Be sure the battery is cleaned with the cloth before insertion into the camera. The battery is not rechargeable.

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 Spotmatic IIa has FP and X terminals at the front of the camera body, and a separate X flash contact on the built-in hot shoe. 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.

The hot shoe X flash contact may be used with hot shoe Strobonars and Auto/Strobonars or any other electronic flash or flash gun that fits the built-in hot shoe of the Spotmatic IIa.

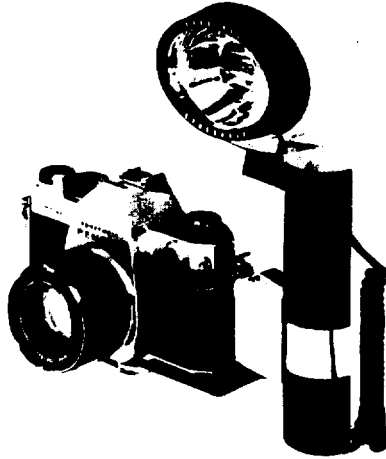


➤ When not using these terminals, keep the plugs inserted in the terminals.

SHUTTER SPEED FLASH TERMINAL	1/1000	1/500	1/250	1/125	1/60 x	1/30	1/15	1/8	1/4	1/2	1
	FP Class (Screw Base)										
FP	FP Class (Bayonet Base)										
X						F Class					
						M Class & MF Class					
	Electronic Flash										

Strobo-eye Remote Sensor

The Spotmatic IIa has the Strobo-Eye remote sensor built into the camera body. The sensor measures the light reflected from the subject automatically and turns the Strobolar off at precisely the right time for perfect exposures. The Remote Auto/Strobolar may be used on or off camera for dramatic lighting effects or subtle bounce lighting.



1. To connect the camera and Remote Auto/Strobolar, connect a PC to standard plug shutter cord to the outlet on the Auto/Strobolar and to the X-sync terminal on the camera. The Auto/Strobolar can be used mounted on the camera or hand held to get perfect exposures automatically. If a hot shoe Remote Auto/Strobolar is mounted on camera hot shoe, no shutter cord is required. Set shutter speed dial to X.
2. To set film speed, pull up on the rewind knob (I) when loading the film and turn the inner dial until the ASA index (Z) is opposite the ASA number of the film you are using. Any film from ASA 25 (DIN 15) to ASA 400 (DIN 27) may be selected.
3. To select f/stop, turn the outer dial until the ASA index (Z) is opposite the range indexes (AA) and note the f/stop readings indicated by the f/stop index (X) at each mark. For each film speed, a total range of 3 different f/stops are available with automatic flash.

EXAMPLE: With the film speed set at ASA 25 (DIN 15), the ASA index set at Δ , the f/stop selected would be f/2. Correspondingly, if the ASA index were set to \circ , the f/stop would be f/2.8, and if set to \square , would be f/4.

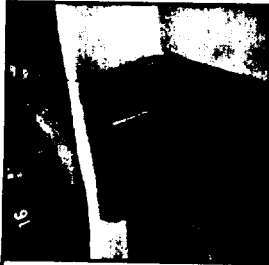

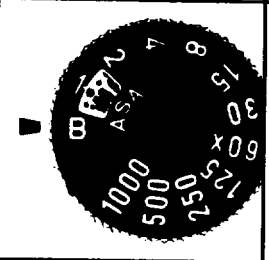
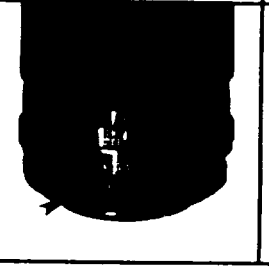
4. Set the camera lens to the selected f/stop. You may now creatively use your Remote Auto/Strobonar for on or off camera lighting with assurance of perfect exposure automatically within the distance range of your selected f/stop.
5. To determine range, turn the exposure dial on the back of the Remote Auto/Strobonar until the ASA value of the film you are using is opposite the ASA index. Maximum range is indicated opposite your selected stop. Minimum range is about 1/10 of the maximum range.
6. For film speeds not on the dial, set a film speed on the dial that is a whole multiple of the film you are using (see step 2). Then choose a stop in the normal manner (see step 3). If you are using a film that is double the setting on the dial, then decrease the aperture of the lens one full f/stop from the f/stop indicated on the Strobonar-Eye dial.



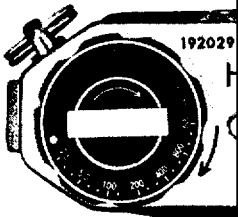
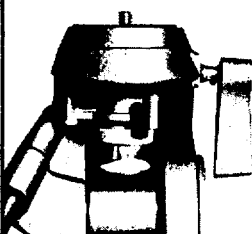
EXAMPLE: If you desire to use ASA 800 (DIN 30) film, set the Strobo-Eye ASA index (Z) to ASA 400 (DIN 27). Turn outer dial until the ASA index is opposite range index Δ . Observe that f/8 appears opposite the f/stop index. Now, decrease lens aperture on your camera one stop to f/11.

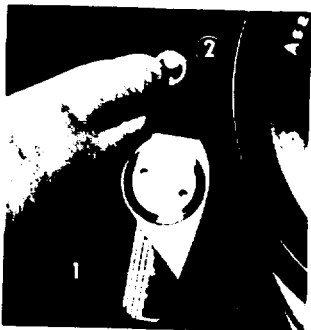
If you are using ASA 1600 (DIN 33), set Strobo-Eye ASA index to 400, select your desired f/stop and decrease the camera lens aperture two full stops.

Important notes

	<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 or SMC Takumar lens on the Spotmatic IIa 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>1</p>
	<p>When removing the Super-Multi-Coated Takumar 50mm f/1.4 lens from the camera body, do not place it on its threaded end without the rear mount cap in place, or you will scratch its rear element lens.</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 15.</p> <p>3</p>
	<p>When the meter is switched on, the lens (any Super-Takumar or SMC 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>4</p>

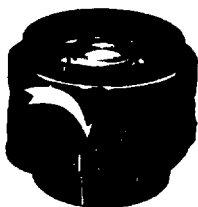
PLEASE READ THIS
OPERATING MANUAL THOROUGHLY

<p>No!</p> <p>Exposure factor</p> <ul style="list-style-type: none">x1.63x1.96x3.20x4.80x5.46	<p>5</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>6</p> <p>Primarily made for use with the Spotmatic II, the 50mm f/1.4 Super-Multi-Coated Takumar can also be used with the original Spotmatic, Spotmatic IIa, and models SL and SP 500. Further, they can be used with two other cameras: Honeywell Pentax H3v and H1a with an orange-colored R marking on the film rewind knob. Use with any other camera may damage the rear lens element.</p>
	<p>7</p> <p>The length of the 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 tripod. Forcing longer screws into the tripod socket of the camera will damage the mechanism.</p>
<p>No!</p>	<p>8</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>



Self-timer

Depending upon how far down you turn the self-timer cocking lever ①, it will release the shutter in 5-13 seconds. When operating the self-timer, always depress the self-timer release button ② to release the shutter. Do not depress the shutter button ... it will immediately release the shutter without delayed action. The self-timer cocking lever should be turned down at least 90° or the release button will not operate.



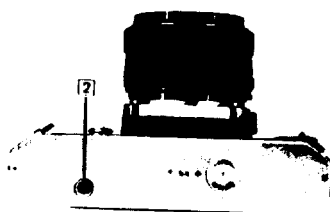
Infra-red photography

If you intend to take infra-red photographs, remember to use the small "R" index marked on the depth-of-field guide. Some of the Takumar lenses, however, like the above picture of Super-Takumar 50mm f/1.4, do not have the "R" mark. The index is just a short orange line.

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.

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 on page 24. 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 range-finder 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 25 and 26

(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.

RESOLVING POWER OF TAKUMAR LENSES

Resolving power of all Takumar lenses is factory-tested by skilled optical engineers. There are three types of tests: microscopic aerial test, projection test and photographed film test. Resolving power of a lens shown by lpm (lines per mm) varies depending upon the method of resolution test. Takumar lenses have been tested for resolving power to conform to Asahi Optical Company standards which are higher than those set by JIS (Japan Industrial Standards). All Takumar lenses bear the seal of the Japan Camera Inspection Institute which insures the highest standards of performance.

When testing your lens performance...

Use a slow-speed fine grain film. Generally, high speed films are grainy and are not suitable for resolution test. Support your camera on a good tripod. Use a shutter release cable to prevent camera movement. The definition of the picture on the negative film may decrease if exposure and developing time are not proper. Time your exposure and development correctly.

If you do your own developing and enlarging, see that your enlarger uses a fine quality enlarger lens. If it is not of a fine quality, your pictures can never be sharp no matter what superb lenses are mounted on your camera. Usually, the diaphragm of the enlarger should be closed down to f/8 or f/11.



28mm

DIFFERENCE OF ANGLE OF TAKUMAR LENSES



50~55mm



85mm



135mm



200mm



400mm



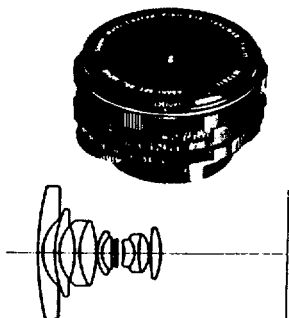
1000mm

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

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.

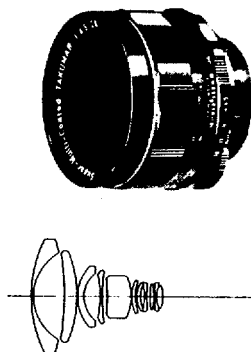
Lens element 11 (including 3 filters)
Minimum aperture f/22
Minimum distance 0.66 ft. (0.2 m)
Angle of view 180° (diagonal)
Weight 7.98 ozs. (228 gr.)



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.

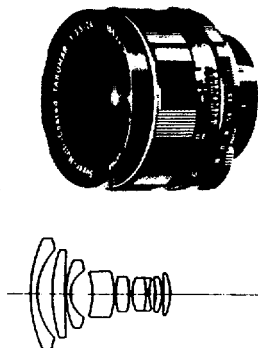
Lens element 11
Minimum aperture f/16
Minimum distance 0.65 ft. (0.2 m)
Angle of view 94°
Weight 8.79 ozs. (251 gr.)

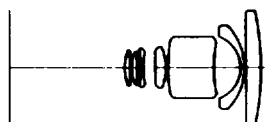
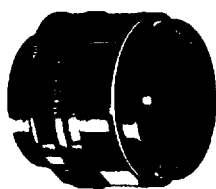


SMC Takumar 24mm f/3.5 *

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.)

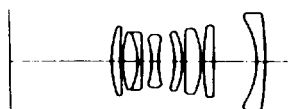
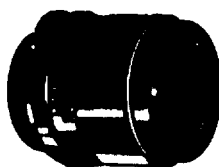




SMC Takumar 28mm f/3.5 *

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.

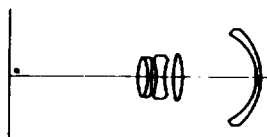
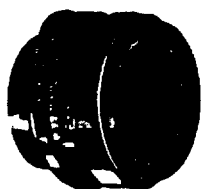
Lens element	7
Minimum aperture	f/16
Minimum distance	1.3 ft. (0.4 m)
Angle of view	75°
Weight	7.6 ozs. (218 gr.)



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 *

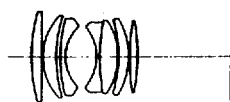
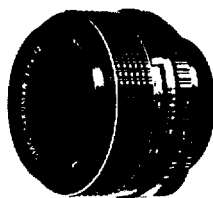
A medium speed lens with extremely high resolving power, this is an excellent general purpose wide-angle optic extremely useful for scenic, industrial, and architectural photography. Compact and light in weight.

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.

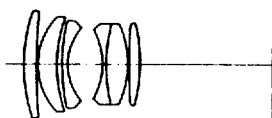
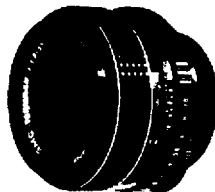
Lens element 7
Minimum aperture f/16
Minimum distance 1.5 ft. (0.45 m)
Angle of view 46°
Weight 8.8 ozs. (252 gr.)



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.

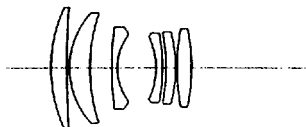
Lens element 6
Minimum aperture f/16
Minimum distance 1.5 ft. (0.45 m)
Angle of view 43°
Weight 7.0 ozs. (201 gr.)

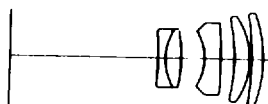
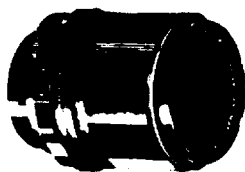


SMC Takumar 85mm f/1.8

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.)

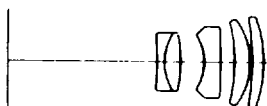
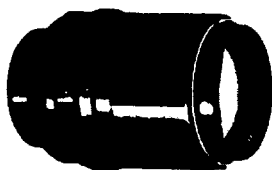




SMC Takumar 105mm f/2.8

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.

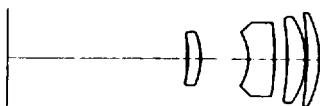
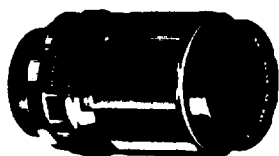
Lens element 5
 Minimum aperture f/22
 Minimum distance 4 ft. (1.2 m)
 Angle of view 23°
 Weight 10.2 ozs. (290 gr.)



SMC Takumar 120mm f/2.8

The latest addition to the Super-Multi-Coated Takumar medium telephoto family. So light-weight 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

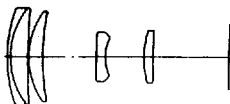
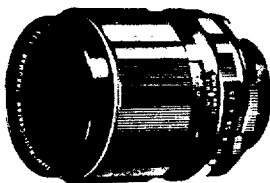
Produces a brilliant image in all corners of the picture even with the diaphragm fully open. Indispensable for distant subject matter and for portrait. Ideal for close-ups of animals or plants even at a distance. Recommended as the ideal long telephoto lens for handheld camera operation. Equipped with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

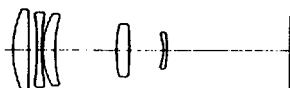
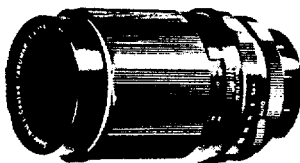
Lens element 5
Minimum aperture f/22
Minimum distance 5 ft. (1.5 m)
Angle of view 18°
Weight 15.5 ozs. (444 gr.)



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.

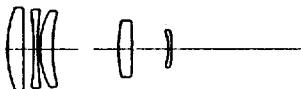
Lens element 5
Minimum aperture f/22
Minimum distance 6 ft. (1.8 m)
Angle of view 16.5°
Weight 11.3 ozs. (324 gr.)



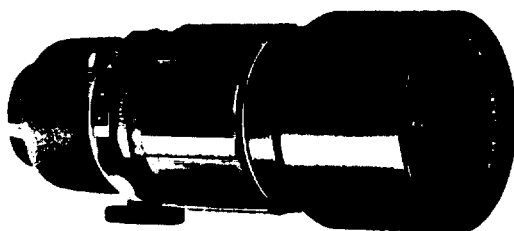
SMC Takumar 200mm f/4

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



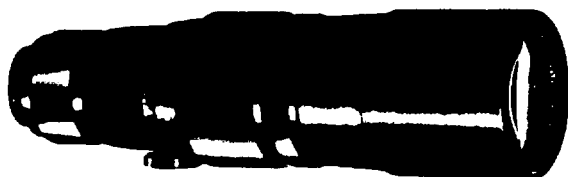
Light enough for hand-held picture taking, this lens is the most ideal for spectacular telephotographic effects. Even with the diaphragm fully open, the aberrations are corrected to the greatest extent possible. Gives needle-sharp resolution to every corner of the picture. Equipped with fully automatic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

with special lenshood.

Lens element	5
Minimum aperture	f/22
Minimum distance	18 ft. (5.5m)
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.)



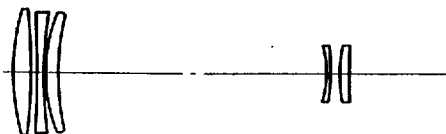
SMC Takumar 500mm f/4.5



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

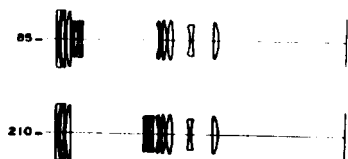
wooden tripod and in wooden cases.

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.

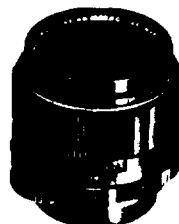
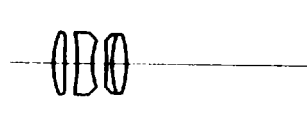
Lens element 11
 Minimum aperture f/22
 Minimum distance 11.5 ft. (3.5m)
 6.24 ft. (1.9 m) with attachment
 Angle of view 28° 5' ~ 11° 5'
 Weight 24.86 ozs. (705 gr.)



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.)



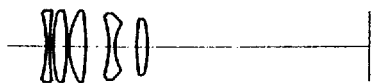
SMC Bellows-Takumar 100mm f/4

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.)

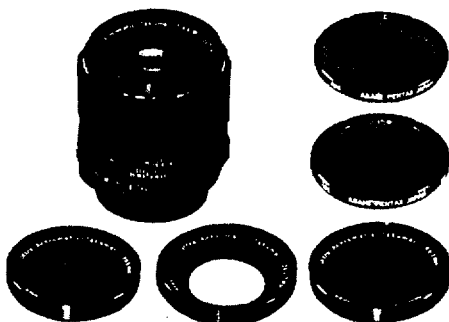


Ultra-Achromatic-Takumar 85mm f/4.5



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.

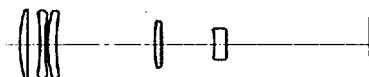
The lens uses no glass; it uses fluorite and quartz. This unique lens answers some of the optical quality and performance problems in ultraviolet and infrared photography. Although it is superb for infrared and visible light photography, its main design emphasis is placed on ultraviolet photography at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



distance. It is corrected against chromatic aberration from $220m\mu$ to $1000m\mu$, 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 $400m\mu$ up to $850m\mu$. The visible portion of the spectrum extends from $400m\mu$ to $700m\mu$. 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.		gr.	ozs			
SMC Fish-Eye Takumar	17mm f/4	22	11	FA	0.2	0.66	180°	228	7.98	BI	—	60
SMC Takumar	20mm f/4.5	16	11	FA	0.2	0.65	94	251	8.79	77	58*	60
SMC Takumar	24mm f/3.5	16	9	FA	0.25	0.8	84	247	8.71	58	60*	60
SMC Takumar	28mm f/3.5	16	7	FA	0.4	1.3	75	218	7.6	49	51*	51
SMC Takumar	35mm f/2	16	8	FA	0.4	1.25	62	242	8.53	49	49*	51
SMC Takumar	35mm f/3.5	16	5	FA	0.45	1.5	62	152	5.4	49	49	51
SMC Takumar	50mm f/1.4	16	7	FA	0.45	1.5	46	252	8.8	49	49	51
SMC Macro-Takumar	50mm f/4	22	4	FA	0.234	0.77	46	248	8.74	49	—	51
Super-Takumar	55mm f/2 ②	16	6	FA	0.45	1.5	43	215	7.5	49	49	51
SMC Takumar	55mm f/1.8	16	6	FA	0.45	1.5	43	201	7.0	49	49	51
SMC Takumar-Zoom	85-210mm f/4.5	22	11	FA	3.5	12	11-29	705	24.9	58	58	60
SMC Takumar	85mm f/1.8	16	6	FA	0.85	2.75	29	341	11.9	58	58*	60
SMC Bellows-Takumar	100mm f/4	22	5	PS	—	—	24	139	4.9	49	49*	51
SMC Takumar	105mm f/2.8	22	5	FA	1.2	4	23	290	10.2	49	49*	51
SMC Takumar	120mm f/2.8	22	5	FA	1.2	4	20	340	11.9	49	49*	51
SMC Takumar	135mm f/3.5	22	4	FA	1.5	5	18	343	12.1	49	49*	51
SMC Takumar	135mm f/2.5	22	5	FA	1.5	5	18	444	15.5	58	58*	60
SMC Takumar	150mm f/4	22	5	FA	1.8	6	16.5	324	11.3	49	49*	51
SMC Takumar	200mm f/4	22	5	FA	2.5	8.2	12.5	550	19.3	58	58*	60
SMC Takumar	300mm f/4	22	5	FA	5.5	18	8	946	33.1	77	*	85
SMC Takumar	400mm f/5.6	45	5	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 SP500 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 Honeywell Pentax Accessories for Close-Ups, Macrophotography, Photomicrography, and other Miscellaneous Accessories

● 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 Honeywell Pentax and a 55mm automatic diaphragm lens, this set of Auto-Extension Tubes permits focusing at magnification from $1.17\times$ to $0.17\times$ and operation of the automatic diaphragm.



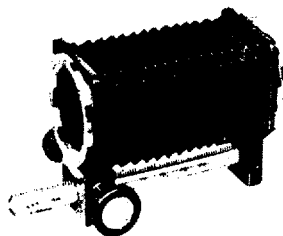
● HELICOID EXTENSION TUBE

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



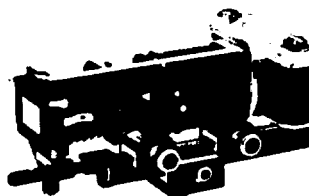
● BELLOWS UNIT I

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.

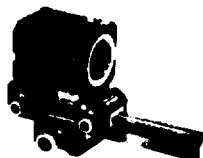


● AUTO-BELLOWS & SLIDE COPIER

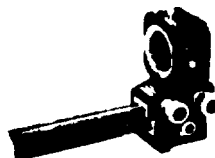
The Honeywell Pentax Auto-Bellows is a highly flexible close-up and macro-photographic instrument. The bellows extension is longer than the extension of the standard Bellows Unit. The Auto-Bellows is more versatile. With the double cable release supplied with the Auto-Bellows, you release the shutter 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 1.32 \times 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 10 \times to 20 \times magnification.



The Honeywell 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.



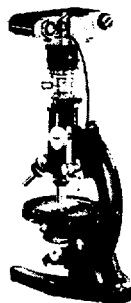
● REVERSE ADAPTER

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



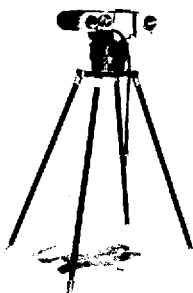
● MICROSCOPE ADAPTER

Fitting between the Honeywell 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, and light sealing tube.

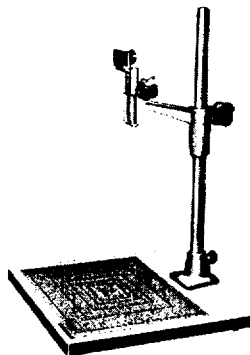


● COPIPOD

Light-weight, but extremely rigid and sturdy. This portable copying stand fits all models of the Honeywell 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.

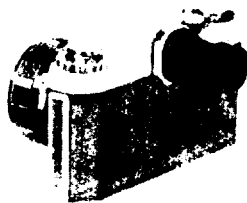


● COPY STAND



● 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 Honeywell Pentax and enlarges your viewing image 2 \times .



● 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 Honeywell 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.



● FILTERS AND LENSHOODS

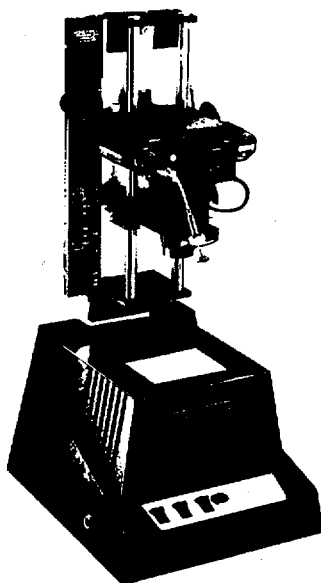
Honeywell Pentax lenshoods are recommended for use whenever possible to guard against off-angle light which will cause flare in your pictures. (Most Takumar lenses including standard lenses purchased separately, are supplied with special lenshood.) Improve your picture quality by using the Honeywell Pentax filters that are precision-ground, polished and coated for your Honeywell Pentax.



● HONEYWELL REPRONAR

This 35mm slide duplicator offers dozens of other features. Can be used to crop and enlarge; reduce 2-1/4" slides to 35mm; correct under, over-exposures and color balance. It can also be used to create titles.

Repronar consists of special purpose camera, easel with slide and filter holders, and electronic flash with high and low output control. 35mm camera is SLR with a high quality f/4 Takumar preset copy lens.



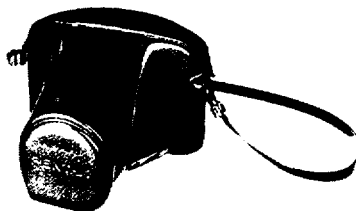
● CABLE RELEASE

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



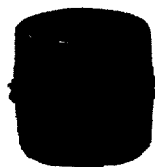
● SOFT CASE JUMBO FRONT

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



● LEATHER CASE FOR STANDARD LENSES

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



COMPUTERIZED HONEYWELL AUTO STROBONAR ELECTRONIC FLASH FOR USE WITH SPOTMATIC IIa FOR OFF-CAMERA FLASH

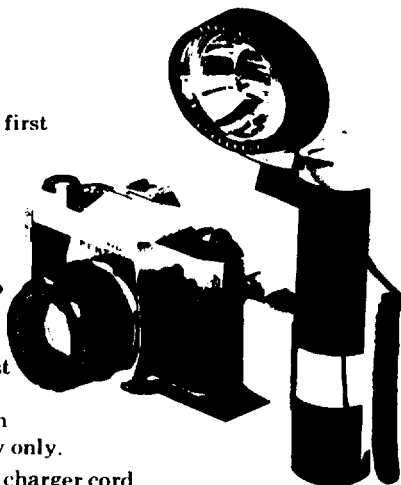
● Auto/Strobonar 772

This is the latest generation of the world's first computerized electronic flash. When used with the Honeywell Pentax Spotmatic IIa, it gives enough light for good exposures with on or off-camera flash up to 40 feet.

Auto-flash duration ranges from 1/1000 to 1/50,000 second. Powered by battery, AC or a combination of both sources.

Rechargeable ni-cad batteries gives at least 80 flashes. Recycle time to 100% light output within 12 seconds with combination of power, not more than 15 seconds battery only.

Comes complete with batteries and 10' AC charger cord.



● Auto/Strobonar 882

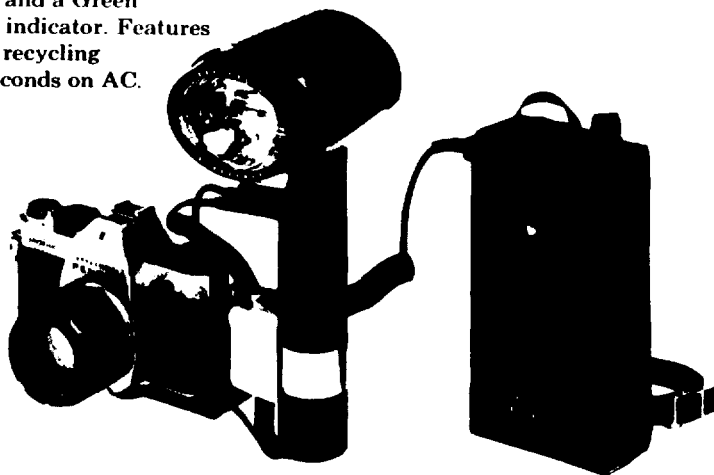
Designed for professionals and other photographers who shoot more than 100 pictures per session, the "882" gives up to 1000 flashes per high voltage battery. Like the "772" above,

has ready light and a Green

Light exposure indicator. Features

fast 2-4 second recycling

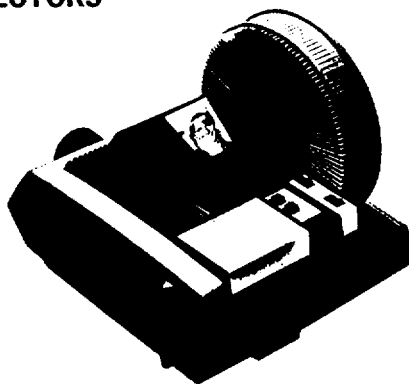
on battery, 10 seconds on AC.



● HONEYWELL PREVIEW PROJECTORS

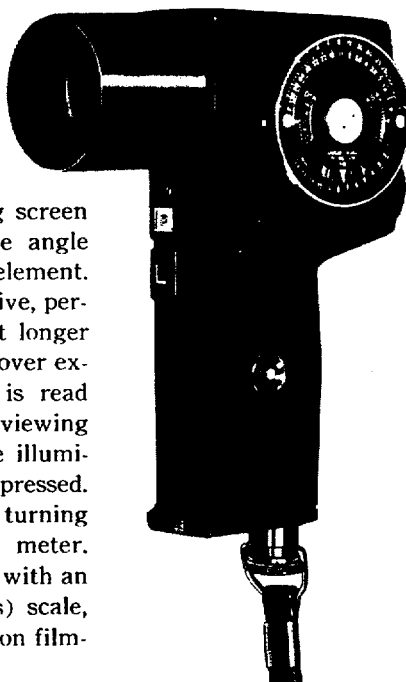
These new Honeywell slide projectors give the presenter a preview of every slide before it flashes on screen. Permits last-minute correction of upside-down or out-of-order slides. Also permits user to view slides without setting up a screen; makes sorting and editing much easier and faster.

Four basic projector models available. All accept either round or straight trays; all have Automatic Self-Focusing feature. Accessory lenses available include 2.8, 3.5 and zoom.



● HONEYWELL 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 center 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.



This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

[illegible]



WARRANTY POLICY

Your new Honeywell Pentax Spotmatic IIa is warranted for one year against defects in material or workmanship. This covers either the original purchaser or the gift recipient. Any defect in your Spotmatic will be repaired or replaced (at our option) and defective parts will be replaced without cost to you within the 12-month period, provided the camera has not been abused, altered or operated contrary to instructions. Honeywell will not be liable for damages from delay or loss of use or other indirect consequential damages.

If your camera should require service, you may send it to the most convenient factory center listed.

PENTAX INTERNATIONAL WARRANTY

If you intend taking your Pentax abroad during the warranty period, you may obtain a Honeywell Pentax international warranty card by writing to us. With your request, include your name, address, camera and lens serial numbers, dealer's name and address, and date purchased.

HONEYWELL REGIONAL SERVICE CENTERS:

HONEYWELL INC. Photographic Service Center
5501 South Broadway, Littleton, Colorado 80120

HONEYWELL INC. Photographic Service Center
Grand Arcade, 141 The Arcade, Cleveland, Ohio 44114

HONEYWELL INC. Photographic Service Center
7120 North Lawndale Avenue, Chicago, Illinois 60645

HONEYWELL INC. Photographic Service Center
4275 Wendell Drive S.W., Atlanta, Georgia 30336

HONEYWELL INC. Photographic Service Center
6620 Telegraph Rd., Los Angeles, California 90022

HONEYWELL INC. Photographic Service Center
24-30 Skillman Avenue, Long Island City, New York 11101

HONEYWELL INC. Photographic Service Center
554 Mission Street, San Francisco, California 94104

HONEYWELL INC. Photographic Service Center
128 Newbury Street, Boston, Massachusetts 02116

HONEYWELL INC. Photographic Service Center
45 South Ninth Street, Minneapolis, Minnesota 55402

CAUTION

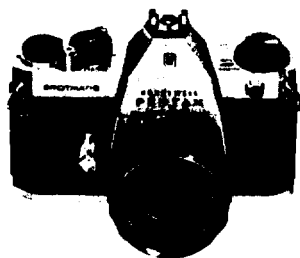
Mercury Battery

The mercury battery should be kept dry. Don't touch it with your finger unnecessarily. Before inserting it into its housing, wipe its surface completely with a dry piece of cloth. Don't try to measure the short current or to charge the battery, to prevent rapid deterioration. Don't throw a used battery into fire ... it may explode. Keep the battery out of the camera's battery housing when you do not intend to use it for a lengthy period of time. See page 16.

Should you need additional information about your Honeywell Pentax, address your questions to: Customer Service at the address below:

Honeywell

P.O. Box 1010
Littleton, Colorado 80120



Honeywell

Printed in Japan

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