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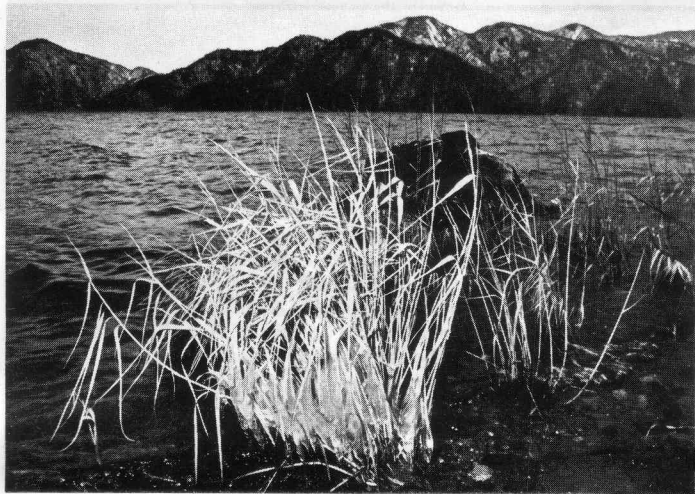
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✦ Electronic flash unit used



Not used ✦

SHUTTER SPEED

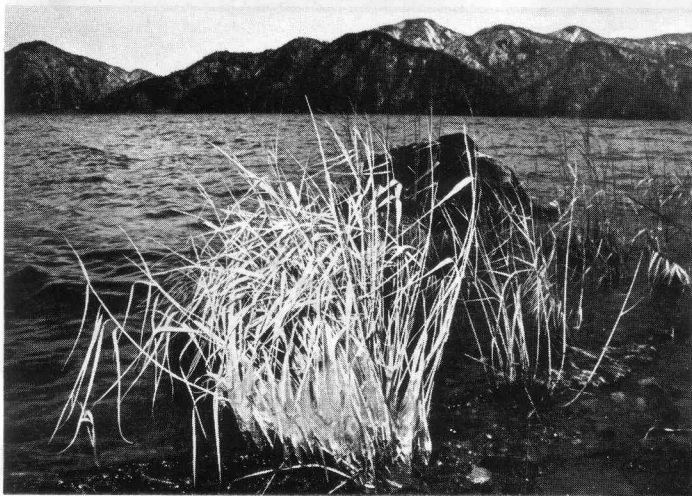
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ELECTRONIC FLASH

X

FLASH BULB

M · MF · FP CLASS



★ Electronic flash unit used



Not used ★

SHUTTER SPEED

$\frac{1}{1000}$ $\frac{1}{500}$ $\frac{1}{250}$ $\frac{1}{125}$ $\frac{1}{60}$ $\frac{1}{30}$ $\frac{1}{15}$ $\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ 1 B

ELECTRONIC FLASH

X

FLASH BULB

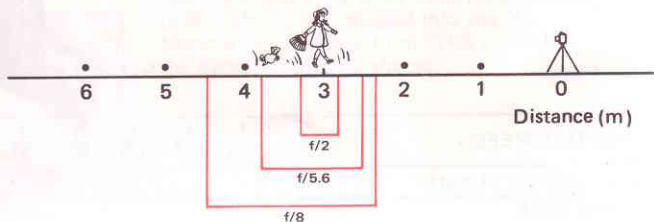
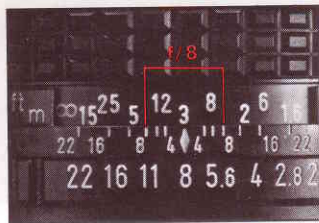
M · MF · FP CLASS

DEPTH-OF-FIELD GUIDE

Depth of field is the range between the nearest and farthest distances which are in focus at a given lens aperture.

If you want to know how great the depth of field is at a certain aperture, focus on a subject and look at the depth-of-field guide on the lens. In the photograph below, the distance scale is set at 3 meters . . . the lens is focused on a subject 3 meters 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 a lens opening of $f/8$ is to be used, the range on the distance scale ring covered within the figure 8 on the depth-of-field guide indicates the area in focus at that lens opening. You will note from the depth-of-field guide in the photograph that the range from approximately 2.3 to 4.5 m is in focus. Note that as the lens apertures change, the effective depth of field also changes. For the depths of field at different apertures and distances, refer to the next page.



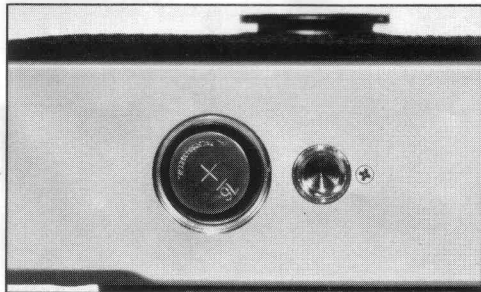
DEPTH-OF-FIELD TABLE: SMOKE PATTERN CAMERA WITH 2 LENS

Distance scale	0.45m	0.6m	1m	1.6m	2m	3m	5m	15m	∞
f/2	~ 0.446 ~ 0.454	~ 0.593 ~ 0.608	~ 0.977 ~ 1.024	~ 1.539 ~ 1.666	~ 1.904 ~ 2.106	~ 2.785 ~ 3.252	~ 4.420 ~ 5.757	~ 10.707 ~ 25.077	37.070 ~ ∞
f/2.8	~ 0.445 ~ 0.455	~ 0.590 ~ 0.611	~ 0.969 ~ 1.034	~ 1.516 ~ 1.694	~ 1.869 ~ 2.152	~ 2.708 ~ 3.365	~ 4.225 ~ 6.128	~ 9.609 ~ 34.313	26.491 ~ ∞
f/4	~ 0.443 ~ 0.458	~ 0.586 ~ 0.615	~ 0.956 ~ 1.049	~ 1.483 ~ 1.737	~ 1.818 ~ 2.224	~ 2.599 ~ 3.550	~ 3.962 ~ 6.786	~ 8.329 ~ 76.783	18.557 ~ ∞
f/5.6	~ 0.440 ~ 0.461	~ 0.580 ~ 0.622	~ 0.939 ~ 1.070	~ 1.441 ~ 1.799	~ 1.754 ~ 2.329	~ 2.468 ~ 3.832	~ 3.659 ~ 7.922	~ 7.075 ~ ∞	13.268 ~ ∞
f/8	~ 0.436 ~ 0.466	~ 0.572 ~ 0.631	~ 0.915 ~ 1.103	~ 1.383 ~ 1.901	~ 1.667 ~ 2.506	~ 2.294 ~ 4.351	~ 2.294 ~ 10.585	~ 5.774 ~ ∞	9.300 ~ ∞
f/11	~ 0.430 ~ 0.472	~ 0.562 ~ 0.644	~ 0.887 ~ 1.148	~ 1.316 ~ 2.047	~ 1.569 ~ 2.771	~ 2.109 ~ 5.242	~ 2.911 ~ 18.301	~ 4.697 ~ ∞	6.776 ~ ∞
f/16	~ 0.422 ~ 0.482	~ 0.546 ~ 0.667	~ 0.844 ~ 1.231	~ 1.219 ~ 2.348	~ 1.430 ~ 3.366	~ 1.861 ~ 7.978	~ 2.450 ~ ∞	~ 3.588 ~ ∞	~ 4.672 ~ ∞
f/22	~ 0.413 ~ 0.496	~ 0.529 ~ 0.696	~ 0.798 ~ 1.349	~ 1.120 ~ 2.855	~ 1.294 ~ 4.545	~ 1.631 ~ 21.588	~ 2.061 ~ ∞	~ 2.799 ~ ∞	~ 3.410 ~ ∞

Distance scale	1.55'	1.9'	2.5'	3'	6'	8'	12'	25'	∞
f/2	~ 1.536' ~ 1.564'	~ 1.878' ~ 1.923'	~ 2.459' ~ 2.543'	~ 2.939' ~ 3.064'	~ 5.738' ~ 6.287'	~ 7.533' ~ 8.530'	~ 10.960' ~ 13.262'	~ 20.802' ~ 31.339'	121.623' ~ ∞
f/2.8	~ 1.531' ~ 1.570'	~ 1.869' ~ 1.932'	~ 2.443' ~ 2.560'	~ 2.915' ~ 3.091'	~ 5.640' ~ 6.410'	~ 7.361' ~ 8.763'	~ 10.593' ~ 13.845'	~ 19.495' ~ 34.884'	86.915' ~ ∞
f/4	~ 1.523' ~ 1.573'	~ 1.856' ~ 1.946'	~ 2.419' ~ 2.587'	~ 2.880' ~ 3.131'	~ 5.499' ~ 6.604'	~ 7.118' ~ 9.137'	~ 10.087' ~ 14.824'	~ 17.817' ~ 42.020'	60.884' ~ ∞
f/5.6	~ 1.512' ~ 1.590'	~ 1.839' ~ 1.965'	~ 2.388' ~ 2.624'	~ 2.835' ~ 3.187'	~ 5.322' ~ 6.882'	~ 6.818' ~ 9.690'	~ 9.485' ~ 16.370'	~ 15.986' ~ 57.817'	43.530' ~ ∞
f/8	~ 1.497' ~ 1.608'	~ 1.815' ~ 1.995'	~ 2.343' ~ 2.681'	~ 2.769' ~ 3.275'	~ 5.078' ~ 7.347'	~ 6.414' ~ 10.660'	~ 8.706' ~ 19.414'	~ 13.855' ~ 132.990'	30.514' ~ ∞
f/11	~ 1.478' ~ 1.631'	~ 1.785' ~ 2.033'	~ 2.290' ~ 2.756'	~ 2.692' ~ 3.393'	~ 4.802' ~ 8.027'	~ 5.973' ~ 12.190'	~ 7.898' ~ 25.319'	~ 11.882' ~ ∞	22.231' ~ ∞
f/16	~ 1.447' ~ 1.670'	~ 2.101' ~ 1.737'	~ 2.206' ~ 2.892'	~ 2.573' ~ 3.609'	~ 4.406' ~ 9.500'	~ 5.361' ~ 16.047'	~ 6.845' ~ 51.597'	~ 9.611' ~ ∞	15.329' ~ ∞
f/22	~ 1.413' ~ 1.721'	~ 1.684' ~ 2.188'	~ 2.114' ~ 3.075'	~ 2.445' ~ 3.911'	~ 4.012' ~ 12.205'	~ 4.778' ~ 25.969'	~ 5.906' ~ ∞	~ 7.827' ~ ∞	~ 11.188' ~ ∞

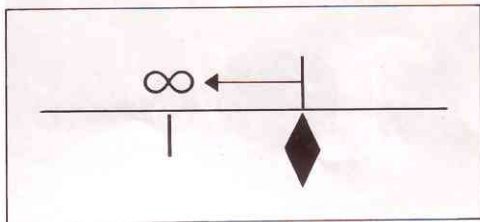
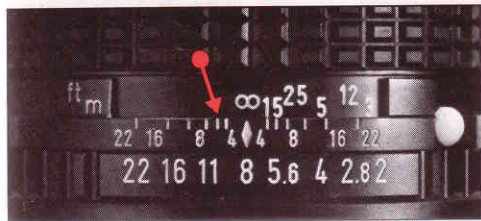
An alkaline battery or the silver oxide battery in your K1000 is used only for powering the exposure meter; the shutter mechanism is a totally manual operation. Therefore, your camera can still be operated even if the battery is worn out. (A good sign of a worn-out battery is that the black meter needle does not move when you remove the lens cap.)

If the battery is worn out and the exposure meter is no longer functioning, you must determine the correct combination of shutter speed and aperture size yourself, from your own experience. Also, packed in with most types of 35mm film is a data sheet of suggestions for determining the correct exposure in a variety of situations.



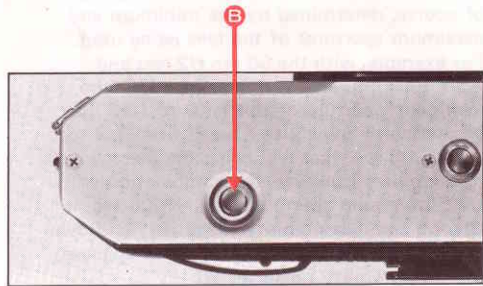
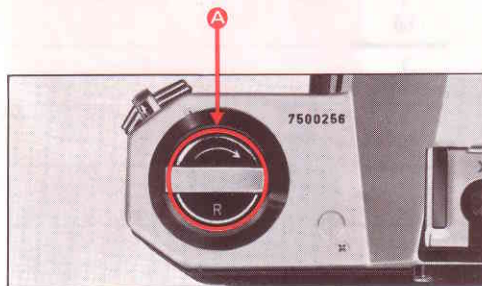
INFRA-RED PHOTOGRAPHY

If you intend to take infra-red photographs, remember to use the infra-red index marked with an orange line on the depth-of-field guide. First, bring your subject into clear focus. Then determine the lens-to-subject distance from the distance scale on the lens. Then match your lens-to-subject distance to the infrared 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.



For deliberate multiple exposures, make the first exposure in the normal way. Then tighten the film by turning the rewind knob **A**, and keep hold of the rewind knob. Depress the film rewind release button **B** and cock the rapid-wind lever. This

cocks 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 as registration may not be exact.



RANGE OF LIGHT MEASUREMENT

The exposure meter of the K1000 measures the brightness of the ground glass. Therefore, the meter needle should be centered after you have focused your subject on the ground glass. The area (A) in the table indicates the reading range of the meter, and should not be interpreted as the camera's total range of f/stop-shutter speed combinations. As you will note from the table, with an ASA 100 film, you may use any shutter speed from 1/2 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/2 lens and ASA 100 film, any aperture from f/2 (the maximum aperture of this lens) to f/16 may be used with any shutter speed from 1/2 sec. to 1/1000 sec. that will bring the meter needle to midpoint. However, the combination of f/22 (minimum aperture) and 1/1000 sec. is beyond the measurability range (B), as shown in the table. As the ASA film speed changes, the measurability range varies.

	f							
Sec.	2	2.8	4	5.6	8	11	16	22
1	B							
$\frac{1}{2}$								
$\frac{1}{4}$								
$\frac{1}{8}$								
$\frac{1}{15}$								
$\frac{1}{30}$					A			
$\frac{1}{60}$								
$\frac{1}{125}$								
$\frac{1}{250}$								
$\frac{1}{500}$								
$\frac{1}{1000}$								B

Open-aperture SMC Pentax lenses have a diaphragm coupling lever **A** on the back of the lens which locks into the camera body to permit open-aperture metering. The super telephotos do not have a diaphragm coupler, so they must be used with the stop-down metering system.

Use of the Auto-Extension Tube Set K permits open-aperture metering. It can also be set to stop down the diaphragm automatically. Use of other K Series accessories – standard Extension Tube Set K, Helicoid Extension Tube K, Auto-Bellows M and Bellows Unit III – requires stop-down metering. Whenever any one of these is used between the camera body and an SMC Pentax lens, the stop-down metering system must be used.



USING CONVENTIONAL SCREW-MOUNT TAKUMAR LENSES



Conventional screw-mount Takumar lenses (both Super-Takumar and SMC Takumar) can be easily mounted onto your camera by attaching them first to a Mount Adaptor K. Use of the Mount Adaptor K does not affect any aspect of normal lens function except as regards the following two points:

1.

Due to the difference in coupling systems, the automatic diaphragm will not function.

2.

Full-aperture metering lenses will function as stop-down metering lenses.

HOW TO USE MOUNT ADAPTOR K

1.

Screw the conventional Takumar lens into the Mount Adaptor K.

2.

Attach the Adaptor/lens unit to the camera body by aligning the red dots **A** and **B**, and turning the lens clockwise until it locks with a click. (This takes slightly less than a quarter of a revolution.)

3.

To remove the lens, leaving the Mount Adaptor K attached to the camera body, simply unscrew the lens counter-clockwise. Other screw-mount Takumar lenses can then be attached in the normal way.

1.

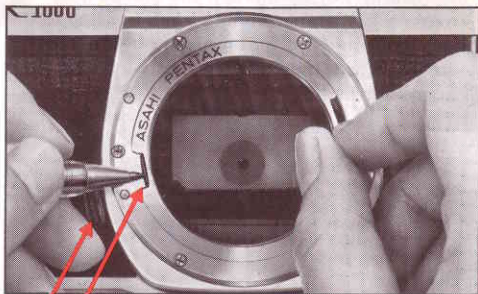
To remove the Mount Adaptor K from the camera body, first remove the screw-mount lens. Then press, with your thumbnail or a pointed object such as a ballpoint pen, against the spring pin **C**.

2.

Turn the Mount Adaptor K counter-clockwise until you feel it release, and take it out.

3.

Since the mechanism for locking in the Mount Adaptor K is totally different from that which locks in an SMC Pentax bayonet-mount lens, the lock lever **D** on the camera body plays no part at all.



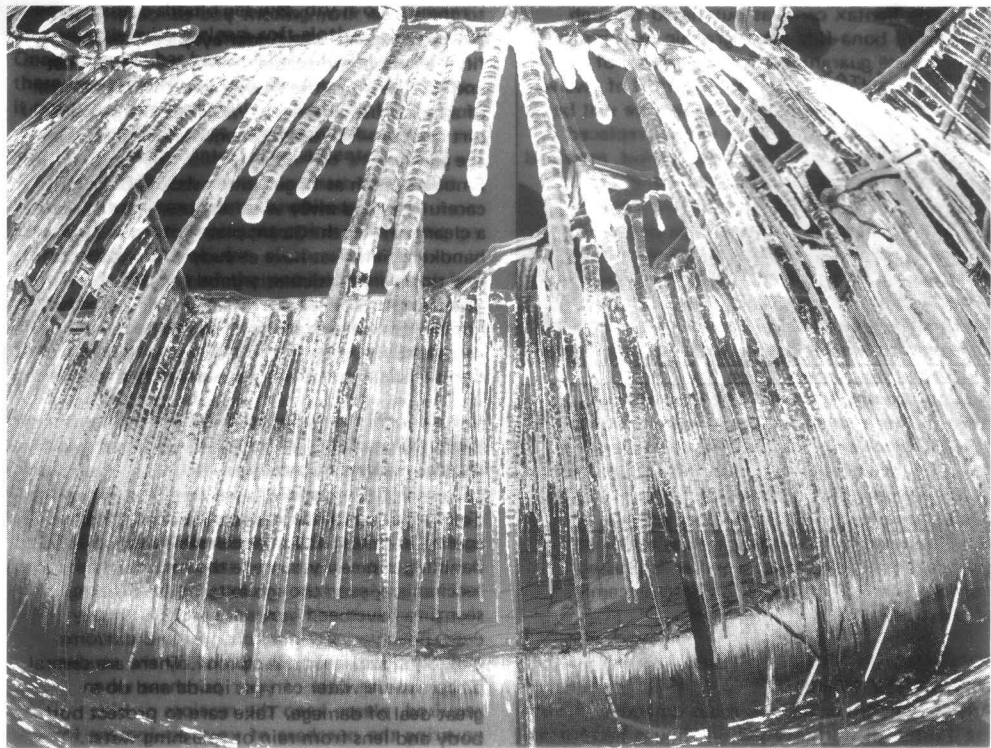
RESISTANCE TO TEMPERATURE EXTREMES AND CHANGES

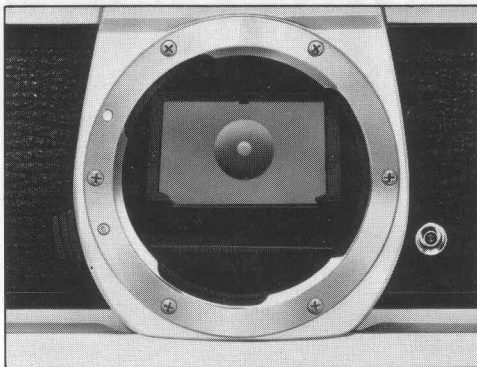
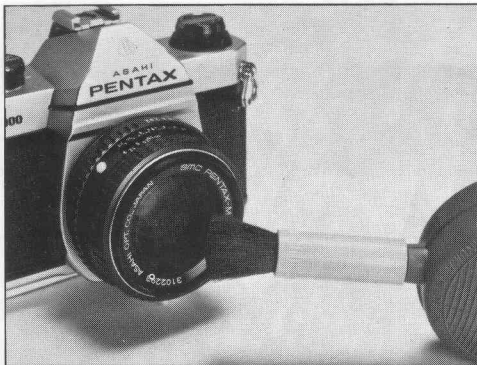
The temperature range at which your camera will continue to function properly stretches from 50°C to -20°C. However, resistance to cold could be hampered by oil which has become dirty. Therefore, if the camera is to operate at full efficiency in very cold conditions, it must be overhauled and all oil must be replaced.

Sudden changes in temperature will often cause moisture to condense inside or outside your camera. This is a possible source of rust, which may be extremely damaging to the mechanism. Furthermore, if the camera goes from a warm temperature to a sub-freezing one, and if tiny drops of moisture freeze, further damage may be done by their expansion.

Thus, sudden temperature changes should be avoided as much as possible. As a guide, a temperature change of 10°C should be allowed to take place gradually over a period of at least 30 minutes. If this is not possible, keeping the camera in its case or bag will help somewhat in minimizing the effects of a rapid temperature change.

Extremely low temperature reduces the efficiency of the battery. Therefore, the camera should be protected against low temperature. Put the batteries into the camera right before shooting. For extremely low temperature, use new batteries.



**1.**

Always keep the viewfinder eyepiece, lens and filter as clean as possible. To remove loose dust and dirt, first use the blower and then the brush of a lens brush. Do not try to wipe off granular dirt or dust — it's an excellent way of scratching the glass.

Smudges, such as fingerprints, should be carefully wiped away with either a lens tissue or a clean, soft cloth. Clean, plain cotton handkerchiefs that have already been washed a few times are particularly good for this.

Breathing on the lens before wiping is effective; but be sure to wipe away all moisture completely.

Commercial lens cleaners are also effective.

2.

Never touch the mirror or the shutter curtains. Minor dirt or spots on the mirror will not affect the clarity of your pictures.

3.

Take care not to drop the camera or knock it against anything solid. Accidents or rough handling can easily damage the internal mechanism, even though externally nothing seems to have been hurt.

4.

Your camera is **not** waterproof. There are several places where water can get inside and do a great deal of damage. Take care to protect both body and lens from rain or splashing water.

If your camera should get wet, dry it off immediately with a clean, soft cloth.

Once a camera has become completely soaked, there is often nothing that can be done to make it right again. However, in such a case, take your camera as soon as possible to an authorized Asahi Pentax Service Center.

5.

Where to keep your camera while you are not using it is an important point. The best storage place is cool, dry, clean and well-ventilated. Because of the possible build-up of humidity, it is risky to store your camera in a cabinet or closet. It's also a good idea to keep your camera in its bag or case while you are not using it.

6.

When mounting your camera on a tripod, be sure the tripod screw is no longer than 5.5mm. This is the depth of the tripod screw hole on your camera. If you use a longer screw, you will probably puncture the bottom of the hole, after which the camera will not function properly.

