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*Color  
Finder*

↙  
GOSSEN

*Sixtomat*

1 Adjustment for Film Speed



2 Reflected Light

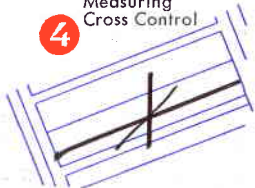


3 Incident Light



SIX POINTS OF INFORMATION:

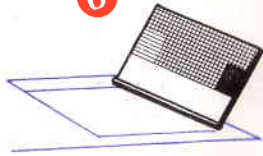
4 Measuring Cross Control



5 Reading of Exposure Data



6 Colour Temperature Measurement

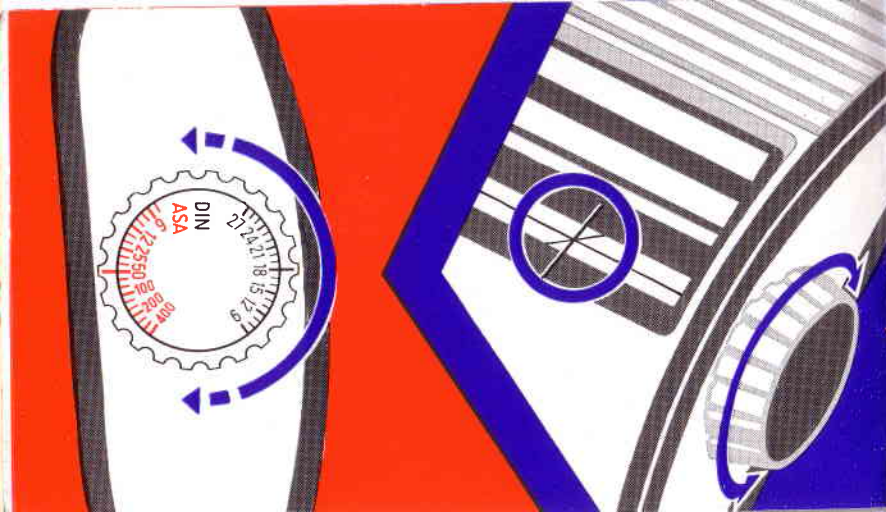


Instructions for



GOSSEN

x3

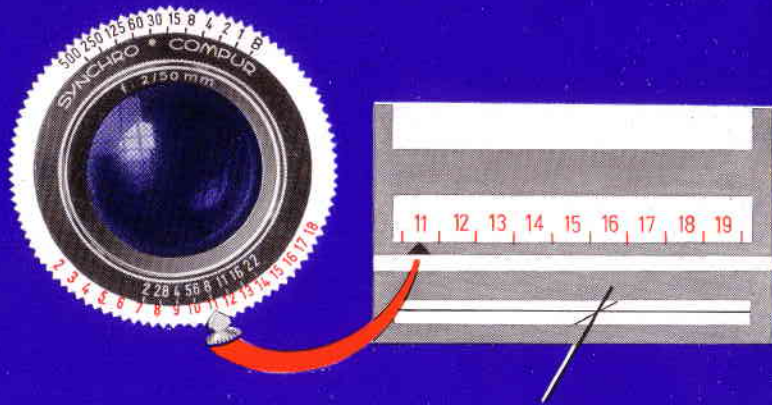


## FIRST OF ALL: FILM SPEED

Turn the knurled knob to the left or right until the index line clicks into place for the speed of your film.

## MEASUREMENT OF HAIR-LINE ACCURACY

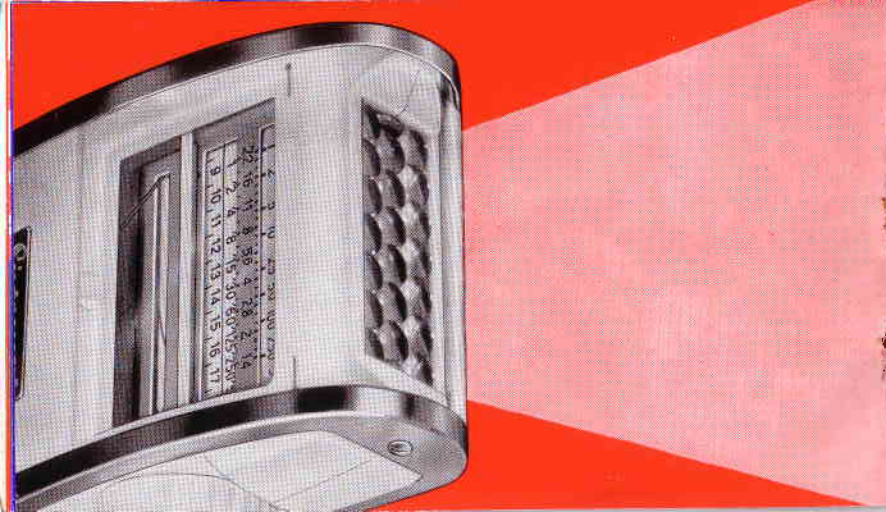
Whether you use the reflected light or incident light method, you obtain the correct reading in the same fashion. Turn the adjusting knob until the curved diagonal line runs exactly through the point at which the needle intersects the index line. You now have a perfect cross of hair-line accuracy, and the result of your measurement is ready for reading off from the window above.



## FOR CAMERAS WITH LIGHT VALUE SCALE

In case your camera features the new "Synchro-Compur with light value scale" you can take immediate light value readings with your SIXTOMAT  $\times 3$ .

After you have found the hair-line cross, you simply read the red figure which appears above the small green triangle at the extreme left hand corner of the lowest scale. You transfer the red light value found on the SIXTOMAT  $\times 3$  to your compur shutter and your camera is properly set. By turning the large knurled ring on the shutter you select the f/stop shutter speed pair which is most suitable for the type of picture you want to take. As long as the f stop lever remains set on the light value indicated by the meter, the correct exposure combination will be maintained. The light value scale also permits reading of intermediate values (half light values) and they also can be set on the shutter.



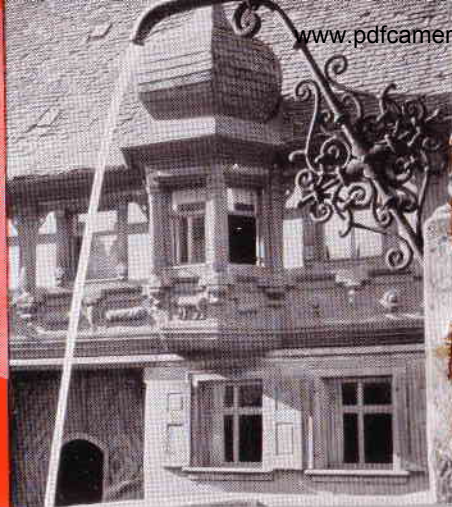
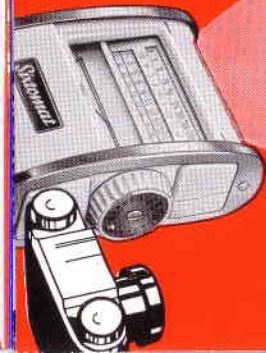
## REFLECTED LIGHT MEASUREMENT - PRINCIPLE

Slide the Roller blind back as far as it will go. The light reflected by the scene or object to be photographed now flows freely through the honeycomb lenses of the photocell of your SIXTOMAT  $\times 3$ . There it is transformed into an electric current. The amount of current produced corresponds to the brightness of the object. The pointer indication is also a measure of how much light reaches the film during exposure.

In using this reflected light method always take a reading of your SIXTOMAT  $\times 3$  from the camera position to that of the object. Thus the exposure meter and camera see the subject in the same way. And this agreement is made complete because the optical system of the coated honeycomb lens makes the angle of acceptance of the SIXTOMAT  $\times 3$  conform to the angle of most normal camera lenses.

## REFLECTED LIGHT MEASUREMENT - APPLICATION

You will always have excellent results if you remember to measure the most important parts of the subject. Very bright surroundings can falsify the reading (underexposure). For this reason sunshine, strong reflected light or lamps must never be allowed to shine directly on the honeycomb lens. In the open air hold your SIXTOMAT  $\times 3$  slightly downwards. Thus the reading comes from the important foreground, and eliminates the bright sky as a source of error. Dark surroundings can also be misleading, but the resulting over-exposure is usually negligible. The method of reflected light measurement is recommended for all average subjects. However, if there are strong contrasts you should take a reading close to the important part of the picture, making sure not to let your own body cast a shadow over the subject.





## INCIDENT LIGHT MEASUREMENT - PRINCIPLE

In this case the light illuminating the scene or subject instead of the light reflected by it is measured. It is this illumination, after all, that is responsible for brightness of the scene and therefore for the exposure. As the light is now coming from many different directions, a larger measuring angle becomes necessary. The normal angle of acceptance, limited so as to be suitable for Reflected Light measurement, becomes unsuitable for the Incident Light method. Therefore you now slide the diffusing Roller blind over the front of the honeycomb lens up to the red lines. You now point your SIXTOMAT X3 horizontally from the subject to the position from which you will take the photograph.

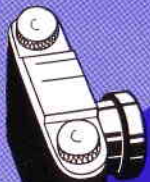




## INCIDENT LIGHT MEASUREMENT - APPLICATION

The Incident Light method is simple and always reliable if you realise that your SIXTOMAT  $\times 3$  has to measure illumination as near as possible from the position of the subject. Point the exposure meter, which now has the Roller blind over the lens, to the camera position, making sure that your SIXTOMAT  $\times 3$  and the side of the subject facing the camera receive the same illumination from the same direction.

With inaccessible subjects the normal method of measuring incident light cannot be used. In spite of this an accurate reading can be obtained; select a substitute point which receives the same light as your subject as far as strength and direction is concerned.





*Color  
Finder*

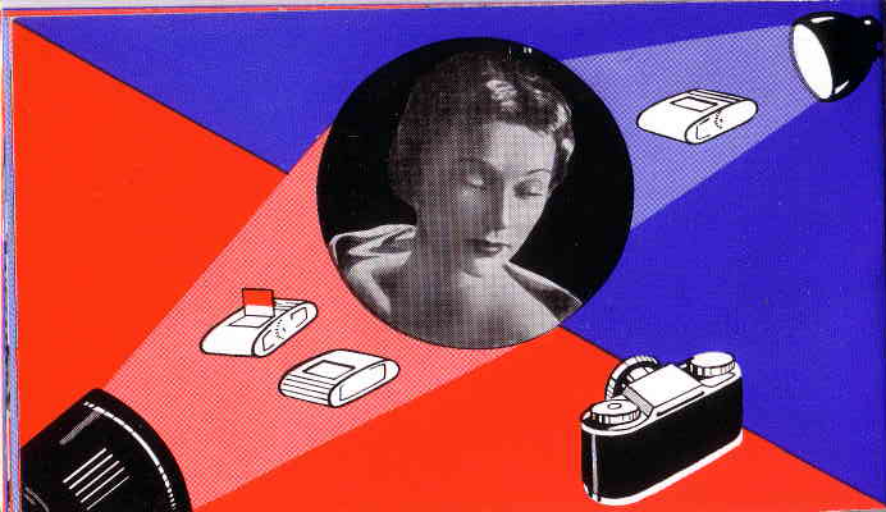
## COLOUR TEMPERATURE MEASUREMENT - PRINCIPLE

Colour Films are made either for normal daylight (Colour temperature 5800° K) or for tungsten light (3200° K). The higher the colour temperature the richer is the light in blue rays; the lower the colour temperature, the richer the red content. The eyes cannot be safely relied on to judge these differences. Even a slight variation from correct lighting can cause the most disappointing results — especially with reversal film — unless carefully guarded against. The colour finder on the rear side of the SIXTOMAT × 3 makes possible the measurement of colour temperature by means of a simple comparison of the red field on the right hand side with the five square fields on the left hand side. Whichever of these squares corresponds most closely to the colour of the comparison field indicates the colour temperature of the existing light.

## COLOUR TEMPERATURE MEASUREMENT - PRACTICE

Open the colour finder by gently pressing the door on the back of the Meter in the direction of the knurled knob and point the colour field in the direction of the light falling on your subject. The colour reading should be taken with the colour finder as far as possible held vertically in line with the flat field of view that is to be measured. You will notice differences in Colour Temperatures from different parts of the sky. You choose the most favourable position for your camera, or wait, if need be, for a more suitable time. In artificial light you can adjust the position of your lamps and reflectors to compensate if necessary. If the illumination is not influenced, correction filters placed in front of your lens will often help (see table on inside back cover).

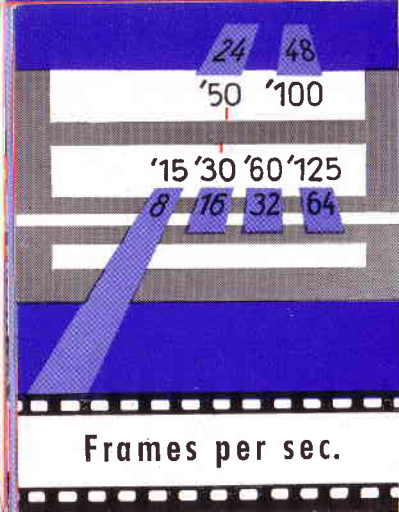




## PROPER EXPOSURE - PROPER LIGHTING

Effective lighting plays its part in the completeness of your photographs. You can select lighting for strong or small contrast or overall evenness. Prepare the meter for Incident Light by sliding the roller blind into position, and measure the illumination from the subject in every direction, that is, towards all light sources. Some subjects, for instance reproductions, require even illumination all over, and the needle should remain in the same position while the SIXTOMAT  $\times 3$  is turned in all directions.

Other subjects, such as character studies, may require contrast between the basic illumination and the high lights, which you can easily ascertain with the help of the light value scale. In general, the ratio for colour film should not exceed 2 to 1; but with black and white considerably more latitude is possible.



The red mark above 1/30 second concerns the normal film speed of 16 frames per second, the red mark below 1/50 s. concerns 24 frames per second

**FOR USE WITH CINE CAMERAS**

With motion pictures you do not adjust exposure time, but only aperture. A simple rule is: take twice the number of frames per second as fractions of a second and read off the aperture.

**ZERO POINT CONTROL**

When no light whatsoever reaches the photoelectric cell, the needle of your SIXTOMAT X 3 must rest at the extreme left, at the intersection of the black index line and the red guide line. Should this not be the case at any time, the small screw under the colour finder should be turned until the needle is in the correct position.

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**Filters for colour-films**

Daylight Colour Film		Color Finder Color Temperature	Artificial Light Colour film	
Lifa-Filter	Kodak-Filter		Kodak-Filter	Lifa-Filter
CB 18	80 A+82 C	ca. 2600° K	82 C+ 82	CB 6
CB 12	80 A	ca. 3200° K	-	-
CB 6	82 C+ 82	ca. 4000° K	81 EF+ 81	CR 6
-	-	ca. 5800° K	85	CR 12
CR 6	81 EF+ 81	ca. 10000° K	85 B+ 81 B	CR 18

Note, when using filters that the exposure time has to be increased. The corresponding filter factor is given by the manufacturer.

1/10 <sup>0</sup> DIN	ASA	Europ. Scheiner
9	6	19
10	8	20
11	10	21
12	12	22
13	16	23
14	20	24
15	25	25
16	32	26
17	40	27
18	50	28
19	64	29
20	80	30
21	100	31
22	125	32
23	160	33
24	200	34
25	250	35
26	320	36
27	400	37