



SIXTOMAT 2 electronic

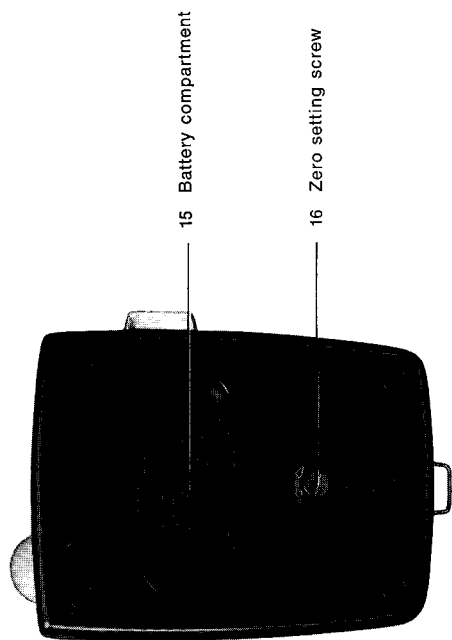
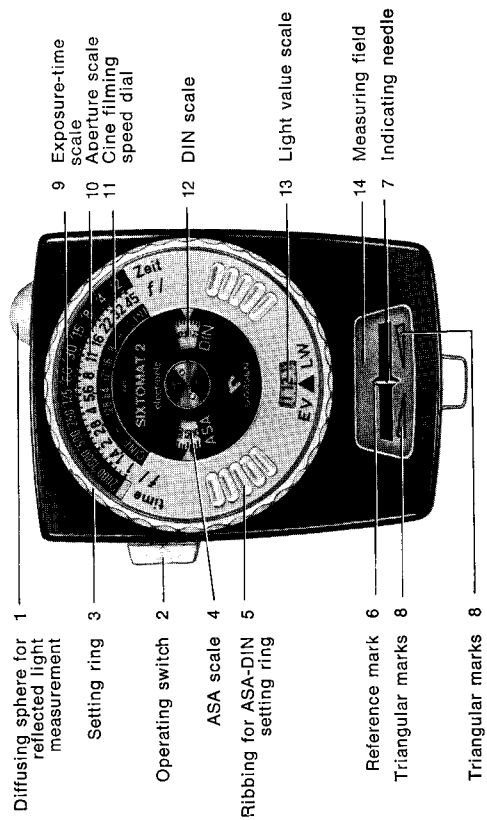
May we present to you the SIXTOMAT 2 electronic

The SIXTOMAT 2 electronic is one of the precision meters produced by



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a line comprising exposure meters, colour temperature meters, measuring instruments for laboratory and darkroom as well as electronic flash meters.

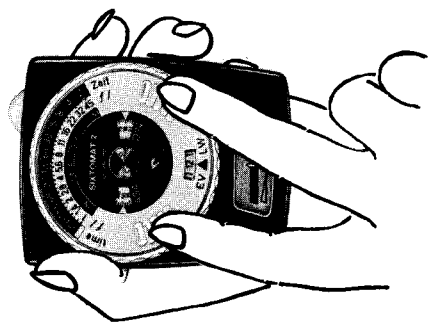


Subject to changes without prior notice

Before Measuring

1. Setting the Film Speed

Turn the rotary knob (12) with your thumb as shown in the illustration or with a coin until the speed of the film you are using will appear as DIN or ASA rating (13) below the index mark in the setting window.



2. Zero point control

Remove the battery compartment (15) and press down operating switch, then the indicating needle (7) must be exactly below the tip of the reference mark (6). If not, turn the adjusting screw (16) on the back of the meter to the left or the right until the needle is exactly below the tip of the reference mark.

3. Batteries

Two batteries 1.35 V, IEC MR 9 are being used in the SIXTOMAT 2 electronic. This designation corresponds, i.e. to the commercially available types Mallory PX 625, VARTA V 625 PX or Daimon 190. It is advisable to check the voltage of the batteries from time to time. The batteries must be replaced when the indicating needle (7) reacts only by very little movement to contrasts of light (when passing from measuring dark subjects to measuring light subjects).

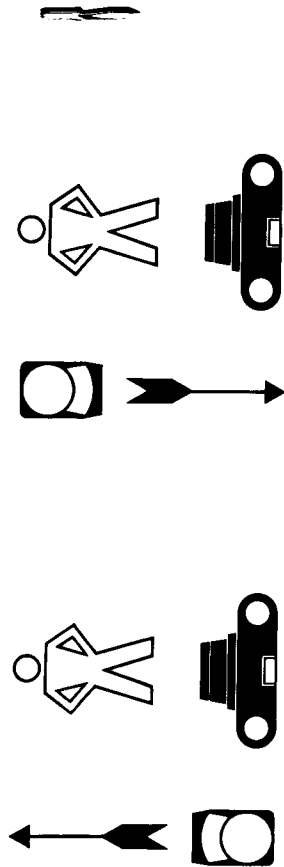
For changing the batteries hold the SIXTOMAT 2 electronic in such a way, that the diffusing sphere is pointed upwards. Remove the battery compartment (15), put in new batteries and slide the battery compartment back into the meter. When inserting the new batteries "+" must be downwards.

Measuring

The two measuring methods possible — reflected light and incident light measurement — are being described on pages 4 and 6. The method you will use will largely depend on the subject you are intending to photograph. You may rest assured that a hand-held exposure meter such as the SIXTOMAT 2 electronic is equally suitable for both methods.

After having set the SIXTOMAT 2 electronic to the measuring method chosen, you press the operating switch (2) and turn the calculator ring (3) until the indicating needle (7) will be exactly under the tip of the reference mark (6). You can now read the suitable combination of f/stop and exposure time on the dials (9) and (10). For cine cameras the correct f/stop is the one opposite to the selected film speed (11). Please see also page 7.

The two triangular marks (8) will show you in which direction the calculator ring is to be turned. If the needle is below the right triangular mark, turn the calculator ring clockwise. Should it be below the left triangular mark, turn the ring anti clockwise.



Reflected Light Method: the diffusing sphere (1) is to be pushed to the extreme right until it clicks into position. For this type of measurement you must point your SIXTOMAT 2 electronic from the camera position towards the subject as shown in the illustration. The measuring angle is 30° .

Incident Light Method: move the diffusing sphere (1) exactly to the central position over the cell window. With the sphere in this position the SIXTOMAT 2 electronic will measure incident light and must be pointed from the subject towards the camera as shown by the arrow in the illustration. With this method there is no longer any limitation of the measuring angle.

When using reflected light measurement you measure from the camera position towards the subject. It is an easy method for uncomplicated cases. The SIXTOMAT 2 electronic scans the total light reflected from the subject within a solid angle of 30° . The effective reading therefore depends not only on the intensity of the illumination, but also on the colour and brightness of the subjects themselves. Thus, under identical illumination, the indicator needle will be deflected less by dark objects than by bright ones. The exposure meter reads and sums up the individual details of different brightness in the subject and indicates an average value. As a consequence, scenes or subjects having strong contrasts in brightness or colour should be measured according to the incident light method described below for obtaining better results. When photographing open landscapes comprising a large part of the bright sky, it is advisable to point the SIXTOMAT 2 electronic slightly downwards when measuring. Close up measuring is also to be recommended. The small measuring angle of 30° permits aiming the meter exactly. You can thus scan the various parts of your subject and determine whether it comprises contrasts or does have well balanced distribution of brightnesses.

In **incident light measuring** the light is being measured from the subject towards the camera. Thus the SIXTOMAT 2 electronic receives and measures all the light falling on that part of the subject which faces the camera. Naturally, the different brightnesses of the various details in the subjects are not taken into account. Therefore, this method is ideal for subjects with strong contrasts and very bright and very dark areas. It will be considerably safer to get perfectly exposed photos under these conditions than the reflected light measurement, just try it with your SIXTOMAT 2 electronic and you will easily get the proof.

If you cannot stand at the subject position, take an incident light measurement towards the camera, choose a position which receives the same light as the subject. In this case, do not aim the SIXTOMAT 2 electronic direct at the camera, but in parallel to the connection line between subject and camera.

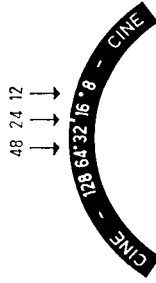
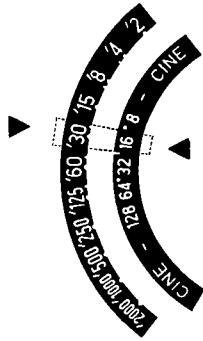
Operating hints



'2, '4, '8 etc. are fractions of a second, i.e. they are equivalent to $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ secs. etc. The plain numbers 1, 2, 4 are full seconds. 1 m, 2 m, 4 m etc. indicate 1, 2, 4 etc. minutes. 1 h, 2 h indicate full hours.

Cine exposures

Cine filming speeds and corresponding exposure times. Please note that the exposure time at 16 frames per second normal running speed is not always equivalent to $\frac{1}{30}$ sec. If in doubt consult the camera instruction manual or the camera manufacturer.



Cine frames (intermediate values)

Reciprocity Failure

Photography in dim lighting conditions means abnormally long exposure times. This results in the Schwarzschild Effect (so called Reciprocity Failure) with all film types. The measured times must be extended, if underexposure is to be avoided in this sort of shot. The degree of failure differs for each film type and it is for this reason, that it is not taken into consideration on the scales of the SIXTOMAT 2 electronic.

In addition, reciprocity failure causes changes of colour balance with colour films which must be compensated for by using correction filters. Some types of sheet colour film come with special data sheets giving recommendations for use with abnormally long exposures. In other cases, it is best to apply to the film manufacturer concerned or a colour laboratory for their latest recommendations.