

**S.E.C.**

**PHOTO ELECTRIC  
EXPOSURE METER**

**MADE IN ENGLAND**



**SOLE WORLD DISTRIBUTORS**

**JOHNSONS of HENDON**



## THE G.E.C. PHOTO-ELECTRIC EXPOSURE METER

The G.E.C. Photo-electric Meter is designed to provide a simple and accurate method of determining photographic exposures. It has passed a series of severe tests, and the exceptionally robust construction of the working parts will ensure long and reliable service.

The Meter is of a new design and has no corners, buttons or loose parts. It may be slipped into the pocket or hung around the neck without fear of damage.

There being no lid or flap to open, the Meter is instantly ready for use and need only be pointed at the subject to be photographed. One setting of the light reading

on a large, clearly engraved scale is all that is required to obtain the correct exposure.

A novel feature is a device whereby the Meter can be adjusted to allow for the constant increase or decrease in exposure necessitated by special conditions. Also, by this device, the Meter can be set to produce negatives suited to individual requirements.

### **INSTRUCTIONS FOR USE**

1. Hold the Meter between the thumb and fingers, with the Light Dial upright (see Fig. 1).

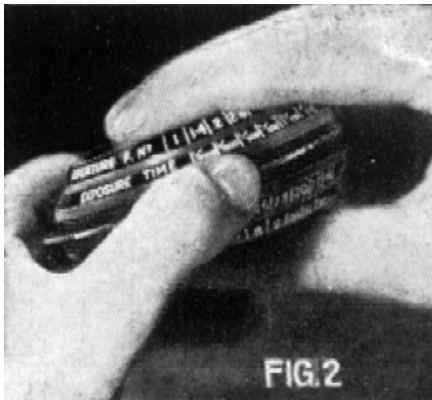
2. Point the light-sensitive cell, which is protected by a plastic "honeycomb", towards the subject to be photographed, i.e. in the same direction as the camera. Take care that the cell is not partially covered by your fingers.



FIG. 1

3. Note the reading of the pointer on the Light Dial.

4. Holding the two flat sides of the Meter firmly between the thumb and fingers of the right hand, grasp the milled outer ring with the thumb and fingers of the left hand (see Fig. 2).



*Setting the  
scales*

5. Rotate the outer ring until the Light reading as set out on the engraved scale marked LIGHT is in alignment with the appropriate Emulsion Speed in degrees Scheiner).

6. The correct Exposure Time for any required lens aperture (or the correct aperture for a required exposure) may now be read off directly from the other two scales.

## EXAMPLE

In the illustration (Fig. 3) it has been assumed that the Meter gave a reading of 7 Light units, and that the film in use is rated at  $29^{\circ}$  Scheiner. These two figures on the appropriate scales have been brought

into alignment and the exposures required at different apertures can be clearly seen - ( 1/50 at f/5.6, 1/250 at f/2.8, etc.).



## PRACTICAL HINTS ON THE USE OF THE METER

### SETTING THE SCALES

It is impracticable to engrave on the Meter all the possible Emulsion speeds (Scheiner numbers), stops and shutter settings and maintain the clarity of the scales which is necessary for the rapid and easy reading of the instrument. When the Emulsion speed of your film or plate is not actually engraved on the scale, use the nearest engraved speed. e.g. both  $28^\circ$  and  $30^\circ$  Scheiner should be taken as  $29^\circ$ .

When, after setting the scales, the divisions of the Aperture scale come between those on the Exposure Time scale, the longer of two exposures should be given at any particular stop.

## UNUSUAL LIGHTING CONDITIONS

The conditions under which it may be required to take photographs vary over a very wide range both with regard to intensity and to distribution of light. All photo-electric meters are calibrated on the basis of a certain average light distribution and do not make allowance for certain uneven lighting conditions. In these circumstances a simple adjustment must be made to the light reading before the scales are set. The following suggestions will be found helpful.

Sunny days when shadows are pronounced.	Subtract 1 unit.
Subjects of exceptional contrast which include large areas of deep shadow, e.g. forest scenes including patches of bright sunlight but otherwise dimly lit.	Subtract 2 units.
Large areas of brilliant highlight near the Meter, e.g. white sun-lit walls, concrete roads, white clothing.	Subtract 1 or 2 units.
Subjects of exceptionally low contrast, open landscapes and seascapes.	Add 1 or 2 units.

When photographing scenes in which a considerable area of sky is included, direct the Meter slightly towards the ground.

If taking a particular film at its rated speed results either in consistent over or under-exposure, set the Meter to compensate for this (see Special Setting feature).

## PORTRAITS AND GROUPS

For these, and in cases where it is required to photograph some particular object, the background is usually of minor importance but the object or group must be correctly exposed. Readings should be taken with the Meter within a foot or so of a person's face or within a few feet of a group

## INTERIORS - *Poor lighting conditions*

Occasionally photographs must be taken in light which is too poor to give at sufficiently accurate reading on the Meter. In these cases an approximate guide may be obtained by taking a reading of the light *falling on* the subject rather than that reflected by it.

Hold the Meter near the subject and direct it in such a way that a reading is obtained of the light *falling on the subject*. Using this Light reading, set the scales in the usual manner. The exposures indicated by the Meter must now be lengthened by multiplying them by 20 in the case of light objects and faces and by 50 or more in the case of dark subjects.

## EXAMPLE

Suppose you wish to take a portrait of a person sitting several feet from a window and the Meter hardly gives a reading when used in the usual way. Hold the Meter near the person's face and direct it towards the window. It now gives a reading of (say) 7 Light units. Assuming you are using a  $32^\circ$  Scheiner film, set the scales using these figures. The indicated exposure, ie  $1/100$  at  $f/5.6$ , is multiplied by 20 giving the correct exposure for your portrait as  $1/5$  at  $f/5.6$ .

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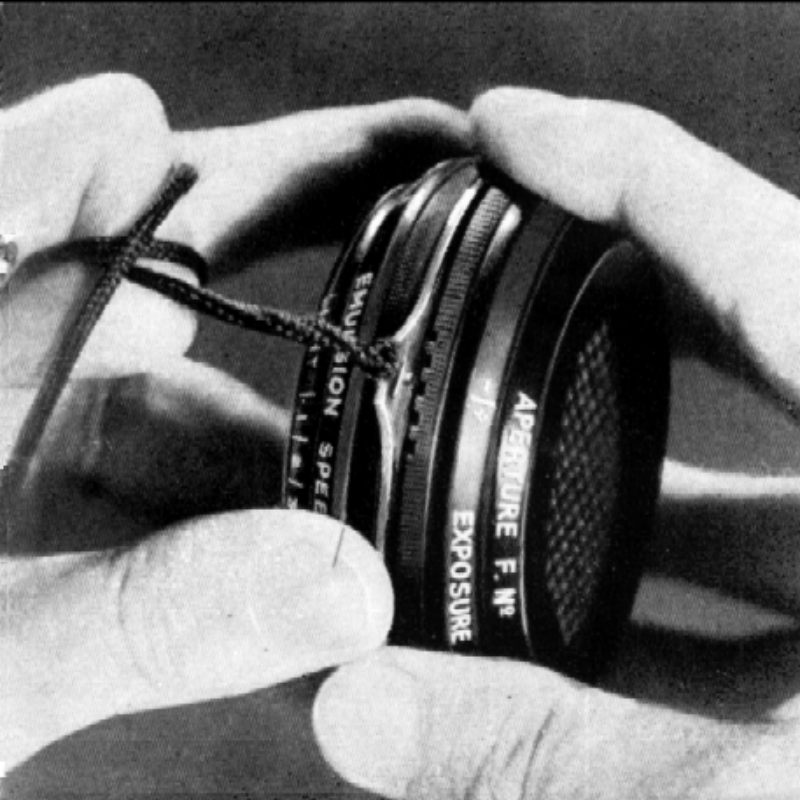
The Meter, like your camera, is only an instrument and cannot think. It is the man behind the camera and the Meter who makes the picture. Learn how to use your Meter quickly under all conditions. This knowledge comes only with practice.

## SPECIAL SETTING DEVICE

NOTE. - This setting device should be used only when a constant increase or decrease is required in a considerable number of exposures.

The G.E.C. Meter, correctly used, ensures correctly exposed negatives. It is sometimes desirable, however, to increase or decrease all exposures by a certain constant percentage. The use of a special fine-grain developer, for instance, usually necessitates an increase above normal exposure and, in at least one case (Meritol Caustic), slight underexposure is an advantage. The G.E.C. Meter provides for these small constant adjustments in a convenient manner.

The outer movable component consists of two plastic rings separated by a metal plate. The rings are keyed together by a small projection from the metal plate which fits into a notch in one of the rings. If the two rings are drawn slightly apart they can be rotated independently and, on release, can be locked into any of five positions (see figure). The central notch position, indicated by an engraved line is normal. Notches on either side of this line are marked "+" and "-" respectively. Settings in the extreme outer notches will cause an automatic doubling "+" or halving "-" of all exposures. The use of the intermediate notches will cause an automatic increase or decrease of 50 per cent. from the normal exposure given by the meter.



## **WARNING**

It is important to leave the Meter at normal and to check the setting device before use. The accidental use of the wrong setting may cause considerable inconvenience.

## **ZERO SETTING SCREW**

The Meter is adjusted before leaving the factory and the pointer will register zero on the light dial when the cell is completely covered by a piece of opaque material. The adjusting screw beneath the light dial is for the use of the manufacturers and its position should not be altered.

## USE IN CINE WORK

The Meter may be used for Cine work and the positions of the various taking speeds in frames per second should be read on the meter as follows : -

12 frames/second as  $1/25$  sec.

16           "           between  $1/25$  and  $1/50$

24           "           as  $1/50$

32           "           between  $1/50$  and  $1/100$

64           "           between  $1/100$  and  $1/250$

### EXAMPLE

The light reading given by the Meter is, say, 7 and the emulsion speed of the film in use is, say, 29°. The normal (silent) cine camera speed is 16 frames per second, giving a shutter speed of  $1/32$  sec. The correct aperture to use is, therefore, that indicated on the Meter between  $1/25$  and  $1/50$  sec., namely f/8.

## CLEANING AND REPAIRS

The Light-sensitive cell is protected by a layer of hard, smooth lacquer and by a strong "honeycomb" baffle. The surface of the cell is separated from the plastic baffle by a small air space and dust can usually be removed by gently tapping the instrument. Should more thorough cleaning be necessary, the dust may be blown out by a jet of air (from a syringe or bicycle pump) directed into the baffle.

Should repairs become necessary, do not attempt to dismantle the Meter but take it to a photographic dealer, preferably to the dealer from whom you bought it.

## **FILM SPEED CONVERSION TABLE**

There can be no accurate conversion from one system of film speed rating to another. The following table is provided for the convenience of users of the G.E.C. Meter but should be regarded as approximate only.

<b>METER SETTING</b>	<b>EUROPSCH</b>	<b>AMERSCH</b>	<b>BRIT H &amp; D</b>	<b>CONT H &amp; D</b>	<b>ILFORD GROUP</b>
17	16-18	14-16	70-140	200-400	A
20	19-21	15-17	150-180	450-900	B
23	22-24	18-20	300-550	1000-1800	C
26	25-27	21-23	600-1100	2000-4400	D
29	28-30	24-26	1200-2300	4500-9000	E
32	31-33	27-30	2400-4900	9000-18000	F
35	34-36	31 & over	5000 & over	19000 & over	G

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PHOTO APPARATUS SECTION

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