

# ZOOMAR

# SEI EXPOSURE PHOTOMETER



## The Ultimate In Light Measurement

- measures reflected light exactly as the camera lens receives it from its position.
- measures the object brightness regardless of background illumination.
- has a selectivity of target to allow readings on a telegraph pole 100 feet away.
- provides a continuous telescopic clear view of the object.

### Unexcelled for Use in Exposure Determination for:

General photography and cinematography  
Printing  
Enlarging  
Photomicrography  
Micrometallography

### Light Level and Contrast Measurement in:

Photographic studios  
Motion-picture studios  
Television studios

### Transmission and Reflection Measurement for:

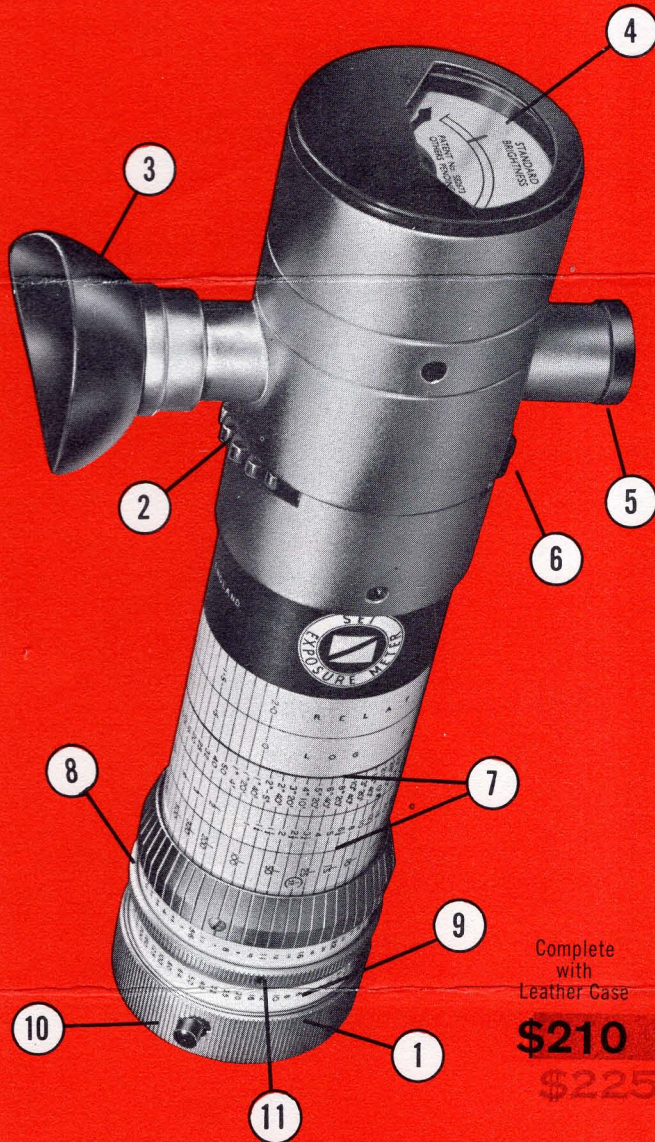
The graphic arts  
Color printing processes

**Projection Screen Brightness Determination and many other valuable data for illumination engineers**

### Ansel Adams says:

"The S.E.I. Exposure Photometer... I critically evaluate this new meter as an instrument that enables the photographer to measure subject brightness of small areas (acceptance angle of  $\frac{1}{2}^\circ$ ) over a wide range of brightnesses (1 to 1,000,000). It is not a simple field instrument for ordinary work, but it will allow the photographer to refine his measurements, and to analyze the brightness of very small areas of his subject. It functions under very low values of illumination—far beyond the capacity of the standard photoelectric meter (excepting electronic meters such as the Photovolt meters Nos. 500 and 501). Perhaps the chief value of the S.E.I. meter is its ability to solve hitherto impossible problems of exposure under complex lighting—small, dark objects against bright backgrounds, and vice versa; twilight scenes including street lights; very dark areas of architectural interiors; brilliant clouds near the sun, etc. It is extremely helpful in color photography, where a critical evaluation of highlight and shadow values is of decisive importance."

Reprinted from "The Negative" by Ansel Adams, Morgan & Morgan, Inc., Publishers

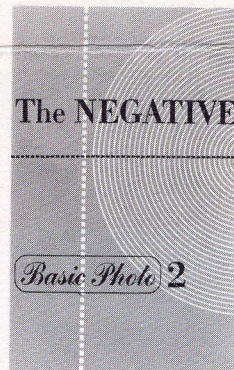


Complete  
with  
Leather Case

**\$210**

~~\$225~~

- |  |                             |
|--|-----------------------------|
| 1 Knurled adjustable ring                      | 6 Brightness range selector |
| 2 Daylight or artificial light setting         | 7 Exposure time scales      |
| 3 Adjustable telescope eyepiece                | 8 Lens aperture scale       |
| 4 Microammeter for standardizing               | 9 Film speed scale          |
| 5 Telescope objective                          | 10 Push button switch       |
| 11 Setting ring for shadow or keytone methods. |                             |



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## Schematic diagram

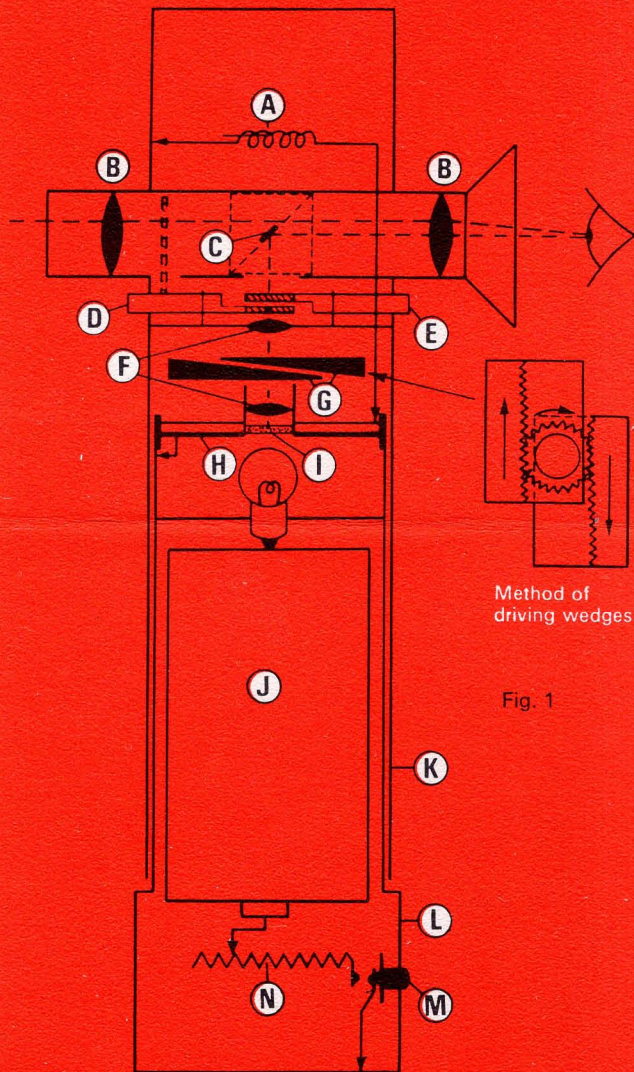


Fig. 1

- |                        |   |
|------------------------|---|
| A Microammeter coil    | I Diffusing screen                        |
| B Telescope lenses     | J Dry battery                             |
| C Mirror spot          | K Exposure, density and brightness scales |
| D Range shift disc     | L Stop and film speed scales              |
| E Colour matching disc | M Lamp switch                             |
| F Collecting lenses    | N Rheostat                                |
| G Optical wedges       |   |
| H Photo-electric cell  |   |

## Principles of construction

The subject is viewed approximately full size but inverted, through a simple telescope (B). By an adaption of the Lummer-Brodhun cube, a small comparison spot (C) is superimposed on the centre of the image field, this spot subtending at the eye an angle of only  $\frac{1}{2}^\circ$ . The spot is diffusely illuminated by a small electric lamp via a diffusing screen (I), the lamp being fed by a dry battery (J) through a rheostat (N). The lamp also illuminates a ring-shaped photo-cell (H) which is connected to a microammeter (A). By adjusting the rheostat, the pointer of the microammeter is made to coincide with a standardising mark so that the luminous output of the lamp and consequently the brightness of the "internal reference surface" (I), are always at a constant value. The instrument is therefore self-standardising.

Situated between the lamp and the spot are two opposed photometric wedges (G). These are moved in opposition to one another by a rack and pinion mechanism operated by rotating the base (L) of the photometer. The light reaching the comparison spot can in this way be varied through an intensity range of 100 to 1. Reduction of the brightness of the subject or spot by the insertion of neutral filters attached to a range shift disc (D) provides a further increase of range up or down by factors of 100 thus giving the instrument a total range of 1,000,000 to 1.

The range shift disc has three index marks. When the white mark is central under the object lens of the telescope, the meter is on its normal range, covering the deepest significant shadows of most outdoor subjects. When the red mark is central the meter is set for subjects of very low brightness. When the blue mark is central the meter is on its high range, which mainly covers highlight or keytone methods as described later.

To make easy the comparison of brightness between spot and object a colour correcting filter is provided in disc (E) situated immediately below the telescope eye-piece. This has two positions, the index marks for which are yellow, which is used for measurements in artificial light and white for measurements in daylight. The calibration of the instrument is unaffected by the movement of this disc. Note, however, that when the subject is illuminated by artificial light, the appropriate film speed index should be used.

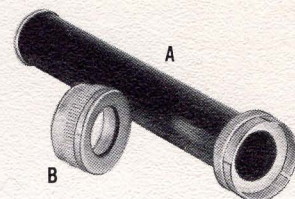
## ACCESSORIES:



The external Supply Adapter takes the place of the normal battery container and lamp for exposure estimation. It consists of a tube to fit inside the body of the photometer and carries a lamp to illuminate the comparison "spot" of the photometer.



Barrel of External Supply Adapter removed to show lamp. **\$45.00**



Filter Holder ..... **\$12.00**  
Anti-Flare Tube ..... **\$24.00**

MANUFACTURED BY Salford Electrical Instruments, Ltd. (England)