How the

Sixtus

is operated

Sixtus, the indispensable accessory for every Amateur Cinematographer.

For a film to be well exposed, consequently giving a clear and satisfactory picture on the screen, its sensitivity factor and correct time of exposure must be known. The sensitivity of a film is a given factor marked on the film cartons by the manufacturers.

The correct lens aperture is shown by the Sixtus C.

The ever existing uncertainty with regard to the choice of correct lens aperture is thus eliminated. On reads the correct exposure from the Sixtus C as you would read the correct time from the dial of your watch.

The Sixtus C shows the correct lens aperture.

This means that the aperture shown by the Sixtus C is the only one which will suit the actual existing lighting conditions under which the meter reading was taken, and therefore, the only aperture at which correctly exposed films can be obtained.

The Sixtus C covers a complete range of F/values from f/1.5 to f/32.

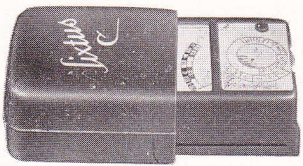
The meter is calibrated considering a shutter speed of $^{1}/_{32}$ nd of a second which is the normal shutter speed of a cine camera working at 16 pictures a second.

The angle of view of the Sixtus C closely approximates that of a normal focal length lens used on sub-standard size film i.e.:

1" lens on 16 mm., film
20 mm „ „ 9.5 mm., „
12.5 mm „ „ 8 mm., „

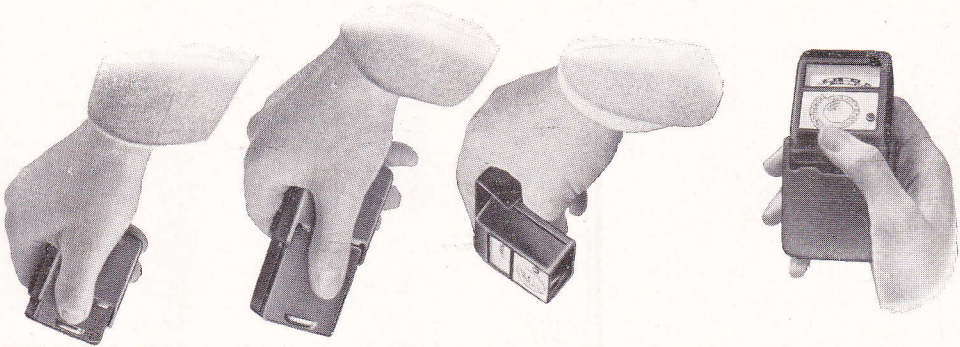
This point is important, eliminating the possibility of the incorrect lens aperture being given, resulting in incorrect exposures, especially in subjects of great contrast with which the full latitude of the film is required.

The protective and ever-ready outer case of the Sixtus C.



serves in addition as a handle for the meter during operation.

The one hand manipulation of the Sixtus C.

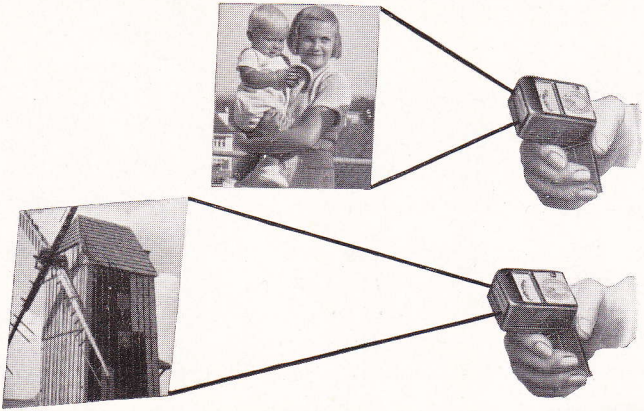


Hold the Sixtus C reverse side uppermost in a slightly downward direction.

Shift the instrument with the thumb out of it's protective cap.

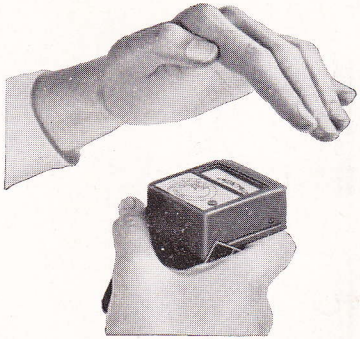
Withdraw thumb, and turn hand slightly up.

Push the Sixtus C forward.



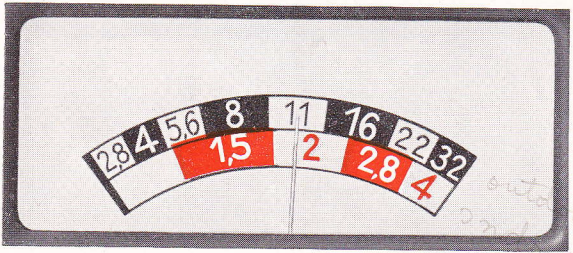
A practical example of the Sixtus C in use.

Direct the Sixtus C towards the scene to be filmed.

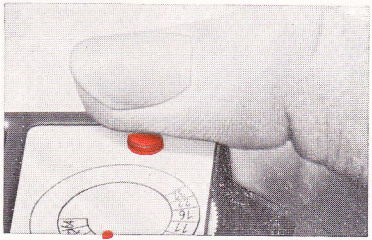


Subjects against the light.

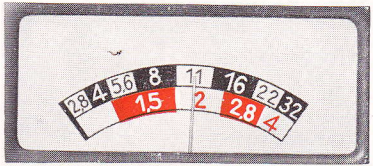
Shade the front cover glass from above with the hand as shown in the diagram.



a) The deviation of the needle is read from the black upper scale.
For example f/11 (see illustration).

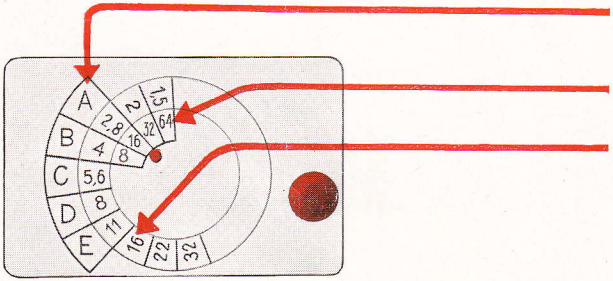


b) If there is no movement of the needle, press the red button,



when the F/value is read from the bottom red scale i.e., f/2.

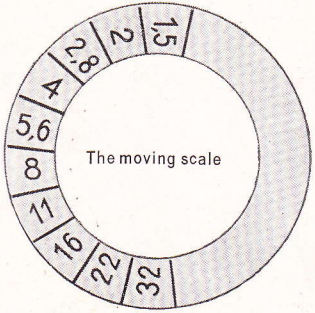
The adjustable scale of the Sixtus C.



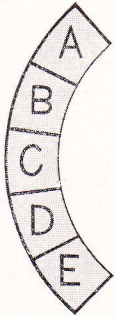
The letters A to E indicate groups under which headings the present day films have been listed (see group table).

The operating speeds, 8 and 16 pictures a second etc. are read on the inner fixed scale.

The F/ values are read from the instrument.



Upon the moving scale all F/ values normally found on Amateur cine cameras are engraved.

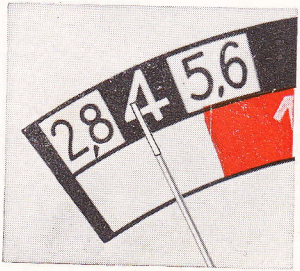


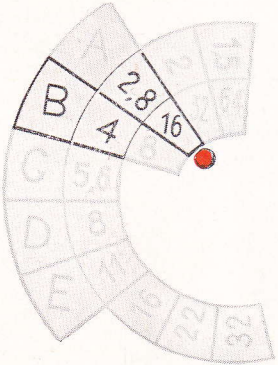
The 16 pictures per second speed being the normal, is marked red. For all other speeds the appropriate F/ values can be read by the side of the equivalent frames per second value.

For the 24 pictures per second speed laying between the 16 and 32 speed on the camera, an intermediate value must be considered, i.e., $^1/_2$ stop larger.

A practical example.

Film – Group B
Meter reading f/4.





Adjust F/4 on the moving scale opposite the film group letter B, and read the F/ value i.e., f/2.8 on the moving scale by the side of 16 and set the lens accordingly.

At a glance the correct F/ value can be read for any other picture per second speed, i.e., for 64 pictures per second f/1.5 should be utilised.

Films.

Different types and makes.

1. *Negative Film.*

   The statement regarding DIN Speeds given on ordinary negative stock is made considering the DIN method of testing. This can, therefore, be taken as reliable.

2. *Reversal Films.*

   Here the DIN method of testing cannot be satisfactorily employed for use in conjunction with the Sixtus photo-electric meter, and the DIN speeds stated on the manufacturer's cartons can only be regarded as standard values.

3. *Colour Film.*

   The DIN method once again cannot be practically used, and therefore DIN values on colour films can only be regarded as standard values.

The five film groups A to E.

1. The various degrees of sensitivity.

The various important brands of film on the market have been divided, with regard to their sensitivity, into five groups, A, B, C, D, E. New films or changes in speeds of emulsion are tested from time to time and we are generally in a position to give the results of these tests similtaneously with the appearance of the new film.

2. Measuring results.

Conclusive tests have shown that films within a certain group of sensitiveness differ in DIN rating as-much-as $^{3}/_{10}$ DIN, which means that a film of $^{12}/_{10}$ DIN in group B. may also be included in group $^{16}/_{10}$ DIN.

3. Group table.

A group table is supplied with each copy of instructions for use with the Sixtus C
 It further shows the difference in sensitivity within a single group.

4. *Intermediate F/values.*

Reversal films as-well-as colour films necessitate very accurate exposure. Consequently, if the needle of the Sixtus C stands at the beginning or at the end of an F/value space, the respective intermediate F/value should be taken, the iris diaphragm being accurately set.

1st. example.

Using a film marked "highly sensitive" within its own group (see group table) the indicator needle of the Sixtus C points towards the end of an F/value division. Reduce the lens one stop.

2nd example.

Agfacolor-Neu is classed "low sensitive" according to table in group B.

The Sixtus C indicator needle registers the beginning of an F/value division.

Low sensitiveness of film plus smaller measuring value afford $^1/_2 + {}^1/_2$ F/value. Therefore, $^1/_2 + {}^1/_2 = 1$ F/value larger.

3rd example.

Agfacolor-Neu "low sensitive" according to group table.

Index of Sixtus C registers the centre of an F/value division.
Low sensitiveness of film plus medium measuring value afford $^1/_2 + 0$ F/value larger.
Therefore, $^1/_2$ F/value larger etc.

5. *Other kinds of film – standard values.*

For film materials not contained in the group table the following standard values should be observed.

Standard values only.

Sensitivity indicated on the carton	Group
$^{15}/_{10} - {}^{17}/_{10}$ DIN	A
$^{12}/_{10} - {}^{14}/_{10}$ DIN	B
$^{8}/_{10} - {}^{11}/_{10}$ DIN	C
$^{4}/_{10} - {}^{7}/_{10}$ DIN	D
DIN	E

Special instructions covering the use of the Sixtus C with Colour film.

In bright Sunshine.

Normal colours.

The group division in which we have placed the various types of colour emulsions has been based on "normal colour" subjects such as landscapes, street scenes, portraits etc., and the lens aperture thus obtained is only suitable for use under these conditions.

Bright colours.

The basic lens aperture should be closed down $^1/_2$ to 1 full stop, according to the brilliance of the subject. Beach and Snow scenes are included under this heading.

Dark colours.

Narrow streets, lanes, forests, or subjects under trees, the basic lens aperture should be increased by $^1/_2$ to 1 full stop.

In dull weather.

All colour films should be transfered into the next group with it's lower sensitivity.

Example: Agfacolor-Neu in sunny weather . . Group B
Agfacolor-Neu in dull weather . . . Group A

In cases of strong contrast in colours, close together in one subject, open the iris of the lens approximately $^1/_2$ stop. This difference between light and dark colours is not so pronounced in dull weather and must not be considered under these conditions.

Agfa Isopan ISS and Kodak SS.

Measurements with the Sixtus C in artificial light must be taken with the utmost care and close up to the object to be photographed.

The object must not be shaded during measuring.

1. *Agfa Isopan ISS* is specially made for use with artificial light. In using artificial light, the lens aperture must be set two or three stops smaller than the Sixtus C indicator.

   Take the Sixtus C reading in

   Artificial light: set the lens aperture two or three stops smaller.

   Daylight: one stop smaller.

2. *Kodak SS.* This film is very sensitive to artificial light and one or two stops smaller than the Sixtus C indicates should be used.
Take the Sixtus C reading
Artificial light: 1–2 stops smaller.
Daylight: see group table.

Shutter time for 16 mm. Cinematograph cameras.

16 frames per second.

Camera	Time	Camera	Time
Agfa (all models)	1/30 sec.	Paragon	1/30 sec.
De Vry	1/30 sec.	Simplex	1/40 sec.
Kodak (all models)	1/30 sec.	Stewart Warner 8	1/50 sec.
Filmo all 70's Reg. and 121	1/30 sec.	Sept	1/90 sec.
Filmo 141 and 75	1/40 sec.	Univex	1/30 sec.
Filmo 8 mm (all models)	1/40 sec.	Victor (all models)	1/30 sec.
Keystone (all models)	1/30 sec.	Zeiss Kinamo (all models)	1/30 sec.
Paillard Bolex	1/30 sec.		

Group table