

## Films for colour

**Kodacolor Film:** Makes colour negatives, which are then printed on paper to provide natural-colour prints. Faster than Kodachrome Film, it allows good pictures in lighting hitherto considered unsuitable for colour photography (16 DIN — ASA 32).

**Kodachrome Film:** There are two kinds — Daylight Type, and for Photoflood light, Type A. Both give miniature colour slides at no extra processing charge, from which prints and enlargements in colour or black-and-white can be made subsequently. Can be used with flash (11 DIN — ASA 10).

**Ektachrome Film:** Intermediate in speed, gives similar results to Kodachrome Film but can be processed at home. It is sold at prices not including processing. In Britain it is available only as a daylight type film. Can be used for flash (16 DIN — ASA 32).

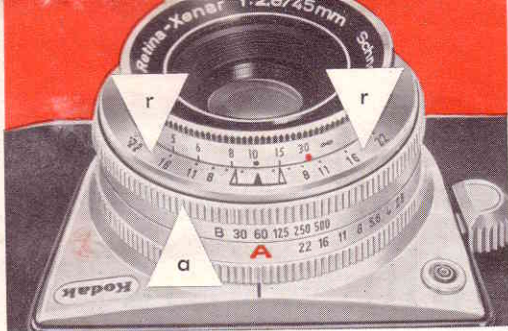
**High-Speed Ektachrome:** Very high speed reversal colour film for exposure in daylight, especially useful for dull-light sports and action photography. Primarily for processing by user (23 DIN — ASA 160).

## Films for black-and-white

**Plus-X Pan Film:** An excellent film for both daylight and artificial light photography. Fast but fine-grain emulsion ensures negatives from which big enlargements can be made (23 DIN — ASA 160).

**Panatomic-X Film:** A high-definition panchromatic film giving exceptional image sharpness by virtue of its thin coating, very fine grain, and freedom from halation and light-scatter. Ideal for negatives permitting a high degree of enlargement, especially when developed in Kodak High Definition Developer (17 DIN — ASA 40).

**Tri-X Pan Film:** A panchromatic film of very high speed. It is ideal for snapshots in very poor light outdoors, for flash-snaps in large rooms, for taking pictures by Photoflood light, and for “available-light” photography (27 DIN — ASA 400).



## How to read the depth of field

The depth of field is indicated between the arrows engraved in the front of the shutter. These arrows are the depth-of-field limits at a lens opening of  $f/4$ . The depth of field increases beyond these arrows with every smaller lens opening down to  $f/22$ .

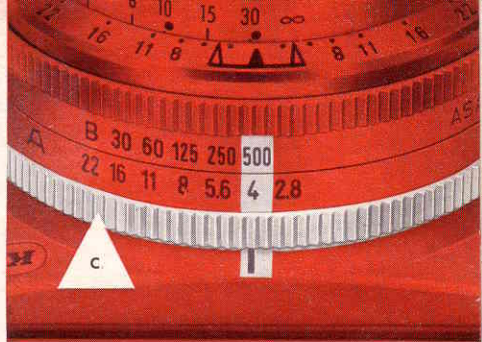
Aim your camera at the subject and look straight down on the needle of the exposure meter (see illustration above left). The needle indicates the automatically set lens opening, say  $f/11$ .

With the distance set to 10 ft. you can read off about 6 ft. at the left and approx. inf. ( $\infty$ ) at the right against the two figures 11 on the depth-of-field scale (r). Everything will be sharp within this range.

If you want to shoot with an even greater depth of field change the automatically set lens opening by turning the shutter speed ring (a) until the needle of the exposure meter points at the figure 16, for instance. The relevant shutter speed is automatically set at A. (The divisions without figures identify, from left to right: f/2.8 — f/5.6 — f/11 — f/22.)

Remember that pictures can only be taken where the needle deflection remains inside the two red areas which are the limits of the exposure meter measuring range.

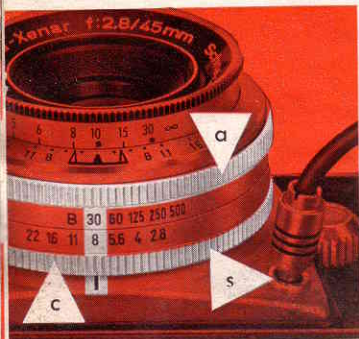
To take full advantage of the existing depth of field for snapshots turn the focusing scale to the black dot near 10 ft. for subjects at close range or to the red dot near 30 ft. for remote subjects.



### **Taking pictures without automatic exposure control**

To the advanced amateur the RETINA automatic III offers still more picture-taking possibilities. For intentional under or over-exposures set the required lens opening by turning the lens opening ring (c). In the example above we have set a shutter speed of  $1/500$  second and an aperture of f/4. You can now take pictures without the auto-control.

## Flash pictures with the RETINA automatic III



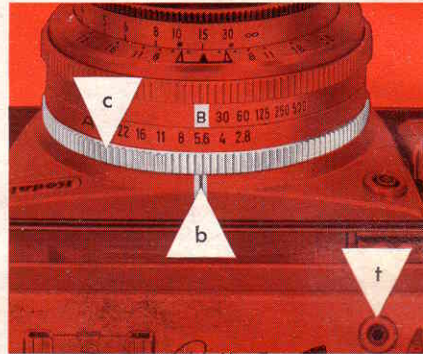
Slide your flash gun, the KODABLITZ, for instance, into the accessory shoe of your camera, plug the flash cable into the flash socket (s), and set the required distance. For flash shots with flashbulbs turn the shutter speed ring (a) to  $1/30$  second. In conjunction with electronic flash any shutter speed from  $1/30$  up to  $1/500$  sec. may be used. Your RETINA automatic III always operates in the X synchronizer position. The lens opening is dependent on the guide number of the flashbulb or electronic flash unit used and also upon the distance. The guide number is specified on the packages of the flash bulbs and in the operating instructions of electronic flash units. The following rule applies:

**guide number divided by distance = lens opening.**

If, for instance, your guide number is 96 and your distance 12 ft., 96 divided by 12 is 8. This means that you have to turn the lens opening ring (c) until the figure 8 on the lens opening ring is opposite the setting mark. The automatic control is now disengaged and you are ready to shoot.

## Time exposures are possible too

For time exposures turn the shutter speed ring until the letter B is opposite the setting mark (b). You will feel a slight resistance between  $\frac{1}{30}$  sec. and B. The automatic exposure control is now disengaged. You can now set the required lens opening by turning the lens opening ring (c). The shutter will remain open for as long as the exposure release is depressed. Such pictures should be taken on a tripod and with a cable release which screws into the socket (t).





## Close-ups between 3 and 8 feet



When taking subjects between 3 and 8 feet from the camera, the field of view outlined by the luminous frame on the viewfinder does not show what will actually appear in the final picture. This is because the finder and taking lens are an inch or so apart. This effect is called parallax. To compensate for parallax at 3ft, the top of the subject must be placed in the viewfinder so that it is below an imaginary line (dotted in the illustration) joining the two pointers near the top of the frame. With subjects further away than 3ft the error decreases. Beyond 8ft, you need not worry at all.

## **Changing partly exposed films**

If you have to change a film that you have only partly exposed, first rewind that film into the magazine (page 12). Rewind only as long as the clutch button rotates, then stop. This will leave the trimmed film leader outside the magazine. Remove the film from the camera and mark on the magazine the number read off the film counter. When reloading the partly exposed film at a later date, first load it in the usual way and set the film counter to the diamond, then operate the rapid wind lever with the film release button depressed until the number that you have marked on the film magazine reappears in the film counter window.

## **Eyesight correction**

If you use spectacles but do not wear them while taking pictures and so cannot see the finder image clearly, you can order a special correction lens for your photo dealer. This lens screws into the finder eyepiece mount. When ordering please state the exact power required in dioptries + or —. No correction lenses can be supplied for correcting astigmatism.

## **Care of the camera**

Protect your lens against damage and avoid finger prints on the lens surface and the finder windows. For cleaning the outer glass surfaces preferably use a soft sable brush or special lens tissues. From time to time also dust the film track and supply chamber with a brush.

## Use filters for better pictures

Filters are used with black-and-white film to obtain correct tone rendering and for special effects.

With colour films, used in a camera such as the RETINA automatic, filters are used to change the colour of the light to suit the particular colour film in use.

Most filters have what is called a filter factor. This is the factor by which the exposure must be increased to compensate for the light absorbed by the filter.

With the RETINA automatic III, this is best allowed for by reducing the film speed setting as follows:

Reduce the film speed setting by the following number of divisions \*)

### Kodak filters for black-and-white film

Light yellow (F I) .....	1/2
Medium yellow (F II), yellow-green (F III) .....	1
Orange (F IV) .....	1 1/2
Red (F V) .....	3
Blue (F VI) .....	1 1/2

The above filters must NEVER be used with colour films.

### Kodak Wratten filters for colour films

Wratten No. 1 A Skylight (ultra-violet) .....	0
Wratten No. 85 (amber) for use with Kodachrome Film Type A for daylight exposures .....	1/2
Wratten No. 85 B (amber) for use with Ektachrome Film Type B for daylight exposures .....	1/2
Wratten No. 85 C (amber) for use with Ektachrome Film Type F and Kodachrome Film Type F for daylight exposures .....	1/2
Wratten No. 80 B (light blue) for use with Kodachrome and Ektachrome Films, Daylight Type for Photoflood exposures .....	1
Kodak Pola Screen for reflection control and sky darkening with colour film .....	1 1/2

\*) One film speed division corresponds to a doubling or halving of the ASA speed, e. g. from 25 to 50 ASA.



## Example

You want to use a yellow-green filter (F III) for a shot on black-and-white film. On the film speed scale you have set, for instance, 50 ASA. The table on the preceding page indicates that the film speed setting must be reduced by 1 division if a yellow-green filter is used. Your new setting on the ASA scale therefore becomes 25 ASA (see illustration).

When the filter is removed again, remember also to reset the film speed accordingly. — in our example back to 50 ASA.



## Depth of Field Table (Sharp Zones\* in Feet)

Aperture	Depth	At distance setting in feet								
		3,5	4	5	6	8	10	15	30	$\infty$
2,8	from	3'1"	3'8"	4'7"	5'6"	7'	8'3"	12'9"	19'8"	48'
	to	3'7"	4'3"	5'5"	6'10"	9'7"	12'5"	22'8"	108'	$\infty$
4	from	3'	3'7"	4'5"	5'3"	6'5"	7'11"	11'6"	16'8"	32'10"
	to	3'9"	4'5"	5'9"	7'3"	10'5"	14'6"	30'	$\infty$	$\infty$
5,6	from	2'11"	3'6"	4'3"	5'	6'2"	7'2"	9'10"	14'1"	24'2"
	to	3'11"	4'7"	6'	7'11"	12'	16'5"	40'	$\infty$	$\infty$
8	from	2'9"	3'3"	4'	4'8"	5'9"	6'6"	8'4"	11'9"	16'8"
	to	4'3"	5'	6'7"	8'10"	14'11"	23'	160'	$\infty$	$\infty$
11	from	2'7"	3'	3'8"	4'4"	5'2"	5'10"	7'5"	9'2"	12'6"
	to	4'7"	5'6"	7'11"	11'1"	23'5"	50'	$\infty$	$\infty$	$\infty$
16	from	2'5"	2'8"	3'4"	3'8"	4'4"	4'10"	5'6"	7'	8'3"
	to	5'6"	6'8"	11'1"	20'	155"	$\infty$	$\infty$	$\infty$	$\infty$
22	from	2'2"	2'5"	2'9"	3'4"	3'7"	4'	4'7"	5'4"	6'2"
	to	7'1"	10'	24'2"	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$	$\infty$

\* Distances are measured from the film plane.  
The depth of field is calculated for a circle of confusion of  $1/500''$ .

## Your accessories for the RETINA automatic III

The **lens hood** should be part of your standard outfit. There is a practical leather case available to take the lens hood plus three filters.

The **close-up rangefinder** (the model marked f/45), used with the N I, N II, and N III a close-up lenses, permits near shots between  $38\frac{1}{4}$  and 12 inches (97 to 30 cm). It shows the exact field of view, free from parallax.

The **close-up attachment**, used with the three R close-up lenses, covers the range between 11 and 6 inches (28.5 and 18.5 cm). A practical attachment for close-up photography.

The **right-angle finder** permits viewing at 90 degrees to the shooting direction. It fits over the viewfinder eyepiece mount.

The **table stand** provides a specially steady camera support for subjects requiring long exposure times. It is particularly versatile when used with a close-up rangefinder and the close-up attachment.

The **copying outfit** with supplementary lighting unit is an ideal accessory for copying documents, prints, books, etc.  $5\frac{7}{8} \times 8\frac{1}{2}$  and  $8\frac{1}{2} \times 11\frac{3}{4}$  inches in size.

The **micro adapter** fits all microscopes with a drawtube diameter of 1 inch (25 mm). Indispensable for scientists, engineers, schools.