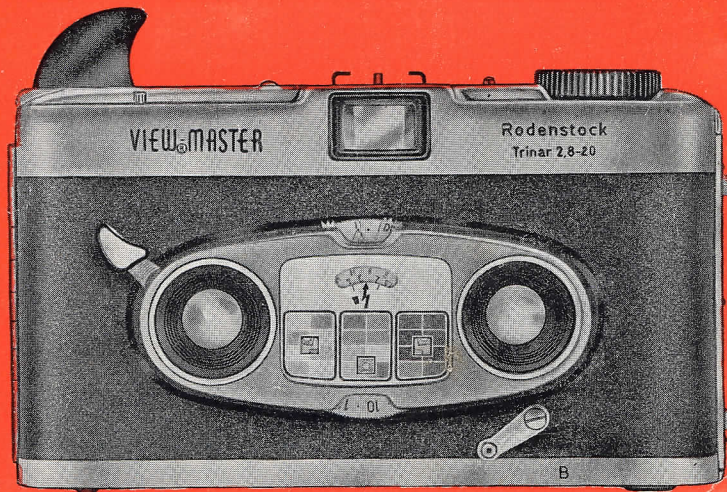


**"VIEW-MASTER**

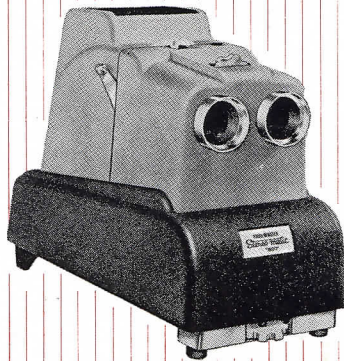
**STEREO COLOR CAMERA"**



SAWYERS

## THE „Stereo-matic 500” PROJECTOR

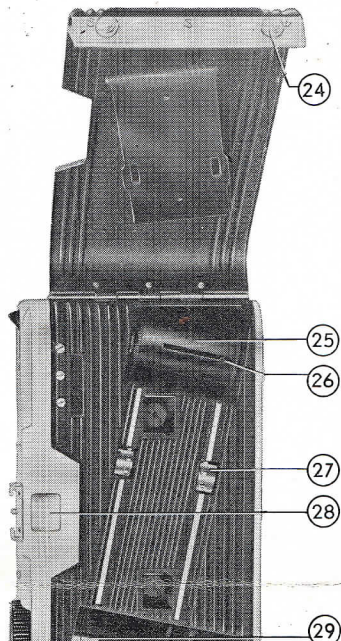
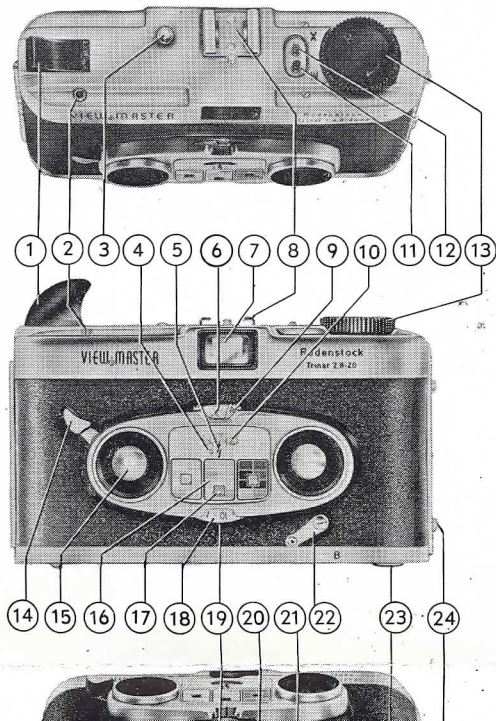
*There are hours of fascinating enjoyment ahead for the lucky person who owns a VIEW-MASTER « Stereo-matic 500 ». For brilliant, stereoscopic projection up to 4 ft., with powerful built-in ventilator, lamp 500 W - 110 V. Viewing with polarized glasses.*

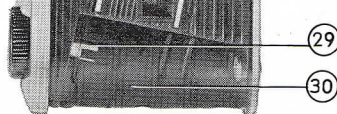
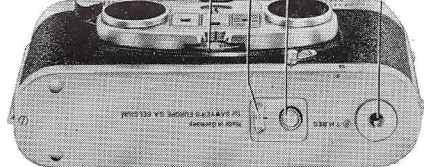


**"VIEW-MASTER**

**STEREO COLOR CAMERA"**

*How to use  
your View-Master  
Stereo Color Camera*





	PAGE		PAGE
1. Rapid wind button	7, 11, 16, 26	16. Subject colour symbol	9, 23
2. Cable release socket	25	17. Light condition symbol	9, 23
3. Rewind button	16	18. Exposure Value scale	13, 21, 22, 25
4. Flash warning signal	14	19. Exposure setting dial	7, 8, 9, 27
5. Flash distance index	14, 15, 24	20. Exposure counter window	7, 16
6. Film speed index	7, 24	21. Exposure counter setting knob	7
7. Viewfinder window	—	22. Time-exposure lever	25, 26, 27
8. Accessory shoe	13, 26	23. Tripod socket	25, 26
9. Tongue for film speed adjustment	7	24. Back cover locking buttons	6
10. Flash distance window	14, 24	25. Take-up spool	6, 16
11. M flash contact (for flasbulbs)	13	26. Perforation tooth	6
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13. Rewind knob	6, 7, 16	28. Viewfinder eyepiece	10
14. Shutter release button	7, 11, 12, 27	29. Rewind shaft	6
15. Protective filters	27	30. Film magazine	6





## Choice of film

Any 35 mm film, in the standard cartridge, will fit the camera. Of course, you will choose a colour film — first, because the extreme realism of Stéreo would lose much of its effect in black and white — secondly, because you need a transparent image, and the standard daylight reversal colour film is the easiest way to get it. A negative colour film is less suitable.

**Length of film :** The films normally sold as « 36 exposures » will yield up to 75 stéreo pairs. This length might serve for vacations, a long trip etc.

Of course it offers the greatest economy — one or two films might last the whole trip.

— The « 20 exposure » films will yield 40 stereo-exposures and is best for average use — Its economy is still so great that you can afford to take the film out of the camera when little more than half of it has been exposed.

**Film speed :** As you have lenses of adequate power ( $f : 2,8$ ), you will not normally need highspeed colour films. Films of average-speed are more economical and less sensitive to poor storage conditions.

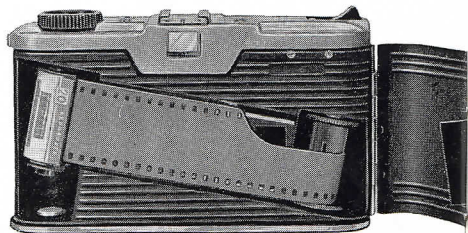
The slower the film speed, the more detail and sharpness your pictures will have.

## Loading the camera

1. Take the camera out of its case and check if it is empty. If the knurled knob (13) on top turns freely in the direction of its arrow, there is no film in the camera.
2. Unlock the camera by squeezing the two buttons (24) together, swing cover to the right. Turn the take-up spool (25) with a finger until the slot faces you. Lay the camera face down in subdued light.
3. Take the film out of its container. About four inches of film will emerge from the cartridge and from most of this length the perforation has been cut away on one side. Pull out about two more inches of film — this part will be of the full 35 mm width, doubly perforated.

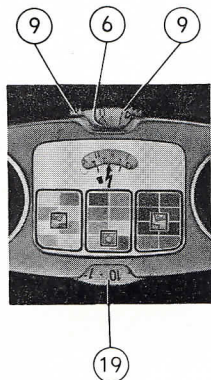
Take the cartridge in your left hand, the film tongue in your right hand, perforations down. Now insert the film tongue in the slot of the take-up spool (25) and make the tooth (26) on one side of the slot engage the first perforation. Turn the take-up spool one revolution with your finger, so most of the tongue is tightly wound on it.

4. Stretch the film over the film channel and drop the cartridge in the magazine on the left (30). Push up, so that the shaft (29) engages the cartridge spool. Turn rewind knob (13) a little to facilitate this. Turn the take-up spool (25) a little more to tighten the film.





5. The full width of the film should now cover the two sprocket wheels (27). Make sure that sprockets on both sides are engaged in the perforations, then close cover.
6. Press release button (14) and rapid wind button (1) alternatively **six times**. This will bring fresh, unfogged film in front of the two lenses. Allow the rewind knob (13) to turn freely. This turning indicates that the film is moving properly.



7. Set the exposure counter (21) to « O » by pressing and turning to left or right. The window (20) will indicate the number of exposures made.

**Film speed setting :** Turn the big central dial (19) until an index (6) flanked by the letters ASA and DIN appears. Hold one of the serrated tongues (9) with a fingertip or nail and turn the central dial (19) until the index (6) points to the correct film speed either in DIN (black scale) or ASA (green scale).

You can determine your film speed from the carton or data sheet coming with the film.

You need never touch this setting again as long as you use the same type or speed of film. Check occasionally to make sure the setting has not been changed unintentionally.

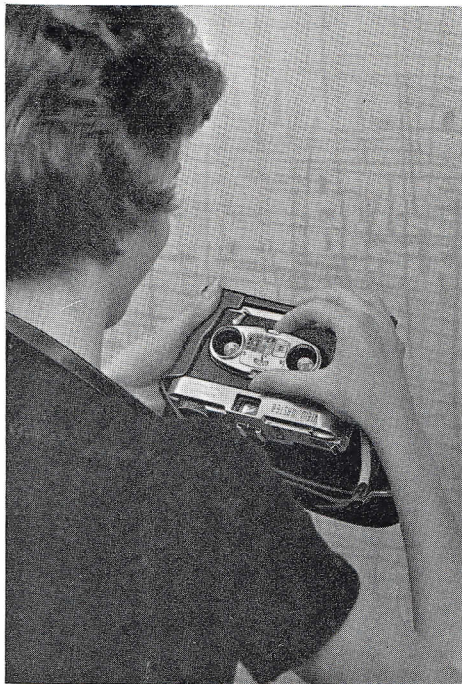
## Taking the picture

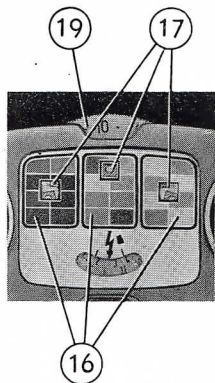
Every quality-camera has means to regulate the amount of light admitted to the film, depending on light conditions and subject colour.

These consist of a diaphragm regulating the opening of the lens (or lenses) and a shutter, regulating the time of exposure. Normally each of these have to be set by two separate dials and the best combination must be calculated.

The View-Master camera, too, has these means — but only one single dial (19) to operate them. This dial should simply be set for the amount of light that is wanted on the film; the camera itself calculates and sets the diaphragm and shutter time that are needed — automatically, unerringly.

**Exposure setting outdoors :** For easy adjusting, with the camera strap around your neck, swing baseplate up so that camera faces you upsidedown with the scales you might need right side up.





Look at the three colour blocks (16) on the front — they are not just a styling feature! Decide which of the three matches best the overall colours of your subject, the frame with the light, with the average or with the dark colours.

- Typical light, dark and average subjects are listed at page 23.
- When in doubt, use central block.

Now look at the little window (17) in the block you have chosen.

When you turn the exposure dial (19), four different symbols will appear in succession.



— representing bright sun from behind the camera.



— representing cloudy but bright (sun behind cloud or bright overcast).



— representing hazy sun (sun's disc shows through haze or light clouds).



— representing shadow under **open sky.**

— With bright sun from aside or slightly behind the subject, use the « hazy sun » symbol.

— For scenes in dull weather (if unavoidable !) under open sky, use the « shadow » symbol.

When you have placed the correct symbol in the correct colour window, you are ready to take the picture. There is nothing to forget... focus, lens-opening, shutter and exposure-value have all been set perfectly, automatically. Everything from about five feet will be in sharp focus.

— Shoot only from 2 hours after sunrise until 2 hours before sunset. Before or after colours will be too red, too dark.

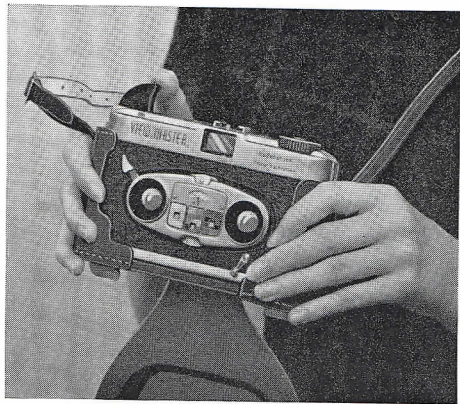
**Holding the camera :** Hold the camera firmly with both hands. Make sure your fingers do not cover the lenses. In the viewfinder (28), you will see a bright, sharp line, framing your subject. Make sure the top and bottom lines of this frame are perfectly horizontal.





— **Never** turn a stereo camera on its side (vertical frame) or you will have to view your pictures with the stereoscope (and your head !) on its side.

For really sharp pictures, steady yourself with feet apart, press camera against nose for extra steadiness and, — with your forefinger — squeeze the shutter button (14) down without jarring camera.



It is a good idea to practise this with unloaded camera in front of a mirror.

Again for sharpness, avoid excessive movement of your subject or make it move towards or away from you.

**Film advance :** After you have tripped the shutter, the rapid wind button (1) will pop up as soon as you take your finger from the shutter button. It reminds you that the film must be advanced before you can take the next shot.

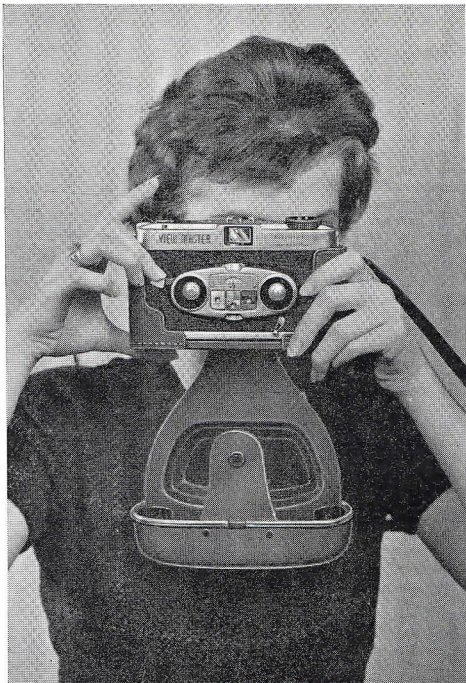
Simply press down the rapid wind button (1).  
This will :

- advance the exact amount of film ;
- count the exposure ;
- free the shutter button, which was locked to prevent double exposure.

The rapid wind button can best be pressed with the thumb. For rapid sequence shooting, while looking through the viewfinder without interruption, use the middle finger for the shutter button (14) and the forefinger for the rapid wind button (1). In this case, be especially careful that there are no fingers in front of the lenses or on top of the rapid wind button.

If the latter happens, it will not pop up and a blind exposure (with the lenses covered) must be made to prevent a double exposure.

**Extra originals :** Before you walk away from your subject, consider if you will want extra





pictures as spares, to give to friends etc. Remember, that your film will not be copied or « printed », but that the pictures in your stereoscope will be on your own original film (reversal processing). This is one reason for their extreme reality. So, the best — and cheapest — way to have spare pictures is to make them **on the spot**. To have duplicates made afterwards, if it can be done, will be more expensive and less satisfying.

**Using an exposure-meter :** To help judging exposure, especially in unusual conditions, an exposure-meter will be useful — if you learn to use it correctly. Follow manufacturer's instructions accurately. Read the exposure value (all modern meters will have this scale) and set exposure scale of camera (18) to this number by turning dial (19).

**Flash pictures :** Indoor or whenever the light is insufficient (exposure dial will not turn far enough, clockwise) change to flash.

**Any** flash gun will work with the View-Master camera. The modern, compact ones will slip into the accessory shoe (8). Use blue flashbulbs, because you have daylight colour films. Connect the flash cable to the « M »-outlet (11) on top of the camera. If you use electronic flash, connect its cable to the « X » outlet (12).

**Setting the camera for flash :** Judge or measure the distance of your subject from the flash holder. Turn the exposure dial (19) until this distance (in meters - black scale ; or in feet

- green scale) appears in window (10) in front of the blue arrow (5).

That's all ! No « guide numbers », no calculations, nothing else to set.

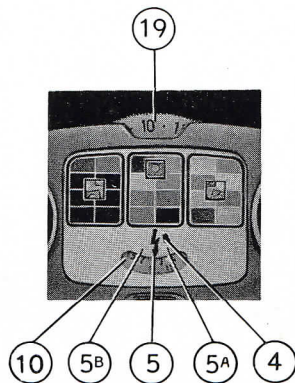
**Caution :** If a red signal has appeared, partly or wholly, in window (4), your subject is too far away from the flash. Turn back the exposure dial until the red signal just disappears.

At that moment the blue arrow will indicate your maximum flash distance.

**Non-standard flash :** If most of your flash pictures come out too **light**, whatever the cause may be (high-efficiency flash unit, non-standard bulbs, over-estimating distances, etc.) the correction is simple : Instead of the blue arrow, use the index (5a) on the side of the **light** colour block.

If your flash shots are mostly too **dark**, use the index (5b) on the side of the **dark** colour block, instead of the blue arrow. The blue arrow should generally be used for average blue flash bulbs (7000 - 9000 lumenseconds, such as the PF1-B, XM1-B, 5B, M5B, etc.) in average reflectors, and for medium-sized electronic flash units (60-90 Wattseconds).

For smaller blue bulbs (AG1-B) and small electronic units, use index (5b). For very strong flash, use index (5a).



**Outdoor pictures with « fill-in flash » :** To brighten strong shadows (sun very high, on the side, or even behind subject) you can use « fill-in flash », like the experts — but without the usual complicated calculations.

- Set exposure dial (19) to match light conditions and subject colour as if the sun were normally behind you.
- Read your flash distance at the blue arrow (5)
- Put your flash unit at this distance from the subject and take your picture.



## Unloading the camera

If you keep shooting until the very end of the film, the rapid wind button (1) will meet a high resistance, the rewind-knob will stop revolving and the exposure-counter (20) will indicate a wrong figure. Also, there are chances that the film may be damaged and the last few pictures double exposed.

It is therefore better to stop shooting at the last exposure as indicated before :

For the 36-exposure film : stop at 75

For the 20-exposure film : stop at 40

**Rewinding :** The film must be wound back into the cartridge **before opening** the camera.

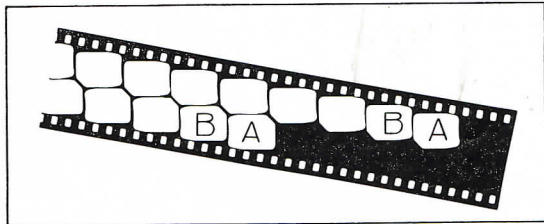
— Press rewind button (3) and keep it pressed down while you rewind the film by turning rewind-knob (13) in the direction of its arrow. You will feel the film tongue snap loose from the take-up spool (25), after which the rewind-knob turns more freely.

— Open camera in subdued light and facing down (so cartridge won't fall out), take out cartridge and put it back in container.

**Processing and mounting :** Send the film to processing station as advised by the film manufacturer or your dealer.

Indicate clearly that the film must remain **uncut**.

After you receive the processed film, the pictures are grouped like this :



The two A-pictures together form a stereo-pair, they must be cut out from the film and inserted into two opposite pockets of a precision made, empty View-Master reel.

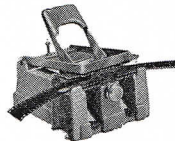
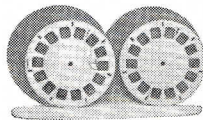
Next the two B-pictures are cut out and mounted and so on.

There are three convenient ways to do this :

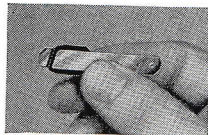
1. You can mount them yourself with the View-Master film cutter and blank, « personal » reels. It is the fastest, cheapest and most satisfying way.

The film cutter comes with full, easy-to-follow instructions and will soon pay for itself.

2. Your dealer will have them mounted for you. You get back all your usable pictures, in the order they have been taken, seven per reel.

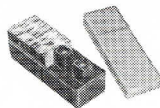


If you wish to, you can change the pictures from reel to reel at will. To do this scratch-free, all you need is a special pair of tweezers, the View-Master « Film-inserter ».



3. If none of the dealers in your area offer a mounting service, any of them can give you the address of the central View-Master Mounting Service in your country, to which you can send your film direct.

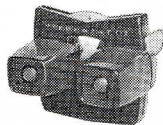
All that remains to be done is to title each picture carefully in the space provided on the blank reel and to file the reels in View-Master albums or library boxes. They will offer you and your friends many hours of unequalled enjoyment.



### **ENJOYING YOUR VIEW-MASTER PICTURES :**

There is a wide range of viewing and projecting equipment available :

a) The famous model E View-Master stereoscope of which there are millions in use. A simple, but highly efficient instrument. Magnification 5 x.







b) The View-Master stereoscope model F, with built-in light (battery or transformer) and slightly larger lenses and magnification.



c) The View-Master stereoscope model D, designed especially for personal View-Master photography. With built-in light and high-magnification (7 x), highly corrected, focusing viewing lenses.



d) The View-Master transformer-cord allows you to use house current for stereoscope model F or D.

e) The View-Master « Deluxe » non-stereo projector, 100 Watts, 2,8 lens ; projects up to four feet wide.

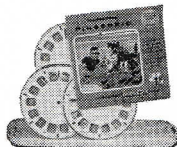


f) The View-Master « Stereo-matic » full-stereo projector. You'll see your pictures in full depth and colour on the screen (or rather through the screen) by means of polarized light.



Finally, don't forget that you can supplement your show by adding fascinating ready-made reels from the famous View-Master collection : Places where you have been, places where you are planning to go, places where you can only dream of going to (typical of View-Master : you don't have to buy them while you travel — Your local dealer sells them all). Then : Reels on world events — adventures — famous stories — cartoon characters etc.

Your own personal reels will of course form the main feature and you can give them professional quality by reading and re-reading these instructions carefully.



## *Tips for better pictures*

### **EXPOSURE WITHOUT SCALES — HOW IT WORKS**

On page 8 we explained that the View-Master Stereo Color Camera has variable lens openings and variable shutter times like other quality cameras — but that their setting is semi-automatic.

On the camera you will not even find scales for these two values. For inquisitive readers, we mention them here :

Lens openings : 1:2,8 - 4 - 5,6 - 8 - 11 - 16 - 22, continuously.

Shutter times : 1/30 - 1/40 - 1/50 - 1/60 sec., continuously.

Times shorter than 1/60 sec. are rarely needed and greatly affect the efficiency of flash-bulbs, necessitating complicated flash calculations.

If you want to know exactly what lens opening and shutter time you are using at given exposure value settings - scale (18) - use this table :

Exposure Value :	8	8½	9	10	11	12	13	14	15	
Lens opening :	2,8	2,8	2,8	4	5,6	8	11	16	22	(f-number)
Shutter time :	1/30	1/45	1/60	1/60	1/60	1/60	1/60	1/60	1/60	(sec.)

As you see, you always use the shortest shutter time (1/60 sec.) unless the light is so low that the lenses reach their full opening - only then does the camera shift itself from 1/60 sec. to 1/30 sec., gradually.

With your camera, there is no other reason to use these longer shutter times - such as insufficient depth-of-focus, see next tip.

Now you know why you only have to feed information about light conditions to the camera, which then takes care of the ideal settings all by itself !

## DEPTH OF FOCUS :

Maybe you wonder why nowhere in this manual are any measures mentioned for keeping your subject in sharp focus.

The reason is that here, too, the camera largely takes care of itself. The extreme short focal length of your lenses (20 mm) makes focusing unnecessary and guarantees that under average taking conditions everything from about five feet (1,50 meters) is perfectly sharp. Even if objects closer than this distance can be pictured sharp (see table below) it is unadvisable, with any stereo-camera of standard lens-separation (about 2 1/2 inches or 65 mm) to approach any subject closer than four feet. Eye strain in viewing (especially in stereo projection) may result.

As old hands in photography know, the depth-of-focus depends on the lens opening setting. So, if you want to know the point at which sharp focus starts at various camera settings, use this table :

Exposure Value	8	9	10	11	12	13	14	15	E. V. scale (18)
Sharp focus from	2,10 7	2,10 7	1,80 6	1,50 5	1,20 4	0,90 3	0,65 2	0,50 1 1/2	meter feet

On the last page you will find this « depth-of-focus » table combined with the previous « opening and time » table. It can be cut out and taped inside the camera case, for easy reference.

## CHOOSING YOUR COLOUR WINDOW

and the « dark » colours, here are a few examples :

**LIGHT SUBJECTS :** People in white or light-coloured clothes, all unusually light-coloured objects ; also snow scenes, beach scenes, open seascapes, scenes with white buildings or on white platforms — even if the people or objects in these scenes are only average-coloured.

**AVERAGE SUBJECTS :** All average-coloured persons, fabrics, objects etc. in average surroundings (landscapes, wide streets and squares, open fields, gardens).

**DARK SUBJECTS :** Dark-coloured complexions, fabrics, objects ; dark foliage or leafless trees, dark buildings, narrow streets and corners.

— Whenever in doubt, use « average ».

— When judging the colour group of your subject, be certain to do this independently of the light conditions (see page 9). The choice of the colour block (16) only depends on the subject as it is, the choice of the symbol (17) inside its window only on the light that falls on the subject.

## CHECKING OF FILM SPEED RATINGS

As all colour-film speed ratings are based on undefined interpretations of laboratory tests and not practical results, the film manufacturer's recommendations how to expose under standard conditions are more reliable than their indicated film speed.

To check on this, act as follows :

- Establish from their data sheet what Exposure Value the film makers recommend for average subjects in **bright** sun from behind the camera (for instance : E.V. 13).
- Set the exposure dial (19) so that the central window (17) shows the symbol for bright sun.

- Read the Exposure Value (18) (for instance : E.V. 13 2/3).
- In case the two Exposure Values are not the same, change the film speed setting (6) until they are identical (for instance : from 18° to 16° DIN).

## **NON-STANDARD FLASH II**

When you use completely non-standard flash, as in professional use, the simple correction described on page 14, will not be sufficient.

If you still want to benefit from the easy flash-distance scale (10), use the same reversed method as described above (checking on film speed ratings) to find the proper film speed setting.

Example : You use Kodachrome type F film and PF5 (clear) flashbulbs. Your guide number is 88 (product of distance in feet and lens opening). This means that with the flash distance set at 11 feet, the lens opening must be f-8, for which the View-Master camera must be set at Exposure Value 12.

These two settings will only correspond when the film speed is set at 50 ASA (18° DIN). So, set the camera for this film speed and your flash-distance scale will work accurately.

Note for connoisseurs : The M-delay of the View-Master stereo color camera is set at 12 milliseconds, with the remarkable result that modern flashbulbs (time to peak 15-21 milliseconds, duration at half peak up to 15 millisecc.) are used, for all practical purposes, at full efficiency at all shutter times (same as open flash).

## **ADJUSTING FOR SUN'S ALTITUDE**

All day in winter, and early in the morning or late afternoon in summer, the sun is lower and weaker than usual. Compensate as follows :

- a) Snow scenes in the mountains : no adjustment necessary.



b) All other scenes :

- Match colour subject and light conditions, as usual.
- Read the Exposure Value (18).
- Turn the dial until this value is **one point less**.

## TIME EXPOSURES

When illumination is low (twilight, indoors, flood- or spotlights) and you do not want to use flashlight, proceed as follows :

- Take camera out of case, put it on a tripod at (23).
- Screw in a cable release at (2).
- Swing lever (22) on B.
- Determine correct exposure (in lens opening and shutter time) or Exposure Value.

The best way for this is an exposure meter, preferably a photo-electric one. In case the meter reads in Exposure Values, the camera has to be set as follows :

Meter reading : (Exp. Value)	1	2	3	4	5	6	7
Set camera at : (scale 18)	9	9	9	10	11	12	13
Lens opening then is : (f-number)	2,8	2,8	2,8	4	5,6	8	11
Make B-exposure : (seconds)	4	2	1	1	1	1	1

— These settings are for the shortest practical time exposures by cable release (1 sec. or longer). If you prefer smaller lens openings, set the Exposure Value (18) 1 or 2 points higher, and expose two or four times longer respectively.

— For meter readings of 8 or higher, you can make pictures free-handed in the usual manner.

— After finishing your time-exposures, swing the B-lever (22) back to neutral. You can't forget, because you will have difficulty in putting the camera back in its case with the lever on B. Once in the case, it will not be possible to swing the lever to B unintentionally.

— For photoflood and studio lamps, use type A or B colour films. Carefully follow the instructions that come with the film. Fluorescent-tube lighting is not recommended.

## **MULTIPLE EXPOSURE**

If you want to expose several times without winding the film (multiple flash, fireworks, « ghost »- and trick-photography) here's what you should do :

When making the first exposure, hold the rapid-wind button (1) down and **keep** it down. As long as you keep it down (with a rubber band, if necessary) you can make as many exposures as you want without moving the film. Release the rapid-wind button before the last exposure.

## **BETTER FLASH PICTURES**

If your flash exposures are irregular (some too dark, some too light) the chances are that you have difficulty in judging the correct distance of your subject. Use a tape measure or, more convenient, any photographic rangefinder you can buy or happen to have. If your flash unit screws into the bottom of your camera (23), you can slip the rangefinder in the accessory shoe (8).

## **USE OF FILTERS**

Filters are seldom needed for colour photography. If you want to use filters, according to the instructions of the film manufacturer, you need slip-on filters, size 27 mm, or series V filters in adaptor rings 1 1/16 inch.

## KEEP YOUR LENSES CLEAN...

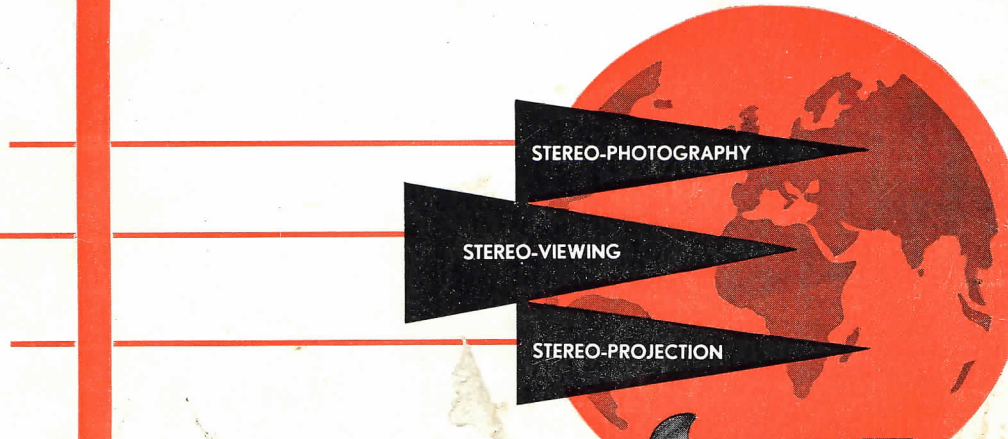
... this will keep your pictures brilliant. Use a soft chamois leather or lens-tissue and wipe the protective filters (15), in front of the lenses, carefully. Clean the front and rear lenses of the view-finder in the same way. To clean the rear lenses inside the camera, set central dial (19) to 8, lever (22) at B and press shutter button (14). Use **only** a soft brush.

EXPOSURE VALUE	8	8 1/2	9	10	11	12	13	14	15	E. V. scale (18)
Lens opening	2,8	2,8	2,8	4	5,6	8	11	16	22	(f-number
Shutter time	1/30	1/45	1/60	1/60	1/60	1/60	1/60	1/60	1/60	(sec)
Sharp focus from	7	7	7	6	5	4	3	2	1 1/2	(feet)

*For critical work, cut out the table on the following page, identical with the one above and tape it inside the flap of the camera case, as ready reference.*

*Table above serves as spare.*

EXPOSURE VALUE	8	8½	9	10	11	12	13	14	15	scale (18)
f-number	2,8	2,8	2,8	4	5,6	8	11	16	22	Lens opening
Shutter time	1/30	1/45	1/60	1/60	1/60	1/60	1/60	1/60	1/60	seconds
Sharp focus from	7	7	7	6	5	4	3	2	1½	feet



STEREO-PHOTOGRAPHY

STEREO-VIEWING

STEREO-PROJECTION

