

The

STEREO
REALIST
CAMERA



Instructions



*The first American-
made, precision built, true
Stereoscopic Camera . . .*

manufactured by

DAVID WHITE CO.
MILWAUKEE, WISCONSIN, U. S. A.

foreword

If you are, as the owner of a new Stereo REALIST, one who is about to use a stereoscopic camera for the first time, a rare thrill is in store for you. Your Stereo REALIST pictures will be so natural, so real, that you will almost expect them to come to life.

On the other hand, if you are one of the many persons who have taken stereoscopic pictures in the past, it is probable that you have been limited to black and white film. Yours is now the new thrill of full color complemented by the third dimension — a technical achievement resulting in complete realism.

Stereoscopic (and let's not call it "stereopticon," which is something else) photography is not new. It is, in fact, as old as photography itself, and the principles of stereoscopy were known long before that. As early as the sixteenth century, diagrams were drawn incorporating the elements of binocular vision and three dimensional seeing.

In the Stereo REALIST, therefore, we claim nothing new in principle. You will, however, find your REALIST to be a precise, well designed, high quality camera correctly incorporating the long known principles of stereoscopy, and at the same time taking full advantage of the latest developments in materials, lenses, mechanical design and color film.

We are proud of the Stereo REALIST. It is not the result of casual or hurried designing. We are confident you will take pride in its ownership and experience much pleasure in using it.

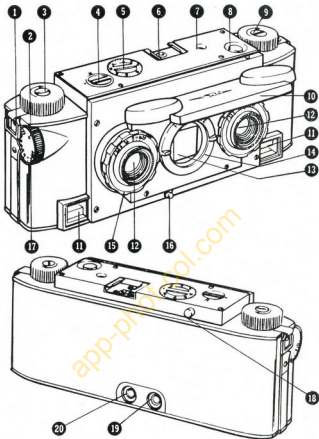
DAVID WHITE COMPANY

why we see stereoscopically

We see stereoscopically or with the "third dimension" because we have two eyes. Close one eye and the ability to judge distance or depth is lost. Each of our two eyes sees things from a different viewpoint and this difference in viewpoint, however slight, is one of the tools used by our brain to read the third dimension into things seen by the eyes. Also, the closer an object is to the eyes the more they have to converge or "toe-in" to see it. In exactly the same way as the range finder on a camera operates, this "human range finder" helps to tell us the distances to the objects we see.

The stereoscopic camera takes a pair of pictures, one picture corresponding to the viewpoint of each eye. When these pictures are viewed in the stereoscope, the left eye seeing the left picture and the right eye the right picture, the same factors of difference of viewpoint and convergence are present that were present when viewing the original scene, and we are able to interpret depth as well as though we were again actually seeing the original scene. So we see that the two pictures of a stereo "pair" are not identical even though they are often thought to be. Identical pictures, mounted as a pair and viewed in a stereoscope, exhibit no stereo relief whatever.

The stereoscopic camera is therefore actually two cameras so arranged that two pictures are taken at the same time and from the two viewpoints corresponding to the spacing of the eyes. When these two pictures are mounted as a Stereo REALIST slide and we see them in the Viewer, they blend together or merge to reproduce the original subject life size and in full color.



1 Neck-strap lug

2 Focusing knob

3 Film winding knob

4 Rewind release

5 Automatic exposure counter

6 Flash attachment clip

7 Shutter-trip indicator

8 Shutter release button

9 Rewind knob

10 Plastic lens cover

11 Range finder aperture

12 Matched objective lens

13 View-finder objective

14 Shutter speed setting ring

15 Diaphragm setting ring
— mechanically coupled

16 Shutter cocking lever

17 Distance scale

18 Film wind release

19 Range-finder eye piece

20 View-finder eye piece

specifications of the STEREO-REALIST MODEL ST 41

BODY — Die cast aluminum, alumilite finish.

EXPOSED METAL PARTS — Satin chromium.

LENSES — Matched Cooke type coated anastigmat lenses of 35 mm. focal length, f:3.5, Iris diaphragms mechanically coupled.

SHUTTER — Gear retarded, ring set, cocking, behind the lens type with speeds of 1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100 and 1/150 second, plus time and bulb.

SYNCHRONIZER — Built-in silver contacts — uses either 5 or 20 millisecond delay flash lamps (SM or No. 5 or equal) or strobo flash. Bulbs may be inserted before or after cocking shutter. Contact to attachment for photoflash is through attachment clip on top of camera.

VIEWFINDER — Direct vision, reverse Galilean type with objective lens midway between camera lenses completely eliminating viewfinder parallax. Image is erect and unreversed.

FOCUSING — Internal by means of milled wheel at right end of camera body. Range — 2½ feet to infinity. Distance scale appears on face of focusing wheel for convenience in calculating flash exposures and in setting camera on the hyperfocal distance.

RANGEFINDER — Coupled, split field military type. Magnification unity. Exceptionally wide base.

LENS COVER — Phenolic plastic — may be closed with filters in place. Caps viewfinder, automatically prevents exposures with lenses capped.

FILM TRANSPORT — Automatic spacing and positive locking of both winding knob and film sprocket.

FILM — 20 or 36 exposures 35 mm. film in standard film magazines. Takes 16 pairs on the 20 exposure roll and 29 pairs on the 36 exposure roll.

It is wise to familiarize yourself with any new piece of equipment before attempting to operate it. Therefore, before actually loading your new Stereo REALIST with film and taking pictures, we suggest that you study the following instructions carefully and learn the purpose and operation of the various controls with which the camera is equipped. Practice holding the camera before a mirror, watching particularly the position of your hands.

lens cover

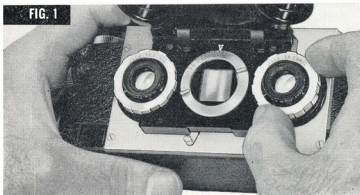
The plastic lens cover of your REALIST is designed to protect its lenses against damage and dust. To open — simply lift up from the bottom edge. A snap spring holds the cover in either the open or closed position. Since the cover in the closed position caps the viewfinder, there is no danger of forgetting to uncap the lenses.

setting the diaphragm

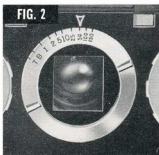
The iris diaphragm regulates the size of the opening which admits light to the camera. To set, rotate the rim of either lens to the required setting. (See figure 1.) Since the diaphragms of the two lenses are mechanically coupled this will automatically set both of them alike. Information regarding proper diaphragm openings for various conditions is provided further on in this manual.

5

FIG. 1



setting the shutter speed



The Stereo REALIST provides ten shutter speeds — 1, 1/2, 1/5, 1/10, 1/25, 1/50, 1/100, and 1/150 seconds, plus time (T) and bulb (B). When set on "bulb," the shutters remain open as long as the release button is depressed. On "time," the shutters open when the release button is first pressed and close when it is pressed a second time. To set the shutter

speed rotate the ring around the viewfinder objective lens to the speed setting desired. (Figure 2.) Only the denominator of the fraction is shown; for example, 50 = 1/50 of a second.

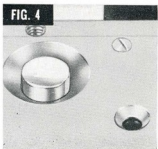
cocking the shutter



The shutter should not be cocked until after the proper speed setting has been made. To cock — move cocking lever to left as far as it will go and then release. (See Figure 3.)

shutter release

The shutter release button is located on the left side of the top of the camera. (Figure 4.) This position makes it easy to operate with the index finger of your left hand.



Adjacent to the shutter release button is a socket for the cable release. Any American type with straight thread can be used.

range finder

The coupled rangefinder of the REALIST makes accurate focusing quick and easy. Looking through the rangefinder eyepiece (right hand aperture at the bottom of the camera back) select any vertical line in the view and rotate the focusing knob (Figure 5) with the second finger of the right hand until this line in the upper part of the split field matches the line in the lower part of the field. See diagrams below.



When taking pictures including considerable distance (over 100 feet) as well as foreground objects, it is advisable to set the focus on the hyperfocal distance. This setting gives the greatest possible depth of field. (See Table on page 17.) With the camera set on this distance everything will be sharp from one-half the hyperfocal distance to infinity. If no foreground objects are included, focus the camera on infinity.



Note that vertical lines in bottom part of split field do not match those in upper part. The camera is not in focus.



A complete matched picture is seen when the rangefinder is set properly. Vertical lines in the top of the split field match the same lines in the bottom portion.

7

holding the Stereo Realist

FIG. 6

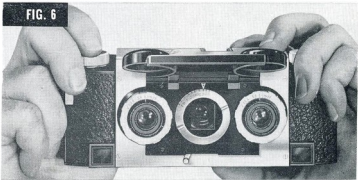


Figure 6 shows the correct position of the hands when using the REALIST. The second finger of the right hand is used to rotate the focusing knob, and the shutter is operated by the second finger of the left hand. The left thumb is under the camera. Be careful that your other fingers do not obscure the two rangefinder objectives.



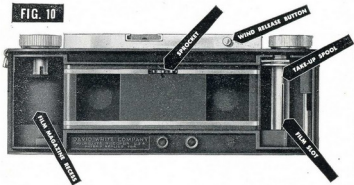
The location of viewfinder and rangefinder eye-pieces makes it easy to steady the camera against your forehead when taking pictures. (See figure 7.) Of course, the use of a tripod wherever possible will result in better pictures.

loading the Stereo Realist

1. Open camera by turning lock lever on bottom of camera away from "lock" (see Figure 8), and pulling up the end of the camera back nearest the lock lever. Remove the back completely from the camera. (See Fig. 9.)



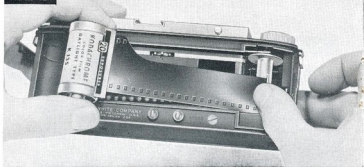
FIG. 10



2. Return rewind release to normal position (2 dots together). Next, turn the sprocket (see Figure 10) in either direction with your fingers until it locks. Press film wind release button and turn winding knob until slot in film take-up spool is toward you. Pull rewind knob up as far as possible.
3. Holding film magazine in the left hand, insert end of film firmly into slot in take-up spool. (See Figure 11.)
4. Holding right thumb on spool to prevent film pulling out, move film magazine to left end of camera and drop into its recess, allowing film to pay out from

FIG. 11



FIG. 12

magazine as necessary. (See Figure 12.) **CAUTION:** Do not pull any more film from the magazine than necessary. To do so may result in fogging the first picture on the roll. Push rewind knob down.

5. Replace camera back. In doing this, insert end with wide latch at left end of camera and swing closed as though it were hinged (Figure 14). Turn lock on bottom of camera to "lock" position.

6. At this point it would be well to check the shutter and make certain that it is closed. Then, holding thumb of left hand on rewind release button, turn winding knob in direction of arrow until exposure counter

FIG. 13

Figure 13 shows film in proper position ready for winding (after camera back is replaced.) Note that edge of film is even with lower end of take-up spool so that entire bottom edge of film is parallel with bottom of camera.

FIG. 14

clicks. This indicates that the film perforations have engaged the sprocket and started rotating it. Now release button and continue to turn winding knob until it locks.

7. Press wind release button again and start to turn film winding knob. Remove thumb from wind release button and continue winding until the winding knob locks. Film for the first exposure is now in place.

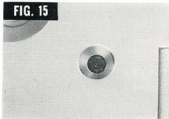
8. Set counter dial on number 1, turning it counter-clockwise. You are now ready to make your first exposure.

9. After each exposure, the shutter trip signal on top of camera (Figure 15) will show red. Repeat direction 7 to move unexposed film into position. After you have done this, the signal will show white indicating that the camera is ready for the next picture.

caution:

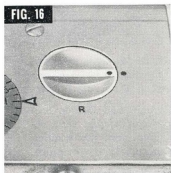
As with any camera using 35 mm. film magazines, the exposed film must be rewound back into the magazine before it can be removed from camera. It is important therefore, after the exposure

counter indicates you have made the 16 or 29 exposures (depending on which length of film you are using) not to continue winding film, since to do so would tear it from the magazine and necessitate darkroom unloading.

FIG. 15

unloading

1. When you have finished taking exposure number 16 (or 29 in the case of the 36 exposure roll) turn rewind release so that the dot is on "R" (rewind). (See Figure 16)



2. Turn rewind knob in direction of arrow and continue turning until all the film is rewound back into the magazine. When the counter stops operating you will know that this has been accomplished.

3. Remove camera back.

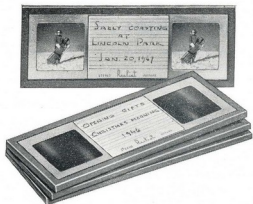
4. Pull up rewind knob and remove film magazine. To reload, repeat loading instructions.

care of your Stereo Realist

Keep your camera clean. Brush out the interior occasionally with a soft brush to remove dust. Remove any bits of film that may become lodged in the take-up spool slot or any other place.

It is necessary that the lenses be kept clean. Be careful not to touch them with your fingers. They may be dusted with a soft, clean, camel's hair brush or cleaned more thoroughly by breathing upon the surface and gently wiping with lens tissue. Do not attempt to remove any of the lenses.

Cameras in need of repair or adjustment should be returned to the manufacturer.



mounting your pictures

For use in the Stereo REALIST Viewer, the pictures taken with the REALIST Camera must be mounted in the form of slides $1\frac{5}{8} \times 4$ inches in size with the individual frames on $2\frac{1}{2}$ inch centers. We recommend that you obtain the REALIST mounting kit and do this simple task yourself. This kit contains a device for cutting the film strip into individual frames, a jig for mechanically aligning the pictures and heat sealing them to the masks. These supplies are also available separately from your dealer.

If you prefer to have your pictures mounted for you, send them to the David White Company, using the printed forms supplied for that purpose (one such form is included with your camera) and carefully following the directions. Your pictures will be returned to you in cardboard mounts ready for viewing. For more permanent protection they may be easily removed from these mounts and bound in glass in the conventional way without special apparatus.

Two types of masks are available for mounting Stereo REALIST slides. The "regular" mask is for general use and produces an apparent "window" at a distance of approximately ten feet while with the "closeup" mask, which is used for portraits and other close-up pictures, the window appears about three feet distant.

general suggestions

When taking a picture, whether with a stereo camera or a single picture camera, there are only two things to determine and set: distance (focus) and exposure (shutter speed and diaphragm).

The coupled rangefinder of your REALIST makes the setting of the focus easy and quick. Instructions for the operation of this control have been given on page 7. Be sure that you fully understand the matching of the split field and take a little extra time and care to be sure you have the exact focus each time. The result will be definitely better pictures. When the view being photographed includes distant objects of importance (over 100 feet) best results will be obtained by setting the focusing dial to the hyperfocal distance for the diaphragm stop being used. (See table on page 17) All objects will then be in focus from one-half this distance to infinity.

14 The other setting—exposure—is made up of two things: the size of the opening which admits the light (diaphragm stop) and the length of time the shutter stays open (shutter speed). The exposure required will depend upon the sensitivity or "speed" of the film being used and the amount of light falling upon the subject being photo-





graphed. The film speed may be found from the instruction sheet that comes with the film or from tables published by the film or exposure meter manufacturers. The amount of light is best determined with a photo electric exposure meter, although various calculating charts are available which work fairly well under ordinary conditions.

Having determined the film speed and the amount of light, you have the choice of any of the combinations of diaphragm stop and shutter speed settings which give the proper total exposure. In deciding which to use, consider the type of the subjects with little or no motion permit slower shutter speeds and smaller diaphragm openings, giving greater depth of field; that is, sharpness through a longer range of distances. (Table on page 17.) Moving objects require faster shutter speeds in order to "stop" the action.

Remember, the smaller the diaphragm opening (the smaller openings have the larger numbers), the greater the depth of field; the faster (or shorter) the shutter speed, the better motion will be stopped. You will soon gain enough experience and judgment to enable you to

choose the proper combination of these two factors to suit any set of conditions.

The instructions up to this point apply equally well to either stereo or single picture cameras. In the matter of composition, camera angle and viewpoint, however, the stereoscopic camera offers much greater range and flexibility. Since the picture seen in the viewer will be so nearly like the original, anything that looks good to you in life will make a good picture. At will, you may hold the camera level, point it up to include tall buildings or point it down for close-ups of flowers. Aim it in any direction you would look with your own eyes and you capture what your eyes saw. Since you are now photographing things in their true spatial relationship you may let objects occupy their normal positions in space. Often your pictures will be more interesting if you purposely include foreground objects such as trees, flowers, or fences.



In composing your pictures, take them from the viewpoints that look good to you at the time, with the assurance that they will look the same later when you view them in the stereoscope. You are no longer bound by rules of composition designed for flat pictures. Yours is now a new experience in photography with almost limitless possibilities. In the stereoscope you will see not a picture but the thing itself recreated in all its original beauty.

It has not been the purpose of this booklet to present a complete treatise on taking pictures, but instead to explain the operation of the Stereo REALIST Camera. For further information we suggest that you read one of the many available books on the general subject of photography.

depth of field table

35 mm. f3.5 lens used on the Stereo Realist.

Based on a circle of confusion of 1/1000 inch.

Dia- phragm Setting	Depth of Field Is	DISTANCE SETTING OF FOCUSING DIAL									
		INF	25'	15'	10'	8'	6'	5'	4'	3'	2½'
f3.5	FROM	45'	16'	11' 3"	8' 2"	6' 10"	5' 4"	4' 6"	3' 8"	2' 10"	2' 5"
	TO	INF	56'	22' 6"	12' 10"	9' 9"	6' 11"	5' 8"	4' 5"	3' 3"	2' 8"
f4	FROM	40'	15' 5"	10' 11"	8'	6' 8"	5' 3"	4' 5"	3' 8"	2' 9"	2' 4"
	TO	INF	67"	24'	13' 4"	10'	7"	5' 9"	4' 5"	3' 3"	2' 8"
f5.6	FROM	28'	13' 2"	9' 9"	7' 4"	6' 3"	4' 11"	4' 3"	3' 6"	2' 8"	2' 3"
	TO	INF	233'	32' 4"	15' 7"	11' 2"	7' 8"	6' 1"	4' 8"	3' 4"	2' 9"
f8	FROM	20'	11'	8' 7"	6' 8"	5' 9"	4' 7"	4'	3' 4"	2' 7"	2' 2"
	TO	INF	INF	60'	20'	13' 4"	8' 7"	6' 8"	5'	3' 6"	2' 10"
f11	FROM	14'	9'	7' 3"	5' 10"	5' 1"	4' 2"	3' 8"	3' 1"	2' 6"	2' 2"
	TO	INF	INF	INF	35'	18' 8"	10' 6"	7' 9"	5' 7"	3' 10"	3'
f16	FROM	10'	7' 2"	6'	5'	4' 5"	3' 9"	3' 4"	2' 10"	2' 4"	2'
	TO	INF	INF	INF	INF	40'	15'	10'	6' 8"	4' 3"	3' 4"
f22	FROM	7'	5' 6"	4' 9"	4' 2"	3' 9"	3' 3"	2' 11"	2' 6"	2' 1"	1' 11"
	TO	INF	INF	INF	INF	INF	42"	17' 6"	9' 4"	5' 3"	4'

17

hyperfocal table

These settings give greatest possible depth of field

Diaphragm Setting (f Number)	Set Distance Dial On (Hyperfocal Distance)	Camera Is In Focus	
		From	To
f 3.5	45'	22'	INF
4	40'	20'	INF
5.6	28'	14'	INF
8	20'	10'	INF
11	14'	7'	INF
16	10'	5'	INF
22	7'	3½'	INF



app-phot-col.com