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INSTRUCTION MANUAL

DeJUR Dual-Professional *Lifetime* EXPOSURE METER

DeJUR USA

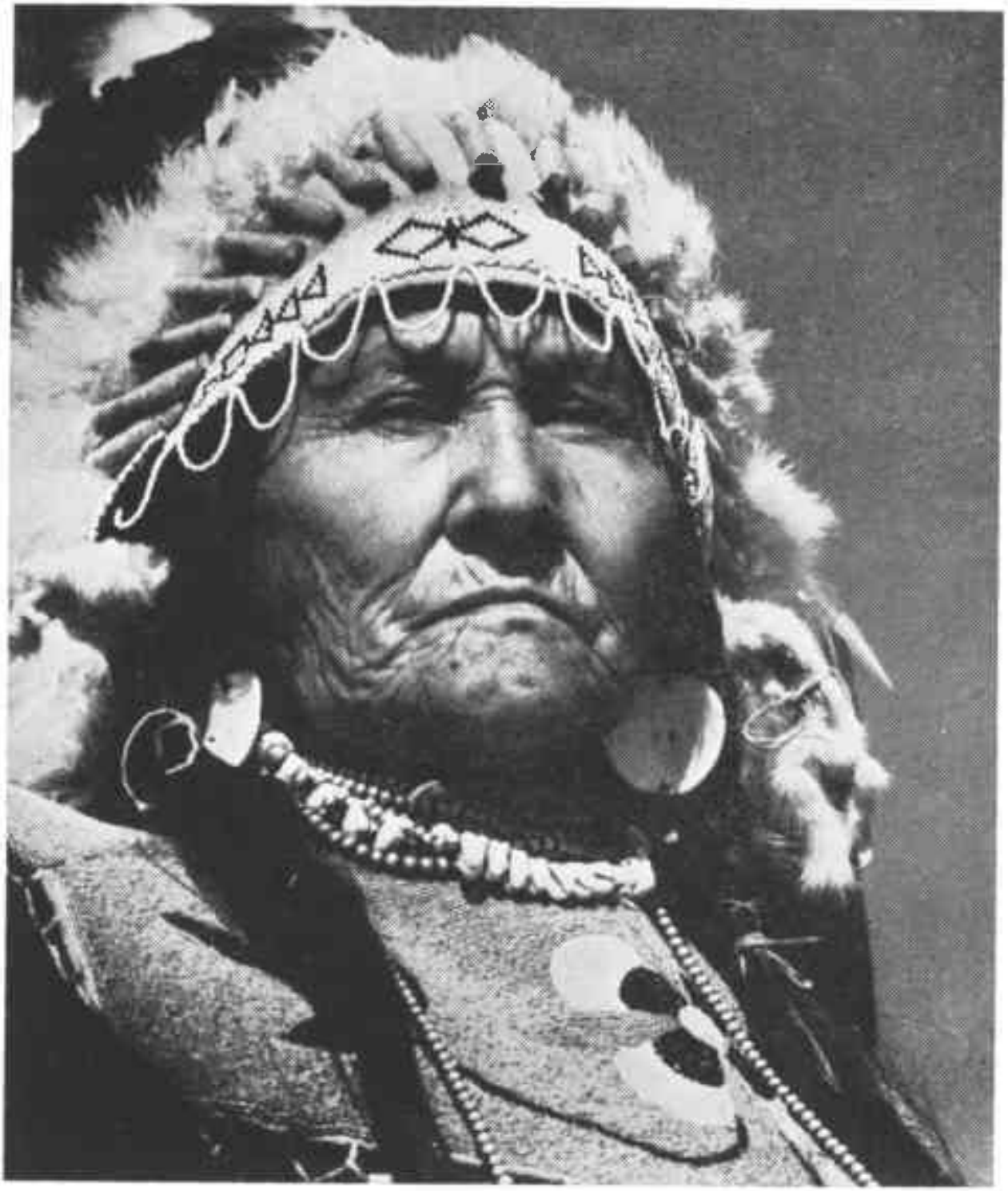
the equipment you need for the pictures you want

MANUAL OF INSTRUCTION for the DeJUR DUAL PROFESSIONAL *Lifetime* EXPOSURE METER

●

by

CHARLES H. COLES, A.P.S.A.
Technical Director



This colorful Indian subject was photographed at 1/50 second f/11 with Superpan Press film using a red (A) filter.

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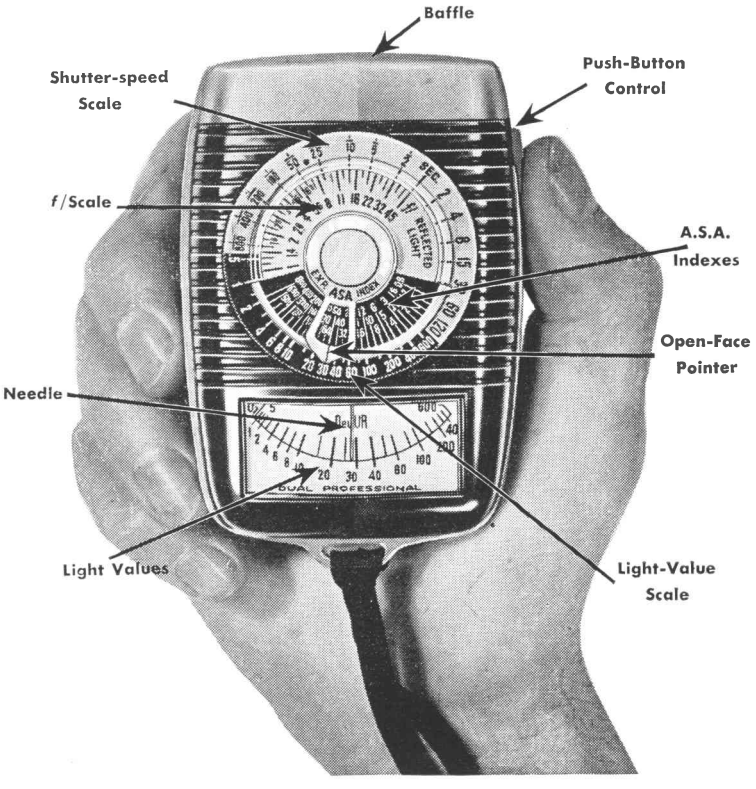

Baffle
Shutter-speed Scale
Push-Button Control
f/Scale
A.S.A. Indexes
Open-Face Pointer
Needle
Light Values
Light-Value Scale
REFLECTED LIGHT
EXP. ASA INDEX
DUAL PROFESSIONAL

Introducing the DeJUR Dual-Professional "Lifetime" Exposure Meter

The Dual Professional is the first exposure meter designed in accordance with all specifications proposed by the American Standards Association. The instrument scale and exposure computer have calibrations recommended by the ASA and give direct readings for an exposure range from 1/800 second to 2 minutes at apertures between *f*/1 and *f*/45, using films having an ASA Exposure Index ranging from 0.8 to 800.

The Dual Professional meter measures either reflected or incident light. For measuring incident light (the light falling on the subject) the push-button control automatically drops the baffle and changes the *f*/ stop scale to give direct readings up to 600 foot-candles. Because it shows the level of illumination directly in foot-candles when the baffle is open, the Dual Professional exposure meter is also useful for measuring light in the home, school, office or factory where proper illumination is essential for comfort and efficiency.

Care of the Meter

Treat your exposure meter as you would a fine watch. Like a watch, it will give long and faithful service if it is protected from sudden jars, vibration, moisture and heat. With the exception of zero adjustment, described below, do not attempt any adjustment or repair of your photoelectric exposure meter. Training and special skill are required for repair work and special equipment is necessary to test and calibrate the meter after it has been repaired. If your DeJUR exposure meter does require special adjustment or repair, ask your photographic dealer to send it to the

Repair Department, DeJUR-Amsco Corporation, Long Island City 1, New York, accompanied by a letter giving *complete* details including the MODEL and SERIAL NUMBER of the meter in question.

Zero Adjustment

From time to time, the needle of a photoelectric exposure meter may show a slight drift from the correct zero setting, owing to circumstances of use and the characteristics of electrical instruments. To check the meter for its proper zero setting, hold your hand over the cell window to cut off *all* light. The pointer should now point to the lowest mark on the scale, in other words, it should indicate zero light intensity. If it does not register zero, turn with a small screw-driver the zero set screw on back of meter until the pointer does register zero. *Check the zero at regular intervals.*

Camera Errors

Despite the use of an accurate exposure meter, some photographers find their exposures are *consistently* over or under the normal. Such an experience indicates recurring errors in the photographic system associated with individual equipment or methods of use. When the errors are consistent the camera lens-stop setting may be increased or decreased by a constant amount, say from ½ to 1½ stops, necessary to compensate for the error. Errors of this kind are really not serious and they should not be a source of concern since some degree of error is almost inescapable under any but laboratory conditions. However, if the error is erratic, causing both over- and under-exposure, it is advisable to have the shutter speeds checked by a reliable camera repair man.

Directions for Using the Dual Professional Exposure Meter

The light by which we take pictures is the light reflected from various areas of the subject in front of the camera. The amount of reflected light depends upon the prevailing illumination, whether the objects to be photographed are light or dark, whether they have a rough or shiny surface and upon their color.

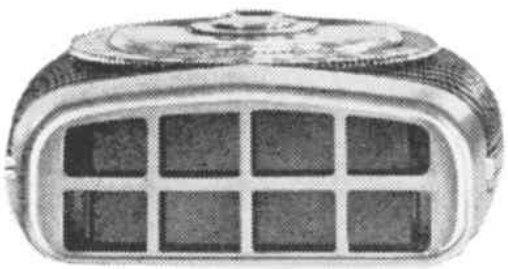
There are two general methods for using an exposure meter. One calls for measurement of light reflected from the subject. The other method measures the incident light, that is, the light by which the subject is illuminated.

FIG. 1 — Point meter toward subject to read correct exposure by reflected light method.

Measuring Reflected Light from Camera Position

This method of using an exposure meter is convenient and generally reliable in dealing with average subjects. By pointing the meter with the baffle closed toward the subject, the indicated exposure will be correct for the average scenes. Figs. 1, 2, 4, 5. To determine exposure in this way:

1. In ASA booklet look up index of film you have loaded in your camera. (For example, Plus X has index of 50.)
2. Slide open face pointer so that its indicator lines up with index number 50 on inner black dial. See illustration.
3. Point meter toward subject. Tilt somewhat down to avoid registering too much sky.
4. Indicating needle registers amount of light from subject. For example, needle points to light value of 30.
5. With thumb, rotate outer dial until light value indicated by needle comes to engraved line of pointer.
6. On outer white dial, select shutter time to which you wish to set your camera (1/50 second for example). In line with 1/50 you will find 6.3 on the inner white dial, the f/ number to which you set your diaphragm on your camera.



USING METER FOR REFLECTED LIGHT READINGS

Measuring Reflected Light from Subject Position

This second method for reading reflected light is useful in determining correct exposure for the object of principal

interest in a scene without regard for other portions of the subject. It is excellent for portraits, close-up pictures, and, in fact, any subject whatsoever.

With meter baffle closed, hold the meter close to the subject at a distance not greater than the smallest width of the object. For example, in portraiture, take a reading of light reflected from the face at a distance of about six inches. Be sure that no shadow is cast on the subject by the meter while taking the light reading. Set the dial the same as described for measuring reflected light from the camera position. (Fig. 2)

Measuring Incident Light from Subject Position

The incident light method is most convenient and de-

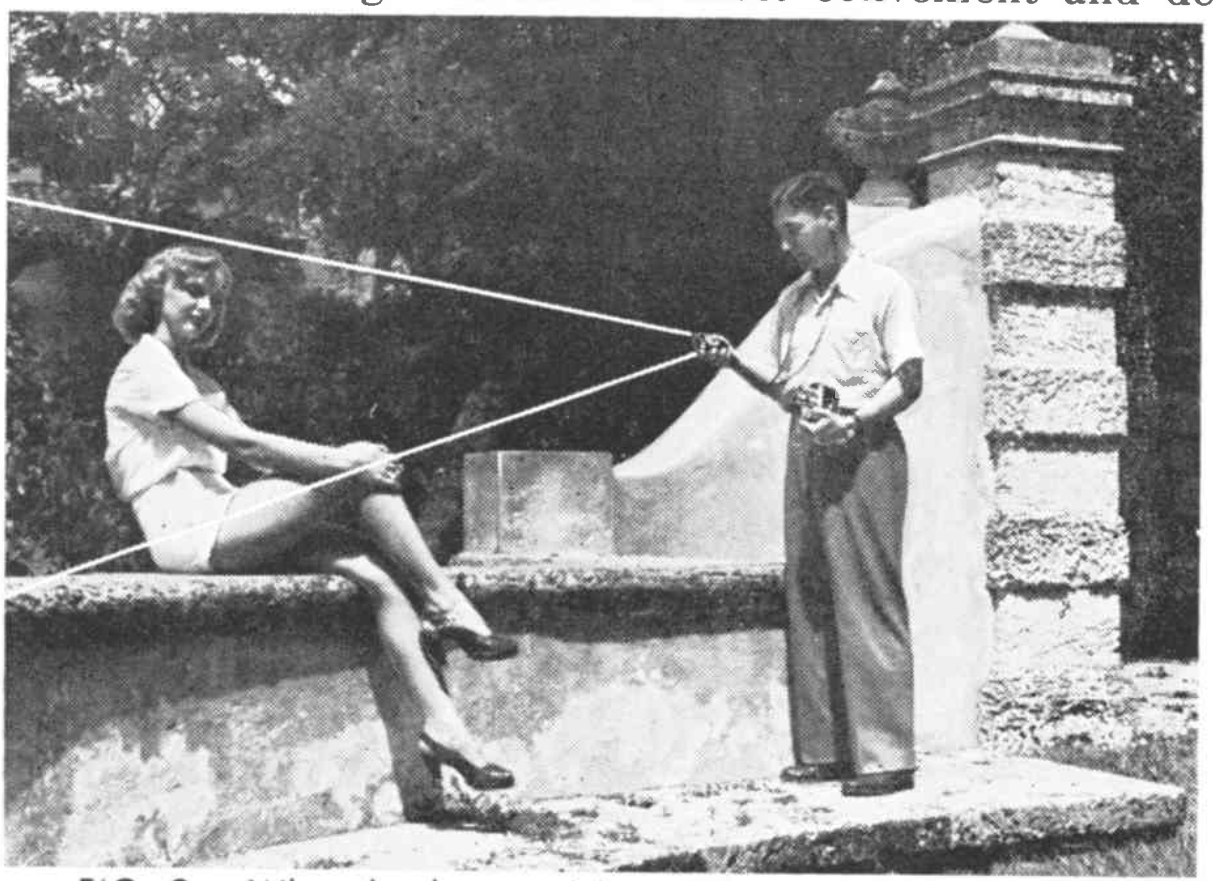
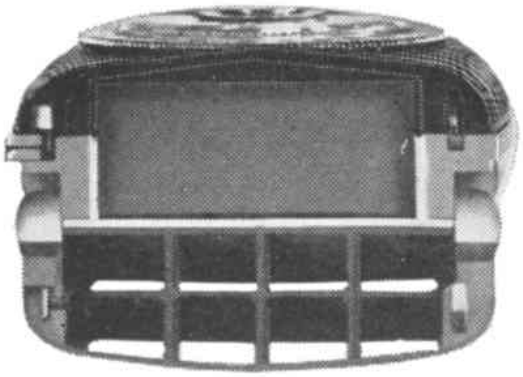


FIG. 2 — When background has different brightness from principal subject, read subject only.

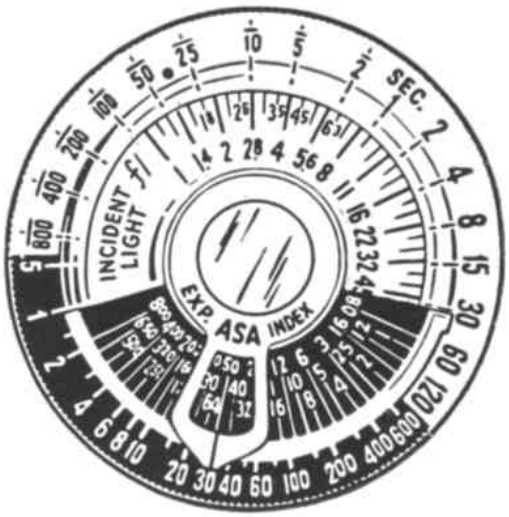
pendable in dealing with a majority of subjects when illumination is at the lower levels which make it difficult or impossible to measure the reflected light accurately.

Incident light readings indicate the best average exposure under prevailing illumination when the scene includes both light and dark subject matter. The incident light method is a guide down the middle of the road to correct exposure. Fig. 3.

To determine exposure by incident light readings, (1) set the pointer to the exposure index of the film you are using, (2) press the button to open the baffle, (3) hold the meter immediately in front of the subject but *pointed toward the camera*, (4) read the light value and (5) rotate the calculator dial until the corresponding light-value is opposite the exposure index. Then, (6) select the desired *f*/ stop and shutter settings. Keep baffle down when operating dial.



USING METER FOR INCIDENT LIGHT READINGS



When light comes from one side, point meter half way between light source and subject.

Difficult Subjects

When dealing with difficult subjects, such as those with "dramatic" lighting or bright side-lighting, a modified

method for measuring reflected light at the subject can be recommended. By taking two readings it is possible to measure the brightness range and determine what exposure will properly record both highlights and shadows, or to indicate which subjects present extremes too great for the film. Such a determination will also indicate exposure for the best possible picture under conditions that will not produce technically perfect results.

FIG. 3 — For incident light readings, drop baffle, hold meter close to subject, and point at camera.

Two Reading Method

For scenes with great brightness range, measure with baffle up the brightest and the darkest areas. For example, the brightest area may read 400 and the darkest area 2. Drop the baffle and turn the outer dial so the bright area

reading of 400 on the black part of the dial is opposite *f*/1. Notice where 2 (the dark area reading) falls. It comes opposite *f*/16. Count the stops between *f*/1 and *f*/16. There are 8 stops. To get the average stop divide by 2: i.e., 8/2 = 4. Count up 4 stops from *f*/1 which brings you to 4. Look opposite 4 to find 25 which is the light value found on the black scale. This represents the average (geometric mean) of the brightest and darkest object. Now raise baffle again and turn the outer dial to set this 25 to the open-face pointer. The best average exposure is indicated at the usual place on the meter dial.

Motion Picture Photography

For exposing black-and-white reversible motion-picture film, make a reflected light reading from the camera position, pointing meter toward subject. Set the light-value number on the dial opposite the open-face pointer. Then read the correct *f*/ stop setting opposite the dot between the 1/25 and 1/50 second marks on the dial. Fig. 4.

Most 8 and 16mm motion picture cameras have no provision for separate adjustment of shutter speed since this is determined by the design and running speed of the mechanism. At normal running speed of 16 frames per second, most motion picture cameras give an exposure of approximately 1/30th second. In using the Dual Professional meter to determine correct exposure for motion pictures, the procedure is exactly the same as when using any of the methods to measure light for still photography, but since the camera has one shutter-speed, there is only one correct *f*/ stop adjustment. Simply read the correct *f*/ stop setting opposite the dot, which corresponds to a shutter-speed of 1/30 second.

When the motion picture camera runs faster or slower

The DeJUR POLKA-DOT TARGET for Color Photography with the DeJUR Dual-Professional Exposure Meter

Correct exposure for color photography depends upon measuring an average subject with your exposure meter. Average subjects are difficult to find. The Polka-Dot Target is specifically designed to accurately represent the average subject. The oblong shape of the Target matches the oblong "seeing angle" of the DeJUR Dual-Professional exposure meter.

How to Use the DeJUR Polka-Dot Target

Distant Subjects:

1. Point meter toward subject with baffle up (REFLECTED LIGHT shows on circular dial of meter).
2. Hold target 4" in front of meter to block all light from subject. Avoid casting shadow of meter on target
3. Same light must fall on target as on subject: i.e., if subject is in sunshine, target must be held in sunshine.
4. Read meter in usual way for correct exposure of target. Use this exposure for your distant subject.
5. When light comes from one side, face target half-way between camera and light source.

Closeups:

Hold target against subject. Hold meter 4" away from target and point meter at center. Target must always show full face to meter, long side parallel to width of meter. When light comes from one side, face target half-way between camera and light source.

Indoors:

Always hold target against principal subject, flat side with Polka-Dots toward camera. Meter must be opposite center of target and 4" away. Avoid casting shadow of meter on target. When light comes from one side, face target half-way between camera and light source.

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than 16 frames per second, the shutter speed is increased or decreased proportionately. Then the exposure meter will show the correct *f*/ stop adjustment opposite the exposure time for the new camera speed, rather than opposite the dot which only indicates exposure time at 16 frames per second. The following table gives the average shutter speed at different camera speeds.

CAMERA SPEED (frames per second)	8	16	24	32	48	64
SHUTTER SPEED (seconds)	1/15	1/30	1/45	1/60	1/90	1/120

FIG. 4 — Exposure for black and white movies is obtained by pointing meter at subject from camera position.

Color Movies

For most consistent color filming, use the Polka-Dot Target in the center of this booklet. Don't forget to give unusually bright subjects ½ *f*/ stop less exposure than meter indication and unusually dark subjects ½ *f*/ stop more exposure. Without the Polka-Dot Target, make close-up reading of most important color, or with distant landscapes, point meter down to avoid sky.

Color Photography

Make two close-up readings of reflected light at the subject. These readings should be made at important areas of the brightest and the darkest colors. (See Two Reading Method.) Set the corresponding average light value number on the black dial opposite the ASA Exposure Index pointer. Then read the correct *f*/ stop and shutter-speed setting as usual.

Objects near at hand can be substituted for actual objects in the scene. For example, the palm of one's hand makes an excellent substitute for the face, assuming that both are lighted in the same manner and from the same angle. The use of such a substitute provides a quick and easy way to determine correct exposure for color portraits. Be sure the substitute object is of a color and brightness similar to the original and that no shadow is cast on the object by the meter while measuring the reflected light.

In color photography, correct lighting is almost as important as correct exposure. Preferably, the lighting contrast of the scene should be limited so that the lower of two light readings has at least 1/10th the value of the higher reading. Remember also that the resulting picture will not be pleasing if color quality of the light differs from that for which the film is balanced. Thus daylight

color film used indoors will turn out too red. Indoor film used outdoors without the proper filter will turn out too blue. When indoor color film is used outdoors, the correct compensating filter, as specified by the film manufacturer, should be used. Likewise, when outdoor film is used indoors, the Exposure Index must be changed and one of the specified compensating filters will be necessary.

FIG. 5 — Make closeup readings for color photography.

Color of Light Important

For outdoor photography with daylight-type color film, the natural light should be of the proper quality. Sunlight is light received directly from the sun. Skylight is light

received from the sky alone, and it is much bluer than sunlight. Daylight is a combination of sunlight and skylight. Daylight color film, intended for outdoor use, is adjusted for use with mixed sunlight and skylight.

During the early and late hours of the day the light from the sun appears yellowish-red from oblique passage of the light through the earth's atmosphere. Pictures made by this light will contain an excessive amount of yellow and red. With clouds obscuring the sun, daylight at the start or end of the day will largely consist of bluish light from the sky.

Obviously, color pictures taken in such unbalanced outdoor light will appear off-color. That is, too yellow or too blue, depending upon whether the subject is illuminated chiefly by sunlight, by skylight or by a mixture of the two. The color of objects at the time the picture is taken may be reproduced accurately, but the picture will usually look wrong. This is because we unconsciously adjust our minds to see and remember the colors of things as they would appear in a balanced mixture of skylight and sunlight, rather than as they actually appear when illuminated by other than normal daylight.

In color photography by artificial light, care should be taken to use the particular type of lamps for which the film was designed (see film manufacturers' instructions).

Polka-Dot Target

The use of a neutral substitute subject has been endorsed by a great many professional color photographers. Read the directions for use of the target and follow them carefully. Give unusually light subjects a half stop less exposure than indicated by meter and unusually dark subjects a half stop more.

Choosing f/-stop and Shutter-speed Settings from Indicated Pairs

After the light reading and dial setting have been made, an exposure meter indicates several *f*/ stop settings with their associated shutter-speeds, of which any pair may be used for correct exposure. The photographer must decide which pair of indicated settings to follow when adjusting his camera.

Since a majority of photographs are made with hand-held cameras, exposure should be of short duration to avoid camera movement. This means that a minimum shutter speed of 1/25 second is necessary and a speed of 1/50 or 1/100 second is more desirable. Still shorter exposures are frequently required to prevent blurring in photographs of moving objects. However, 1/100 second is the shortest exposure possible with many cameras, therefore, with this speed, it may not be possible to stop motion in every case. In general, when light values and other factors permit, shutter-speed settings of 1/50, 1/100 or 1/200 second and the corresponding *f*/ stop settings indicated by the exposure meter would be desirable.

When exposure conditions call for the maximum lens opening (lowest *f*/ stop number) on the camera and a shutter speed of less han 1/25 or 1/50 second, the camera should be steadied against some solid object if it must be held in the hands, or preferably mounted upon a tripod. Under such conditions, it is difficult to photograph action or rapidly moving objects unless they are many yards distant from the camera. Objects moving directly toward or away from the camera lens can safely be given exposures two or three times as long as the short exposures required

to prevent blurring of movement directly across the field of view.

Sometimes lighting conditions are such that even when using the largest lens opening (lowest *f*/ stop number) on the camera, exposure times of 1/5 second, 1/2 second or longer are required. If the shutter does not have settings corresponding to these exposure times, but does have "T" and "B" markings, when exposures are shorter than 2 or 3 seconds, set the shutter for "B" and press the shutter release throughout the time required for exposure, releasing it again to close the shutter. This is difficult to accomplish without jarring the camera, which will surely blur the picture, unless a cable release is used. If the meter-indicated exposures run into several seconds, or even minutes, set the shutter for "T", and then press and let up the shutter release to open the shutter. Do not touch it again until the exposure period is over. At the end of exposure, press and let up the release once again to close the shutter.

When light and exposure conditions permit, it is sometimes desirable to use a smaller lens opening (larger *f*/ stop number) such as *f*/8, *f*/11 or *f*/16 and a correspondingly slower shutter speed, because the depth of sharp focus will be greater: that is, objects ranging from those near the camera to those at a distance will appear more sharply focused in the resulting pictures.

In many cases, as when photographing tranquil landscapes, architectural subjects or industrial scenes where rapid movement is not a factor, it is preferable to gain depth of sharp focus through the use of a smaller lens opening (larger *f*/ stop number), even though exposure time must be increased to an extent that requires use of a tripod

to support the camera. Such lens and shutter settings, along with a tripod, are commonly used by professional photographers.

FIG. 6 — For maximum accuracy, hold meter to avoid too much light from sky entering photoelectric cell.

Color Filters

In photography, filters are used to correct the color quality of illumination and to accentuate color or brightness differences in the subject photographed. As a common example in black-and-white photography, the film usually records the blue of skies and white of clouds in similar light gray tones unless a filter is used. The yellow-colored gelatin or glass that is placed over the lens accentuates the difference between sky and clouds by absorbing light

from the blue sky while it absorbs a smaller proportion of light from the clouds. Since intensity of the exposing light has been reduced by filter absorption it is necessary to increase exposure time (or open the lens diaphragm) to obtain a film with exposure equal to that of a film exposed without a filter. The required increase of exposure for each filter-film combination depends upon the color of the filter, the color sensitivity of the film and the color quality of the light.

When a given filter requires a doubling of the normal, non-filter exposure it is said to have a factor of 2 for the particular film in question. A factor of 3 indicates that the exposure should be tripled, and so on. There are two ways to increase exposure as called for by the filter factor. Both give the same result and the choice of methods is a matter of individual preference.

First Method: Adjust the *f*/ stop or the shutter-speed setting. For example, when the filter factor is 2, either change to the next lower *f*/ stop number or double the exposure time.

Second Method: Divide the filter factor into the Exposure Index. For example, when the filter factor is 2 and the Exposure Index is 64, dividing by two makes the Exposure Index 32. Set the meter accordingly when determining correct exposure with the filter.

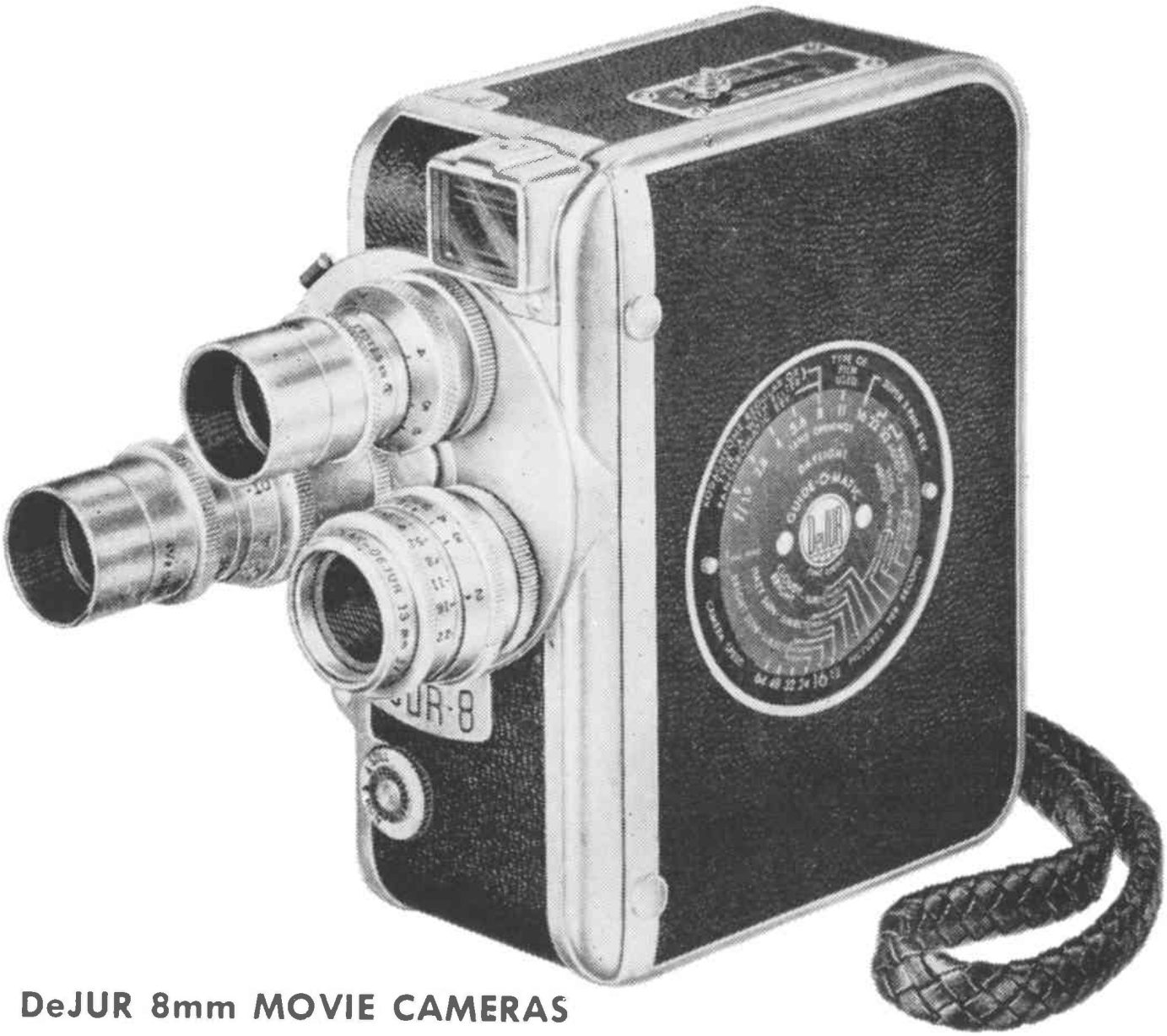
The factors for various filters, when used under daylight and under artificial light, are printed on the instruction sheet enclosed in the film carton, or they may be obtained from your photographic dealer.

NOTE: Do not hold the color filter in front of the meter while measuring light values of the subject. It is not designed to be used that way.

THE NEW DeJUR REFLEX

The DeJUR Reflex is a high-quality twin-lens reflex, the favorite type of camera used by foremost photographers today, both professional and amateur. Expertly engineered and precision manufactured by DeJUR, the reflex's performance is equal to the finest made today. Equipped with fast, coated lenses and a high speed shutter, the DeJUR Reflex is ready to operate under all conditions . . . color, black and white . . . both indoors and out.

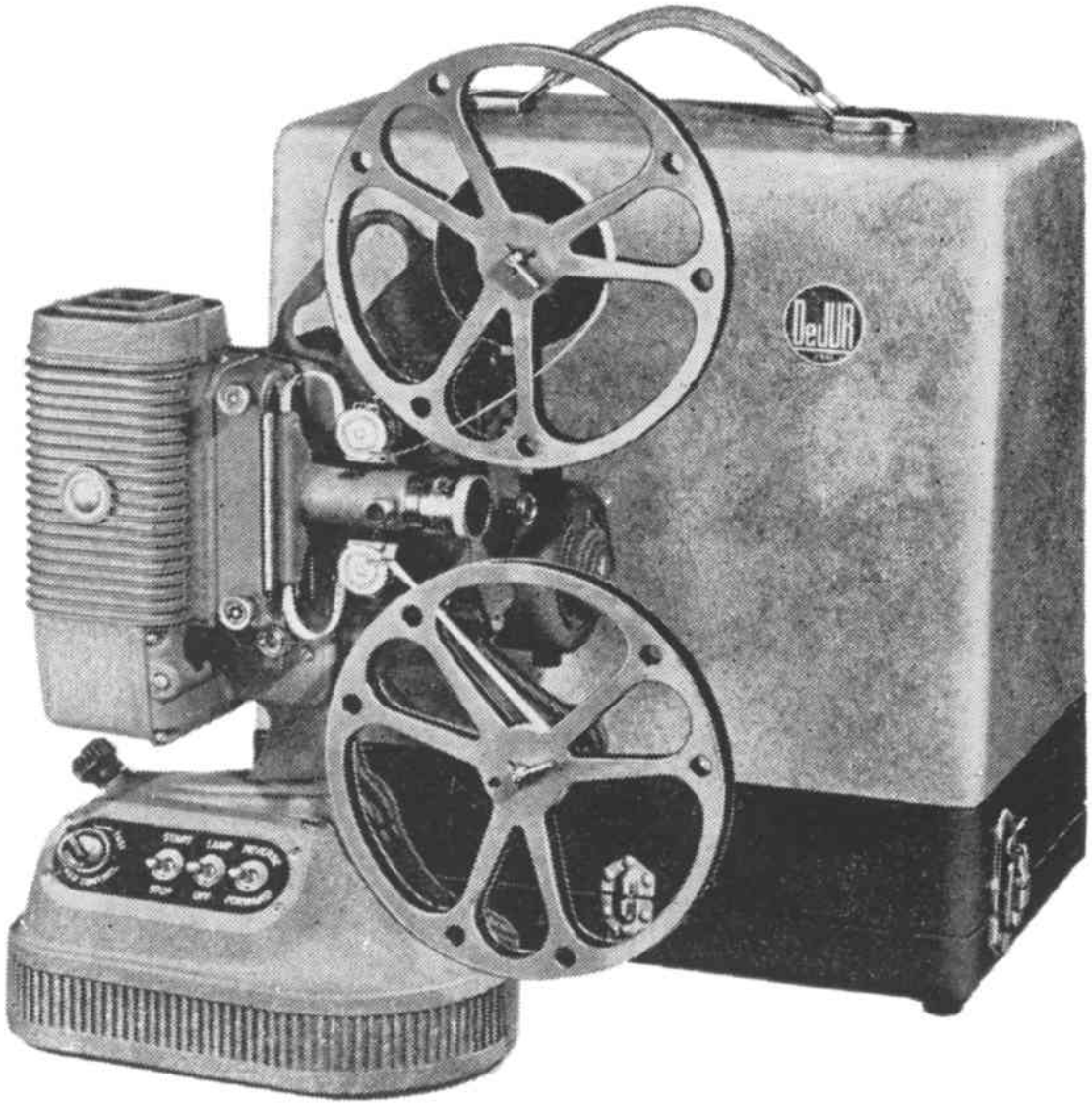
DeJUR Photo Equipment



DeJUR 8mm MOVIE CAMERAS

have been acclaimed by experts as the finest made in the United States. These cameras incorporate many exclusive features which make DeJUR ciné equipment the nearest thing to Hollywood motion picture cameras. Recently awarded the Fashion Academy Gold Medal for originality in design and smartness in fashion styling."

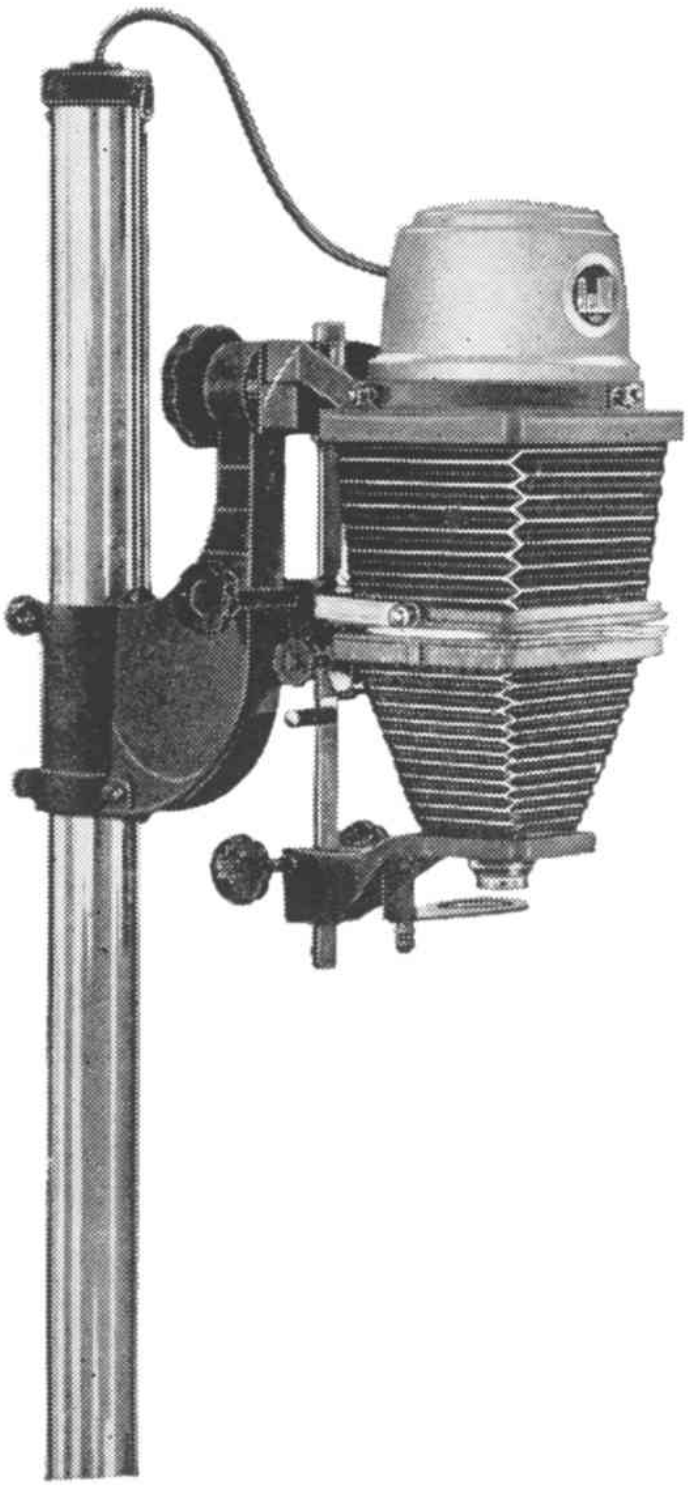
ls The Finest Available!



DeJUR 8mm MOVIE PROJECTORS

One of the joys of making home movies is showing them in finished form to your family and friends. A natural complement to your DeJUR movie camera is the DeJUR movie projector. It is tops in the 8mm field for projecting steady, flicker-free pictures. The DeJUR projectors come in two models—the "750" and the "1000".

DeJUR "Versatile" Enlargers



After critical tests conducted under the most extreme conditions, the DeJUR "Versatile" Enlargers were chosen for use by the U. S. Air Force over all other enlargers.

KOOLITE SERIES:

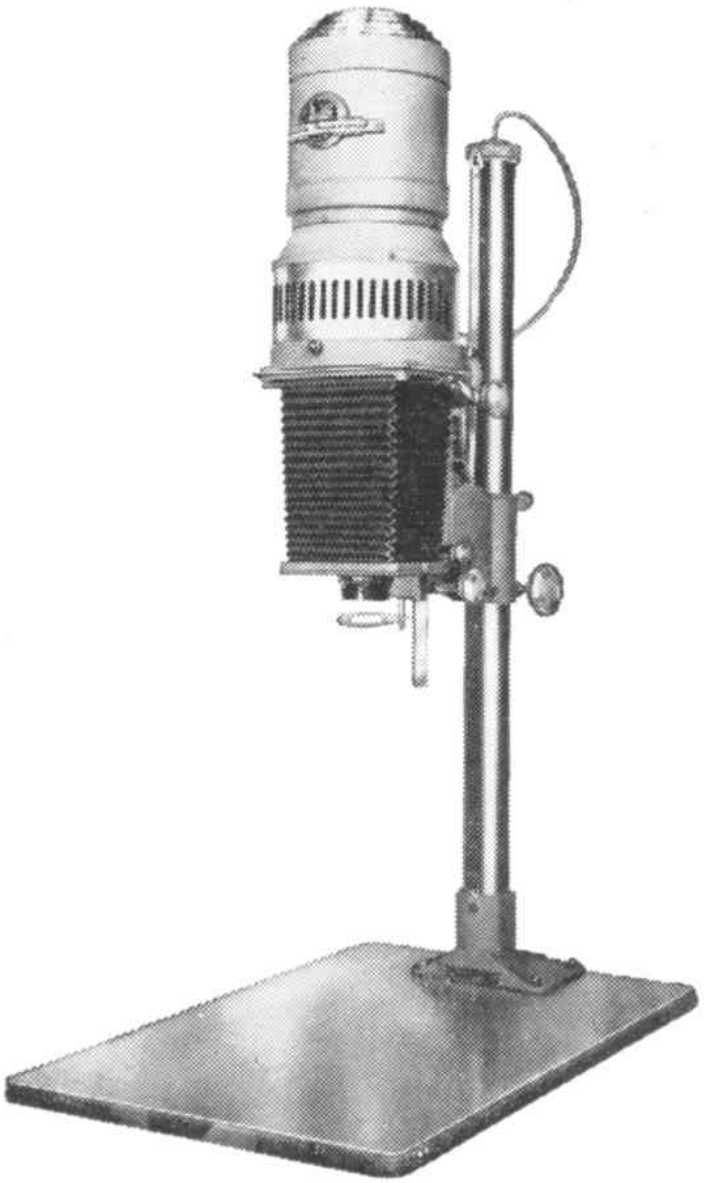
Versatile Koolite II — All negatives up to 3¼" x 3¼" with 3½" coated f/4.5 lens.

Versatile Koolite I — All negatives up to 2¼" x 3¼" (6 x 9 cm.); complete distortion control; with 3½" coated f/4.5 lens.

Versatile "Professional" Koolite — All negatives up to 4" x 5" (10 x 12 cm.); with 5½" coated f/4.5 lens. Distortion correction.

Chosen by U.S. Air Force!

There are two series of DeJUR "Versatile" Enlargers — the Koolite and the Condenser. Choose the one best suited to fit your needs —whichever you choose, you can depend on it to give you top performance at all times.



CONDENSER SERIES:

Versatile II — All negatives up to 3¼"x3¼"; with 3½" coated f/4.5 lens.

Versatile I — All negatives up to 2¼" x 3¼" (6 x 9 cm.); complete distortion control; with 3½" coated f/4.5 lens.

Versatile "Professional"—All negatives up to 4" x 5" (10 x 12 cm.); with 5½" coated f/4.5 lens. Distortion correction.

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How to Use the DeJUR Polka-Dot Target

Distant Subjects:

1. Point meter toward subject with baffle up (REFLECTED LIGHT shows on circular dial of meter).
2. Hold target 4" in front of meter to block all light from subject. Avoid casting shadow of meter on target
3. Same light must fall on target as on subject: i.e., if subject is in sunshine, target must be held in sunshine.
4. Read meter in usual way for correct exposure of target. Use this exposure for your distant subject.
5. When light comes from one side, face target half-way between camera and light source.

Closeups:

Hold target against subject. Hold meter 4" away from target and point meter at center. Target must always show full face to meter, long side parallel to width of meter. When light comes from one side, face target half-way between camera and light source.

Indoors:

Always hold target against principal subject, flat side with Polka-Dots toward camera. Meter must be opposite center of target and 4" away. Avoid casting shadow of meter on target. When light comes from one side, face target half-way between camera and light source.

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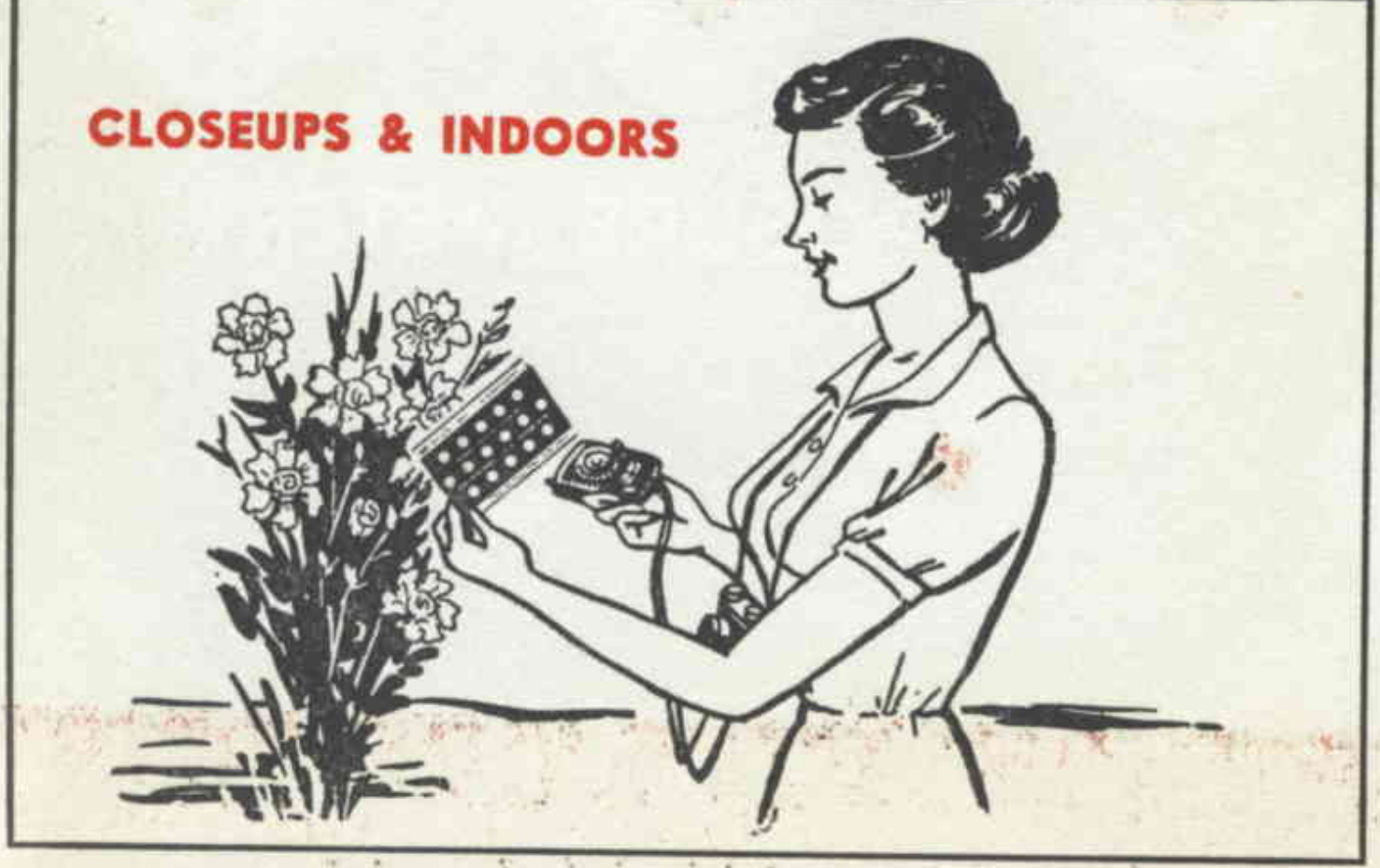
DISTANT SUBJECTS


CLOSEUPS & INDOORS

DeJUR "POLKA-DOT TARGET" for COLOR PHOTOGRAPHY

PAT. APPLIED FOR

Designed exclusively for use with the

DUAL PROFESSIONAL *Lifetime* EXPOSURE METER

DeJUR—AMSCO CORPORATION — Long Island City, N. Y. — Chicago, Ill. — Beverly Hills, Cal.

MANUFACTURERS OF PRECISION EQUIPMENT FOR OVER 30 YEARS