

# KALART

**\*Synchronized  
Prism  
Range  
Finder**



**for  
Automatic  
Focusing**  
•  
**Instantly**  
•  
**Accurately**

T.M.

## INSTRUCTION MANUAL

**FIRST CLASS**

**PERMIT NO. 31**

**(Sec. 34.9 P. L. & R.)**

**Plainville, Conn.**

**BUSINESS REPLY CARD**

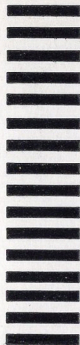
**NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES**

**POSTAGE WILL BE PAID BY—**

**THE KALART COMPANY INC.**

**PLAINVILLE, CONN.**

**DEPT. RF-2**



# KALART

*Synchronized* PRISM

## RANGE FINDER

### Guarantee Registration Card

Detach and mail this card promptly  
Please print information below in ink

Range Finder No. .... 22 ●

Name ..... 21 ●

Address ..... 20 ●

City ..... State ..... 20 ●

Occupation ..... 19 ●

Date Purchased ..... 19 ●

Name of Dealer ..... 18 ●

Dealer's Address ..... 18 ●

Camera purchased with Range Finder in-  
stalled  Range Finder purchased separately  
and installed by ..... 17 ●

Focuspot Installed  Yes  No ..... 16 ●

Name of Synchronizer ..... 15 ●

Camera Make ..... 14 ●

Name of Lens ..... Speed and  
Focal Length ..... 14 ●

Name of Shutter ..... 13 ●

*Please give names of friends who will be interested  
in our literature.*

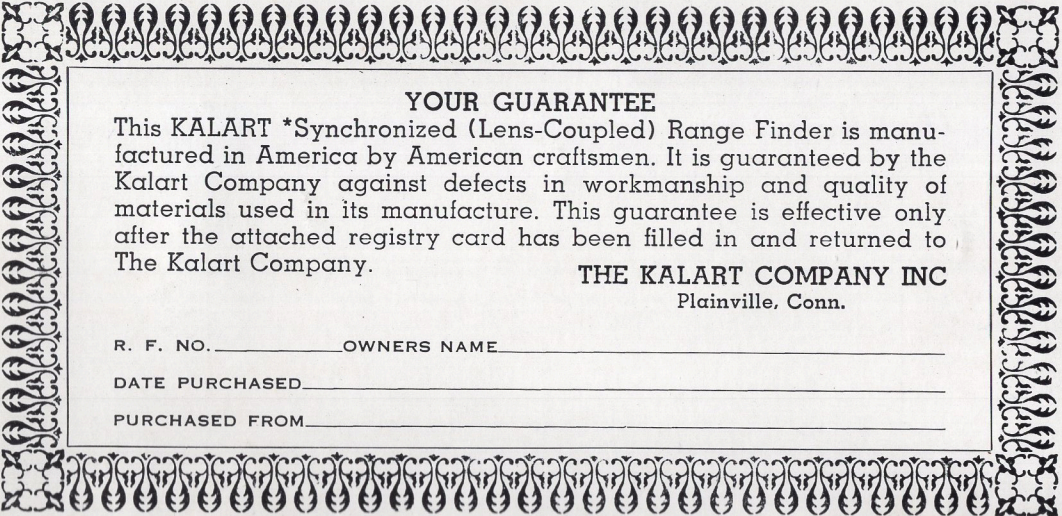
Name ..... 12 ●

Address ..... 11 ●

Name ..... 10 ●

Address ..... 10 ●

1 2 3 4 5 6 7 8  
● ● ● ● ● ● ● ● 9 ●



## YOUR GUARANTEE

This KALART \*Synchronized (Lens-Coupled) Range Finder is manufactured in America by American craftsmen. It is guaranteed by the Kalart Company against defects in workmanship and quality of materials used in its manufacture. This guarantee is effective only after the attached registry card has been filled in and returned to The Kalart Company.

**THE KALART COMPANY INC**  
Plainville, Conn.

R. F. NO. \_\_\_\_\_ OWNERS NAME \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

# The **KALART**

## **Synchronized Prism Range Finder**

Approximately 90% of picture failures are caused by "Improper Focus" or "Incorrect Exposure." The Kalart Company has, from its inception, concentrated its efforts on eliminating these "technical hurdles" thus leaving you free to concentrate on the picture you wish to take.

The Kalart Lens-Coupled Range Finder was originally designed for Press Photographers with this sole thought in mind—to enable them to focus **ACCURATELY**, instantaneously—to save them those precious seconds which often meant the loss of a picture. Before the invention of the Kalart Range Finder, most News Photographers either "guess-focused," thereby often losing detail and sharpness, or focused on the ground glass, a slow, time-consuming method. In a great many instances the picture opportunity had passed before he was able to click his shutter.

The Kalart Range Finder properly adjusted to your lens provides you with sharp, critical focusing automatically—instantly. Range Finder focusing is quicker than guess-focusing, without the uncertainty. It is more accurate than ground glass focusing because critical sharpness of the image on the ground glass can only be determined by the use of a magnifier, entailing a great deal of time and effort.

The Kalart Range Finder saves many time-consuming steps yet gives clean-cut, crisp negatives that can be "blown-up" to clear, sharp enlargements of great magnification.

## How the Lens Coupled Range Finder Operates

The American-made Kalart Synchronized Range Finder is coupled directly to the camera track, the most stable part of the camera, so that turning the focusing knob not only moves the lens forward and backward, but also operates the mechanism of the Range Finder, thus automatically synchronizing it with the lens. No other motions are required than those normally used in operating the camera. Simply open the camera and bring the lens standard forward to the infinity stops. Then look at the object to be photographed through the eye-piece of the Range Finder.



Out of Focus



In Focus

When sighting through the Range Finder's eye-piece the eye sees two circular images which are either separated or merged in exact coincidence. When the two images are in coincidence the subject is in exact focus. If the images are separated they are brought into coincidence by turning the focusing knob which operates the camera track. This motion is transmitted to the movable prism of the finder by means of the coupling arm.

The movement of this prism is controlled and adjusted, as will be explained later, to synchronize with the lens which may be one of a variety of focal lengths. This is an ex-

clusive and distinguishing feature of the Kalart Range Finder since it not only permits compensating for commercial tolerance permissible in any given lens but also allows for readjusting the Range Finder when changing lenses.

Another important feature of this Range Finder is the fact that with the shorter focal lengths of lenses it will bring into focus objects as close as 3 ft. from the camera. This makes it particularly preferable over ground glass focusing, especially when working in dim light or when the camera must be held in the hand.

### **Important**

When checking the Range Finder to see if it is correctly synchronized to the lens, it is important that you first focus by using the Range Finder, and then check the sharpness of the image on the ground glass. This will save unnecessary adjustment of the Range Finder.

If the image is checked first on the ground glass and then on the Range Finder it may appear that the Range Finder is out of focus when it actually is correctly synchronized to the lens. It is frequently possible that any such discrepancy may be due to the "depth of focus" of the lens. The Range Finder, on the other hand, has no "depth of focus," focus is either in or out.

**NOTE:** If it is determined that the Range Finder requires adjustment, this practice cannot be followed as the Range Finder must be adjusted to critically sharp focus as determined by first carefully focusing on the ground glass with the aid of a magnifier.

## Adjusting the Range Finder to the Lens

The following 4 steps are to be followed in readjusting the Range Finder for the same lens or another lens:

1. Check focus of lens at infinity—if necessary relocate camera infinity stops.
2. Set Range Finder for infinity.
3. Adjust Range Finder for 15 ft. distance.
4. Adjust Range Finder for 4 ft. distance.

### CHECKING FOCUS OF LENS AT INFINITY

The first step in synchronizing the Range Finder to a lens is to establish the correct infinity position for the lens—if necessary relocating the camera infinity stops. Use a tall building, chimney, flagpole, etc., at least  $\frac{1}{2}$  mile distant as an infinity target. Note: The method of Range Finder adjustment for the Pacemaker Graphic cameras differs from other cameras in that the track must be racked *forward* to bring the image on the ground glass into focus at infinity.

### SETTING THE RANGE FINDER FOR INFINITY

In the event your Range Finder is out of adjustment at infinity, re-set it in accordance with the applicable illustration following.

**Speed and Crown Graphics, Pacemaker  
Series — All Sizes**

**2¼x3¼ Century Graphic  
3¼x4¼ and 4x5 Anniversary Models**

The infinity adjustment is made on these cameras by turning the eccentric screw (see Fig. A) attached to the rear of the right runner of the camera track. Move this screw very slightly back to raise the movable



image, and forward to lower the movable image. You can use a dime to turn this screw.

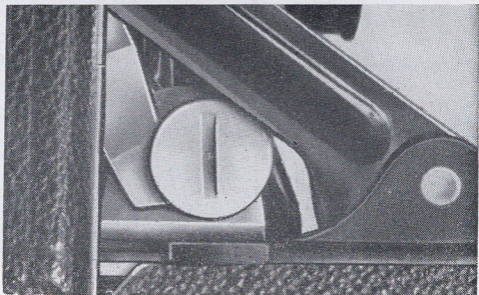


Fig. A

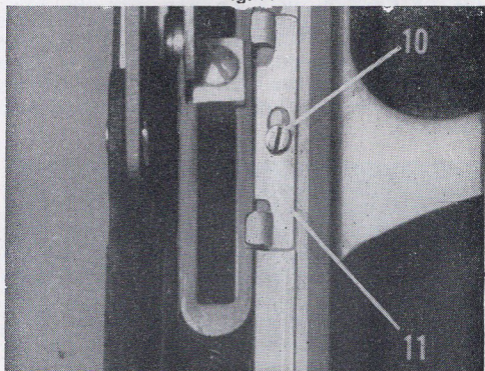


Fig. B

**Miniature Model 2¼x3¼ Speed Graphics  
(Except Pacemaker and Century models)**

The infinity adjustment is made by loosening Screw No. 10 (see Fig. B) and moving the sliding part No. 11 back to raise the movable image and forward to lower it. Be sure to tighten screw No. 10 after setting this adjustment.

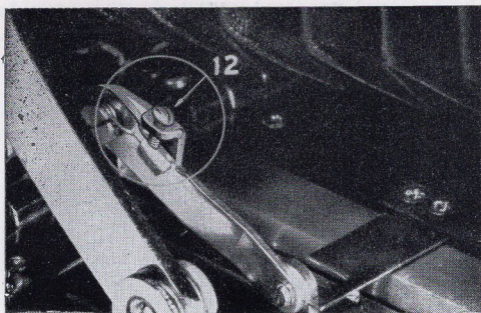


Fig. C

**4x5 Linhof Technika III, 4x5 Press King and Old Style  
Speed Graphic Cameras (All Sizes)**

The infinity adjustment screw (12 in Fig. C) is located on top of the knee joint. Turning this screw in lowers the image and out raises it.

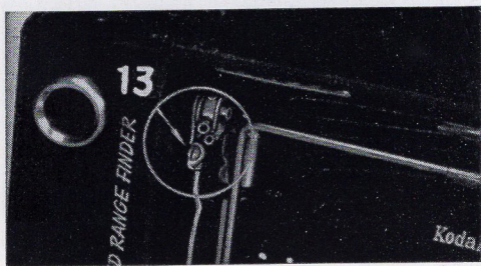


Fig. D

**4x5 B&J Press, 2¼x3¼ and 4x5 Busch Pressman,  
2¼x3¼ Watson, Meridian and All  
Film Pack Press Type Cameras**

The infinity adjustment screw (13 in Figure D) is located on the front of the arm just under the hub. Turn this screw in to lower the image and out to raise it.

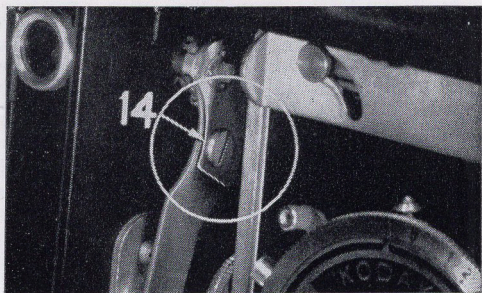


Fig. E

On film pack type cameras fitted with the earlier model coupling arm, pull out the lens standard and use a long screw driver having a  $\frac{3}{8}$ " or  $\frac{1}{4}$ " blade to turn the eccentric screw on the flat side of the coupling arm just under the hub (14 in Figure E).

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After correcting the infinity adjustment, check the Range Finder at distances of 15 feet and 4 feet. If it is not in adjustment at these distances, remove the four screws which fasten the Range Finder housing and carefully lift it off. On Pacemaker models, Crown and Speed Graphics first remove the two screws on each side of the Range Finder supporting bracket and the two at the base of the Range Finder to remove the Housing. Then follow the instructions below.

### **Adjusting the Range Finder for the 15 Foot Distance**

Focus the camera on a flat object approximately 15 ft. away. Use a magnifying glass to make absolutely certain of the sharpness of the image on the ground glass and then

view the image through the Range Finder. If the images are in coincidence repeat the test with the camera focused at 4 ft. If at the 15 ft. distance the Range Finder is not in focus, an adjustment is made on the rear scale.

To set the rear scale, loosen screw No. 2 (Fig. F) by giving it one-quarter turn in the

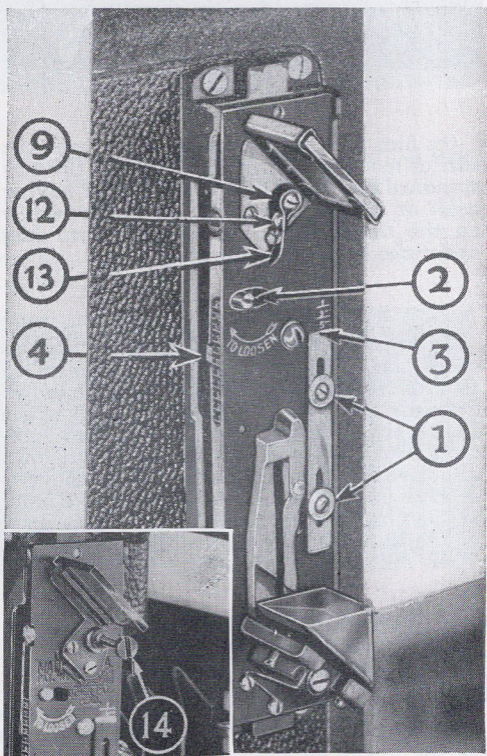


Fig. F

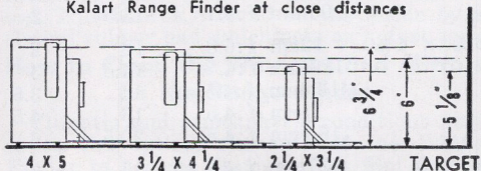
direction indicated and move the indicator (4), then tighten the screw. When the movable image as viewed through the Range Finder is high the indicator is moved down slightly. When the movable image is low the indicator is raised slightly. After this adjustment, re-check the Range Finder at infinity. If the infinity adjustment has shifted, bring it back to coincidence by following the instructions previously given under "Setting the Range Finder for Infinity."

Check the Range Finder at 15 ft. again; and if the images are not in coincidence, repeat the above directions until coincidence is obtained. This method is necessary in order to adjust the Range Finder to the exact focal length of your individual lens rather than to an arbitrary adjustment which would only approximate sharp focus.

### Adjusting the Range Finder for the 4 Foot Distance

Check the Range Finder at 4 ft. from the target. When using the Range Finder at such close distances be sure that the upper eye piece of the Range Finder is on the same level with and parallel to the target. (See diagram below.)

Proper method of sighting target when adjusting the Kalart Range Finder at close distances



We recommend you sight your short distance target in accordance with these three heights as illustrated.

First focus carefully on the ground glass using a magnifier and then view the image through the Range Finder. If the images do not coincide at this distance the front indicator 3 on Fig. F is moved. If the movable image is high the indicator is raised slightly and if it is low the indicator is lowered. To shift this indicator loosen the two set screws No. 1 in Fig. F slightly and after adjusting the indicator tighten the screws. Each time the indicator is moved the Range Finder should be checked at infinity and if that adjustment has shifted it is readjusted.

By checking the Range Finder against the image as focused on the ground glass at the close distance of 4 ft. and the far distance of 15 ft. as well as at infinity and by making the necessary adjustments as explained, the Range Finder will focus subjects at all distances and the resulting negatives will be as sharp as if the focus had been obtained with the aid of a magnifier on the ground glass.

### Approximate Points of Adjustment of the Range Finder

<i>Camera Size</i>	<i>Lens</i>	<i>Long Scale (Rear)</i>	<i>Short Scale (Front)</i>
2¼ x 3¼	101mm f:4.5	9.5	2
	105mm f:3.5	10.5	2
	4¾ in. f:4.5	13	2
	105mm f:3.7	13.5	2
3¼ x 4¼	12cm f:6.8	13	2
	127mm f:4.7	14.5	3
	13.5cm f:4.5	15	3.5
	15cm f:4.5	18	4.5
	16.5cm f:4.5	20.5	6
4 x 5	127mm f:4.7	13	3
	13.5cm f:4.5	15	3.5
	15cm f:4.5	17	5
	16.5cm f:4.5	19	6
	6¾ in. f:4.5	17	6

## **Lateral or Side Image Adjustment**

In the event that the two images are not in coincidence because of a lateral (sideways) shift of either one, follow these instructions:

If your Range Finder is serially numbered with the letters A, B, C or E, loosen screw No. 12 and slightly turn Screw No. 9 in Fig. F. This adjustment is made while sighting the images through the Range Finder. Then position the lever (13) parallel to the Range Finder as illustrated and tighten screw No. 12. In this position carefully place the housing over the Range Finder, making certain that the lever is engaged in the screw in the housing before pressing the housing down. Then fasten the housing to the camera.

Any subsequent adjustments for side image, if necessary, are made by turning the screw located on the outside of the Range Finder housing under the top front window. After each such adjustment give this screw a slight turn in the opposite direction to avoid strain on the lever.

If your Range Finder is serially numbered with the letter D, the side image adjustment is made by turning screw No. 14 (Fig. F inset) while sighting through the Range Finder. With the Range Finder housing fastened to the camera, this screw may be turned by inserting a screwdriver through the small round hole in the stainless steel mounting plate located about 1" from the top. This hole is covered on the inside by a slotted rubber pad which acts as a dust seal.

## **How to Clean the Windows and Mirrors on the Range Finder**

Climatic and atmospheric conditions may cause the optical elements of the Range Finder to become clouded. This film can be removed from the surface of the glass with a piece of soft dry cotton or lens tissue. Clean carefully and rub gently to avoid disturbing the position of the mirror.

# KALART

## MASTER SPEED FLASH



*Pacemaker Graphic complete with Kalart Range Finder, Focuspot and Master Flash Unit.*

*Busch Pressman with Kalart Range Finder, Focuspot and Master Automatic Speed Flash.*

There's a Kalart Master Speed Flash for almost every press-type camera. Designed for the professional, its versatile Master Battery Case is easy to attach and locks securely to the mounting slide on the Range Finder.

A standard outlet allows the use of the new "KALITE" Flash Extension Unit for side lighting and multiple flash. An additional outlet is provided for the Kalart Focuspot.

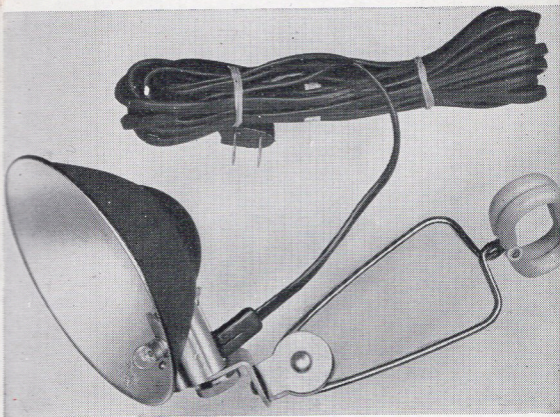
For Press Cameras having shutters *without built-in synchronization* it's the Kalart Master Automatic Speed Flash for sure fire synchronization at all shutter speeds. If your shutter *has built-in synchronization* you'll want the Kalart Master Flash Unit.

Your dealer will gladly demonstrate the correct model on your camera.



# NEW! KALITE\*

## Flash Extension Unit



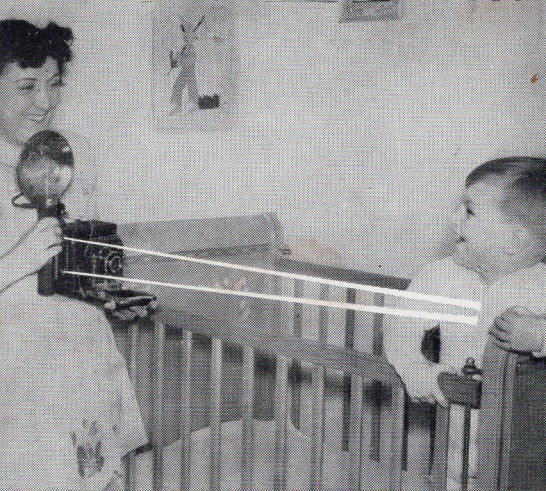
### With New *Exclusive Safety First*\* Features

The KALITE is the only Flash Extension Unit available with the exclusive built-in "Safety First" test lamp which enables the user to check instantly for continuity of circuit and "shorts."

Nothing more to buy. It is furnished complete with 20 ft. of #18 gauge wire, fitted with standard household plug, Concentrating Reflector for midget bulbs with patented lamp ejector and adjustable spring clamp. Cord is easily detached from lamp socket for easy storing in camera case.

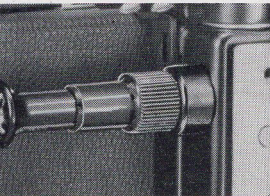
The "Kalite" is designed for use with the Kalart Master and other battery cases with standard outlet for extension flash. Available at all camera stores.

\*Trade Mark



## FOCUSPOT and FOCUSCOPE Important Accessories for Your **KALART** RANGEFINDER

**Focuspot**—Switch on small electric bulb and twin beams of light are projected from Rangefinder windows to subject. Turn focusing knob of camera until beams merge and you're "in focus." Attaches quickly to top of Kalart Rangefinder. Complete with connecting cord to fit battery cases of popular flash units.



**Focuscope**—Magnifying telescope fits Deluxe (black) Kalart Rangefinders. Enlarges the image and increases its brilliance for crisp, needle-sharp focusing.

**The KALART COMPANY INC.**  
**PLAINVILLE, CONNECTICUT**