Close-up lens engraved (2m-6 feet) item #563—for filming at distances from 3½′ to 6½′.
Close-up lens engraved (1m-3 feet) item #564—for filming at distances from 30″ to 45″.

(Distance always measures from filmplane)

With a close-up lens mounted in front of the Pan Cinor or Varioswitar, zooming can be done in the ordinary way and different size areas can be covered by simply changing the focal length of the lens. Charts III, IV, and V show the areas covered with the close-up attachments at the minimum and maximum focal lengths of the various zoom lenses.

The two close-up lenses for the Varioswitar 86 are in a threaded metal ring that screws in front of the lens. The Varioswitar sunshade can be screwed in front of the close-up lens and if desirable, a standard series VIII filter can be dropped into the front of each close-up lens. Furthermore, it is also possible to use both close-up lenses together. On the Pan Cinor zoom lenses the close-up attachment drops directly into the front of the lens and is held in place with the removable sunshade. No special filter adapter is necessary unless it is desired to use a filter in combination with the close-up lens. For this purpose, a filter adapter ring is available for the Zoom Reflex Camera (item #569) and the Pan Cinor 85 (item #556). It is recommended to use the close-up lens with its convex side towards the front (the subject). In this position, the reading of the engraving is upright when compared to the engraving on the ring of the zoom lens.

Although charts are available showing the correct focus setting for the various distances, it is highly recommended to focus the zoom lens visually on the camera groundglass or with the rangefinder whenever possible.

The depth of field is shallow at these close distances and focusing must be accurate. Whether using the groundglass of the H-8 or H-16 Rex camera or the rangefinder built into the Zoom Reflex Camera and the Pan Cinor 40R, the focusing is done with the zoom lens set to the telephoto position. Once the zoom lens is set for the subject distance, the focal length can be changed in any desirable way without the subject going out of focus (provided the subject itself does not move towards or away from the camera). Close-up lenses do not require an increase in exposure and one can, therefore, use the regular reading obtained with a lightmeter or the Compumatic meter in the Zoom Reflex Camera. It is important, however, that a reading with a separate light meter is taken off the small area being filmed without the meter being influenced by surrounding light. This requires holding the meter close to the subject without hand or meter casting a shadow on the subject. The Compumatic meter of the Zoom Reflex camera is exceptionally ideal for such light measurements since it measures only the area in the zoom viewfinder.

In addition to the close-up attachments described here, regular close-up (Proxar or Portra) lenses, available in photographic stores can also be used on zoom lenses, including the Varioswitar 36 for which Paillard does not make such an attachment. These lenses are available in different sizes and diopter powers. The diopter power is related to the focal length of the lens as shown in Chart VI. With the zoom lens set at infinity, the distance from the close-up lens to the subject equals the focal length of the close-up lens. At other distance settings, focusing should be done on the groundglass or with the rangefinder. With powerful close-up lenses a loss of sharpness is unavoidable at large f openings. Therefore, with lenses of + 3 or more diopters, the lens diaphragm should be stopped down 3 or more stops.

The Pan Cinor and Varioswitar lenses take the following standard sizes of filters and close-up lenses:

Varioswitar 36	Series VI
Pan Cinor 40 & 40R	Series VI
Zoom Reflex Camera	Series VII
Varioswitar 86	Series VIII
Pan Cinor 85	Series VIII

With fixed focal length lenses, extreme close-up photography is best accomplished with extension tubes. Such tubes however, cannot be used with zoom lenses since the distance from the filmplane to the lens-seat must remain constant. ■

CHART I

AREAS COVERED AT THE MINIMUM FOCUSING DISTANCES OF THE VARIOUS 8mm ZOOM LENSES

Zoom lens or camera	Minimum focusing distance	Area Covered	
		Wide Angle	Telephoto
Varioswitar 36	2½′	11″ x 8″	2½″ x 1¾″
Pan Cinor 40	3½′	18″ x 13″	3⅝″ x 2⅝″
Zoom Reflex P-1	3½′	18″ x 13″	3⅝″ x 2⅝″

CHART II

AREAS COVERED AT THE MINIMUM FOCUSING DISTANCES OF THE VARIOUS 16mm ZOOM LENSES

Zoom Lens	Minimum focusing distance	Area Covered	
		Wide Angle	Telephoto
Varioswitar 86	5¼′	27″ x 19½″	5½″ x 4″
Pan Cinor 85	6′	33″ x 24″	6½″ x 4¾″

CHART III

CLOSE-UP LENS (1m-3 feet) ON PAN CINOR 40 OR ZOOM REFLEX CAMERA

Distance Subject to Filmplane	Focusing Ring Set At	Area Covered	
		Lens at 8mm	Lens at 40mm
4′	inf.	20″ x 14½″	4⅛″ x 3″
2′	3½′	9¼″ x 6¾″	1⅞″ x 1⅜″

CHART IV

CLOSE-UP LENSES ON PAN CINOR 85

Close-Up Lens	Distance Subject to Filmplane	Focusing Ring Set At	Area Covered	
			Lens at 17mm	Lens at 85mm
2m-6 feet	78″	inf.	38″ x 27½″	7½″ x 5½″
	41″	6′	17″ x 12½″	3½″ x 2½″
1m-3 feet	45″	inf.	21″ x 15″	4¼″ x 3⅛″
	30″	6′	11½″ x 8½″	2¼″ x 1⅝″

CHART V

CLOSE-UP LENSES ON VARIOSWITAR 86

Close-Up Lens	Distance Subject to Filmplane	Focusing Ring Set At	Area Covered	
			Lens at 18mm	Lens at 86mm
1.6m-5¼ feet	63″	inf.	28″ x 20½″	5¾″ x 4¼″
	36½″	5¼′	13¾″ x 10″	2¾″ x 2″
0.9m-3 feet	37″	inf.	15″ x 11″	3⅛″ x 2¼″
	27½″	5¼″	9″ x 6½″	1⅞″ x 1⅜″
Both Lenses Together	27½″	inf.	9″ x 6½″	1⅞″ x 1⅜″
	23″	5¼′	6⅞″ x 5″	1⅜″ x 1″

CHART VI

Diopter Power of Close-Up Lens	Focal Length of Close-Up Lens	Distance Close-up Lens To Subject with Zoom Lens at Inf.
+1	39″	39″
+2	19½″	19½″
+3	13″	13″
+4	10″	10″
+5	8″	8″