



**Instructions for use  
of the  
Monocular 8 x 30 B  
with  
Contaflex Cameras**

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1. The 8x30 B Monocular was originally designed to give improved vision to eyeglass wearers, but it can also be used for photographic purposes due to the special optical properties of the eye-piece and its excellent overall correction. The Monocular fits the Contaflex III, IV, rapid and super cameras, converting the Tessar f/2.8, 50 mm. lens of these models into a 400 mm. telephoto lens with an aperture of approx. f/14.

The 8x30 B Monocular opens new fields to the Contaflex owner such as fascinating distance shots and wildlife pictures. Special close-up lenses further permit close-up pictures with a maximum magnification of  $3\frac{1}{2}x$ . Short overall length, light weight, and comparatively low price are the outstanding advantages of this Monocular attachment. In addition, the 8x30 B Monocular is useable for general observation as well as for Contaflex photography.

## 2. Technical Data of the Monocular:

Magnification	8x
Effective diameter of objective	30 mm.
Diameter of exit pupil	3.75 mm.
Angle of view, eyepiece	$50^{\circ}$
Angle of view, objective	$6.3^{\circ}$
Overall length	$3\frac{1}{2}''$
Weight	$7\frac{1}{2}$ oz.

## 3. Technical Data for Contaflex with Monocular:

Photographic lenses are classified according to lens aperture and focal length (e. g. Tessar f/2.8, 50 mm.) but the engraved numbers on the Monocular specify its power of magnification and the objective diameter (8x30). The

total focal length of a Contaflex Tessar with Monocular is 8x the focal length of the camera lens (50 mm.), which is equivalent to 400 mm. focal length. To obtain the lens aperture of this complete optical system, divide the effective aperture of the Monocular objective (30 mm.) into the total focal length (400 mm.), and the answer is approximately f/14.

The exact figures are: 418 mm. total focal length and 52,25 mm. focal length of Tessar.

#### **4. Fitting the Monocular to the Contaflex Camera:**

For telephoto work, use the complete f/2.8, 50 mm., Tessar lens and not only the rear component. First, unscrew the convertible rubber eye cup from the Monocular, then screw the Monocular tightly into the filter mount of the camera lens.

When working with long focal lengths, the slightest camera movement during the exposure will blur the picture. We, therefore, recommend that a sturdy tripod be used at all times. If necessary, to take hand-held pictures, the exposures should be  $\frac{1}{250}$  sec. or  $\frac{1}{500}$  sec.

#### **5. Viewing and Focusing:**

The view-finder gives a bright, parallax-corrected image without dark corners. Due to the smaller aperture of this lens combination, one section of the split-image range-finder field "blacks out" completely, so the surrounding circular focusing screen only must be used for focusing. Good definition over the entire view-finder area does not necessarily indicate correct focus.

- a) When taking pictures at distances over 140 feet, line up the two indicator marks on the focusing mount of the Monocular and focus the complete optical system with the focusing mount of the camera. The distance reading on the camera multiplied by 64 gives the actual camera-to-subject distance. (See chart in paragraph 9.) For example: With a 20-foot setting, the actual distance is  $20 \times 64 = 1,260$  feet, and the depth-of-field ranges from 500 feet to infinity at f/14.
- b) From 7 feet to 140 feet, make an approximate adjustment by turning the Monocular in its focusing mount; necessary fine adjustments are made with the focusing mount of the camera.
- c) For close-up pictures at closer distances than 7 feet (macrophotography), use special close-up lenses as specified in paragraph 10.

## **6. Exposure Settings:**

The Monocular reduces the aperture of the camera lens to f/14, and due to natural loss of light in the optical system, the effective aperture becomes f/16. Therefore, the lens diaphragm is effective at all settings smaller than f/14.

- a) **Contaflex III and Contaflex rapid owners:**  
Ignore the exposure values and take the shutter speed reading at f/16. Set this shutter speed and make sure that the lens diaphragm is adjusted to any setting from f/2.8 to f/11 without changing the preset shutter speed.
- b) **Contaflex IV owners:**  
Take a reading with the built-in exposure meter and

set the appropriate exposure value on the shutter housing. Now, select the correct shutter speed for f/16 and use this shutter speed for the actual exposure. Before making the exposure, open up the lens to f/11 or any wider opening without changing the preset shutter speed. The original exposure value is no longer valid for this setting.

c) **Contaflex super owners:**

Adjust the exposure meter needle as usual which may give you a setting of 1/60 sec. at f/8, as an example. Now, turn the shutter speed setting ring which is coupled to the f/stops until you obtain the correct setting for f/16; it is 1/15 sec. 1/15 sec. is the recommended exposure time. Finally, turn the adjusting knob of the exposure meter on the front plate which opens the lens to any setting between f/2.8 to f/11. The shutter speed setting of 1/15 sec. naturally remains unchanged.

Note: Contaflex cameras do not permit intermediate shutter speed settings, therefore, select the nearest click stop setting.

## **7. Films:**

The Monocular can be used with color and black-and-white films. High-speed films are recommended for hand-held exposures.

## **8. Filters:**

Available 27 mm. Contaflex filters can be used with this Monocular. First, fit the Contaflex filter over the 50 mm. Tessar lens, then screw the Monocular into the filter mount.

## 9. Depth-Of-Field Table

	Subject Distance ft.	Camera Setting ft.	Ratio of Reproduction	Depth-of-field at		
				f/14 ft.	f/16 ft.	f/22 ft.
Focus with camera, leave Monocular indicators lined up	∞	∞		830 - ∞	732 - ∞	535 - ∞
	1,260	20	1:902	505 - ∞	466 - ∞	381 - ∞
	620	10	1:443	360 - 2,380	341 - 4,060	295 - ∞
	410	7	1:290	282 - 787	269 - 912	240 - 1,710
	305	5	1:213	230 - 470	220 - 508	204 - 682
	242	4	1:167	194 - 330	187 - 351	174 - 426
	180	3	1:121	151 - 223	148 - 230	138 - 259
	158	2.5	1:106	138 - 190	134 - 197	128 - 216
Focus with Monocular	100	8	1:69	89.6 - 114	88.3 - 116	84.7 - 124
	66	8	1:46	61.3 - 71.6	60.7 - 72.5	59.0 - 75.4
	33	8	1:22	31.8 - 34.3	31.6 - 34.6	31.1 - 35.2
	26	8	1:17	25.2 - 26.9	25.1 - 27.0	24.8 - 27.4
	20	8	1:13	19.6 - 20.4	19.5 - 20.5	19.3 - 20.7
	16	8	1:11	15.7 - 16.3	15.6 - 16.4	15.5 - 16.5
	13	8	1:8.4	12.8 - 13.2	12.8 - 13.2	12.7 - 13.3
	10	8	1:6.2	9.90 - 10.1	9.89 - 10.1	9.85 - 10.2
	7	2.5	1:4.9	6.96 - 7.04	6.95 - 7.05	6.93 - 7.07

All distances are given in feet. The approximate field coverage in inches at a given distance is calculated with the ratio of reproduction. For example: At 1,260 feet, the ratio of reproduction is 1:902 or 902 times the negative size of 1 x 1 1/2 inches which is 902 x 1.353 inches.

## 10. Close-up Photography:

The Monocular with Contaflex focuses as close as 7 feet, and there are special close-up lenses which slip over the Monocular to cover even closer distances. Focusing is done with the focusing mount of the Monocular, and fine adjustments are made with the focusing mount of the

camera. Focusing ranges and available depth-of-field with these close-up lenses are given in the following chart:

Close-up Lens	Focusing Range* in inches	Ratio of Reproduction	Depth-of-field in millimeters at		
			f/14	f/16	f/22
+ 1 dptr.	40-26	1:2.4	± 4.10	± 4.70	± 6.50
		1:1.6	± 1.40	± 1.60	± 2.20
+ 2 dptrs.	20-16	1:1.2	± 1.00	± 1.20	± 1.60
		1:1	± 0.50	± 0.60	± 0.80
+ 3 dptrs.	13-11¼	1.3:1	± 0.40	± 0.50	± 0.70
		1.5:1	± 0.30	± 0.30	± 0.40
+ 5 dptrs.	7⅞-7⅛	2.1:1	± 0.17	± 0.18	± 0.25
		2.3:1	± 0.10	± 0.12	± 0.16
+ 8 dptrs.	4¾-4⅜	3.3:1	± 0.06	± 0.07	± 0.09
		3.6:1	± 0.04	± 0.05	± 0.07

\* All focusing ranges measured from the close-up lens to the subject.

As specified under paragraph 9, the ratio of magnification or reduction is based on an approximate negative size of  $1 \times 1\frac{1}{2}$  inch. Multiply any ratio of reduction with this negative size or divide any ratio of magnification into this negative size to obtain an approximated field coverage. For example: Ratio of reduction 1:2.4, approx. field coverage  $2\frac{1}{2} \times 3\frac{3}{4}$  inches.

## 11. Visual Observation:

For visual observation, use the 8x30 B Monocular with the convertible rubber eye cup attached. Non-eyeglass wearers should leave the rubber eye cup fully extended, while eyeglass wearers should fold it down over the knurled part of the eyepiece mount.

