RAPTAR
APOCHROMATIC
PROCESS f/10 and
PRISMS

Flat field, even illumination, chromatic correction and perfect covering power assure excellent results in copying, enlarging, reducing and for four-color process work.

The front cell is threaded to receive Wollensak high precision prisms. When supplied in barrel mounting, the barrel is slotted to accept waterhouse stops. One plain waterhouse stop is supplied with each lens.

WOCOTING, Wollensak anti-reflection, hard coating, effectively reduces internal light reflections and flare, greatly increases brilliancy and detail.

SPECIFICATIONS

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<th>RAPTAR APOCHROMATIC PROCESS f/10 (WOCOTED) AND PRISMS</th>
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<tr>
<td><strong>Equiv. Focal Length</strong></td>
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*Extra charge for fitting prisms to lenses of other makes.

This photo was made from the same camera position using the rear element alone which has a focal length of 20°.

Three photos were made with the Series 1a Raptar; this photo with the 15° f/8 Series 1a Raptar.

For even greater telephoto effect this photo was taken with the front element alone which has a focal length of 25°.
WHAT MAKES A WOLLSENSAK RAPTOR A SUPERIOR LENS?

There are many factors that go into making Raptor quality. Every one is important.

1. EXPERIENCE—Over fifty years in producing lenses for photographic purposes.

2. CARE IN DEVELOPMENT AND DESIGN—All lenses bearing the Wollensak name are designed by Wollensak lens designers, developed, and manufactured in Wollensak plants. They undergo rigid inspections at intermediate steps, ending with final resolution and contrast test.

3. MATERIALS—Choice of highest quality materials is extremely important. For example, Wollensak's large stock pile of high-quality optical glass (e.g., rare earth) permits a wide selection and choice of this glass to meet the specific requirements as called for in the original design.

4. CRAFTSMANSHIP—Quality workmanship is accomplished by highly skilled craftsmen working to a fine lens design. The high quality and standards of Raptor lenses are a direct result of this teamwork.

5. TOOLING—Because Raptors are made to the most rigid tolerances, unsurpassed in the optical field, many special tools had to be designed and built at Wollensak. Thus the highest standards are always assured.

6. MOUNTING—Precise, careful mounting of the lens elements in the lens barrel or shutters is as important as the fine qualities of the lens itself. If the mountings are not exact, lens performance will be impaired or destroyed.

Pressure from poor mounting will distort the lens and destroy image quality. Raptor lens elements are mounted strain-free, so exacting requirements and inspections are controlled by very rigid standards and inspections.

7. HIGHEST RESOLUTION WITHOUT SACRIFICING CONTRAST—This is one of the most important points in fine lens performance. Two lenses of the same speed and focal length made by two different companies could have the same resolution, yet one will produce sharper pictures. The reason for this is that one lens has higher resolution without sacrificing contrast, while in the manufacture of the other lens, contrast has been sacrificed to obtain high resolution. All Wollensak Raptor lenses have high resolution without the sacrifice of contrast.

8. WOCOTING—This anti-reflection, hard coating effectively reduces internal light reflections and flare, greatly increasing brilliance and clarity. Wollensak coats all glass-to-air surfaces, just the external lens surface, or just the internal lens glass-to-air surface.

9. TESTING—Before any product leaves our plant, it undergoes a series of tests. A lens, for example, must meet the design specifications without compromise. Perfect star image indicates a well-correlated lens with spherical surfaces which are true and aligned. All Raptor lenses must show this form of star image in optical bench tests to be acceptable.
THE 3-IN-1 LENS

For exceptionally large coverage, extreme adaptability and the versatility of three focal length lenses in one, there is no finer lens than the Raptar Series Is Triple Convertible. Front and rear elements are complete, corrected lenses. Used together they form a lens of normal focal lengths. Used separately, the focal lengths of either the front or rear elements are longer. For example the 6½” /f6.8 Raptar Convertible has a rear focus of 10" and a front focus of 12½". For each half of the lens there is a separate diaphragm scale on the front plate. When true perspective, larger images, or telephoto effects are desired, remove front combination and use the rear alone in the rear, or remove the front combination and the rear combination putting the front in place of the rear. These double protar type lenses consist of two 4-element halves, each of which is color corrected and anastigmatic, assuring pin-point definition, flatness and high resolution without the sacrifice of contrast.

LENSES SPEED

1. Triple Convertible Lens
   a. When used as a complete lens, speed of lens is as marked.
   b. When used in combination of focal lengths of 10" and 12½", to 1/16.
   c. All others are f/12.5

2. Bellows Draw Requirement
   For the longer focal length lenses the bellows draw requirement is ½" less than the focal length of the lens.

ALL PURPOSE ADAPTABILITY

Triple Convertible lenses are recommended for taking landscapes, making industrial shots and architectural studies, and doing illustrative and commercial photography.

SPECIFICATIONS

RAPTAR SERIES Is CONVERTIBLE /f6.8 (WOCOTED)

| Equivalent Focal Length | Front Focal Length | Rear Focal Length | Speed | Film Size | Barrel | Raptar | Apochromat
|-------------------------|-------------------|------------------|-------|----------|--------|--------|-----------
| 6½”                     | 10                | 10               | 6.8   | x5       | X      | X      | X         |
| 8½”                     | 15½               | 12½              | 6.8   | x8       | X      | X      | X         |
| 10”                     | 20                | 15½              | 6.8   | ½ x 8½   | X      | X      | 5 x 12    |
| 13½”                    | 30                | 25½              | 6.8   | 8 x 10   | X      | X      | 7 x 15    |

For Rangefinder Camera—Plates covered with smaller stop.
What Wollensak Quality Means to You...

All Wollensak Cine Raptar lenses have the highest covering power, deliver sharp images to the very edge of the film over the entire focusing range. Tests show that all Raptar lenses are much more critical than the capability of the films to record the image. All lenses are corrected for color and all aberrations and are Wocoted. (Wocoting is Wollensak's anti-reflection hard coating designed to reduce internal light reflections and flare and greatly increase brilliance and detail.) Thus you are able to shoot either color or black and white with finest results.

Most of the lenses in focusing mounts have depth of field scales which tell instantly areas in focus. Positive click stops give quick, precise diaphragming.

An example of Wollensak care in manufacturing is the steps taken to give the lens barrels the finest "life-time" finish. It takes four operations before the brass barrels are ready for chrome plating. First, the barrels are satin finished. Then they are copper plated, nickel plated, satin finished and finally chrome plated. Only by following these steps will a lens always look its best.

Finally, your assurance of consistency in uniformity of every Wollensak lens is the many critical tests and careful inspections they must undergo. Each lens must meet the highest standards of lens performance before it is engraved Raptar... before it leaves the plant. What's in a name? The reputation, honor and integrity of the manufacturer.