

## 35 to 70mm f/3.6 ZUIKO AUTO-ZOOM LENS

**Mount:** Fixed bayonet mount for Olympus OM-series SLRs.

**Filter size:** 55mm screw-in.

**Apertures:** f3.6 to f/16, click-stops at whole stop intervals.

**Min. foc. dist.:** 0.8 m (31.5 in.).

**Features:** Focus scale in feet and meters, automatic diaphragm with stop-down button on lens mount. Two-touch zoom with ribbed rubber 10mm wide zoom ring and textured rubber 15mm focusing ring.

**Serial No.:** 206032.

**Size:** Max. diam. 65mm, 75mm long (2 3/4 x 3 in.).

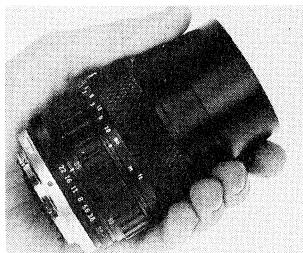
**Weight:** 407g (14 1/2 oz.).

**Price:** \$501.00 with case; special rubber hood \$12.00.

With this lightweight, high-quality zoom lens, Olympus fills the gap on the wide side of their well-proven 70 to 150mm f/4.5 zoom lens. Olympus users can cover the whole focal length range—and it's quite a healthy one—from 35mm to 250mm with the purchase of the three zoom lenses in the line. Not bad for only three lenses. Add an extender and a tripod and there's not much to escape you.

The 35 to 70 is a lightweight but good-sized two-touch zoom of sophisticated design and high performance. It handles well, like the other Olympus zoom lenses, because the different textures of the rubber control rings identifies function by touch. The zoom rings of all three lenses share a fluted texture, while all the focus rings have a fine diamond pattern. Zoom and focus rings turned with just the right friction and stayed put between shots, unlike single control zooms that can slide forward in carrying. With practice we found we could operate both control rings simultaneously with our left hand, zooming and focusing almost simultaneously.

Note that this lens increases in length at shorter focal lengths. At 35mm and closest focus (0.8m), it's nearly 4 1/4 in. long. This has no effect on the lens' handling qualities—the control rings stay put while the front lens cell moves forward. It does have the de-



**35-70mm f/3.6 Zuiko is a compact, capable wide to tele zoom**

sirable effect of permitting the lens hood to be equally effective at all focal lengths. At 70mm, the lens is recessed and the hood is effectively long. As we zoom wider, the lens' front element moves forward within the hood, effectively shortening the hood to match the wider focal lengths. Good thinking—especially valuable with a multi-element zoom, even when it's multi-coated like this one.

The depth-of-field preview button proved useful as there are no depth-of-field scales on the lens—which is not uncommon on two-touch zooms.

The lens is a practical and convenient all-purpose optic of relatively high speed and quality. We only wish it would focus even closer than the 10 x 15 in. minimum field achieved at 70mm and a distance of 0.8m.

**Optical bench analysis:** On axis, at the 35mm focal length, we saw a tight compact well-centered image with very slight over-corrected spherical aberration. Slight flare was present. By f/5.6, resolution was close to theoretically perfect, near diffraction limits. Off-axis, we found slight red-orange flare and high-order coma, and very slight astigmatism. The image was greatly improved by f/5.6 and totally clean by f/8. Slight green-red lateral color was present. At the "normal" 50mm focal length setting, at f/3.6, signs of very slight decentering were seen, flare was slight, and spherical aberration well-controlled. The image was diffraction-limited by f/8. Off-axis, some flare and high order coma were seen. Flare was well-controlled by f/8.

At the 70mm setting, on axis at maximum aperture, we found slight yellow flare and under-

corrected spherical aberration. By f/8, the image was near diffraction limited. Off-axis, wide-open, some coma was present, flare was slight, and there was a trace of blue-red lateral color.

**Field test slides:** Our field tests showed the lens to be a top performer in the wide to tele zoom category. Only at the wide angle position (35mm) was there some noticeable barrel distortion. Performance on film paralleled our bench tests in showing good performance overall at the wider apertures with maximum quality achieved by f/8 or f/11. Contrast and sharpness were of a high order throughout the focal length and aperture range.

### PERFORMANCE

Our Standard		Tested	
<b>Focal length:</b> ±5% (33.25 to 36.75mm) (66.50 to 73.50mm)		36.26mm 68.57mm	
<b>Max. aperture:</b> ±7% (f/3.35 to f/3.85) at 70mm		f/3.63 f/3.66	
<b>Distortion:</b>			
at 35mm ±2.5%		1.34% (barrel)	
at 70mm ±2.0%		1.78% (barrel)	
<b>Light falloff:</b> at f/5.6, +1 stop from theoretical limit			
at 37mm (0-1.89 stops)		0.75 stops	
at 70mm (0.1-25 stops)		0.50 stops	

### RESOLUTION at 35mm

at 1:48 magnification			
f/no.	Center Lines/mm	Corner Lines/mm	
3.6	Excellent 54	Excellent 34	
5.6	Excellent 60	Excellent 43	
8	Excellent 68	Excellent 48	
11	Excellent 68	Excellent 48	
16	Excellent 60	Excellent 43	
22	V Good 48	V Good 38	

### CONTRAST at 35mm

at 30 lines/mm			
f/no.	Center %	Corner %	
3.6	High 50	Medium 24	
5.6	High 52	Medium 32	
8	Medium 52	Medium 41	
11	Medium 49	Medium 41	
16	Low 45	Medium 38	
22	V Low 39	Low 30	

### RESOLUTION at 50mm

at 1:48 magnification			
f/no.	Center Lines/mm	Corner Lines/mm	
3.6	Excellent 60	Excellent 34	
5.6	Excellent 68	Excellent 43	
8	Excellent 68	Excellent 43	
11	Excellent 68	Excellent 48	
16	Excellent 60	Excellent 43	
22	V Good 48	V Good 38	

### CONTRAST at 50mm

at 30 lines/mm			
f/no.	Center %	Corner %	
3.6	Medium 49	Low 20	
5.6	Medium 51	Low 22	
8	Medium 53	Low 29	
11	Medium 53	Low 29	
16	Low 45	Low 27	
22	V Low 39	V Low 23	

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### RESOLUTION at 70mm

at 1:52 magnification			
f/no.	Center Lines/mm	Corner Lines/mm	
3.6	Excellent 66	Excellent 41	
5.6	Excellent 66	Excellent 46	
8	Excellent 73	Excellent 46	
11	Excellent 73	Excellent 41	
16	Excellent 58	V Good 37	
22	Excellent 52	Excellent 41	

### CONTRAST at 70mm

at 30 lines/mm			
f/no.	Center %	Corner %	
3.6	Medium 42	Low 17	
5.6	Medium 49	Low 18	
8	Medium 52	Low 29	
11	Medium 52	Low 30	
16	Low 46	Low 27	
22	V Low 40	V Low 22	

## NIKON REDESIGNS 80-200mm ZOOM

**Lens:** 80-200mm f/4.5 Zoom-Nikkor

**Mount:** Nikon AI

**Filter Size:** 52mm screw-in

**Min. foc. dist.:** 1.8 m (6 ft.)

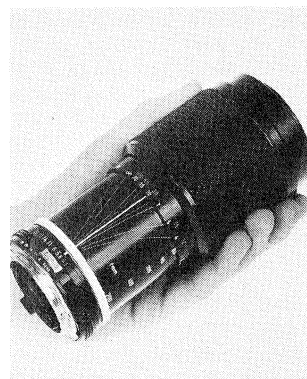
**Features:** Combined zoom, focusing control

**Serial No.:** 771593

**Size:** 2 1/2 in. diam., 6 1/16 in. long (73 x 153.5 mm)

**Weight:** 26.5 oz. (750 g)

**Price:** \$926 with carrying case; may be available at a discount



**Is this lens new? Outside it closely resembles Nikon's old 80-200mm f/4.5, but internal changes have pared 3 oz.**

Can you tell a lens by its cover? Hardly, for this optical redesign of the optic that started the whole 80 to 200mm zoom craze has been magically housed in a single-touch-control lens barrel almost exactly the same as the older model. Nikon zoom zealots will be able

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