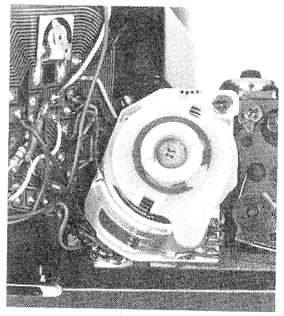
modern tests

turned on in the normal sense of the word by turning the control ring to "on," you don't see any LEDs. The CdS cell and LEDs remain off until a touch of the shutter release rim brings them to life . . . for a timed 90 sec. only. This provides enough time to focus, compose, and set the aperture/shutter speed combination with ease, but not enough to run down the camera's batteries. Even small LEDs like these eat power and this way you can't forget to turn the camera off.

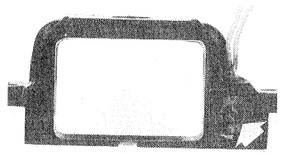
You can't forget to turn it on, either. Even if the camera's off, the silicon blue cell will automatically and instantaneously meter and set the correct shutter speed while the shutter is firing and you're still pressing the shutter release! Just like with the OM-2, you'll get the correct exposure even if the camera's turned off, but you won't know precisely what shutter speed was selected. Let's emphasize it again—when the 90-sec. grace period is over, the OM-10 metering system is off and drawing no juice. Perhaps the only reason to switch it "off" would be to prevent continued pressure on the release rim for running the LEDs for hours and draining the battery. So you're home free while shooting but should turn "off" before packing your equipment.

Like the later models of the OM-2 and 1, the OM-10's auto-exposure system appears to be full-area averaging. MODERN is now running tests to determine the exact metering pattern of all three. Since reviewing the OM-2, we've come to the conclusion that this is arguably a viable method for fully automatic exposure cameras as the exposure for contrasty subject matter is less likely to vary with minor changes in the composition. In addition, the metering characteristics are now nearly identical whether metering off the shutter curtain or the film itself at lower shutter speeds.

Moving now to the right side of the camera top, we find the ASA-setting dial. ASA speeds from 25 to 1600 can be set in ⅓ stop increments by lifting and turning the dial. You can also select plus or minus two stops of exposure compensation by lifting and turning the outer dial until the appropriate index lines up with the film's speed. Unfortunately, the main indicator will now point to a different ASA number and you might forget the ASA of the film you're using! What's more, there's no film box end clip on the back to remind you. In short, we recommend that you keep your wits about you and reset your film speed immediately after making a compensated exposure.



Lift up that polycarbonate top plate and some awfully neat electronics comes to view. Under the ASA dial cover nests this precision potentiometer assembly with gold-tipped brushes for good contact. Most adjustment points are easily accessible for camera adjustments when needed.



A lone CdS cell, arrow, beside the finder eyepiece provides OM-10 shutter speed preview. Its measuring pattern is asymmetrically center-weighted unlike the SBC cell's all-over averaging pattern. As shown by our field test slides, this discrepancy makes little difference in practice.

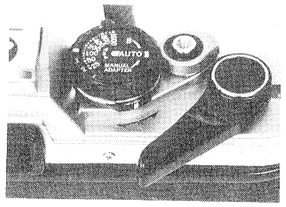
In addition, users of ASA 25 films for beach or snow scenes will be unable to add more exposure as required because of the mechanical limits on the dial's rotation, and would be well advised to use ASA 64 film which will allow a 1⅓ stop boost. LIkewise, users of ASA 1600 films will be unable to underexpose spotlit performers and the like. Since people pushing to this extent are a hardy and optimistic lot, this will probably not bother them much.

You'll like the new wind lever—plastic-covered for comfort with an ample stand-off angle. Full stroke is 130° and it's ratcheted for those who prefer to advance film in more than one stroke. Flip the camera over, and you will be greeted by an unadorned motor-winder coupling—there's no removable cover to mislay as on the OM-1 and 2. The small keyed socket accepts the winder shaft directly but is designed to keep out dust and light. According to Olympus, the OM-series high-speed motor drive should not be used with the OM-10, but it will physically fit and operate the camera.

Users of the OM-10 will be spared a considerable quandry. Their Accessory Shoe 4 (same as the standard show supplied with N-series OM-1 and OM-2 cameras) is permanently affixed to the camera and they won't have to deal with the alternatives offered. In the event that an OM-10 owner already has a Quick-Auto Flash 310, he will have to use it with its built-in or accessory sensor since the OM-10 unlike the OM-2 lacks internal off-the-film electronic flash control. The new T-20 must be used on external automatic as well, but it *will* automatically set his camera to 1/60 sec. once it is fully charged.

Remember that extra diode in the lightning-bolt-marked red segment above the shutter speed scale in the finder? It glows steadily when the flash (T-20 only) is fully charged and will flicker after each flash to confirm proper exposure. And the T-20 is tiny, taking just two AA cells and weighing but 5.6 oz. without batteries. Certainly this is one of the smallest thyristor-type electronic flashes we've seen. On the OM-10, the T-20 provides your choice of two autoflash f/stops and manual exposure as well. Of course, on the OM-2N, the mild-mannered T-20 flips its cover and becomes compatible with the internal sensors for automatic operation at any aperture.

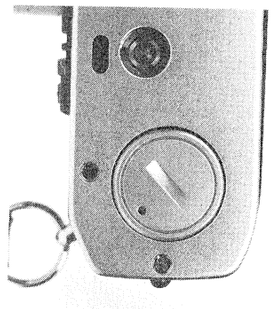
If you require the more subtle modelling possible with bounced electronic flash or soft light devices, use of a similarly designed two-contact dedicated flash cord may be needed. Olympus has plans to introduce this and other accessories for the T-20, but bounce capability is obviously limited with a unit this small, with an ASA 25 guide number of 35. Other manufacturers will doubtlessly follow.



Single unit control center sets ASA film speeds, compensates for subject tonality by enabling plus or minus 2 stops of override. Small switch concentric with it turns camera to B or manual mode. Avoid it when setting ASAs or overrides or you may find shutter on B instead of Auto.

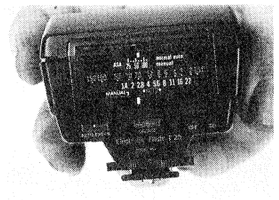
We now looked around for a PC contact to plug our studio electronic flash into. Well, there isn't any! Few entry-level amateur photographers use flash with PC cords, we guess. We'd suggest that some enterprising soul should come out with a hot-shoe-to-PC female adapter. Next, we reached for a big hot shoe strobe, slid it into the shoe . . . and realized there was no way of setting the camera to 1/60 sec. for proper flash sync. At this stage we were still waiting for Olympus's secret weapon, the Manual Speed Control module, which would have solved the problem directly. On the top of the ASA setting dial is a selector switch with positions for A (automatic, natch), B (bulb), and M (manual speed control, which we didn't have). B is for long exposures. In desperation, we tried M, without the controller, and it produced 1/45 sec., and perfect flash sync.

Olympus' compact, featherweight (¼-oz.) Manual Adapter provides accurate speed control when simply plugged into the socket beside the lens mount (see photo right). It works with the camera turned off or on when the mode selector is set to "Manual Adapter," and provides extremely accurate shutter speed control over a 1/1000 sec. to 1 sec. range. It cannot be set for in-between speeds. Since the adapter will set speeds more accurately than they can be read through the LED readout system in the 10's finder ± ½ stop at the calibrated points—and the Manual Adapter can only be used at these points, it is advisable to use it in conjunction with a hand-held meter if extreme accuracy is required. We tested the adapter on two OM-10 bodies and got nearly identical speeds. Not tried yet, but a technical potential searching for an application, is the possibility of placing the speed control on the end of a long cable for remote exposure control. A motor-wind-equipped OM-10 could thus be triggered and set to different exposures at a distance—a unique possibility.

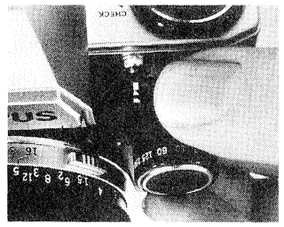


Bottoms up, down the hatch. OM-10 has no motor "hatch" cover to mislay. Shutter release arm works through slit in rubberized fabric slot to left of motor coupling. Two S-76 silver cell batteries reside under cover at bottom.

The first time we loaded film into the camera, we discovered one of its interesting idiosyncracies. If you fire the shutter in the dark or with a lens cap on, it will hang open for a few seconds. During this time you can wind the camera repeatedly. This won't damage the camera, according to Olympus, but you could inadvertently start your roll on frame 6 if your thumb is speedy enough. Although this situation seems alarming at first, it's not a major problem in practice. In fact, it can be a convenience in loading once you get used to it. Load you film, wind it once, cap the lens, trip the shutter and keep winding until you get to frame one, then just wait for the shutter to click shut. When making long exposures, make sure you hear the shutter click the **second** time before you wind on or you'll end up with an exposure wiped across moving film. This can happen in the middle of a roll as well. However, winder users need not worry—the control circuits in the winder will not allow it to wind on until the second curtain closes. No problem loading or shooting here.



Tiny T-20, set up for use on OM-10, provides a Kodachrome 25 Guide Number of 35 and two automatic aperture choices. Pulling the calculator plate out of its slot, flipping it, and inserting it reversed, sets up the T-20 for use on the OM-2N.



Mini Manual Module plugs firmly into camera socket, adds full manual exposure control while weighing less than ¼ oz. Shutter speeds below 1/60 sec. are in blue—hard to see in bad light.

As the OM-10's metering system follows closely that of the OM-2 (except for its long exposure and flash exposure regulation system), information of interest and value can be gleaned from our test of the OM-2. A copy can be obtained by sending a request to Readers' Service Editor, Modern Photography, 130 E. 59 St., NY, NY 10022 with a stamped, self-addressed envelope.

Now let's take a look at the 50mm f/1.8 Zuiko lens supplied with our OM-10. It's been some time since we tested a normal Zuiko, and our procedures are now more complete.

Optical bench analysis: On axis at full aperture, we saw a slight red-orange flare and a very slight decentration of our point image. The image became excellent by f/5.6 and was nearly diffraction limited by f/8. Flare was very slight. Off the axis, we saw almost no lateral color and a slight red-yellow flare at f/1.8. The image was very good in the corners by f/5.6.

Field test slides: Exposures throughout the range of the metering system were accurate for the normal range of subject types. Some exposure compensation was needed with contrasty color slide films in backlit situations and scenes with a lot of open sky. Once or twice we forgot our ASA when making exposure compensations but the problem disappeared when we concentrated on it. Our field test slides with the 50mm f/1.8 Zuiko showed it to be a high quality optic. Flare was well controlled, even wide open, and the image quality was very good. As expected, stopping down sharpened up the corners—but it produced little change in the already sharp center of the field. Contrast was good. Image quality held up well through f/16. Some lateral chromatic aberration was visible in the corners but it was not enough to detract from the quality of this excellent and reasonably-priced normal lens.

With the addition of this third body to the OM system, Olympus now offers both low-price and ultra-sophisticated automatic cameras, and the all-mechanical OM-1 for really hard going. There's full optical compatibility among all three models. Most accessories, the Auto-Winder 1, and lens-mounted accessories can be shared by the three. In conclusion, the OM-10 definitely achieves its design goals, providing precise and easy photography to the mass market. And, through its add-on manual speed control, its flexibility increases to meet the needs of most sophisticated users as well. For serious photographers, particularly those already into the Olympus system, the OM-10 is definitely a good second automatic body. The fact that it can produce excellent results in the hands of beginners makes it even more attractive.

RESOLUTION

at 1:49 magnification

f/no.	Center	Lines/mm	Corner	Lines/mm
1.8	V.Good	55	Excellent	44
2.8	V.Good	69	V.Good	49
4	V.Good	69	V.Good	55
5.6	Excellent	78	Excellent	69
8	Excellent	78	Excellent	69
11	V.Good	61	Excellent	61
16	V.Good	61	V.Good	49

CONTRAST

at 30 lines/mm

f/no.	Center %		Corner %	
1.8	Medium	52	Low	30
2.8	Medium	68	Low	32
4	Medium	74	Low	44
5.6	Medium	72	High	60
8	Medium	70	High	64
11	High	65	High	60
16	Medium	60	High	52

35mm f/2.8 ZUIKO P.C. SHIFT LENS

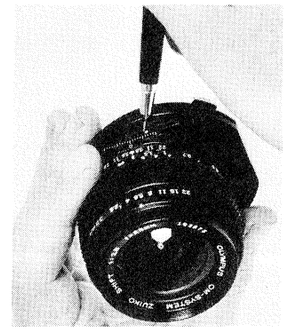
Mount: Fixed bayonet mount for Olympus OM-series SLRs.
Filter size: 49mm screw-in.
Apertures: f/2.8 to f/22, click-stops at whole stop intervals.
Min. foc. dist.: .3 m (12 in.)
Features: Focus scale in feet and meters, preset aperture can be selected or bypassed by preview slider on mount. Twin sliding dove-tails on the mount permit 10mm of lateral displacement and 12mm of vertical displacement, or equivalent combinations, 15mm wide textured rubber focusing grip.
Serial No.: 103576
Size: 55mm diam., 59mm long (2⅛ x 2¼ in.).
Weight: 312g (11 oz.).
Price: $448.00; may be available at a discount.

Olympus' compact and lightweight 35mm f/2.8 perspective-correcting wide-angle ties in well with the traditional compactness, mechanical sophistication and quality optics of the system.

Aside from its small size and light weight, this Zuiko's major feature is its double dove-tail slide mechanism. The lens is merely pushed into the desired off-axis positon for perspective correction. There are no knobs to turn or locks to loosen; It's softly but definitely click-stopped in its central on-axis position. Just move it up, down, sideways—even diagonally—until you can see the result you're after in the finder Close manufacturing tolerances and lubricant viscosity hold the lens in any of its possible positions. Exposure of the bearing surfaces to dust and dirt may require periodical relubrication to keep things smooth yet securely fixed when desired. The clever mechanical design of the mount keeps you from pushing the lens beyond its optical limits. It just stops. Another plus: Since the lens barrel does not rotate to move laterally or vertically, the f/stops, distance and displacement indices stay put in their traditional, easy to read, positions.

Would you like to test your own lens? Get MODERN's Lens Test Kit, $4.95. Write to Lens Test Kit, MODERN PHOTOGRAPHY, 2160 Patterson Street, Cincinnati, Ohio 45214. Please allow 4-6 weeks for delivery.

Unusual in a perspective-correcting lens is the Zuiko's semi-automatic diaphragm. Set the diaphragm as desired; when the lens mount button is pushed in you're at working aperture. Push again and let it pop out and you're wide open for checking focus. This feature is practicularly valuable on an automatic body, like the OM-2 or OM-10, which will set itself to the correct-exposure shutter speed as you stop down.



Zuiko shift-lens has scales for reading both horizontal and vertical offset and features full aperture focusing.

The convenient diaphragm operation coupled with the f/2.8 aperture and the fast-focusing mount (180° of smooth rotation takes you from infinity to the 1-ft. minimum distance) makes this lens a pleasure to use.

In short, both optically and mechanically, this compact PC lens complements and enhances the entire Olympus SLR system.

Optical bench analysis: On axis, our sample was well-centered, showed slight reddish-orange flare and slight over-corrected spherical aberration. Stopping down to f/5.6 produced almost diffraction-limited performance. Off axis images with the lens on center were very good by f/5.6. The corners with 11mm lateral shift were very good at f/5.6.

Field test slides: As we expected from our optical bench analysis, optical quality of the Zuiko was excellent. On center, wide open, image was very good with good corner sharpness—particularly important in

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a PC lens where the shifts will tend to bring the corners toward the center of the field. Quality held through the full 12mm shift. Little falloff was visible in the slides. What there was was automatically equalized out by the full-frame averaging metering of the OM-2. Automatic exposures were right on, even with extreme movements. The image edges were good at f/2.8 with the lens centered. Moderate stopping down to f/5.6 produced critical edge sharpness with full movements. Slight reddish flare was visible wide-open but seemed well controlled. Our verdict is that this is a good lens in a small, convenient package; one that does a demanding job extremely well.

PERFORMANCE

Our Standard	Tested
Focal length: ± 5% (33.25 to 36.75mm)	36.23mm
Max. aperture: ± 5% (f/2.66 to f/2.94)	f/2.86
Distortion: ±2.5% with 11mm offset	0.89% (Barrel) 0.20% (Pincushion)
Light falloff: at f/5.6 + 1 stop from theoretical limit	(0-1.89 stops) 0.63 stops
offset	(0-2.39 stops) 1.50 stops

RESOLUTION

at 1:48 magnification				
f/no.	Center Lines/mm		Corner Lines/mm	
2.8	Excellent	60	Excellent	30
4	Excellent	67	Excellent	30
5.6	Excellent	67	Excellent	38
8	Excellent	67	Excellent	43
11	Excellent	67	Excellent	48
16	Excellent	60	Excellent	43
22	Good	48	Good	43

RESOLUTION

with 11mm offset at 1:47 magnification				
f/no.	Center Lines/mm		Corner Lines/mm	
2.8	Good	47	Excellent	37
4	V. Good	53	Excellent	37
5.6	V. Good	60	V. Good	37
8	V. Good	60	Excellent	42
11	Excellent	60	Excellent	42
16	V. Good	53	Excellent	47
22	V. Good	53	Excellent	42

CONTRAST

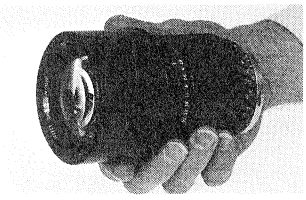
at 30 lines/mm				
f/no.	Center %		Corner %	
2.8	Medium	54	Medium	30
4	High	70	Medium	30
5.6	Medium	72	Low	36
8	Medium	70	Low	40
11	High	62	Medium	38
16	Medium	58	Medium	36
22	Low	54	Low	34

CONTRAST

with 11mm offset at 30 lines/mm				
f/no	Center %		Corner %	
2.8	Medium	54	High	38
4	High	70	High	40
5.6	Medium	72	Medium	43
8	Medium	70	Medium	48
11	High	62	Medium	36
16	Medium	58	Low	30
22	Low	54	Medium	38

180mm f/2.8 ZUIKO MC AUTO-T

Specifications: Fixed mount for Olympus SLRs; Serial No. 100805; 72mm filter size; f/2.8 to f/32; min. foc. dist. 2m (6.6 ft.); 4.9 in. long x 3.2 in. diam.; 24 oz.; $625



This 180 tele from Olympus provides desirable wide aperture at the cost of a longer, fatter, heavier barrel.

Practical comments: Fine satin black finish; large legible numbers; smooth, click-stopped controls; 1⅜-in. wide diamond pattern rubberized focusing ring; 220° turn from min. foc. to infinity; good construction; built-in shade.

Optical bench: On axis—some blue flare, slight red flare, slight overcorrected spherical aberrations at f/2.8. Blue flare gone by f/5.6. Image very good. Off axis—slight blue-green lateral color, blue flare at f/2.8. Slight flare at all apertures. Image very good at f/8.

Field test slides: Slight red flare at f/2.8. Still present at f/5.6 and f/8. Crisp central image at f/2.8. No noticeable loss of sharpness in corners.

PERFORMANCE

Our Standard	Tested
Focal length: ±5% (171 to 189mm)	183.20mm
Max. aperture: ±5% (f/2.66 to f/2.94)	f/2.90
Distortion: 180mm ±2.5%	0.45% (Pincushion)
Light falloff: at f/5.6, +1 stop from theoretical limit	(0-1.04 stops) 0.48 stops

CONTRAST

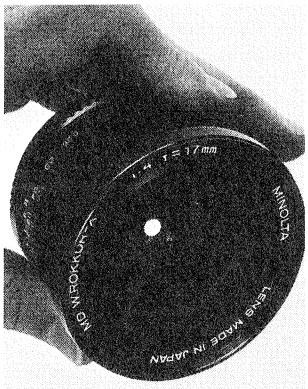
at 30 lines/mm				
f/no.	Center %		Corner %	
2.8	Low	28	Low	30
4	Low	46	V.Low	25
5.6	Low	50	V.Low	22
8	Medium	53	V.Low	21
11	Medium	52	V.Low	21
16	Medium	52	V.Low	20
22	Medium	50	V.Low	20
32	Medium	48	V.Low	21

RESOLUTION

at 1:49 magnification				
f/no.	Center Lines/mm		Corner Lines/mm	
2.8	V.Good	44	Excellent	39
4	Excellent	49	Excellent	44
5.6	Excellent	55	Excellent	49
8	Excellent	55	Excellent	49
11	Excellent	62	Excellent	49
16	Excellent	55	Excellent	44
22	V.Good	49	V.Good	39
32	Good	39	V.Good	35

WIDEST NON-FISHEYE ROKKOR

Specifications: MD W. Rokkor-X 17mm, no. 2201164; Minolta MD mount; 72mm filter size; f/4 to f/22; min. foc. dist. 9 in. (0.25 m); 2¼ in. long x 2⅞ in. diam.; 11 oz. (312 g); $487.



17mm Rokkor super-wide-angle lens produces "fisheye"-type images on full frame.

Practical comments: Minolta's traditionally fine satin black finish; clear numerals; smooth operation; ½-in.-wide, diamond-pattern rubberized focusing ring; 90° turn from min. focus to infinity; multicoated elements; fine construction.

Optical bench: On axis—slight spherical, slight red flare at f/4. Excellent image at f/8. Off axis—slight red-blue lateral color.

Field test: On axis—very slight softness, no color fringe; good detail at edge; slight one-sided flare; touch of astigmatism. Image quality excellent by f/5.6. Shooting into sun, virtually no flare; a few weak ghosts. Overall image quality excellent.

PERFORMANCE

Our Standard	Tested
Focal length: ±5% (16.15 to 17.85mm)	17.17mm
Max. aperture: ±5% (f/3.8 to f/4.2)	f/3.9
Distortion: ±4.0%	less than 1.0% (Barrel)
Light falloff: at f/5.6, +1 stop from theoretical limit (3.63 stops)	1.75 stops

RESOLUTION

at 1:47 magnification				
f/no	Center Lines/mm		Corner Lines/mm	
4	Good	47	Good	30
5.6	V.Good	53	V.Good	33
8	Good	53	Good	33
11	V.Good	53	Excellent	37
16	V.Good	53	Excellent	37
22	Good	47	V.Good	33

CONTRAST

at 30 lines/mm				
f/no	Center %		Corner %	
4	High	60	Medium	30
5.6	High	60	Low	26
8	Low	60	Low	30
11	Medium	58	Low	33
16	Low	52	Low	34
22	Low	42	Low	24

MINOLTA'S FAST NEW ULTRA-WIDE

Specs: 20mm f/2.8 MD W. Rokkor No. 1201949, Minolta MD mount; 55m filter size; f/2.8 to f/22; min. foc. dist. 0.25m (⅜ in.); 2 in. long X 2¼ in. diam.; 7.5 oz. (213g); $423

20mm f/2.8 Rokkor has little distortion for lens of this short focal length.

Continued on page 162

MODERN PHOTOGRAPHY'S unbiased test reports are based on actual field work and measurements carried out in our own laboratories. Only production equipment and materials similar to those available to the reader are tested. Readers are warned, however, that our tests, particularly of lenses and cameras, are often far more critical and specific than those published elsewhere and cannot therefore be compared with them. In all lens tests, unless specifically noted, some of the sharpness falloff at the edges can be traced to curvature of field, most noticeable at close focusing distances; at distant settings, this effect would be minimized. Note too that the standards for center sharpness are higher than for edge sharpness, so that no comparison should be made between center and edge ratings. **NO MODERN TEST MAY BE REPRODUCED IN WHOLE OR IN PART FOR ANY PURPOSE IN ANY FORM WITHOUT WRITTEN PERMISSION.** Should you have difficulty locating sources for any product, write to the Readers' Service Dept. of Modern Photography. WARNING: Since optics and precision mechanisms may vary from unit to unit, we strongly suggest that our readers carry out their own tests on equipment they buy. **PRICES GIVEN ARE MANUFACTURER'S SUGGESTED LIST PRICES AT PRESSTIME. ITEMS ARE OFTEN AVAILABLE AT LOWER PRICES THROUGH DEALERS.**

MODERN TESTS

Continued from page 114

Optical bench: On-axis-point image round and compact. Very slight zonal and chromatic aberrations. Image very good at f/5.6 and smaller aperture.
Field test: Slight barrel distortion, normal for this type of lens. No apparent edge fringing in test slides. Well-controlled flare. Very good overall performance.
Practical comments: Excellent satin black finish, clear engraved numerals, smooth operation, ½-in.-wide, diamond-pattern rubberized focusing ring, very good construction.

PERFORMANCE	
Out Standard	**Tested**
Focal length: ± 5% (19.0 to 21.0mm)	20.23mm
Max. aperture: ± 5% (f/2.66 to f/2.94)	f/2.85
Distortion: ± 4.0%	less than 1.0% (barrel)
Light falloff: at f/5.6 + 1 stop from theoretical limit (0-3.13 stops)	2.5 stops

RESOLUTION

at 1:48 magnification				
f/no.	Center Lines/mm		Corner Lines/mm	
2.8	V. Good	54	Good	30
4	Excellent	60	Good	30
5.6	Excellent	68	V. Good	34
8	Excellent	60	V. Good	34
11	Excellent	60	Excellent	38
16	V. Good	54	Excellent	38
22	Good	43	V. Good	34

CONTRAST

at 30 lines/mm				
f/no.	Center %		Corner %	
2.8	Medium	57	V. Low	14
4	High	65	V. Low	17
5.6	Low	58	Low	28
8	Low	56	Low	29
11	Medium	57	Low	32
16	Low	48	Low	30
22	V. Low	39	Low	28

OOPS!!! "What's New At a Glance" for the Canon AV-1 (Aug. 1979, page 96) incorrectly indicated an aperture scale in the viewfinder. The viewfinder diagram just below the picture correctly shows a shutter speed scale along the right hand edge.