

**VIVITAR SERIES 1**  
**200mm f/3.5**  
**Auto Focus Telephoto**  
**Serial No. 28400112**  
**(Komine)**

**MODERN PHOTOGRAPHY**  
March 1985  
Pages 56/7

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boggy  
November 2013



LIMITED WARRANTY BY:  
VIVITAR CORP.  
1630 STEWART STREET  
SANTA MONICA, CA. 90406

**200mm SERIES 1**  
**VIVITAR AUTOFOCUS**

**Specifications:** 200mm f/3.5 Vivitar Series 1 Auto Focus Telephoto in mounts for Canon, Contax/Yashica, Minolta, Nikon AIS, Olympus and Pentax KA; No. 28400112; accepts 67mm accessories; f/3.5 to f/22, full stop detents; min. foc. dist. 8 ft. (2.5m); 4 7/8 in. long, 3 in. diam. 125 x 76mm; height 3 9/16 in. (90mm); 26 1/2 oz. (751g) with batteries.; TTL autofocus using Honeywell TCL CCD module, coreless micromotor powered by three AAA cells; battery check button and lamp. \$549.95

**Practical comments:** Described fully in terms of construction in Keppler's SLR Notebook (Oct. 1984. Send self-addressed stamped business envelope for reprint to Readers Service in case you missed original story), this unique lens has finally arrived in a production sample for testing.

The lens is not much larger than a standard manual focus 200mm save for the central control collar and underslung battery housing. The three AAA cells slip into the bottom lidded compartment and the lens is now ready to turn any camera body on which it is attached into a true autofocus SLR. The autofocus mode selector atop the lens allows you to select either continuous or single-position autofocus. The former can be



**200mm f/3.5 Autofocus Vivitar is remarkably compact. Focus button for horizontal picture taking can be seen directly above nameplate.**

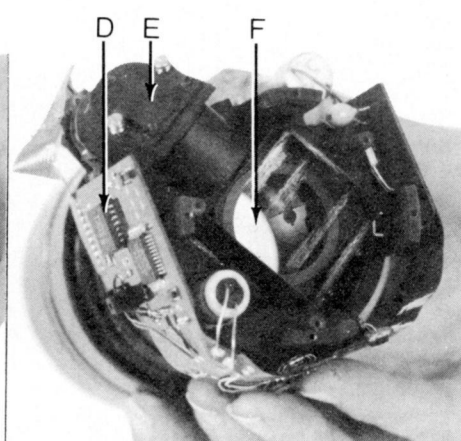
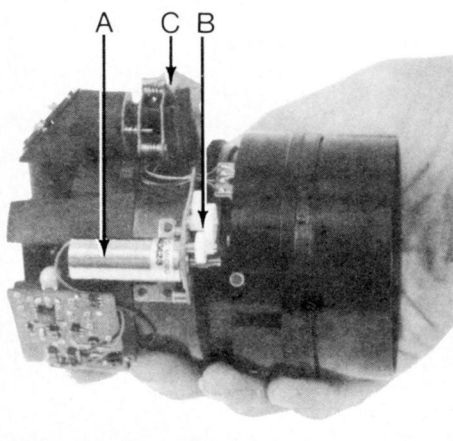
used for following action. The latter focuses on an object and locks in focus when accurate focus is reached. Correct focus is indicated with two short unobtrusive audible beeping signals. To accomplish all this, about 15% of the light entering the lens is siphoned off via a split prism to an autofocus module adjacent to the battery compartment. Signals from the module control a coreless motor above which drives an autofocus gear that moves the focusing lens elements to correct focus position. You do not "lose" any of the marked lens speed when light is siphoned to the module since

the lens was originally formulated to be faster than f/3.5.

The lens is very convenient to hold. The left side focus button falls quite naturally under your left thumb for horizontal pictures while the second, top focus button occupies the same position when you turn your camera 90° for vertical photos. While the two beeps indicating proper focus in single autofocus mode are very reassuring, the beepless continuous focus is more useful since it will follow any change in camera-subject distance—even a slight shift of head position during a portrait shoot.

continued.....

**Inside the Vivitar Series I**



**Left:** Minimotor (A), powered by three AA cells, drives nylon gears (B) turning front lens cell to focus. (C) is TCL (through-camera-lens) autofocus module. **Right:** (D) is printed circuit with ICs; (E) mirror reflecting light to TCL module from behind lens split prism (F).



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## 200mm SERIES 1 VIVITAR AUTOFOCUS

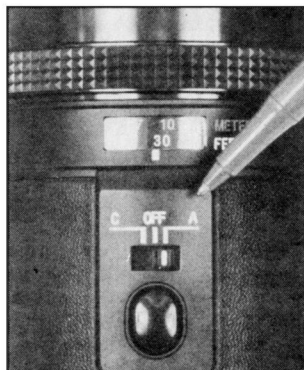
...continued,

For nature photography, we found, continuous focus was essential and almost always operated faster than even our experts could focus manually. (When you want to, you can focus manually by switching off the autofocus mechanism and using the easy to turn, well knurled front focusing ring.)

The Vivitar directions are understandably vague as to just what central part of the finder area is being autofocused since Vivitar doesn't know which camera model you have. We found the sensitive spot was a circular area whose circumference was half way between the inner and outer rings of the micropism collar on our Nikon FE2 test camera body. You can easily check the area on any camera focusing screen by locating horizontal and vertical subjects (a window edge is fine) and seeing just when the lens will focus and when it won't.

The autofocus ability of the Vivitar, like all TTL SLR systems, is best in bright light where it was rare for the lens to take more than two seconds to lock into proper focus even when it had to move from infinity position to closest focusing point. In poor light, autofocus detection becomes slightly slower. Vivitar gives its low light range as EV5 at ISO/ASA 100. this works out to about 1/4 sec. at f/3.5. However, we found that we could operate in far less light with most subjects having large, clearly defined features. Since the lens is made for hand held operation however, you will certainly be safe following Vivitar's low light limit suggestions. Needless to say, the lens will not autofocus in very low light when you need to use a flash.

Alkaline energizer batteries are claimed to last for 35 rolls of 36 exposure film but much depends on how much continuous focus you may use before each picture is made.



**Mode selector switch has single focus, follow focus or "off" positions. Note distance scale.**

Few autofocus cameras will allow you to attach a teleconverter while maintaining auto (the lens aperture becomes too small for autofocus). But the Vivitar can be used with a teleconverter handily since the light for autofocus is redirected to the autofocus module in the lens itself before it reaches the teleconverter. Vivitar recommends its Vivitar 2X Macro Focusing Teleconverter (\$109.95), which turns the lens into a 400mm f/7 optic. We tried the Macro Focusing converter and found it worked quite well, producing crisp focusing results. Seeing 400mm tele images snap into focus was nothing less than astounding. However "macro" focusing with the teleconverter using the converter's macro helical was not really feasible since the autofocus mechanism usually objected to being worked at distances less than 8 ft.

We did try other brands of teleconverters. Some, as might be expected, worked better than others. Vivitar has promised a 7-element converter just for this autofocus lens.

**Field test slides:** Images were crisp and snappy with well rendered detail although there was some detail loss in corners until f/8. Flare was well controlled throughout aperture range. Pin-cushion distortion was noticeable in straightline subjects. Autofocus system worked well with all slides in focus. Overall performance optically was above average for a telephoto lens.

**Optical bench analysis** (for optical experts only): On axis, very slight axial color could be seen, mixed with yellow flare. There was slight over-corrected spherical aberration. The lens was diffraction limited by f/11.

Off axis, slight coma was observed, mixed with slight astigmatism. There was lateral color throughout.

### PERFORMANCE

| Our Standard  | as Tested       |
|---|-----------------|
| <b>Focal length:</b> ±5%<br>(190.00-210.00mm)                                     | 197.65mm        |
| <b>Aperture:</b> ±5%<br>(f/3.33-3.68)   | f/3.47          |
| <b>Distortion:</b><br>(±2.5%)   | 1.77% (pincshn) |
| <b>Light falloff:</b> at f/5.6<br>+1 stop from theoretical limit<br>(0-1.0 stops) | 0.5 stops       |

### RESOLUTION

#### VIVITAR AUTO FOCUS 200mm f/3.5 at 1:50

| f/  | Center<br>(l/mm) | Corner<br>(l/mm) |
|-----|------------------|------------------|
| 3.5 | Excellent        | 50               |
| 5.6 | Excellent        | 56               |
| 8   | Excellent        | 63               |
| 11  | Excellent        | 63               |
| 16  | Excellent        | 56               |
| 22  | Excellent        | 56               |

### CONTRAST

#### VIVITAR AUTO FOCUS 200mm f/3.5 at 30 lines/mm

| f/  | Center<br>(%) | Corner<br>(%) |
|-----|---------------|---------------|
| 3.5 | High          | 59            |
| 5.6 | High          | 67            |
| 8   | High          | 68            |
| 11  | High          | 64            |
| 16  | High          | 57            |
| 22  | High          | 49            |