

TEST: VIVITAR SERIES 1 ZOOM

Zoom lenses were once regarded as the second-class citizens of the optical world. They were unduly bulky, enormously expensive, and—worst of all—gave markedly inferior optical performance. Yet since the first zoom appeared on a 35mm camera, in the late 1950s, the versatility has been recognized.

The Vivitar Series 1 70-210mm Zoom is far, far away from those low-contrast, middling-resolution designs of old. And it is more than that. It has in one fell swoop incorporated sophisticated design with a new principle of correction for the closeup range. The fact that this lens performs as well as its ancestors did badly says a lot for developments in optical technology over the past few years.

This new Vivitar is not even made by the same actual manufacturer that made Vivitars. While still engineered in Japan, its design is fresh, too. To produce it, American and Japanese optical designers used a triple-computer set-up in researching answers to fresh questions.

Perhaps the most interesting of the concepts devised is the stationary compensating element in the rear of the lens. Vivitar state that this corrector element compensates for optical aberrations introduced as the lens is focused on closer subjects. In telephoto and zoom designs, until now, quality has gone down noticeably as the focused distance has become less.

There was more to come. Since the Series 1 Zoom was so well corrected, it seems the designers saw other possibilities. The final product could be fitted with a built-in macro function, making use of the zoom elements for focusing down to as little as 3 inches.

This means in practice that the lens has a switching ring with a locking button. On normal range, the white line set against the figure for focal length is indexed to a red dot, against which the aperture settings are also clickstopped. The large, easily-gripped focus-cum-zoom ring can then be pushed forward on the barrel to shorten the focal length, and the corresponding setting is disclosed as it is moved.

To switch to macro, the rear ring must be released and turned. Vivitar stress that the zoom setting must be at the rearmost, 210mm, position—or mechanical damage may ensue! Having made sure of this, the catch is pressed and the ring turned until 'macro' aligns with the red index dot.

Set to macro, the focusing ring is now turned until—for optimum quality—the word macro on the focusing ring is lined up with the red dot marker. To focus in the macro position, it is now only necessary to push and pull the focus/zoom ring along the zoom range. At a 70mm setting, in this mode, it is possible to focus down to about three inches.

In the normal mode, focusing runs

This page—Vivitar Zoom fitted to a Canon body. The large grip is used for zooming from 70 to 210mm as is shown on the opposite page, bottom.

Opposite page, top—here the lens is set to macro. The word 'macro' is aligned on the grip with the word on the body, which is rotated in the 210mm position after pressing the switch on the lug. The push-pull action then serves for focusing in the range from seven feet (picture on left) to three inches (picture on right).

Opposite page bottom—these pictures show the lens moved through its zooming action between 70 and 210mm in its normal mode.

down from infinity to just under 7 feet. There is an infra-red line, too, on the barrel. This is in red and clearly marked.

The lens has a large front element, with a 67mm filter ring. The lens is not multi-coated. At the opposite end is found the mount of your choice, and, with that, the fixed corrector lens.

The mounts currently available are Pentax/Praktica (for stopdown metering), Nikon, Minolta, Canon FD and Konica Autoreflex T. The last four are all meter-coupled mounts. The example we reviewed was for Canon, the mount quality being very good.

The aperture ring is immediately ahead of the mount. The lens has a maximum aperture of $f/3.5$ —fast for a 200mm prime lens, let alone for a zoom. Minimum stop is $f/22$ and the iris is clickstopped at half-stop intervals. A green ring, to the right of the $f/22$ setting, is used to set the lens to automatic-iris operation for use with the EE head of the Canon F1.

The finish of the Series 1 Zoom is good. All markings are legible and in well-chosen colours. The wide focus/zoom grip is wide enough for the whole hand to grip it.

Handling

The lens was used with a Canon FX body



and the two made an easy-to-handle and well-balanced unit. Although this is a 31-ounce optic, it did not prove burdensome and could be brought into action very readily.

Being a zoom, one was not inclined to use a lens-hood: a hood suitable for the 70mm end of the scale would leave other focal lengths wanting, and one suitable for the 210mm end would give bad vignetting at anything less. It would be awkward to carry and fit the kind of hood used on professional cine cameras—with a bellows framing the angle—but it's about time an accessory manufacturer created a light, plastic hood which could be extended and reduced.

As mentioned earlier, zooming is done very simply by pushing and pulling the main ring. Focusing, done with the same ring, means turning the vinyl-covered grip in the usual way and 180° is sufficient to go from far to near on this scale.

By the time the test was completed, a very slight degree of backlash was developing in the focus/zoom ring.

Focusing of the lens was very positive and the image was bright, snapping in and out of focus clearly. Although this is a real zoom—as distinct from a variable-focus lens—we preferred to abide by the instruction book and refocus with every

change of zoom setting. We feel that Vivitar have made a wise choice: the alternative would have been to have two controls, quite separate. One would have been for focusing and the other for zooming. That way, the zoom control would not have the possibility of shifting the focusing slightly—but the disadvantages in terms of a bulkier, slower-to-use lens would have been rather noticeable! In practice, all one has to do is to watch the screen as the Series 1 is zoomed to see that the focus is not changed unduly. Any necessary alteration takes a fraction of a second at most, and in terms of convenience this is the optimum solution.

The aperture ring was easy to turn and set and the diaphragm worked well throughout the test.

On Macro

The most intriguing control was that for macro.

As it stands, we felt the button on the switching ring was too small and, ideally,

should be larger. In cold weather it was a little fiddly to operate, and the small plastic panel in which it was set began to develop a wiggle. The ring itself could have been easier to turn.

The fact that one also needed to hold the zoom ring—for safety's sake—at the 210mm setting also meant that it became easy to move the iris ring accidentally—though that is a minor point.

However, we'd like to make a constructive suggestion.

Since the normal/macro switch must only be made when the zoom is set to the position—210mm—where the ring is at its closest to the switch ring, it should be possible to redesign the area where the button is found. Instead, have a small rocker switch located under a leaf similar to that fitted, but which is activated as the zoom ring is brought back against it.

This would mean that *only* when the zoom ring is at the 210mm position will the switch lock button be activated. The ring itself could be clickstopped, making

Performance

Results were very good indeed. Performance levels gave a slight dip around the middle of the range—about the 135mm mark—but were mainly consistent throughout the zooming range. In normal conditions flare was very low, although we found contrast not quite to the levels that would be expected from the very best prime lenses. We were favourably impressed, also, by the performance at full aperture—although we'd obviously recommend f/5.6 or smaller where critical work was being undertaken.

A transmission loss of perhaps a third of a stop was noted, but with TTL metering this would present no problem at all. Multiple coating of the lens would bring benefits in that direction, and we felt that multi coating would also improve the handling of flare.

Flare was particularly noticed in situations where the Vivitar was aimed almost directly into the light source—as well as at the source itself. Reflections also could be a nuisance. It may be that the inner surfaces of the barrel could be given a better, more matt finish; and this in combination with multiple coating techniques seems desirable.

Except for these specific problems we were delighted with the performance both in the field and in critical optical testing. Nor were we disappointed when it came to macro.

Both practical testing and more exacting checks showed that this is a feature of the Vivitar Series 1 that can be taken for granted—and employed extensively. Again, we'd recommend f/8 or smaller for the best results—but the facility can be used with good effect at much wider apertures.

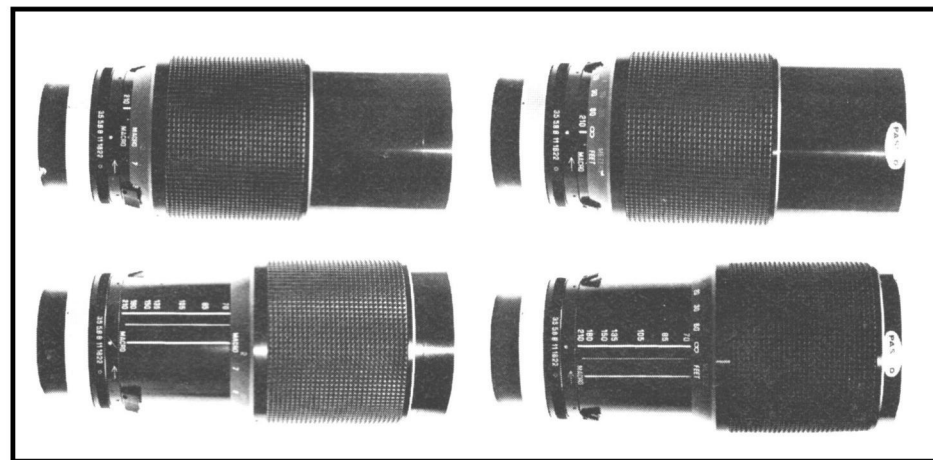
Conclusions

At a suggested price in the region of £200, this lens is good value. It is good value not only because it performs very well indeed, but because it fulfils many functions in one lens. Here we have an ideal working tool for the photojournalist. It is a tremendous spur to creativity. For the amateur it will provide a saving in weight and space—and perhaps cash—on storing, carrying and using the several other prime lenses that would be necessary to duplicate the potential of this one. Continuous focusing from 3 inches to infinity? Certainly. A well-chosen zoom range? Yes, indeed. And, above all, the picture quality that makes a lens outstanding. One in no way needs to apologise for its performance, which is very rare for a zoom.

There is room for improvement, naturally. One can look at virtually any item on sale today and say that, and we have tried to indicate some improvements we believe could be made. But this is a zoom lens that could well usher in a new era in 35mm photography—when a high-performance, wide-ranging optic will displace fixed-focal-length telephotos.

The Vivitar Series 1 f/3.5 70-210mm is a photographer's lens, and we are very enthusiastic about its potential.

Terry Scott



SPECIFICATION

Vivitar Series 1: 70-210mm f/3.5 Zoom

Manufacturer: Vivitar Corporation

Minimum effective focal length on macro: 54mm.

Zoom ratio: 3:1

Acceptance angle, 70mm 34°

Acceptance angle, 210mm 12°

Optical construction: 15 elements in 10 groups

Minimum normal focusing distance: 6 ft 6½ in (2 metres)

Minimum distance, macro mode, front element to subject: 3 inches

Maximum magnification in macro mode: 1:2.2

Length (set to infinity focus): 6½ in (157.5 mm)

Barrel diameter at maximum: 3-1/16 in (77.8mm)

Weight: 31 ounces (879 grams)

Filter ring: 67mm

Prices: Pentax/Praktica screw thread, £195.50 (SRP including VAT).

Nikon, Minolta, Canon FD, or Konica Autoreflex T, £210.50 (SRP including VAT).

Importer: David Williams (Cine Equipment), Ltd, London.

it necessary to actively choose to change between normal and macro. The rocker locking switch would be spring loaded (as is the present locking button) so that the ring would be locked when the zoom ring was pressed away from the 210mm setting.

A good rocker-switch should make this system 100% goof-proof.

Returning to actual field checks, the macro setting proved highly useful. It, too, was very easy to handle and together with the normal and zoom ranges of this lens shows one thing very directly: this is a tremendously versatile piece of engineering.

It would, for instance, be possible to use this in place of four prime lenses, given that one might use an 85mm, a 135 mm, a 200mm, and a Macro—and then throw in the extra five and ten millimetres at either end of the zoom range for luck.

With just this lens and—for instance—a 35mm wide angle, a tremendous range of work could be tackled.

In fact the 70mm setting of this Vivitar Series 1 is not impossibly long for a tight standard lens and this lens alone proved more than adequate for many tasks when other, additional lenses were not to hand.

This is, in short, a lens that begs to be used and used and used again.