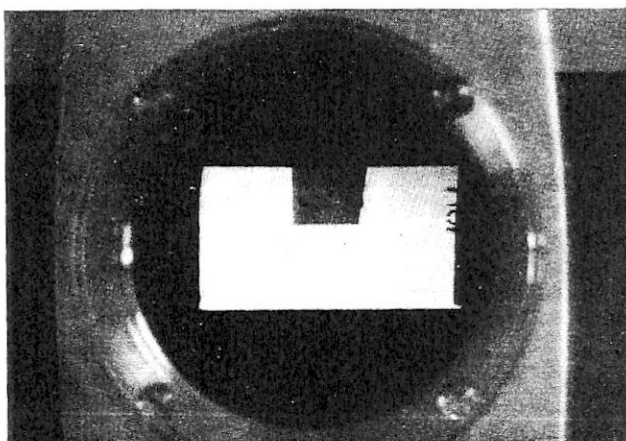


Mamiya/Sekor 1000 TL

YET ANOTHER approach to through-the-lens metering is exhibited in this addition to the ever-growing range of 35mm single-lens reflex cameras. Its advent, say the manufacturers, was delayed until the other systems had been studied in action and their merits and disadvantages assessed.

In the 1000 TL, the cadmium sulphide photocell has been positioned behind the mirror, centrally and just below the hinge. The principal idea of placing the cell in this position is to avoid excessively high reading due to sky light. Of course, that area of the surface-silvered mirror covering the cell is left unbacked to allow the light to penetrate. This area, about 10 per cent of the mirror surface, shows as a dull patch on the viewing screen although to make doubly sure its limits are shown by small 'L' shaped markings on the screen. This allows the cell to be applied to a spot metering system.

Exposure setting is semi-automatic. Either a shutter speed or working aperture is first selected, then, forward pressure on the film advance lever switches in the battery and closes the iris to the predetermined value; adjustment of either shutter speed or diaphragm is then carried out until the needle, seen in the finder field, is centred between the jaws of a marker 'L' shaped markings on the screen. This allows the cell to be applied to a spot metering system. It was a good idea to add the switching and preview functions to the normal ones fulfilled by the advance lever; however, when the camera is enclosed in its case the lever is pressed forward. But the battery can be permanently switched off by pressing a button which forms the centre of the lever pivot thus enabling the battery life to be conserved. Operation of the lever to advance the film automatically switches the battery in again.



View through lens flange to show position of photocell behind mirror. On the left are seen reflected the needle, marker and limit marks

Until the lever is pressed the view in the finder field is exceptionally bright although naturally if the iris is preset to a small stop it dulls when the pressure is applied. It is at this stage the metering is carried out; the effect on depth of field is also seen. Critical focusing is facilitated by a central micropism disc which is, as customary, surrounded by a finely ground collar while the remainder of the screen is of the Fresnel type.

For 100ASA film the operating range of the exposure metering system relative to the standard f/1.8 lens is EV 2.7 to EV 18. Emulsion speeds of 25 to 800 ASA (15 to 30 DIN) are catered for, the appropriate figures being set in windows in the speed selecting dial by the usual lift-and-twist method.

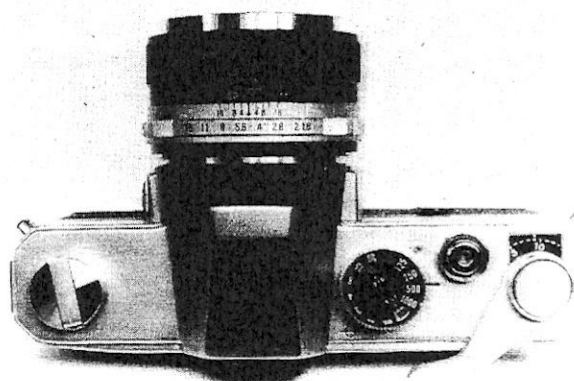
SHUTTER

This is of the fabric blind focal-plane type, running horizontally. It is speeded 1/1000 to 1 second, the setting being selected on a non-spinning dial. Tests on an electronic interval timer disclosed that at the higher speeds the accuracy was better than average, consistently good over a series of trips while the speed of travel was remarkably uniform across the film aperture. At the four lower speeds the timing was somewhat fast although the discrepancy would not be sufficient to be of practical significance.

Two synchro sockets are recessed into the side of the lens panel. That marked FP serves for the larger, screw-capped FP bulbs at 1/30, the smaller bayonet-capped type up to 1/60. Connection to the X socket enables electronic flash to be used at 1/60 (picked out in red on the setting dial) and M type bulbs up to 1/15. There is a delayed release train variable between 5 and 10 seconds and this has its own release.

LENS

On the camera submitted for test was the 55mm Mamiya/Sekor f/1.8 lens, a six-glass, four component objective which on the optical bench (by courtesy of Vanguard Instruments) gave a very good account of itself. Slight curvature of field, well within



View from above to show neat layout and bold engraving of controls

Photography
May 1967

Arthur Palmer

tolerance, was exhibited; edge quality was excellent; image contrast was outstanding. There was negligible focus shift on stopping down. A minute degree of coma was exhibited at the extreme edges—insufficient to be of significance in practice; astigmatic correction was found to be very good; chromatic spherical and coma corrections were of a very high order.

Lenses for the 1000 TL have the Praktica/Pentax thread fitting and the same diaphragm trip. This is likely to split SLR users into two camps—those who are wedded to the idea of speed in changing lenses and those who see the advantage of being able to fit a very wide variety of lenses having the Pentax/Praktica screw and yet others that can be fitted by means of adapters based on that screw thread. Alternative Sekor lenses, not available at the time of the tests are likely to be available by the time this report appears.

CONSTRUCTION and FINISH

The body is a substantial die-casting, the film guides are ground to a mirror finish; the back is hinged, well light-trapped and secured by a sliding double catch. A $\frac{1}{4}$ in. Whit. tripod bush is recessed into the body just below the lens panel and on the optical axis, a position which preserves a good balance. All the usual refinements we have now come to expect on a high-class camera of its type are present—folding crank on rewind knob, self-zeroing frame counter; self retaining rewind release button and female-threaded shutter release button for cable.

Except where it is covered in fine-grain leather (or leather type fabric) the metalwork is finished in smooth satin chrome, or fine

Shutter Speed Test

nominal		measured	nominal		measured
sec	m/sec	m/sec	sec	m/sec	m/sec
1/1000	1	1.2	1/15	66.6	58.5
1/500	2	2.3	1/8	125	100
1/250	4	5.2	1/4	250	230
1/125	8	8.5	1/2	500	385
1/60	16.6	15.4	1	1000	755
1/30	33.3	35.1	Chronotron tests at Vanguard Instruments, Brentford		

natural tool finish. Engraving of the figures on the shutter speed dial is bold and clear.

UK distribution to the trade is by Dexaphot Ltd, an associate company of Photomarketing Ltd, Kingsbury House, Blackburn Road, London NW6, by arrangement with Rank Photographic who continue to handle the larger format Mamiya cameras.

SIMPLER VERSION

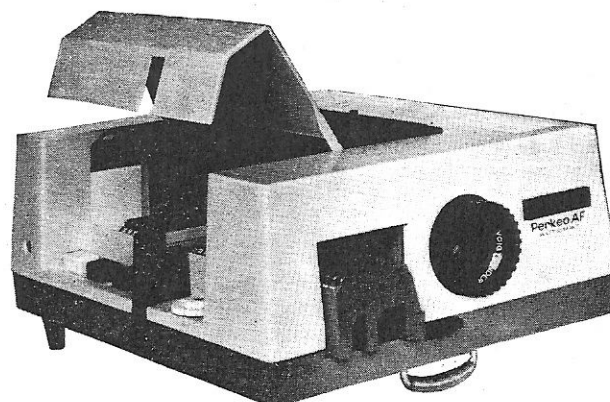
Not submitted, but available from the same source is the Mamiya/Sekor 500 TL which as its designation suggests has a shutter speeded only to 1/500. It accepts the same lenses and accessories as the 1000 TL.

Perkeo AF Automat Projector

AT FIRST SIGHT, just another low-line transparency projector with automatic control. But look at the handpiece. No focusing button! The wheel sets the timing of the 'dwell' of the slide in the gate before automatic change but what about focus trim by remote control. All the best projectors have it nowadays. That's where the 'AF' in the title comes in. Focus trim is automatic. It is only necessary to focus the first slide sharply on the screen and then, unless a particularly heterogeneous collection of slide mounts has been loaded into the magazine, every slide will be focused at its sharpest without further attention—all done by mirrors, in a way.

PRINCIPLE OF AUTO-FOCUS SYSTEM

In principle, the automatic focus trim mechanism is simple—once it has been explained. The objective rides on a platform which has a short longitudinal travel. At the rear of this platform are two little housings spaced equidistantly from the centre line with their faces at 45 degrees to the slide plane. In the front walls of each are small lenses focused on the centre of a correctly focused slide. Below the right-hand housing is a small MES electric bulb whose light is reflected by a 45 degree mirror and focused on the centre of the slide, which reflects it to the housing on the left where it enters by the lens to be focused on to one or other of two photocells or between them. When the slide is accurately focused the beam from the small lamp falls between the cells and produces no effect. If, however, the front surface of a later slide falls short of or extends beyond the plane set for the first one, the beam swings to impinge on one or other of the photocells and, through an amplifier, a small electric motor is excited. This motor causes the platform to move backwards or forwards according to which cell receives the beam and when its position is restored to the position where the beam falls on neutral ground, the motor is automatically cut out. It is interesting to see a glass-mounted slide follow an unmounted one.



The screen picture is quickly sharpened. Even more spectacular is a 'popper'; initial focus is corrected, then comes the pop and the image rights itself again.

AUTOMATIC TIMING

On the projector control panel, and repeated on the control handpiece is a plastic wheel carrying figures from five to 30 in steps of five (plus 0, of course). When the wheel is set to one of the numbers, a whole magazine of 36 or 50 pictures can be projected without any attention to the projector. The automatic timing can, of course be over-riden by the control on the handpiece or the key on the control panel of the machine.

CONTROL PANEL

Three 'piano-key' switches are ranged along the side of the magazine track. The white one selects full- or low-power for the lamp, a 24-volt, 150-watt tungsten-iodine bulb; the central, black, key operates the changing mechanism while the third, red, button is the main on/off switch. The control panel is enclosed under a hinged cover. A short pressure on the changer key—on either the panel or the handpiece—advances the magazine; a longer pressure drives it in the opposite direction. It is, of course, possible to