

modern tests

newest cameras, lenses & important accessories

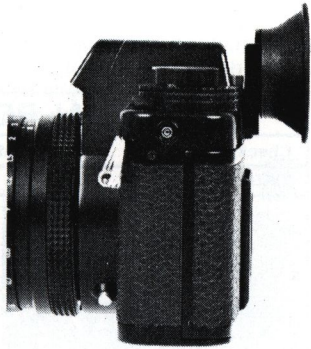
ROLLEIFLEX SL35 E: AN SLR WORTHY OF ITS NAME

MANUFACTURER'S SPECIFICATIONS: Rolleiflex SL35 E single-lens reflex camera. Body No. 6307892. **LENS:** 50mm f/1.4 or f/1.8 HFT Planar in Rolleiflex bayonet mount, stops to f/16, focusing to 18 in. (0.45m) **SHUTTER:** Rolleiflex electronically-controlled metal blade focal plane with speeds from 16 to 1/1000 sec. plus B, X sync, electronic self-timer. **VIEWING:** Non-interchangeable eye-level prism with diagonally split microprism plus cylindrical lens rangefinder, full-focusing interchangeable screen. **OTHER FEATURES:** 6-volt silver-oxide-battery powered silicon cell circuit with cells on either side of eyepiece measures center-weighted area of focusing screen at full aperture for auto exposure (aperture-preferred), manual override with blinking match-diode exposure system, depth-of-field preview button, multiple exposure provision, diode battery check, film box reminder slot, ± 2 stop auto-exposure compensation, memory lock, shutter speeds and apertures visible in the finder, provision for bottom-mounted motor winder, shutter-release lock, hot shoe. **PRICE:** \$535 with 50mm f/1.4 Planar; \$450 with 50mm f/1.8 Planar. Black body, \$25 additional.

For generations the name Rolleiflex has embodied the highest standards of optical performance and mechanical design. However, it's no secret that, despite this old line firm's recent technological landmarks such as the Rolleiflex SLX, and its marketing triumphs such as the Rolleiflex 35S, it's had its collective hands full trying to produce a truly competitive, thoroughly modern 35mm SLR. Without going into lengthy post mortems as to the whys and wherefores, we're delighted to report that the latest product of Rolleiflex's Singapore factories, the Rolleiflex SL35 E, is most probably the camera destined to bring the company up among

the ranks of top 35mm SLR contenders.

The first thing that strikes you upon examining the SL35 E is its distinctive appearance. Instead of terminating in a sharp peak or a truncated point like most other SLRs, the Rolleiflex pentaprism has a flat top with rounded sides, and the angled front section hangs over the lens aperture ring forming a narrow ledge. Aside from making the camera stand out from the crowd, this ledge serves a useful purpose—underneath it is the small prism that reflects



You've gotta slide eyecup up before you can swing back open to load camera.



Shutter dial clicks in at "A" for aperture-preferred auto-exposure, but there are no detents at marked speeds.

the f/stop set off the lens aperture ring into a small rectangular winder below the viewfinder screen. While such aperture readout systems are quite common these days, the Rolleiflex white-on-black aperture numerals are more clearly visible

under a wider variety of lighting conditions than any we've recently examined.

As long as we've got our eyes up at the finder, nestled behind the Rolleiflex's very comfortable slide-on rubber eyecup, let's say a few words about the view. The finder image is moderately bright and contrasty, and is afflicted with slight color fringing toward the edges of the picture field. However, the central focusing aids are outstanding. Instead of the usual split-image or microprism, there's a microprism circle

is a vertical array of white shutter-speed numerals against a black field, beginning at 16 full sec. at the top. The first five "full second" digits are bold outline numbers, and the remaining narrow line numbers to 1000 indicate fractions of a second. The word "plus" appears below the 1000 mark near the bottom. To the left of each marking is a small, square, red LED which, in the auto-exposure mode, indicates the camera selected shutter speed (or, in the case of a "plus" reading, that the aperture you've selected will over-

Rolleiflex SL35 E: What's New At A Glance

Shutter-speed dial has detents at A (auto-exposure), B, and X, but none at speed settings 16-1/1000 sec.

Lightly press shutter button when metering manually and LEDs flash to indicate proper-exposure speed. On "Auto," press button to detent to actuate finder readout, lock in reading.

Electronic self-timer can be turned off if you change your mind, but provides 11-sec. delay only.

To set ASA, place number in window on top, release and turn knurled dial to align setting with white index mark.

Shutter-release lock



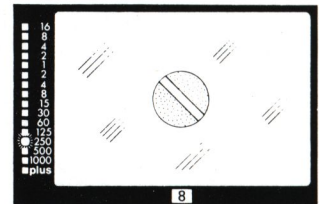
Press preview button once to stop down lens, twice to get it back to maximum aperture.

ASA/exposure-compensation dial release

Battery check/self-timer indicator light

that's diagonally divided by a clear band, which is actually a cylindrical lens. When the lens is out of focus, the microprism sections exhibit the usual saw-tooth pattern, and the central band shows a clear but tilted view of part of the subject in between. As you turn the focusing ring toward the point of proper focus, the microprism pattern becomes progressively clearer and the tilted subject lines in the central band straighten out. Both systems visually reinforce each other most effectively, and focusing precision and accuracy are noticeably enhanced. The very smooth, backlash-free focusing helical of the Rolleiflex-made 50mm f/1.8 Planar lens also contributes, and focusing this camera is very pleasant.

To the left of the finder image



Uncluttered but full of information, Rolleiflex's finder has excellent central focusing aids.

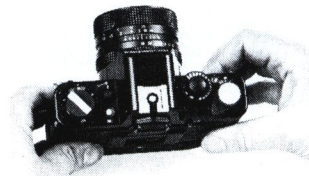
expose the film even at the highest possible shutter speed). More about this later. For the time being, suffice it to say that nearly the entire focusing screen and the surrounding aperture and shutter-speed readouts are visible in a single glance by eyeglass wearers, and that the shutter-speed nu-

merals tend to "disappear" against dark backgrounds.

Turning our attention toward the top of the camera, on the left end, there's a conventional rewind knob with the film-speed/exposure-compensation control located concentrically beneath it. To set ASAs from 25-6400 (or DIN speed settings from 15°-39°) you grab onto a pair of plastic protrusions atop the dial and turn the plastic top plate until the number you want appears in the center (clear) section between two lightly frosted bands. You then press a

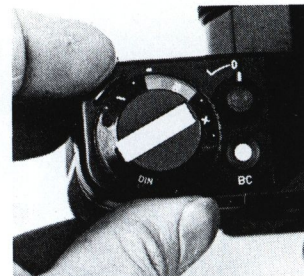
spring-loaded catch near the left front corner of the camera and turn the entire dial by its knurled edge until the film speed number faces forward, opposite a white index line. To compensate exposures automatically, you push in the aforementioned catch and turn the entire dial clockwise toward the plus sign, or counterclockwise toward the minus sign. There are six detented positions possible in each direction, corresponding to plus or minus 2 f/stops in 1/2 stop intervals. Our general impression is that this

system is legible and is serviceable once you get used to it, but we wish there were some markings to indicate just how much exposure compensation you've selected. As it is, you have to release pressure slightly on the catch while you turn the control and count detents from the starting position.

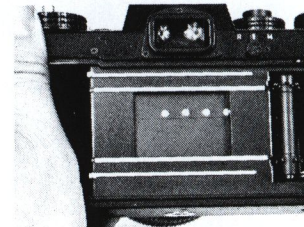


Reasonably compact and light, SL35 E fits comfortably in the hands, is nicely balanced.

Directly to the right of the exposure-compensation control are an aqua-colored battery check button marked "BC," and a small black dial with a white-tipped needle that controls the electronic self-timer. If the batteries are O.K., a little red light just below the prism housing and one of the LEDs in the finder will light when you press the button. And if you set the self-timer control off the zero mark, cock the shutter, and press the shutter release you'll



Two-stage ASA setting's less convenient. First you set ASA in window, then release and turn outer dial to align number with white index mark.

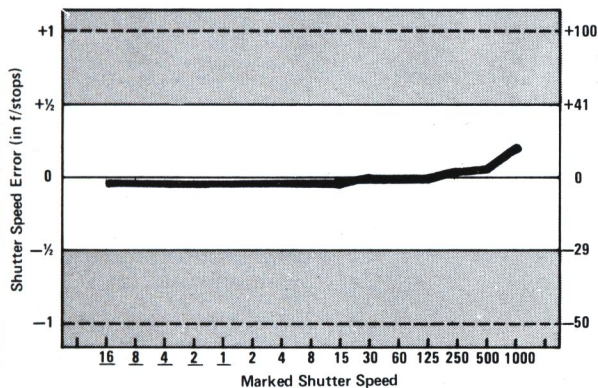


Interior's nicely finished and Rollei's own 14-blade metal shutter's accurate, fairly quiet.

get 11 sec. of delay, and a finder LED and the little light on the front of the camera also remain on until the shutter fires. Curiously, the self-timer will not

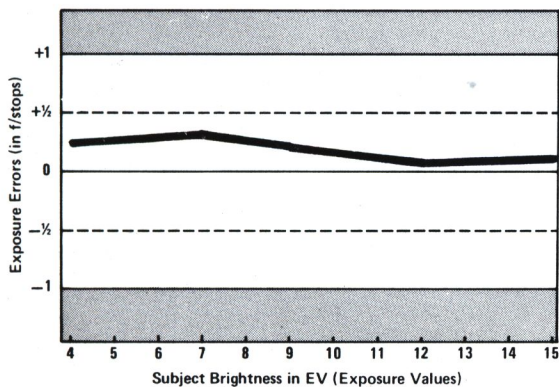
SHUTTER-SPEED ACCURACY

White area indicates tolerance limits.



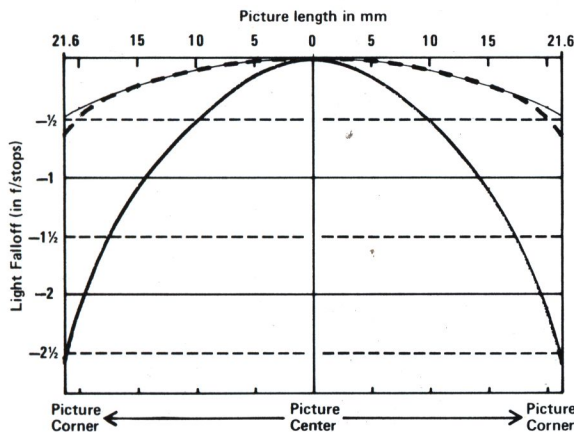
EXPOSURE ACCURACY (at film plane, ASA 100)

White area indicates tolerance limits.



LIGHT FALL OFF (50mm f/1.8 HFT Planar)

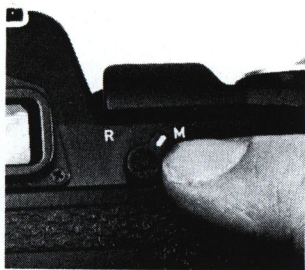
Standard: At f/5.6 within 1 stop of theoretical limit.



Bold line: f/1.8; dotted line: f/5.6; thin line: theoretical limit

GENERAL PERFORMANCE

Checkpoints	Our Standard	As Tested
FINDER:		
Apparent viewing distance	Between infinity and 20 in. (0.5m)	2m (79 in.)
Apparent distance of shutter-speed scale	Between 2m (79 in.) and 0.7m (26 in.)	1m (39 in.)
Apparent distance of aperture scale	Same as above	1m (39 in.)
View area compared to film area	Vertically and horizontally more than 90%, less than 100%	Vertical: 91% Horizontal: 94%
Parallax error compared to film	Vertical: 1.08m Horizontal: 1.08mm	Vertical: 0.2mm down Horizontal: 0.2mm right
Focusing accuracy at maximum aperture	Within depth of focus	No discrepancy
Image magnification	0.9X ± 0.1	0.86 X
PICTURE SIZE:		
	24 ± 0.6mm x 36 ± 0.9mm	24 x 36.1mm
SHUTTER:		
Curtain travel evenness	± 0.33 stop	+ 0.04 stops
Camera insulation from sync	More than 7 megohms	infinity
Sync contact efficiency	More than 60%	X: 84%
Synchronizer delay time	X: within full opening	X: Okay
Shutter curtain bounce	Not allowed	None
Self-timer delay time	7-10 sec.	11 sec.
LENS:		
Focal length	50mm ± 5% (47.5-52.5mm)	52.5mm
Maximum aperture	f/1.8 ± 5% (f/1.7-1.9)	f/1.90
Distortion	± 1.5%	less than 1% (barrel)
CAMERA SIZE:		
	Body: 136mm wide, 87mm high, 55mm deep (5.4x3.4x2.2 in.) Lens: 62mm diam., 46mm long (2.4 x 1.8 in.)	
WEIGHT:		
	Body: 454g (16 oz.) Lens: 213g (7.5 oz.)	



You've got to cock multi-exposure lever for each additional exposure on frame—it returns to central position when you press shutter release.

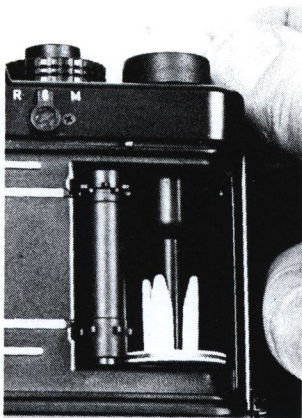
operate at the X-sync shutter-speed setting. The self-timer can be cancelled even in the midst of its timing sequence simply by moving the control back to zero.

Moving along toward the right, behind and below the conventional hot shoe atop the prism housing, is the rubber eyecup. We've already praised the comfort of this furnished accessory, but it's got a couple of additional features. Like most of its kind it mounts over the eyepiece by sliding it into a channel in the eyepiece bezel. But you can't open the camera's hinged back when it's in viewing position—you've got to slide it up about a half inch until it clears the top of the back. This may sound like a minor inconvenience, but there's a reason for it. In the up position, the bottom part of the eyecup frame covers the eyepiece entirely, forming a simple but effective eyepiece blind. This is a necessary and important feature on an auto-exposure camera with meter cells that read the finder screen—it permits accurate time exposures without extraneous light entering the eyepiece and affecting the meter readings.

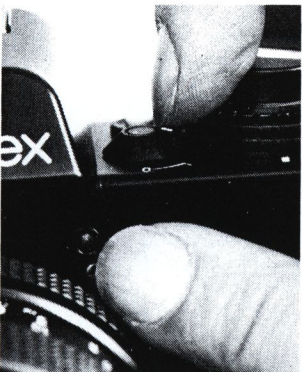
On the righthand side of the prism housing is the large (7/16-in.-diameter) shutter-speed button surrounded by the large (3/8-in.-diameter) knurled shutter-speed dial. Push in a springloaded catch under the front of the dial and maintain finger pressure and you can turn the shutter dial continuously in either direction. Release finger pressure and you'll discover that there are three detents—one at B, one at the X-sync setting (which corresponds to 1/125 sec.) and one at the red "A" mark used for aperture-preferred auto-exposure. Aside from these detented positions the shutter dial is detentless, turning freely in either direction. Settings of 16-1/30 sec. (in orange) and 1/16-1/1000 sec. (in silver) are made opposite a white index mark on the side of the prism housing.

Behind the shutter dial, on the back of the camera, is a small white-tipped, vertical le-

ver with settings marked "R" and "M." The former is the rewind setting, which releases the sprocket shaft to allow the film to be rewound. The latter is the multi-exposure setting. To make as many additional exposures as you'd like, push the lever to "M" before you wind the film-advance lever, and the shutter will be cocked without advancing the film or moving the exposure counter. You must move the multi-exposure level to "M" for each extra exposure since it returns to its central position as you press



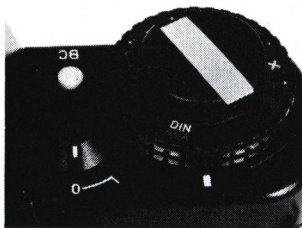
Small "sprocketed collar" atop "regular" sprocket shaft is self-aligning, controls exposure counter (see text).



Move electronic self-timer off "0" and red light at thumb stays lit while timer's timing.

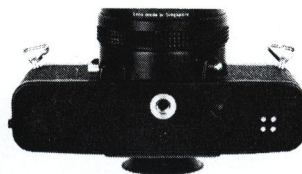
the shutter release.

Directly to the right of the shutter dial is the shutter-release lock (turn it to the right to the red dot setting to lock the shutter) which also contains the threaded cable-release socket. To the right of the lock is the large, legible, white-one-black exposure counter which does not operate unless there's film in the camera. Finally, there's the short, stubby film-wind lever which operates in a single 170° stroke after it's pulled out about 50° to standoff position. This last control is extremely well executed—it contours nicely to the thumb, will not poke either right- or left-eyed users in the



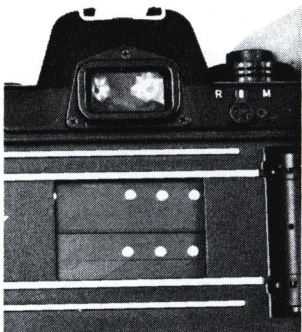
Knurled exposure-compensation dial works nicely, but lack of scale means you must count "clicks" to know how much compensation you'll get.

eye, and it's ratcheted so it can be operated in a number of shorter strokes if you wish.



Rollei's bottom. From left to right are motor-drive-coupling cover, tripod socket, battery compartment cover, motor drive electrical contacts.

Before we take the Rollei out into the field to make some pictures, let's take a glance at its lens mount. To remove the lens, push in a small silver button at about 5 o'clock under the lens barrel with the forefinger of your right hand, simultaneously twist the lens about 80° counterclockwise, and lift out the lens. You can now get a good look at the beautifully-machined, three-lobed bayonet mount, the deep, oversized mirror and the well-baffled mirror box. An arcuate slot in the upper part of the chrome plated brass mount contains the work-



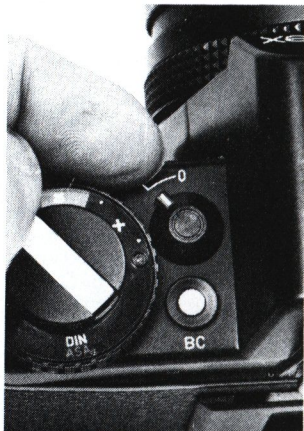
Rivet your attention on Rollei's riveted metal shutter curtains as seen in "mid wind."

ing-aperture coupling tab, which relays set aperture information from the lens (via sliding tabs on the back of all Rollei lenses) to the camera's exposure system. A Minolta-style depth-of-field preview button on the lower right side of the mirror box (in shooting position) is of the "two-click" type—

that is, you've got to press the button twice to return the lens to full aperture.



Two-stroke preview button. First push gets you stopped-down aperture, second returns aperture to wide open.

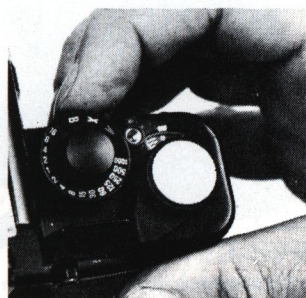


It looks like electronic self-timer has range of delay settings but there's really only one—11 sec.

Finally, turning to the Rollei's bottom plate, there's a slotted motor-drive coupling shaft under a screw cap labeled "MD" on the right end, the tripod socket smack in the middle, and, to its left, the battery compartment cover labelled "B." On the left-hand end is a cluster of four gold-plated motor winder contacts.

O.K. The moment we've been breathlessly waiting for is at hand—we're going to actually load the camera and take some pictures! The Rollei opens conventionally by pulling up the rewind shaft and moving the hinged, removable, cast alloy back to the right. The interior of the camera is well finished and appears ordinary at first glance. There are, however, a few peculiarities. The downward-firing, metal-bladed, focal-plane shutter (see picture below) looks rather odd with its horizontal array of four shiny rivets, and in fact it's an original Rollei design lifted from the stillborn Rolleiflex SL2000. Above and below it are nicely finished film-guide and film plane rails, and to its right is the sprocket shaft. Why, we wondered, is the top part of

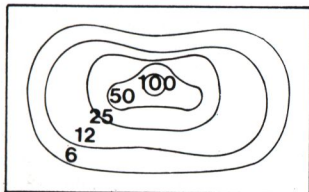
this shaft divided at the top sprockets, with what is apparently a free rotating top collar, complete with its own half-width set of sprockets on the top? Then we remembered that the counter doesn't work unless there's film in the camera.



Rollei's manual shutter-speed range is extensive, 16-1/1000 sec. In-between settings are also possible, handy when metering manually (see text).

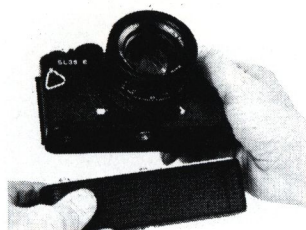
But wait a minute—if the top part of the sprocket shaft is the part connected to the film counter (which, incidentally works only when the back is closed) then the film counter should also count down when you rewind the film. Well it does, and we congratulate Rollei on its simple but sophisticated film counter system.

To load film, insert the leader into the Leica-style half collar with up-pointing prongs, wind the film until upper and lower sprocket holes are engaged, close the back, wind the film till the counter reads "1" and lower the eyecup to viewing position. You're now ready to set the film-speed dial, set the shutter dial to "A" and make some auto-exposures. To preview the camera-selected shutter speed, just press down with moderate force on the shutter release until you feel a detent,



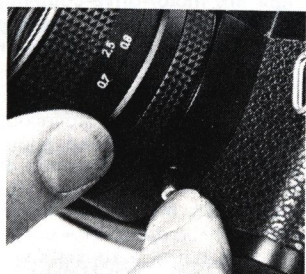
Rollei's meter pattern is strongly center-weighted with little sensitivity at edges of field.

and the LED opposite the camera-selected shutter speed (at the aperture you've selected) will light up. As with most aperture-preferred systems, to change camera-selected shutter speeds you simply change apertures appropriately (i.e., wider lens openings will yield higher shutter speed). However, if you maintain pressure on the shutter release while shifting f/stops, the same LED will remain lit. To see any change, you must relax finger pressure and press the release



Rollei's prototype winder looks like a nice single-shot unit, but we didn't get to try it.

partway down once again. This may seem to be a mild nuisance, but there's a good reason for it—at the same time you're checking which shutter speed the camera will provide you are, in effect, locking in the reading. This is actually a good thing since it permits close-up meter readings in the auto-exposure mode. We found the Rollei's big, round-topped shutter button to be very smooth and predictable; this particular detent was easy to

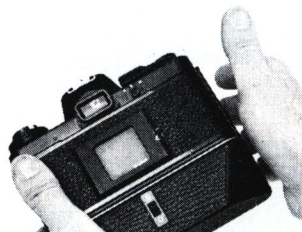


Lens-release button's conveniently placed for one-handed removal.

find, yet did not impart any stiffness to the release itself.

Unfortunately, using the match-diode metering mode is not nearly as enjoyable or straightforward as making exposures automatically. To select the manual metering mode, you push in the spring-loaded tab in front of the shutter dial and set the dial at any marked speed. Press the shutter release down to the detent as before and the LED will faithfully read out the shutter speed you've set. So how do you know what the camera-selected speed would have been? Aye, that's the rub—to find out, you very gently press the shutter button so that it doesn't quite reach the first detent. The LED opposite the camera-selected speed will now flash about twice per sec. while the LED opposite the set shutter speed will remain lit. Aside from the fact that getting the LED's to flash requires a delicate touch—perhaps a shade too delicate, sometimes two LED's flash. For example, let's say the 1/30 and 1/60 sec. LEDs flash and you "match diode" meter by setting the shutter-speed dial to 1/60. When you "soft touch" the release to find out if

your setting now provides the correct exposure, the 1/30 sec. LED flashes. If you try setting 1/30 then the 1/60 sec. LED flashes. The only way to absolutely verify your exposure would be to set the dial in between the 1/30 and 1/60 sec. settings, in which case both will light continuously at that particular illumination level. Actually, this wouldn't be so bad, but remember, you can't just press



Single control on winder is on/off switch. There's also a tripod socket on its bottom.

the shutter button and turn the dial and watch the LED's change—you must make a setting and check it by gingerly pressing the shutter release each time.

Fortunately, match-diode metering foibles proved to be the Rollei's only major drawback. The rest of the camera is more than merely agreeable—it is very good indeed. And remember, several aperture-preferred cameras in this price class lack the manual metering provision entirely. What other features did we like? Well, we've already mentioned the quick, precise focusing, the smooth shutter release, the excellent film-wind lever and the 50mm f/1.8 Planar's very smooth focusing helical (which will take you down to minimum distance in an approximately 200° turn of the ½-in.-wide rubberized focusing collar.) Add to this an extremely accurate, moderately quiet shutter with an extended speed range down to 16 sec., a light, very well balanced body with rounded contours that nestle comfortably in your hands, and (as you can see from test readouts) a very fine, sensitive and accurate metering system, and you have a formidable picture taking machine. On the aesthetic side, the camera is very well finished, nicely detailed, and has that intangible touch of class. Couple this with a very good performing normal lens, and an entirely new from-the-ground-up Rollei lens line scheduled to originate in Japan, and a wide range of forthcoming Rollei accessories (including the motor winder we have not yet been able to put through its paces) and you will soon have a formidable picture taking system. Given such a promising cornerstone as the Rolleiflex SL35 E, we certainly hope the entire system makes its appearance

without delay. After all, it couldn't happen to a nicer camera or to a more prestigious company.

Resolution

at 1.49 magnification			
f/no.	Center Lines/mm	Corner Lines/mm	
1.8	Good	49	V/Good 35
2.8	V/Good	62	Good 39
+4	Excellent	78	Good 49
5.6	Excellent	78	Good 49
+8	V/Good	70	V/Good 55
11	V/Good	62	V/Good 49
16	Good	55	Good 44

Contrast

at 30 lines/mm			
f/no.	Center %	Corner %	
1.8	Low	48	Medium 36
2.8	Low	60	Low 39
4	Low	66	Low 48
5.6	Low	66	Medium 56
8	Low	64	Medium 56
11	Medium	58	Medium 47
16	Low	52	Medium 45

The standard lens furnished with our Rollei was a Zeiss-designed, Rollei-manufactured 50mm f/1.8 HFT Planar, which is made in Singapore. Its satin black finish is nicely applied, its medium-sized numerals (including a chartreuse footage scale) are legible, and its front element is noticeably recessed to keep flare under control. We've already praised its smooth focusing; and the aperture ring, which has click-stops at full apertures only, also works nicely. Our only physical complaint is a slight unevenness in the multicoating, which had no discernible effect on the pictures.

Optical Bench Analysis: On axis, we detected slight over-corrected spherical aberration at maximum aperture.

However, there was no axial color visible and optical centering was very good. We were also able to observe a slight green fringe attributable to zonal spherical aberration, but overall image quality was excellent by f/4.

Off axis, toward the edges of the image field, we could detect very slight astigmatism and skew-ray flare, but these were virtually eliminated by stopping the lens down to f/4. No lateral color was visible.

Field Test Pictures: In general, our field test transparencies closely paralleled the results expected from our optical bench observations. The slides exhibited a slight green fringe at image edges when we shot with the lens wide open, but color fringing was absent in pictures shot at f/5.6. In general, on-film image quality was very good, with excellent detail rendition in close-ups shot at f/8. Flare appeared to be relatively well controlled in back-lit situations.