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This superb 2¼" x 2¼" single-lens reflex is the most advanced camera ever developed for the professional or dedicated amateur. Many brilliant features and innovations set it apart from all other medium-format cameras: built-in bellows, a tilting lens board for greater depth control, and reversible interchangeable lenses are just a few. Add to these the versatility of interchangeable magazines, finder hoods, and focusing screens, and the result is a fast, responsive, easy-to-use instrument – a truly universal system that will handle any challenge.

Rolleiflex SL66



The Challenge...

Rollei engineers and designers received an explicit assignment: create a totally new 2 1/4" x 2 1/4" single-lens reflex camera that could fulfill **every** job the working professional, scientific photographer, or serious amateur might encounter — reliably, rapidly, and positively. It was to have a scope far beyond that of existing cameras; in essence, it had to be a camera of the future.

The Design Philosophy:

Everything needed for constant use must be built in; where the user would benefit through interchangeability, the part should be made easily interchangeable.

In addition, the SL 66 should have a modern, single **focal-plane shutter** — the only way to accommodate lenses both with and without built-in leaf shutters without restricting their optical performance.

Specific Requirements:

Built-in Bellows — the SL 66 had to have a built-in, tilting bellows unit for close-up work, macrophotography, and pictures with extended depth. It must be always ready for use without special accessories.

Reversible Lenses — the camera, **without accessories**, had to cover the entire close-up range and part of the macro range through lens reversibility (the front element facing the camera). Supplementary adapter rings were not to be used.

Interchangeable Components — not only were interchangeable magazines, focusing hoods, and lenses a requirement, but for optimum focusing under diverse conditions, focusing screens had to be quickly interchangeable.

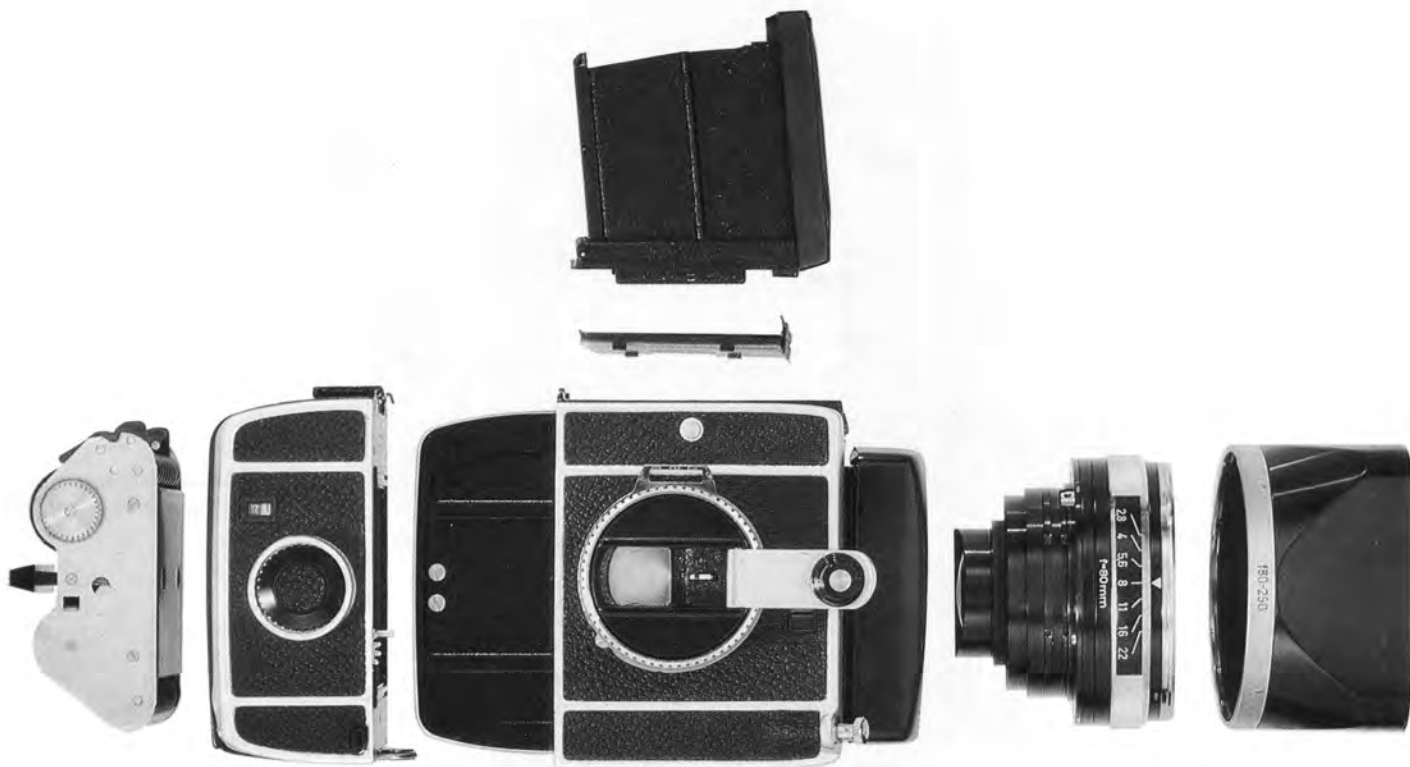
Range of Accessories — in addition to the interchangeable components, an extensive system of specialized accessories must be available for the SL 66.

Functional Controls — the SL 66's operation controls had to employ safety features and useful extras so as to be completely foolproof, permitting the user to devote his full concentration to his picture.

Convenience — despite its design sophistication and great capabilities, the SL 66 had to offer rapid, convenient operation under all conditions.

...and the Result!

The challenge was more than successfully met. Many man-years of design, research, and testing were invested in the project. Designs were developed, exhaustively tested, and replaced with better ones. Entirely new measuring and testing devices had to be built. And of course, Rollei's 40 years of experience in building precision reflex cameras proved invaluable. The result is a camera that not only meets every requirement specified, but follows in the Rollei tradition of quality and dependability as well.



*Operating controls: Focusing,
Shutter Speed Settings, Shutter Release,
Rapid Winding Crank*

The Camera Body

All SL 66 operating controls are located sensibly for simple, convenient operation. Below, we've shown the camera in shooting position. On the left is the large, silken-smooth focusing knob. Built into the knob are distance scales and depth of field indication for the four primary lenses of 50, 80, 150, and 250 mm focal length. The right side contains the knurled shutter speed setting ring, the shutter release button with lock and cable release socket, and the folding rapid wind crank with exclusive release for deliberate multiple exposures.

Preview key

Locking knob for lens tilt

Accessory shoe
(for flash equipment)

Focusing knob

Release button
with cable release thread

Film transport crank

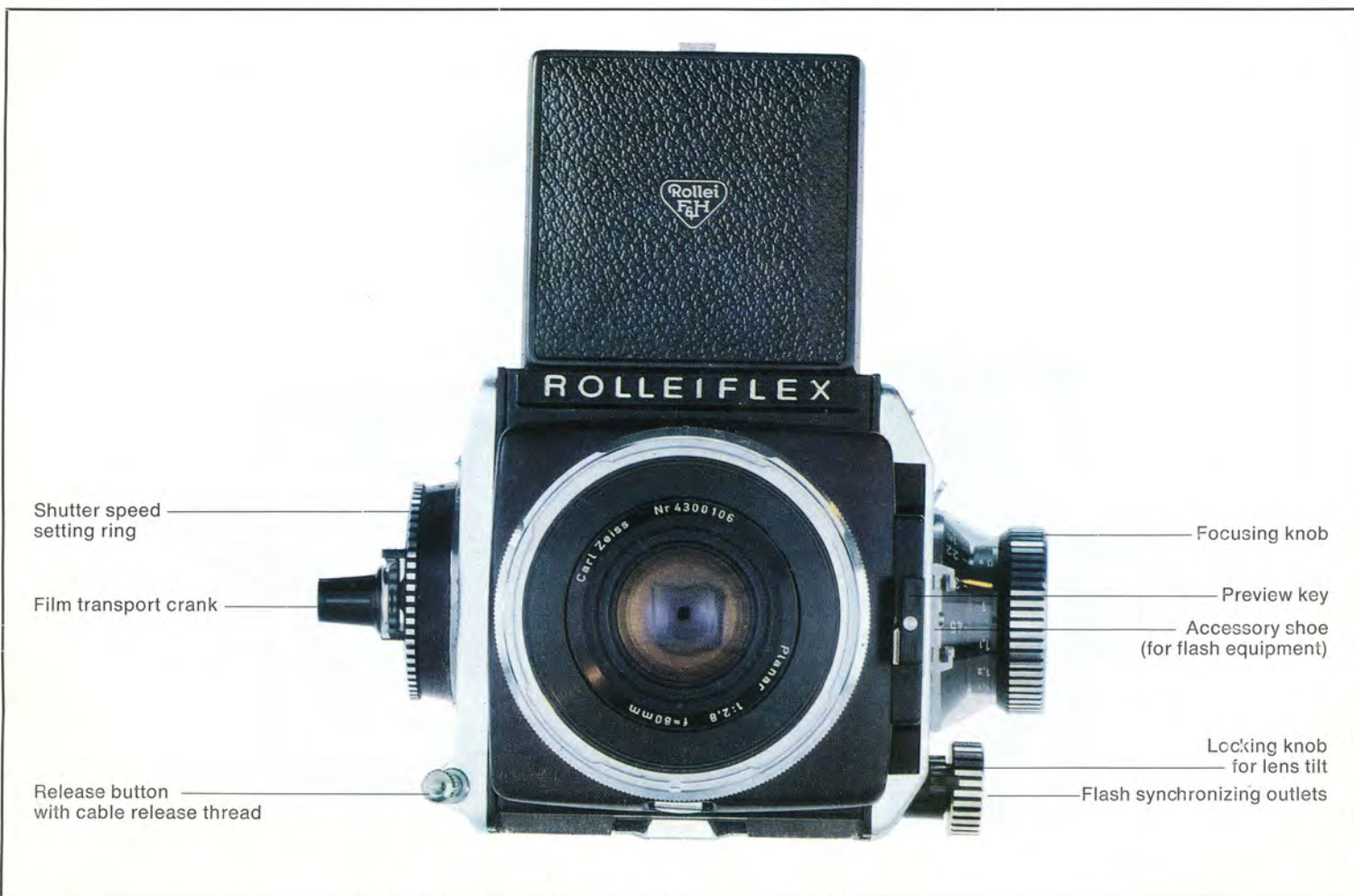
Shutter speed
setting ring



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Near the front of the camera on the left is the locking knob for the tilting lens/bellows assembly, and on the front of the lens panel is the depth of field preview control. Not visible in the picture are the FP and X flash terminals on the lower left side.

Within the camera body are the highly accurate $1 - \frac{1}{1000}$ second focal plane shutter and the vibration-free, pneumatically damped instant return mirror. In normal mode, the viewfinder image is back in view immediately after the exposure, but the mirror may also be pre-released if you wish.



The Built-in Bellows

The bellows unit extends to 50 mm, and the bellows rail has precise magnification scales for three lenses. For exacting copying work, an additional millimeter scale affords even closer control. Here are just four of the many bellows applications; they are described in more detail on pages 8–11: 1. Close-ups and macrophotography without accessories. 2. Short lens-to-subject distances even with relatively long lenses. For example, the bellows allows the 120 mm S-Planar f/5.6 to focus down to 14". 3. Simple, reliable depth extension by tilting the lens/bellows unit. 4. Photomicrography without a microscope.

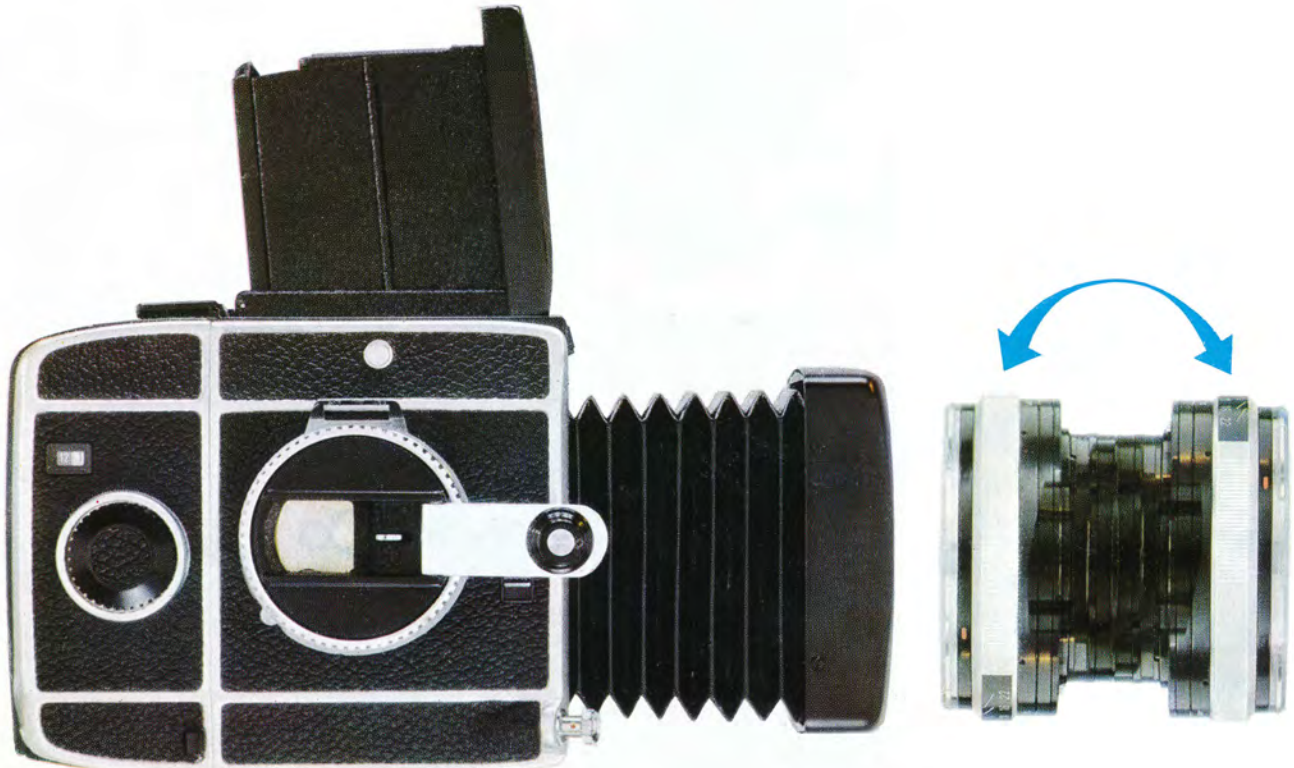


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You can mount the 50, 80, and 120 mm Zeiss lenses in the SL 66's bayonet mount in reverse or "retro" position, with the front lens element toward the camera. No adapters are required.

Only the SL 66 offers this capability. Its advantages: closer focusing and larger than 1:1 images with a definite increase in lens performance.

Lens Reversibility



Macrophotography with the SL 66: magnifications up to 1.5x with the standard lens and without accessories; magnifications greater than 5x with two Extension Tubes

The Close-up and Macro Range

Macro photo of a butterfly, photographed with the standard 80 mm Planar f/2.8 lens, retro-mounted with a 40 mm extension tube. Scale of reproduction 2:1.

With the bellows fully extended and the standard 80 mm lens reversed, you'll reach a 1.5x subject magnification on your film without accessories. By using two inexpensive extension tubes (40 + 80 mm), you can exceed a 3:1 image size, and you can achieve even greater magnification with the 50 mm Distagon f/4 wide-angle lens; in reverse mode, this lens will provide you with more than 5x magnification. In every case, you can adjust your image size within the 50 mm range of the bellows. For even more convenient adjustments, a supplementary extension bellows is described on page 23.

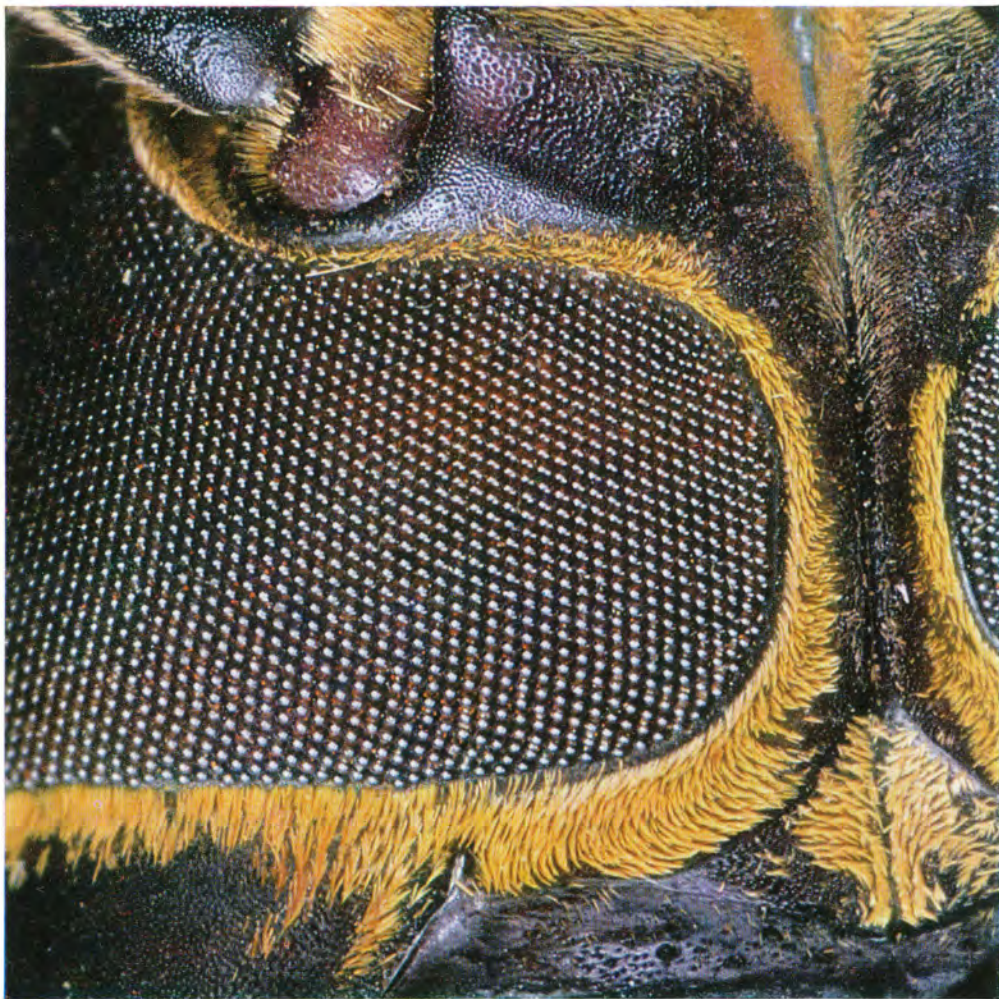


*20 x magnification without a microscope,
using a specialized lens and extension tubes;
accessory microscope adapter*

Photomicrography

To cover the range between macrophotography and photomicrography and extend partially into the photomicrographic scope, special lenses are available for the SL 66. Made by Carl Zeiss and Ernst Leitz, they are supplied in focal lengths from 16 to 100 mm.

Using the shortest of these (16 mm) and just the extension tubes, you can reach a subject magnification of more than 20 x in one stage. For greater magnification, an adapter that will permit the SL 66 to be used with a microscope is in preparation.

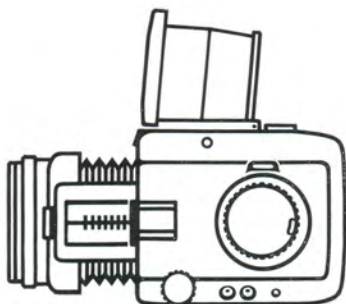


Part of the eye of a tropical musk beetle (Cerambycidae family): Rolleiflex SL 66 with 25 mm Leitz Photar and 3 80 mm extension tubes. Magnification 25 x.

Lensboard tilts to 8°, both upward and downward

The Depth Tilt

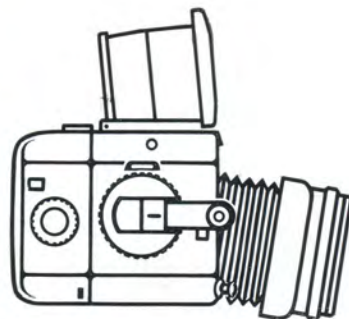
The SL 66's lensboard can be tilted up or down through 8° relative to the film plane, meeting the **optical requirement for extended depth** (called the Scheimpflug Principle). Among medium format single-lens reflex cameras, only the SL 66 has this feature. With the lensboard tilted 8°, and using the standard 80 mm f/2.8 lens, for example, you will have complete image sharpness over a reasonably flat, inclined surface from about 35 inches to infinity without resorting to extremely small apertures. By stopping down, you can extend the zone of sharpness on subjects that are not quite flat.



Diaphragme 2.8, no tilting

This exclusive feature of the SL 66 will bring you a **new dimension of creative freedom**, and you'll find many opportunities for using it in your work. Some examples include architectural photography, in-plant industrial work, and applications in the advertising and commercial fields.

The depth effect is visible on the SL 66's focusing screen. In addition, an indicator is furnished with the camera that permits precise settings and exact determination of the zone of sharpness.



Diaphragme 2.8, tilting 8°

*Finder Systems: the Folding Hood;
Magnifying Hood; Prism Finder; Focusing
Hood with TTL Exposure Measurement;
Two Sports Finders*

The Interchangeable Components Interchangeable Hoods

All focusing hoods can be easily and quickly interchanged without removing the SL 66 film magazine.

1. **Standard folding hood** with interchangeable magnifier. The magnifier is available with individual eyesight correction control from +3 to -3 diopters.

2. Rigid **magnifying hood** for increased viewfinder image brilliance. The adjustable achromatic magnifier enlarges the screen image 2½ times, and by simply rotating it, the magnifier will adapt to eyesight variations from +0.6 to -2.1 diopters. For eyeglass wearers, a rubber eyecup shuts out disturbing side light.

3. Rotating 45° **prism finder**. A prism/lens combination gives you a brilliant, upright, and laterally correct viewfinder image, and an interchangeable eyepiece provides 2½ x image magnification. The rubber eyecup folds down and can be removed.

The prism finder is not only extremely useful when shooting moving subjects, but because it rotates in its fitting and engages in four positions, it is especially convenient when you are working in a confined space and must back your camera up to a wall. When changing magazines with the prism finder attached, the finder is simply swung to one side.



In development is a rigid **magnifying hood** with built-in through-the-lens exposure metering and spot readings will be possible. Also in preparation are two **sports finders**: a frame finder (a special lens hood with a frame attachment for different focal length lenses, to be used in conjunction with the prism finder), and a special adjustable folding hood.

Brilliant Focusing Screens for Every

Application: (with focusing grid; with rangefinder wedge; without focusing aid), groundglass screen; special focusing screen for macrophotography and photomicrography

Focusing Screens

Brilliant Rollei focusing screens, fitted for years in twin-lens Rollei cameras, feature uniform image brightness to the edges of the screen.

The following easily interchangeable screens are available for the SL 66:

1. Universal screen with central focusing grid. Focusing is extremely positive; within the grid, the out-of-focus image is hazy and shimmering until it "snaps" into focus with absolute clarity of detail. This screen permits perfect focusing even under poor lighting conditions.

2. Screen with central rangefinder wedge. This is an especially useful screen for

architectural photography because it affords quick, precise focusing with the aid of vertical image lines.

3. Screen without special aids. This screen, often preferred for portrait work, has no central focusing element, but like all Rollei brilliant focusing screens, it has an engraved line grid to aid in aligning vertical and horizontal picture elements.

4. Groundglass screen, particularly useful for close-up work and macrophotography. Additional focusing screens are in preparation, including a special macrophotography/photomicrography screen.



1. Universal screen with central focusing grid

2. Screen with central rangefinder wedge

3. Screen without special aids

4. Groundglass screen

Interchangeable Magazines and Film Holders:
2 1/4" x 2 1/4" 120/220 Magazine; 1 5/8" x 2 1/4"
120/220 Magazine; 1 5/8" x 1 5/8" 120/220
Magazine; Film Holder Adapter for Plates and
Sheet Films; 1 5/8" x 1 5/8" Magazine Slide;
Polaroid Attachment

Roll Film Magazines and Plate Holders

The 120/220 interchangeable magazine for 12- or 24-exposure film offers many refinements for maximum user convenience. A **film feeler system** speeds loading by automatically stopping the film transport when the first frame is in shooting position. An **exposure counter** for both 12 and 24 exposures counts without resetting from the first to the last frame and signals the end of your film.

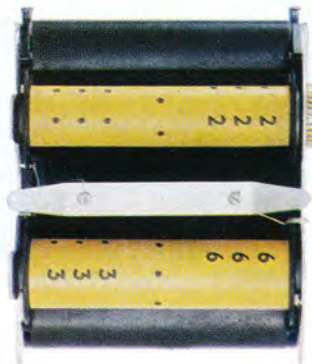
The **quick change-over** from 120 to 220 film is made by simply flicking a lever to program the counter for 12 or 24 exposures. A **loading indicator** automatically shows you whether or not there is film in the magazine. Other **convenience features** include a film

type indicator and a storage compartment for the dark slide. Standard magazine safety features such as interlocks to prevent blank exposures or unintentional double exposures are, of course, incorporated into the SL 66 magazine.

Also in preparation are a **magazine slide** with 1 5/8" x 1 5/8" aperture for those who wish to take occasional superslide-size pictures on 120 or 220 film, and a **Polaroid adapter** for black-and-white and color film packs.

The SL 66 allows you to use special emulsions available only on plates or sheet film. **Plate holder adapters** that accept Rollei 2 1/2" x 3 1/2" sheet film and plate holders are available; this size material yields standard 2 1/4" x 2 1/4" negatives or transparencies. In preparation are: a 1 5/8" x 2 1/4" 120/220 magazine with

counter for 16 and 32 exposures; a 1 5/8" x 1 5/8" (**Superslide**) 120/220 magazine with counter for 16 and 32 exposures. Except for image size and exposure counter, both these accessory magazines have the same safety and convenience features as the standard 2 1/4" x 2 1/4" magazine.



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Lenses – 40 to 1000 mm Focal Lengths:
40 and 50 mm Wide-angle Lenses; 80 mm
Standard Lens; 120 mm Copying Lens;
150, 250, 500, and 1000 mm Telephoto Lenses

Interchangeable Lenses

Without the availability of a wide range of quality interchangeable lenses, the full potential of even the most outstanding camera cannot be realized. The computer-designed Carl Zeiss lenses for the SL 66 represent true state-of-the-art optical design. Because a leaf shutter did not have to be incorporated into each lens, Zeiss were able to create lenses that are lighter in weight, sturdier, and less expensive than conventional medium-format SLR lenses.

The six principal lenses (40 to 250 mm) have fully automatic diaphragms so you always view your subject at full aperture. When you release the shutter, the diaphragm stops down to taking aperture and returns to full aperture

immediately after the exposure. A lockable depth-of-field preview button on the lensboard lets you check your image on the focusing screen at taking aperture.



40 mm Distagon f/4



50 mm Distagon f/4



80 mm Planar f/2.8



In preparation is a **universal adapter ring** that will enable the automatic diaphragms of SL 66 lenses to function when the lenses are mounted in reverse mode, when extension tubes are used, or when the supplementary extension bellows unit is fitted.

Four of the eight lenses listed, the 80 through 250 mm focal lengths, use the same size lens-hood, and five of the lenses, the 50 through 250 mm, share the same size filters. UV filters, by the way, aren't needed with Zeiss lenses for the SL 66 because their spectral transmission has been designed to absorb ultra-violet radiation.

The 50 mm Distagon f/4, 80 mm Planar f/2.8, and 120 mm S-Planar f/5.6 are particularly useful for close-ups and macrophotography when mounted in reverse as described on page 9.

Angle of View

40 mm Distagon f/4	88°
50 mm Distagon f/4	75°
80 mm Planar f/2.8	52°
120 mm S-Planar f/5.6	36°
150 mm Sonnar f/4	29°
250 mm Sonnar f/5.6	18°
500 mm Tele-Tessar f/5.6	9°
1000 mm Mirotar f/5.6	4.5°



120 mm S-Planar f/5.6



150 mm Sonnar f/4



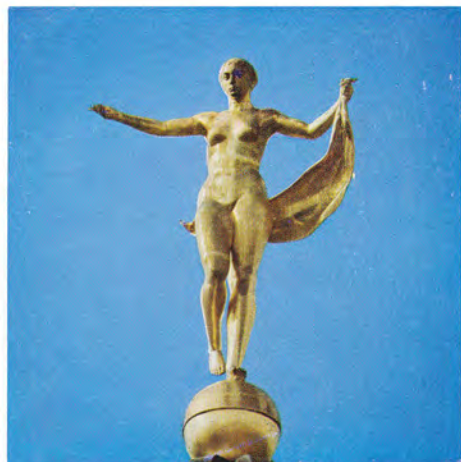
250 mm Sonnar f/5.6



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500 mm Tele-Tessar f/5.6



1000 mm Mirotar f/5.6



*1000 mm f/8 Telephoto Lens; Special Lenses
for Electronic Flash Photography*

More Interchangeable Lenses to Come

In preparation is an additional extreme telephoto lens, the **1000 mm Tele-Tessar f/8**. Appreciably less costly than the 1000 mm Mirotar, the Tele-Sonnar is recommended when a lens with an adjustable aperture is required (the Mirotar has a fixed f/5.6 aperture), and when a large maximum aperture is not essential. It will accept the same size filters as the 50 and 250 mm lenses.

The SL 66 gives you all the advantages of a focal-plane shutter, but when a leaf shutter is an absolute must, it's available simply by changing lenses.

In preparation and soon to be available are two additional interchangeable lenses specially developed for the requirements of electronic flash photography. They are the 80 mm Distagon f/4 and the 150 mm Sonnar f/4, both with built-in Rollei-compur $\frac{1}{30}$ to $\frac{1}{500}$ second leaf shutter and each with its own flash terminal. Exposures are made normally using the shutter release, and the automatic diaphragm control remains in operation. When using these lenses, you can also take advantage of the full range of speeds of the focal-plane shutter.



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Special Lenses for Macrophotography and Photomicrography

When an image size larger than 5:1 is required, a number of special lenses are available for the SL 66; Luminars by Carl Zeiss, and Focotars from E. Leitz in focal lengths of 16 to 100 mm. These lenses have been carefully computed for optimum performance in macrophotography and photomicrography applications, and when used in combination with extension tubes or the accessory bellows unit, they will extend the range of magnification well beyond 20 x.



The Accessory Range

Lenshoods, Filters, Soft-Focus Attachments

Filters have been planned sensibly: one filter size fits six lenses — the 50, 80, 120, 150, and 250 mm, as well as the soon-to-be-available 1000 mm Tele-Tessar f/8. For black and white photography, **yellow, green, orange, light red** and **infra-red** filters are available. To avoid color casts, especially blue, when using color films, the **R 1.5 color conversion filter** is included in the filter system. Because of their multiple bayonet mounts, all of these filters can be combined in any combination of the same size filters, and any filter can be fitted with a lenshood.

When used with the **universal adapter ring**, filters may be used with the lenses mounted in the reverse position. Special filter sizes are

required only for the 40 mm f/4 ultra wide-angle lens, the 500 mm Tele-Tessar f/5.6 lens and the 1000 mm Mirotar f/5.6 mirror lens.

The Rolleipol **polarizing filter** eliminates disturbing reflections from glass, water, wood finishes and other shiny surfaces (except metals). It fits all the lenses from 50 to 250 mm focal length.

In preparation are the **Carl Zeiss Softar** soft-focus attachments in two degrees (I and II) for portrait work, and a **holder for gelatin or other filter foils** such as the Kodak Wratten or Agfa AK series.

A **wide-angle lenshood** is available for the 50 mm Distagon f/4 lens.

One **standard lenshood** fits the 80, 120, 150, and 250 mm lenses. The hood has a bayonet mount and can be fitted on the lens in both normal and reverse positions.



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One **standard lenshood** fits the 80, 120, 150, and 250 mm lenses. The hood has a bayonet mount and can be fitted on the lens in both normal and reverse positions.



You can use your SL 66 in the position that you find most comfortable and convenient for the specific job: with the camera hand-held, used on a tripod, fired by remote control, or held with the **hand-grip**.

The **rapid tripod coupling** has a dovetail guide which screws to the platform of your tripod and permits solid attachment of your SL 66. The simple turn of a locking lever will release the camera instantly from the coupling.

The Hand-Grip, the Rapid Tripod Coupling

The grip attaches to the left side of the camera and lets you operate the focusing knob with your left hand. A broad, adjustable leather strap provides support across the back of the hand. Your right hand is free to operate the shutter release and rapid winding crank. Flash brackets can be attached to the grip which is easily removed from the camera thanks to a rapid coupling.



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The Rolleimot Remote Control The Universal Adapter Ring The Ring Flash Unit

With the battery-powered **Rolleimot** motor drive unit, you can operate the camera from a remote location for such assignments as wildlife pictures, shots of inaccessible or dangerous industrial equipment, candid child photography, and many others. The Rolleimot with SL 66 attached can be operated by a hand switch or a remote control cable up to 660 feet long. The shutter is released by pressing a button. Releasing the button advances the film for the next exposure, and the cycling rate is about one exposure every three seconds.

With a lens mounted in reverse position, and when using extension tubes or the accessory extension bellows, the lens, automatic dia-

phragm mechanism is disengaged. The **universal adapter ring** is a great convenience in these situations because it will allow the lens diaphragm to operate automatically. Built into the adapter ring is a filter holder and a lenshood.

In preparation is an **electronic ring flash unit** that can be used with a number of power packs for shadow-free illumination of close-up pictures. The unit's guide number is determined by the electronic flash power pack used.



The Focusing Slide The Extension Bellows The Slide Copying Stage

The **focusing slide** (1) affords rapid and continuous adjustment of the lens-to-subject distance during macrophotography, copying, etc. The length of movement of the rigid, twin-rail track is $6\frac{1}{4}$ " , eliminating bothersome moving of camera or subject.

The **extension bellows unit** (2), in preparation, simplifies magnification scale adjustment in macrophotography.

Also in preparation for use with the extension bellows is an attachable **macro stage** (3), with interchangeable, rotating clear and ground glass sheets for exposures by reflected, transmitted, angled light.

A **fine focusing drive** (4) will permit extremely precise focusing of the smallest objects, either on the macro stage or with the extension bellows unit.

Two **vibration dampers** (5) will be available to prevent camera vibration during focusing and exposure at long bellows extensions.

Slide-copying stages (6) for duplication and partial enlargement of transparencies will be available in two versions: for $2\frac{3}{4}$ " x $2\frac{3}{4}$ " slide frames holding $2\frac{1}{4}$ " x $2\frac{1}{4}$ " transparencies, and for 2" x 2" slide frames with transparencies from 12 x 17 mm up to $1\frac{5}{8}$ " x $1\frac{5}{8}$ ". Both slide-copying stages are used in conjunction with the extension bellows unit.

In this age of miniaturization, macrophotography and photomicrography have become increasingly important. The SL 66 and the specialized accessories available for it are especially suited for this type of work.

The maximum extension is 10 inches (25 cm) in addition to the extension of the adapter and the camera bellows. The camera and lens are connected to the extension bellows by means of the camera adapter ring and the lens mounting ring respectively.



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*Ever-ready Case; Soft Leather Carrying Case;
Hold-all Case; Large Outfit Case*

The **ever-ready case** is made of strong, top-grain black leather, and accommodates the SL 66 with the standard 80 mm Planar f/2.8 lens attached. The carrying strap remains on the camera, which is always ready to use. The back of the case swings down to permit loading, and the front is completely removable to permit the use of a longer focal length lens.

The **soft leather carrying case** provides enough room to accommodate the SL 66 with a lens other than the standard one; the 50 mm Distagon f/4, the 120 mm S-Planar f/5.6, or the 150 mm Sonnar f/4. The carrying strap remains on the camera.

Cases



The **hold-all case** of black grained leather is particularly handy for carrying the SL 66 and accessories. Although this handsome shoulder case has very compact dimensions, it will accommodate, for example, your SL 66, two accessory lenses, an extra magazine, filters, and at least ten rolls of film. The side panel folds down to form a handy shelf.

For assignments requiring more extensive equipment, a **large outfit case** is available. The dividing walls of the soft lined compartments are adjustable to permit a large variety of arrangements depending on the equipment to be carried. The outfit case measures 14³/₄" x 12¹/₄" x 5¹/₈", is made of hammered aluminium over an extremely rugged frame, and is fitted with rubber seals and strong locks.



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