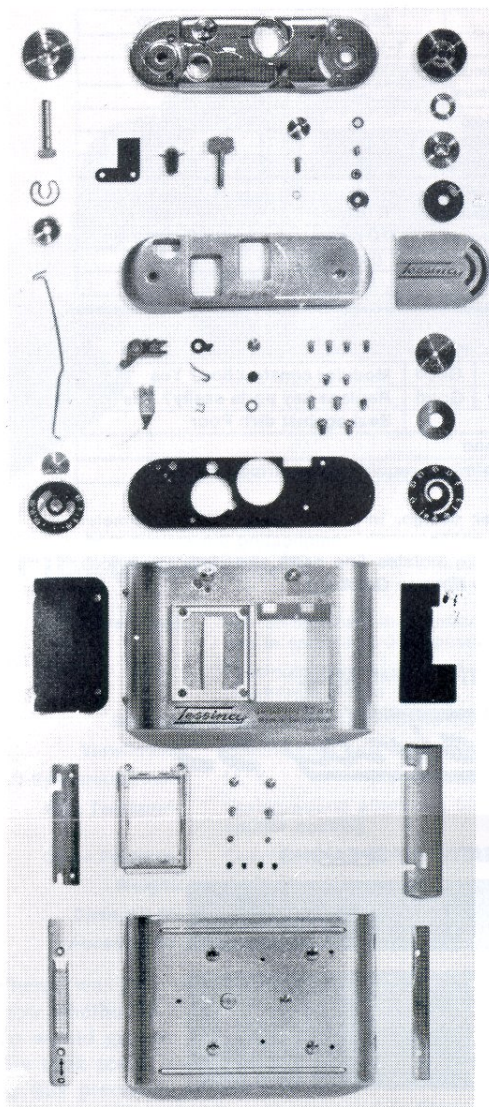
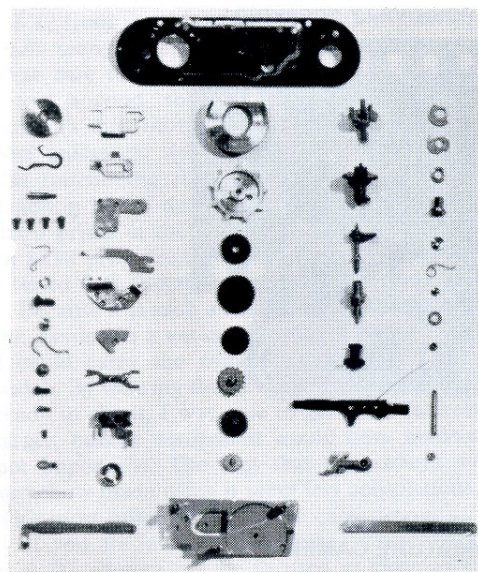
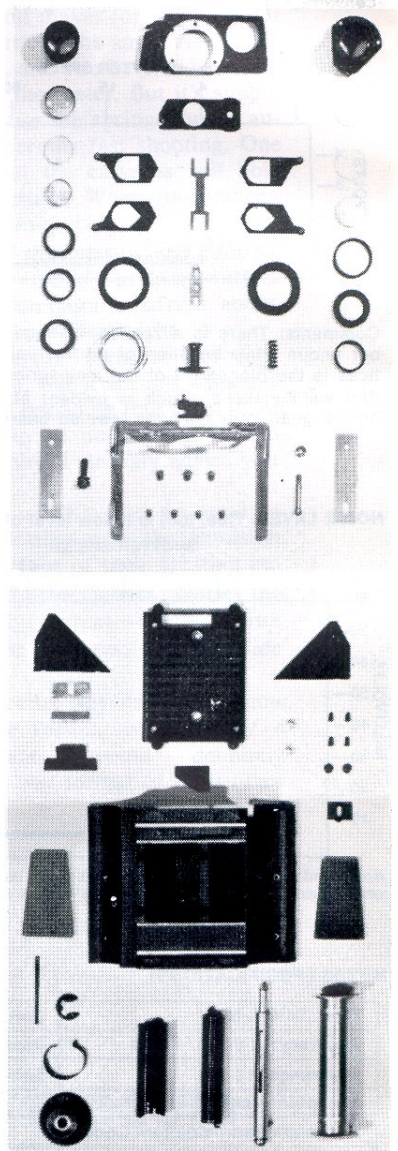


# *Tessina* 35 A MASTERPIECE OF PRECISION + QUALITY CONTROLS



1. Located in the heart of the Swiss watch industry, the TESSINA factory with its limited production is geared to the most rigid precision standards.
2. Each TESSINA is custom built with inimitable chronometer precision, literally to your order, like the finest Swiss watch.
3. TESSINA'S highly skilled Swiss master craftsmen are trained in the art of watchmaking during half their lifetime.
4. Each TESSINA part, gear, pinion, etc. is manufactured with the same tolerances as those for Swiss watches, supplied by the TESSINA factory for many decades.
5. Manufacturing a TESSINA means meticulous assembling of close to 400 minute precision parts.
6. TESSINA camera makers work with a watchmakers magnifying lens attached to their eye all day.
7. Each TESSINA part is individually quality controlled twice, during manufacturing and before assembling.
8. TESSINA parts are made of highest quality material, with chrome, nickel or even gold finish to prevent oxydation, for lifelong service.
9. TESSINA precision parts are cleaned with an ultrasonic machine, operating at 500 Kilocycles.
10. High precision machines for critical part controls work at tolerances up to 1/1000mm (0.00003937").
11. Ruby stone jewels such as used in fine watches eliminate friction and wear of TESSINA mechanism, guarantee smooth operation.
12. All TESSINA shutter speeds are electronically tested, for utmost accuracy.
13. Special lubricants guarantee near-constant shutter speeds, even under extremely cold or hot climatic conditions.
14. M and X synchronization (up to 1/500th second) are tested at a low 4 Volt and a high 500 Volt.
15. TESSINA shutters are released 2000 times before leaving factory, are geared for more than 50,000 operations.
16. Each TESSINA lens is individually film tested, handpicked for you, carries an unconditional guarantee for optical excellence.
17. Numbered testfilm for each TESSINA lens shows even illumination, critical sharpness, authentic tonal values and perfect contrast.
18. Exceptionally solid construction withstands the most rugged use, for lifelong durability.
19. Over 50% of factory personnel is engaged in the most severe, total quality controls, using highly specialized testing instruments.
20. TESSINA WARRANTY FULL 5 YEAR BUYER PROTECTION.



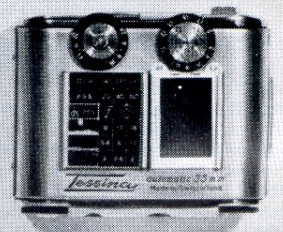
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THE ONLY SUBMINIATURE  
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continued from page 12

forward. Slide the cover open all the way, pop up the finder by pressing a little button at its rear end, and you're faced with an interesting dilemma—whether to compose the picture by looking through the direct optical finder, like the guy in the picture (pg12) or to peer down over it and gaze into the nearly parallax-free image on the groundglass reflex finder. The direct-vision finder is much brighter and has an Albada-type projected frameline around its periphery; the reflex finder is less bright, more accurate, and theoretically usable for focusing, but the screen is so tiny that judging the sharpness of the image with the naked eye is none too easy—more about that later.

Getting back to those controls, the two top dials in front of the finder are for focusing (right) and setting the aperture (the latter also has the aforementioned frame counter built into it). The coated, four-element, 25mm f/2.8 Tessinon lens stops down to a surprisingly small aperture of f/22, and it focuses to a document-copying-close nine inches. The milled edges of both these dials hang over the front edge of the camera, so they're pretty easy to manipulate even though they're small. Reading the minuscule aperture numbers, focusing distances, and depth-of-field scale is another story—a bit too challenging for my middle-aged eyes.

Rounding out the controls, the smooth-operating, threaded shutter release is on the front, next to the taking lens, and the remaining ones are on the back. They include a tiny but easy-to-set shutter-speed dial, which goes from 1/2 to 1/500 sec plus B, a little MX synch dial next to the PC terminal, and a hinged tab marked "R" for declutching the sprocket wheel while rewinding.

## Small, but shrill

For a tiny camera, the Tessina handles reasonably well. The biggest surprise is how noisy it is. Oh, the ingenious metal-blade inter-lens shutter is quiet enough, but the motor emits a shrill "bzzzt" as it advances the film. Fortunately, it doesn't do this until you let go of the shutter release, so you can keep the release pressed in until an opportune moment if discretion is needed. Even better, the Tessina folks offer a costlier (\$1,195) "quiet" version of the Tessina, equipped with nylon gears.

While it functions admirably as a scale-focusing candid camera in the great, sneaky tradition of ultraminia-tures, the Tessina really comes into its own when you slide off the optical finder and insert a Tessina pentaprism or magnifier into the grooved channel above the focusing screen. Either of these light-excluding accessories provides a brighter, greatly magnified viewing image, so you can actually focus the Tessina with a fair degree of precision via the groundglass. Regret-tably, neither of them is in production, so serious Tessinaphiles must seek them on the collectors' market where they fetch fancy prices.

Other delectable accessories that have bitten the dust are the wrist strap, filters, and the exquisitely dainty, uncoupled selenium exposure meter, which slid into the channel now occupied by a none-too-useful exposure table. Too bad. Karl Heitz *can* supply leather cases, tripod plates with neck chains, flash-guns, etc. In its heyday in the mid-to-late '60s, the Tessina was available in black, red, and gold as well as the present chrome finish.

## But does it take pictures?

How good is the Tessina as a picture taker? When POPULAR PHOTOGRAPHY tested it about 25 years ago, we found that its lens was sharp from f/4, delivering optimum performance at f/8; its shutter speeds were within tolerances; its shutter noise was quite low; and its scales were none too legible. We liked the gentle shutter release.

Having shot with three Tessinas over the years, I have found their on-film performance to be variable—one was capable of sharp 11×14 enlargements, one produced acceptable 8×10s, and one was substandard at the widest apertures. In my opinion, mirror alignment was the culprit, not lens quality.

Now comes the 64,000 Swiss-franc question—why would anyone shell out a smidgeon under a thousand bucks for a somewhat quirky, semipractical, ultraminature 35 that can take pictures almost as well as a \$159 point-and-shoot? Because, in this era of plastic automatons, it's a gorgeous piece of metal, mechanical precision that is truly made like a fine Swiss watch. If you think that borders on hype, name another camera that employs ruby jewels on its pivots to eliminate friction and wear and still qualifies as the world's smallest 35mm camera after 30 years in limited production. ●



# TESSINA AUTOMATIC

THE SWISS-MADE Tessina automatic subminiature twin-lens reflex camera by Concava S.A. of Lugano is unique. Using standard 35mm film in plastic cassettes of less than normal circumference (meaning that the film, 16½in. in length when black-and-white stock is used, or 14½in. in length when colour stock is used, is tighter wound round a very slender spool) the camera yields 23 exposures of black-and-white, 18 of colour, at a loading.

Each frame is 14 × 21mm—which is approximately the traditional 1:1½ picture format long recognised by artists as one of the most 'satisfactory' picture shapes. 14 × 21mm colour transparencies project satisfactorily, therefore, to those who already accept the traditional '35mm' shape as being of pleasing proportions. It is also a large enough negative area, in black-and-white terms, to provide satisfactory enlargements.

Unquestionably the Tessina is an instrument made to high precision standards, its f/2.8 Tessinon lens—of 25mm focal length—yielding extremely sharp negatives, transparencies or colour negatives. Sized only 1in. × 2in. × 2½in., and weighing approximately 5oz. it is obviously most pocketable—the type of camera which can be carried at all times.

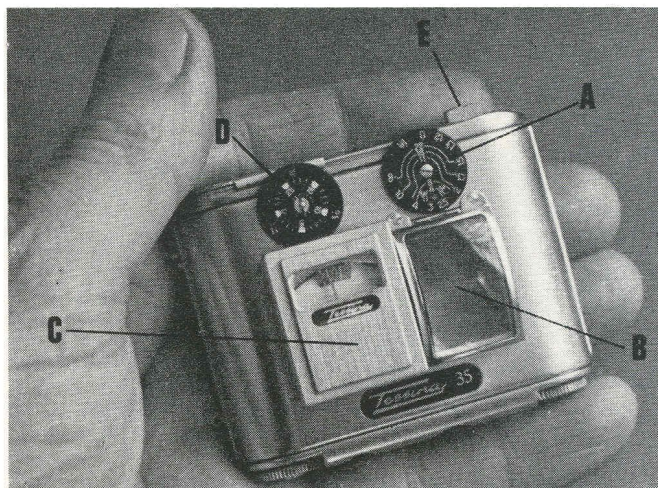
Of all-metal bodywork construction, bright chrome in appearance, the Tessina is the most ingeniously designed camera to make its appearance for many years. Being so small, so precisely made and so capable of high quality work, it is naturally in a high price bracket: basically £71, or with sports viewfinder, film loader (for those who wish to change their own cassettes from bulk length film) and coupled selenium cell meter, £84.

Had this been our own private purchase—instead of a most interesting camera submitted to the magazine for review by the British distributor, Fi-cord International of East Grinstead, Sussex—we should have purchased, as an extra, the pentaprism viewfinder (seen in one of our illustrations) at £11 11s. for this we found to be far the easiest and most precise viewfinder, surpassing the sports viewfinder or the 8x magnifying viewer (at £4 19s. 3d.) in practical usefulness.

The camera is held with the viewfinder facing upwards; or, when using the pentaprism viewfinder, at eye level.

A metal slide covers and protects the two parallax-corrected coated Tessinon lenses which are side by side, the righthand lens for viewing, the left for taking the picture. The slide also acts as a safety catch, for the shutter release (on the front of the camera, right of the viewfinding lens) cannot be pressed home unless the slide is withdrawn to its full extent.

Automatic film transport is provided by a tiny clockwork motor which is wound by a knob which must be pulled out part way from the body of the camera before being turned. Each winding suffices for automatic transport of six or eight frames, the film being drawn



The tiny Swiss-made Tessina. A—focusing dial, with depth of field indication. B—viewfinder (without hood or pentaprism as here seen). C—selenium cell photo-electric meter in position in accessory shoe, meshing with D—aperture setting dial. E—shutter release

on one frame at a time immediately following exposure. An exposure counter records the number of frames taken.

Shutter speeds available are from ½sec. to 1/500sec., selected by turning with the tip of the forefinger a small dial at the back of the camera, where also is found the flash synchronisation dial, flash socket, rewind release lever, and film transport winding knob to which we have already referred.

The aperture—from f/2.8 to f/22—is then selected on the appropriate dial, which is situated on the top of the camera, left of a dial which both focuses and provides depth of field indication.

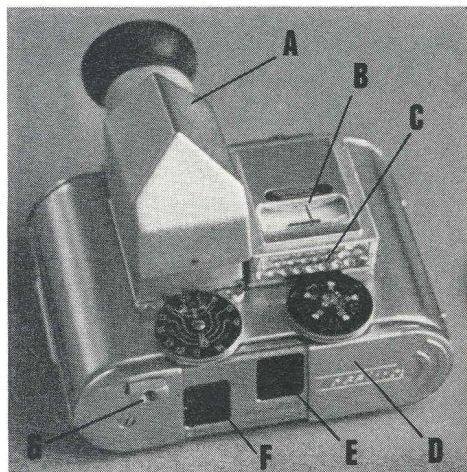
With a lens of such short focal length, when using a fast or medium-speed film it is possible to dispense entirely with focusing adjustment from frame to frame by setting the focusing distance at 10 feet, and the aperture at f/5.6, whereupon the depth of field extends from 7 feet to infinity. Used in this snapshot-technique manner, only the shutter speed need be adjusted according to the ASA rating of the film in use and the varying lighting conditions.

A rough guide to exposure is provided on a table which slips into the accessory shoe, left of the ground glass screen on the top of the Tessina. This gives approximate shutter speed/f-stop settings for films of ASA 25, 50 and 100 against symbolic indications of five different weather/lighting conditions. But, as has been noted, as an alternative extra there is a tiny photo-electric meter of surprising sensitivity for its minute size, which slides into the accessory shoe, meshing with the diaphragm (aperture setting) dial, to give at a glance—once the film speed has been set on the meter—the correct shutter speed for the f/stop set on the dial.

Loading and unloading of film cassettes is quite unremarkable and easy. In view of the price of prepared, loaded cassettes of black-and-white film (by Adox) of 8s. 6d. per 23 frames, many Tessina owners will probably prefer to load film from bulk into empty Tessina cassettes (available at 5s. 3d. each) which can be done manually in the darkroom or changing bag; or—much more conveniently—from a full standard cassette—which one can load oneself—direct to the Tessina cassette via a special Tessina day-light loader. Full instructions for its use come with the loader and the camera, so there is no point in detailing them here.

Other useful or interesting accessories are soft leather carrying cases; tripod plate with neck chain; and a wrist-strap holder enabling the camera to be worn like a watch.

**VERDICT:** Performance of this camera is unexceptionable, optically and mechanically. It is a true precision instrument of refinement and ingenuity from which the careful worker can be assured of first-class results. To the demanding photographer the fixed—and unvariable—focal length may not be ideal, though focusing down to 1 foot means that in most cases the required subject can be arranged to fill the frame—not always, of course, without distortion of image. It simply was not possible in a camera of this design to make provision for inter-change of lenses. The sub-miniature enthusiast has a lot to be enthusiastic about in this remarkable instrument.

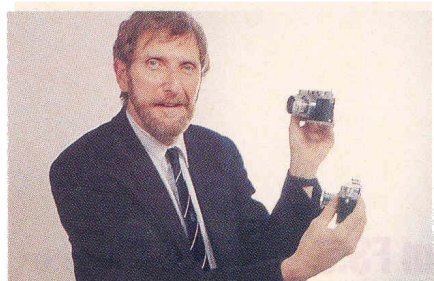


A—pentaprism viewfinder in position. The eyepiece focuses to suit individual eyesight. B—needle and dial of photo-electric meter. C—honey-comb cover of selenium cell. D—sliding metal cover for protection of twin lenses... E—taking lens and... F—viewing lens. G—shutter release



# OLDIES

**The Tessina 35 lives!!!  
But you'd better be patient  
if you want a brand-new one.**



Jason Schneider

Remember the Tessina? If you don't, it's none too surprising. This little Swiss jewel of an ultraminiature camera hasn't been advertised or much talked about in well over a decade, and even those familiar with its charms probably presumed it had quietly vanished. Well, happily it hasn't. If you want one of these engaging, exquisitely made little critters that's festooned with enough cute knurled knobs, dials, and scales to make a Swiss chronograph jealous, just order one from Karl Heitz, Inc. (34-11 62nd St., Woodside, NY 11377). However, be prepared to wait about a year for delivery, and (eventually) to fork over just under a grand for the privilege of owning a genuine hand-assembled classic. Production, if you can call it that, is currently limited to about 100 Tessinas per year!

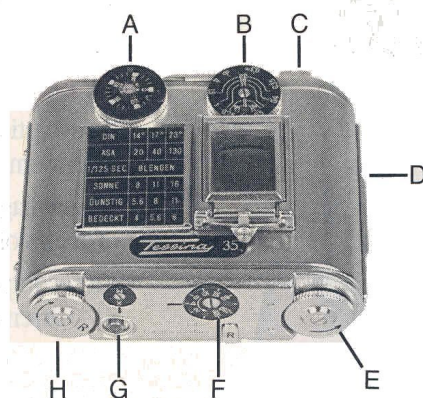
To say that the Tessina is a remarkable and eminently collectible camera is something of an understatement. This unique, matchbox-sized, gloriously satin-chrome-finished bonbon is, believe it or not, an honest-to-Pete twin-lens reflex, complete with groundglass focusing and a full range of manually set apertures and shutter speeds.

If that ain't enough to knock your socks off, it's also got a built-in spring-powered winder, and it takes 18 exposures per roll on standard 35mm film! True, its format is a decidedly nonstandard 14×21mm, so you either have to buy preloaded, skinny Tessina cartridges or load your own by inserting standard 35mm cassettes into (what else?) a handy-dandy Tessina cartridge loader. But what the hey—it sure beats

scrounging around for film as you must with many other ultraminiatures.

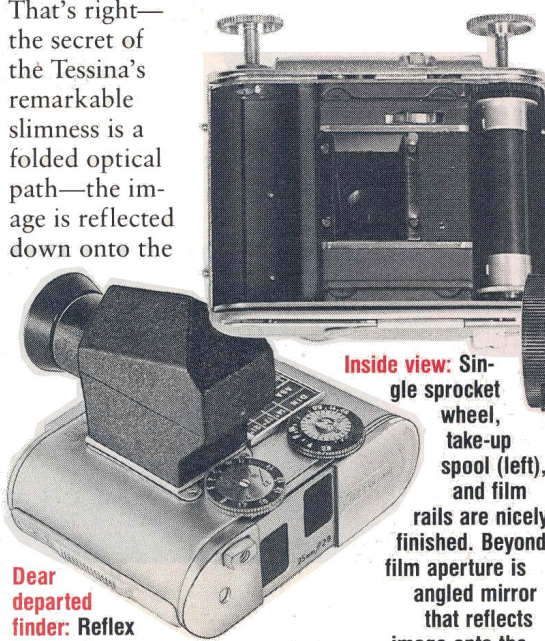
Let's take a look inside and see exactly what makes this "masterpiece of Swiss chronometer precision" tick. To open the 5½ ounce, metal-bodied Tessina, slide a ridged tab to "open" and lift off the back (which has a brief instruction guide plate attached to it). Within the back is a small, spring-loaded pressure plate, one of the few conventional components.

Now hold the main body with the open back facing you and the viewing and taking lenses pointing upward, and peer into the film aperture. What you



**Curious controls at a glance:** A) Aperture dial/frame counter. B) Focusing wheel/DOF scale. C) Shutter release. D) Pop-up viewfinder (closed). E) Spring motor winder. F) Shutter-speed dial. G) PC terminal. H) Rewind knob.

see is the image of the coated taking lens, reflected in a 45-degree-angled, trapezoidal, single-surface mirror! That's right—the secret of the Tessina's remarkable slimness is a folded optical path—the image is reflected down onto the

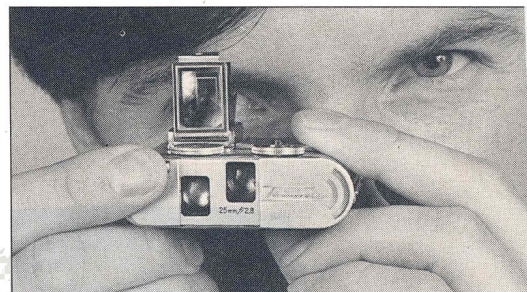


**Inside view:** Single sprocket wheel, take-up spool (left), and film rails are nicely finished. Beyond film aperture is angled mirror that reflects image onto the film plane, keeps camera compact.

**Dear departed finder:** Reflex finder, shown in place of standard pop-up finder, makes groundglass focusing practical as did vertical high-magnification finder. Both are, sadly, out of production.

film plane. If you think this means that mirror alignment is critical, and that you have to print your negatives emulsion-side up to get the image right-way 'round, you're darn right.

As long as you're ogling, take a gander at the nice knurled alloy take-up spool on the left-hand side, the narrow

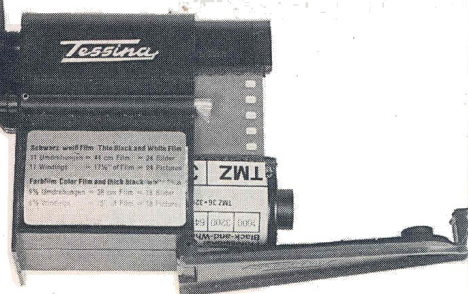


**Here's looking at you:** View through pop-up finder is brighter, all right, but groundglass is better for focusing (see text).

film chamber on the right, and the single sprocket wheel near the bottom. To wind up the built-in winder, pull out the knurled knob below the take-up spool and turn it clockwise until it stops, giving you enough power to advance six to eight frames. Insert a Tessina cartridge, thread the film leader under a spring clip on the take-up shaft, close the back, fire off two blank frames, set the teensy frame counter to zero, and you're ready to shoot.

The first things you notice in using the Tessina are the funny way you have to hold it and the peculiar but logical placement of all its controls. Since the lenses are located behind a sliding protective cover on one of its flat ends, you have to hold the camera like a Big Mac, with the back pointing downward. This way, the main controls and finder wind up on top and the lenses point

*continued on page 150*

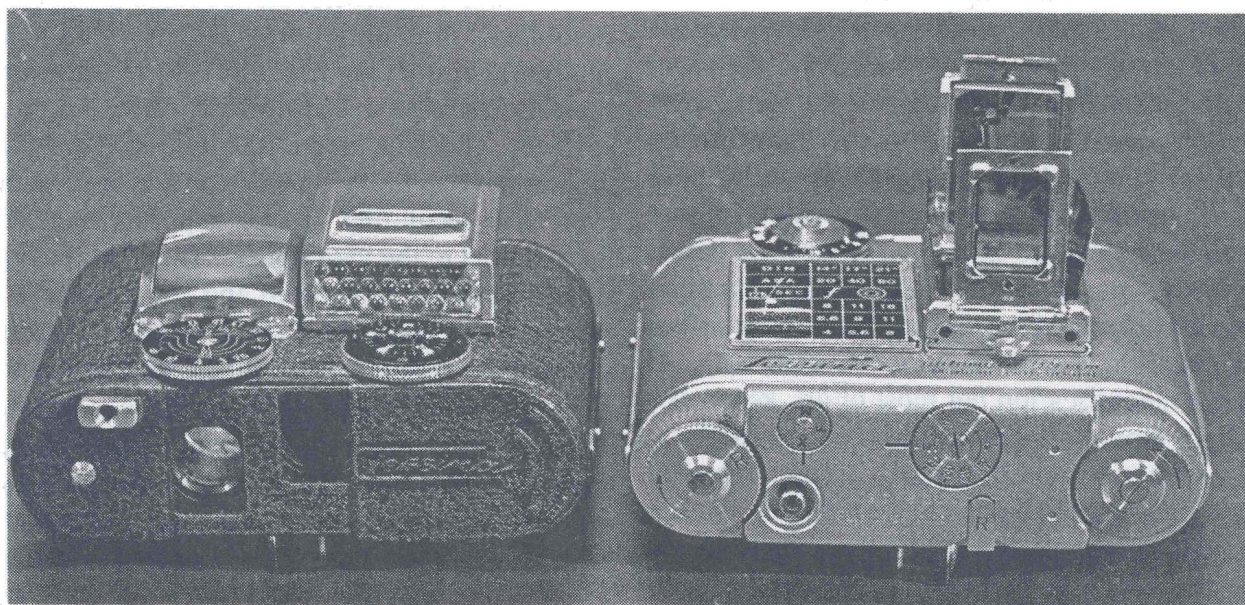


**Essential accessory:** Fortunately, cleverly simple film loader that lets you wind film from standard to Tessina cartridges is still available.



# The Nagel/Steineck/Seigrist/Concava of Lugano Tessina

by Jerry Friedman



Left: Front view-Tessina L w/field lens and exposure meter  
Right: Back view-Tessina 35 w/sportsfinder and exposure chart

There is only one thing clear about the original Tessina camera design; it was just about perfect. In fact, it is still in production and has been changed only superficially since its inception. Everything else remains layered in mystery. Paul Nagel, the designer of the Kodak Retina series, as well as the Kodak and Nagel Pupille cameras, also designed the Tessina but did not produce it. Dr. Rudolph Steineck, the designer and manufacturer of the Steineck ABC camera in Tutzing, West Germany, directly after the war, moved to Lugano, Switzerland, where his company, Concava S.A., began distribution of the Tessina which from 1961 was manufactured by Siegrist of Grenchen, Switzerland. How the mysterious Steineck came to own its plans is just one element of confusion surrounding both Steineck and the Tessina.

Ever since it first appeared in 1961, the Tessina has advertised itself as the only subminiature that made sense. Tessina ads in photo magazines showed its 35mm film format next to a strip of Minox film and 16mm film, then posed the simple question: which looks more reasonable to you? At that time, special film in cassettes and film processing was readily available for Minox, Mamiya, Ricoh, Minicord, Gami and other subminiature cameras. Thirty years later, when collecting cassettes is as important as collecting the cameras that use them, the Tessina advantage is

even more obvious. The Tessina still uses standard 35mm film loaded into special readily available Tessina cassettes. Reloading the Tessina cassette is easy because it is, after all, only a shinny version of the standard 35mm cassette but with easy snap-on tops. Moreover, the people at Concava thoughtfully designed a very intelligent device which cuts and reloads 35mm film directly from a standard cassette into the Tessina cassette-- in full daylight, too! Most people, myself included, find it easier to cut a 16" length of film for 25 exposures from a bulk roll and load it into the Tessina cassette in a dark closet or darkroom. ]

Despite its very small size of only 2 5/8 x 2 1/4 x 3/4 inches, the Tessina TLR offers the photographer every flexibility. The Tessar-type four element 25mm Tessinon lens is made from high quality Lantham glass and has apertures from f/2.8 through f/22, adjustable by turning the left of two small wheels on the top surface of the camera. The smaller cover plate wheel lists exposures taken. The wheel to the right sets distance, from less than twelve inches through infinity. This wheel cover plate lists complete depth of field for setting hyperfocal distances. Ground glass focusing is generally clear and easy, especially at close distances where the proximity of the two lenses reduces need for parallax adjustment. Should peering



at the small ground glass prove tiring, try using one of the several sliding viewfinders available for the Tessina. The standard folding viewfinder is much like the old four sided Rollei housing. Even if a little inconvenient to fold and then unfold, it provides adequate shade from extraneous light. Moreover, the front surface is an Albada lens, like that on the Zeiss Contaflex TLR, which means you can simply look directly through it for viewfinder framing, or, if you want to take self portraits, hold it in front of yourself to see your own image reflected in the mirrored front panel. If you only use your Tessina to take average illumination outdoor photos and the folding viewfinder drives you nuts, replace it with the smooth field lens. It offers slight magnification but most of all, keeps distracting light from bouncing off of the ground glass. For more precision and definitely greater viewing comfort, try adding the 6 power prism finder. At the cost of a little extra bulk, this device presents an image similar to that found in SLR viewfinders, and with no mirror blackout. And if your needs include close detail work, like copying blueprints or photographing small objects with fine but important detail, just slip an 8 power tunnel magnifier into place. Focusing is easy and precise, but the image is inverted left to right.

Both taking and viewing lenses are set deep within the body with the camera providing a natural lens shade. A sliding front panel further protects both lenses from damage. The shutter button, threaded for a cable release, can be depressed only when both lenses are completely uncovered. A small totally flush-to-the-body wheel in the camera back sets the between-the-lens mechanism for B and 1/2 through 1/500 second, for electronic flash synch at all speeds.

Loading the Tessina with film is much the same as loading any older non-quick loading camera with the exception that the spring motor will advance from five to eight and sometimes ten exposures per winding. The winding knob is on the back of the camera, directly opposite the rewinding knob, which does what it says after you lift the small rewind lever which frees the sprocket mechanism, just like on a big camera.

Add to the above virtues the fact that this small marvel produces a 14 x 21mm image, the largest negative made by a true subminiature, and it is easy to understand why Tessinas are still in demand. If figuring square millimeters leaves you cross-eyed, just consider that this is a 1/3 frame image camera. For reference, the half frame image produced by the

gargantuan-by-comparison Olympus Pen, which represents the same surface space as 4 Tessina cameras, is only 18 x 24mm.

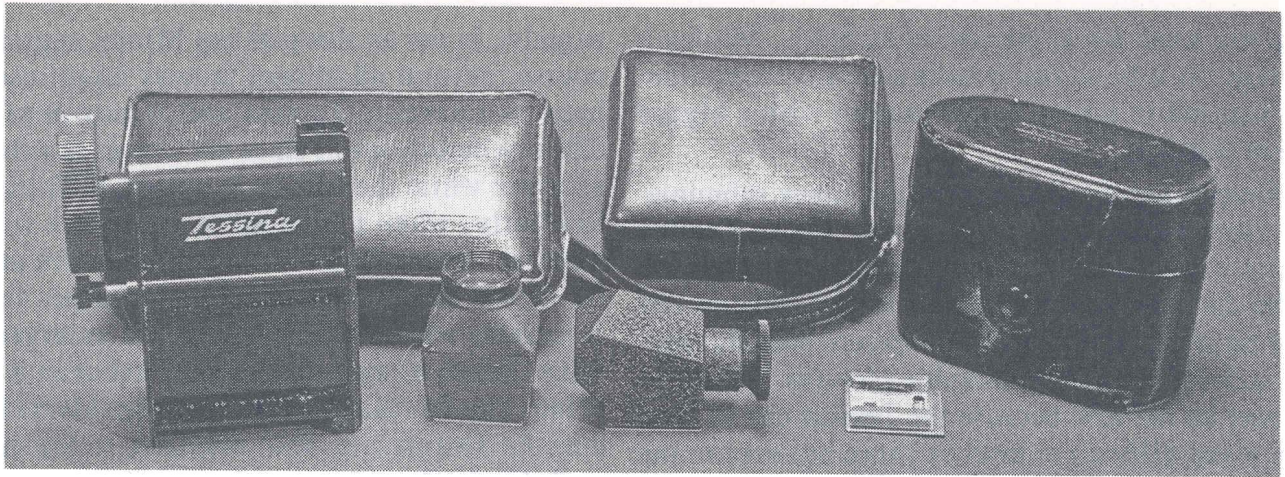
A variety of accessories provide for even greater flexibility. In addition to a variety of b&w and UV filters which slip over the lens, several accessories slip into the two accessory shoes on the camera top surface. These include a standard accessory shoe for mounting flash units, small exposure meters or whatever. The teeny-tiny Tessina exposure meter fits into the slot next to the viewfinder. This fine quality meter is adjustable for film speed and lets you know proper exposure and transfers it to the camera since the gearing on the exposure wheel and on the meter coincide.

This meter is now quite rare and too expensive for daily use but a useful pictographic exposure guide also slides into the meter slot. It follows the sunny rule and is set for ISO 20, 40, and 80 films. I have found it quite useful since I use Tech Pan and rate it at about 25-50 EI. I find that when using a shutter speed of 1/125 second, only three apertures, all illustrated, must be kept in mind--f/8 for full sun, f/ 5.6 for cloudy bright and f/4 for dull. And if it is duller than that, f/2.8 to be sure. Because I photograph general still life and nature scenes, I have found little reason to carry an exposure meter. Should you feel less secure, purchase a Minox meter since it is inexpensive, tiny, accurate, and can be used with all cameras. When not in use, the Tessina fits into one of several leather cases including a hard case with belt loop, and two small soft cases, one of which also has room for the penta prism finder, or the small Minox meter, as well.

You do not even have to put the camera in your pocket if you are lucky enough to have found the leather wristwatch strap which permits mounting the camera on your wrist. And if you find that the standard Tessina chrome exterior does not compliment your evening wear, there are models in red, gold and black. You can even mount a small watch in place of the meter/pictographic plate so that you know when to leave. And if you find the 'bezeep, bezeep, bezeep' of the film wind motor a little distracting, there are Tessinas with more polite (but more expensive) nylon gears. And for even greater silence a (very expensive) motorless model with manual film advance will produce almost no noise at all. What this model lacks in automation, many spies, including our very own Gordon Liddy, found that it made up for in silent operation.

All Tessina accessories are well thought out.





Top row: Three Tessina cases.

Bottom: Daylight loader, 8x chimney or tunnel finder, 6x penta prism finder, and accessory shoe.

Indeed, even the cassettes are intelligent. The central take up spool has two well placed sprocket teeth which catch the film and make taping the emulsion to the post unnecessary.

The original Tessina 35 Automat had MFX synchronization while the later Tessina L offers only MX. The biggest difference between the two is that the aperture wheel of the Tessina L is more heavily grooved to engage the gears of the add-on Tessina light meter. How to change an earlier Tessina 35 into a Tessina L? Have a service technician at Karl Heitz Inc., change the wheel for you. Otherwise, the Tessina 35 will take pictures every bit as good as those taken with a Tessina L.

Despite its many fine features, the Tessina has its drawbacks. The camera has no tripod socket, not a small point for a device often used with a tripod. Fortunately, a plate which slides onto several well made pins on the camera bottom surface with a socket is available. A nice long neckchain also connects to this plate if you wish to keep your camera around your neck. Also, getting used to the Tessina's small wheels takes a little practice, especially for big fingers. Adjustments may seem fussy but only at first. All cameras have their own handling characteristics and the Tessina is neither better nor worse than most. The one feature I would readily change is the collapsing viewfinder, less because it is inconvenient to close but because the sensitive spring will flip open in your pocket. And, of course, the Tessina has no interchangeable lenses. Because both lenses are so close together, however, it is easy to take pictures through binoculars and close-up lenses.

By this time it has probably occurred to you that

since the camera is only half an inch high, it could not produce the size negative I have described. It does the seemingly impossible..... with mirrors, or, more precisely, with two mirrors. If you could break a Tessina in half as you might a dinner roll, you would have two side-by-side mirror mechanisms, each reflecting light in a different direction. The first mirror is set at 45 degrees so that the image comes to the ground glass at 90 degrees from the viewing lens, just as with a Rolleiflex viewing lens. And directly next to this small upward reflecting mirror is another 45 degree mirror which reflects light downward to the film plane which lies along the bottom of the camera. In other words, the Tessina is a double reflex, or, a regular TLR with the addition of a second mirror which reflects the light from the taking lens downward rather than merely passing it through to the film plane, as in a Rollei. Of course, both mirrors are precisely the proper size and shape to reflect a perfectly non-distorted image at both ends of the ground glass on top, and film plane below.

To understand how truly small the Tessina is, consider how tiny it could have been had its designers wished to use a different film size. Theoretically, had the Tessina used 16mm film to produce a 7 x 12mm image, the camera's overall dimensions could have been one half what they are. Moreover, sprocketed 16mm film was and is readily available. And while sprocketed Minox film is not available, 8mm film is sprocketed and could have resulted in a camera which produced a Minox sized negative but in a camera about an inch square!! Of course, in the later cases, the camera would have a really minuscule viewing ground glass and really tiny wheels for setting aperture and distance. In short, the camera could be



made that small but at the cost of usability. Making it as "huge" as it is, so that it takes standard 35mm film, has resulted in a very small camera with a bigger camera negative.

Despite the Tessina's qualities, many subminiature users report being disappointed with Tessina results while many fewer seem unhappy with the results they get from far smaller Minox cameras and many people have used less competent Minolta cameras and made some remarkable pictures. I believe this may be the case because the Tessina can be very fidgety and difficult to hold by those not used to the camera. Also, because the Tessina is a more delicate instrument, the lens to mirror to film plane alignment of many older Tessinas may require adjustment. The Minox and Minolta cameras, by way of contrast, fit the hand very nicely.

For the serious subminiature photographer, the Minox is the Tessina's only serious competition. And yet the two cameras have very different personalities. Compared with the Minox, the Tessina offers far greater exposure control, flexibility, and, as an added benefit, the Tessina presents a 294 sq. mm negative. Over three and a half times larger than the 88 sq. mm Minox negative. The Minox is easier and faster to use, is beautifully well built and durable, while the Tessina is far more delicate. You can probably hand hold a Minox at much lower shutter speeds.

After using Tech Pan, developed in two solution Ethol TEC, in both cameras, I have found the following to be true. The Minox negative enlarged on the excellent Minox II/III enlarger with its curved-field 15mm f/3.5 lens fully elevated to the top of the column, will produce 11x14 enlargements from fairly full negative images with little difficulty. I have a wall full of such pictures. Using the same film in the Tessina and the same processing, then enlarging the negative on an Omega B-22 XL (with a Schneider 35mm f/4 Componon lens, or, a Rodenstock Rodagon 35mm f/4 lens, which I find almost as good as the Schneider), will produce easy 16x20 enlargements. In other words, given a slow but critical film such as Tech Pan, and a highly acute developer such as Ethol TEC, or Rodinal, the four element Minox lens at standard aperture and the four element Tessinon stopped down, are both fine lenses. And yet, despite considerable experience with both cameras, I believe the Minox lens is superior. When I have enlarged a portion of the Tessina negative in the Minox enlarger I have found that the same 8x11mm portion of a Tessina

negative is not as sharp as the Minox negative. Of course, several additional factors might cause this because I develop Tessina and Minox negatives to different density levels since the Omega is a condenser enlarger while the Minox is a semi-diffusion type. Similarly, when I have made close-ups with both cameras, where the subject fills the entire negative, the Minox image is certainly both sharper and more constrasty when both negatives are enlarged to the same degree of magnification. And even when the Minox image must be enlarged considerably more than the Tessina, i.e. both negatives to the same 5x7 or 8x10 sized enlargement, the Minox simply produces a better image. Hence, it is fair to conclude that the Minox may actually be optically superior while the Tessina can produce greater enlargements, if only by virtue of the larger negative it produces.

There is one thing, however, the Tessina can do that no Minox can do well: Take really fine color pictures or slides which can be processed by any drug store or one hour processing lab, and for just a little more than the standard bill of fare.

New Tessina cameras are custom built, cost the earth, and are subject to an average back order delay of about one year. Tessinas are readily available on the used market, though they may require servicing for optimal performance. Fortunately, Karl Heitz, the long time importer of Tessinas, Spin-shots and Alpas, has a full service department and can also provide empty cassettes, tripod plates, neck chains, and other accessories.

The Tessina is more expensive to own and more trouble to operate than other subminiature cameras. Additionally, the Tessina is not as durable as other small cameras such as the Minolta 16, the Mec, Gami or Minox, especially when the latter are closed. But if you want fine optical quality plus a larger negative made on standard 35mm available anywhere, and all in a package which weighs only 5 ounces with film, will focus to a foot, and deliver beautiful negatives and will still fit into any pocket you can think of, you understand why people wait a full year to pay a fortune for a new Tessina.

Jerry Friedman teaches European history at Kent State University and has served as a consultant to various foreign and domestic government agencies.

© Jerry Friedman 1995



A small totally flush-to-the-body wheel in the camera back sets the between-the-lens mechanism for B and  $\frac{1}{2}$  through  $\frac{1}{500}$  second. The camera is synchronised for both bulbs and electronic flash.

Loading the Tessina with film is much the same as loading any older non-quick loading camera with the exception that the spring motor will advance the film from five to eight and sometimes ten exposures per winding. The winding knob is on the back of the camera, directly opposite the rewinding knob, which does what it says after you lift the small rewind lever which frees the sprocket mechanism. Just like on a big camera.

Add to the above virtues the fact that this small marvel produces the largest image made by a true subminiature, and it is easy to understand why Tessina cameras are still in demand. If figuring square millimetres leaves you cross-eyed, just consider that this is a  $\frac{1}{3}$  frame image camera. For reference, the half-frame image produced by the gargantuan-by-comparison Olympus Pen, which represents the same surface space as four Tessina cameras is only 18 x 24mm.

A variety of Tessina accessories provide for even greater flexibility. In addition to a variety of black and white and UV filters which slip over the lens, several accessories slip into the two accessory shoes on the camera's top surface. These include a standard accessory shoe for mounting flash units, small exposure meters or whatever. The teeny-tiny Tessina exposure meter fits into the slot next to the viewfinder. This fine quality meter is adjustable for film speed and indicates proper exposure and then transfers it to the camera since the gearing on the exposure wheel and on the meter coincide. This meter is now quite rare and too expensive for daily use but a useful pictographic exposure guide also slides into the meter slot. It follows the sunny f/16 rule and is set for ISO 20, 40 and 80 films. I have found it quite useful since I use Tech Pan and rate it at about 25-50EI. I find that when using a shutter speed of  $\frac{1}{25}$  second, only three apertures, all pictured, must be kept in mind: f/8 for full sun, f/5.6 for cloudy bright and f/4 for dull. And if it is duller than that f/2.8 to be sure. Because I photograph general still life and nature scenes I have found little reason to carry an exposure meter. Should you feel less secure, purchase a small Minox meter which is inexpensive, tiny, accurate and can be used with all cameras. When not in use, the Tessina fits into one of several leather cases including a hard case with belt loop, and two small soft cases, one of which also has room for the pentaprism finder, or the small Minox meter, as well.

You do not even have to put the camera in your pocket if you are lucky enough to have found the wrist-watch type leather strap which permits mounting the camera on your wrist. And if you find that standard Tessina chrome exterior does not compliment your evening wear then there are models in red, gold and black. You can even mount a small watch in place of the meter/pictographic plate so that you know when to leave. And if you find the *bezeep, bezeep, bezeep* of the film wind motor a little distracting Tessina cameras with more polite (but more expensive) nylon gears are available. And for even greater

silence a (very expensive) motorless model with manual film advance will produce almost no noise at all. What this model lacks in automation many spies found that it made up for in silent operation. All Tessina accessories are well thought out. Indeed, even the cassettes are intelligent. The inner core of the take-up spool has sleeve side and two well placed sprocket teeth which catch the film and make taping the emulsion to the post unnecessary.

The original Tessina 35 Automat had MFX synchronisation while the later Tessina L offers only MX. The biggest difference between the two is that the aperture wheel of the Tessina L is more heavily grooved to engage the gears of the add-on Tessina light meter. Otherwise the Tessina 35 will take pictures every bit as good as those taken with a Tessina L.

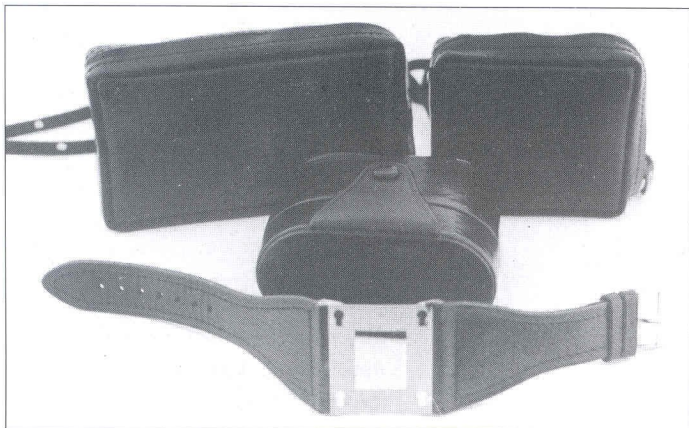
Despite its many fine features the Tessina has its drawbacks. The camera has no tripod socket, not a small point for a device often used with a tripod. Fortunately a plate which slides onto four well made pins on the camera bottom surface with a socket is available. A nice long neckchain also connects to this plate if you wish to keep your camera around your neck. Also, getting used to the Tessina's small wheels takes a little practice, especially for big fingers. Adjustments may seem fussy but only at first. All cameras have their own handling characteristics and the Tessina is neither better nor worse than most. The one feature I would readily change is the collapsing viewfinder, less because it is inconvenient to close but because the sensitive spring will flip open in your pocket. And, of course, the Tessina has no interchangeable lenses. Because both lenses are so close together, however, it is easy to take pictures through binoculars and close-up lenses.

By this time it has probably occurred to you that since the camera is only half an inch ( $2\frac{1}{2}$  cm. approximately), it could not produce the negative size I have described. It does the seemingly impossible...with mirrors or, more precisely, with two mirrors. If you could break a Tessina in half as you might a dinner roll, you would have two side-by-side mirror mechanisms, each reflecting light in a different direction. The first mirror is set at forty-five degrees so that the image comes to the ground glass at ninety degrees from the viewing lens, just as with a Rolleiflex viewing lens. And directly next to this small upward reflecting mirror is another forty-five degree mirror which reflects light downward to the film plane which lies along the bottom of the camera. In other words, the Tessina is a double reflex or a regular TLR with the addition of a second mirror which reflects the light from the taking lens downward rather than merely passing it through to the film plane, as in a Rollei. Of course both mirrors are precisely

*continued on page 33*

**Tessina accessory shoe tripod plate, chimney 8x viewfinder, pentaprism 6x finder, cassette and daylight loader.**

**Tessina watchband, hard case, single soft case and large soft case for camera and pentaprism.**





# The Concava Tessina Camera Jerry Friedman

There is only one thing clear about the original Tessina camera design; it was just about perfect. In fact, it is still in production and has been changed only superficially since its inception. Everything else remains layered in mystery. Paul Nagel, the designer of the Kodak Retina series as well as the Kodak and Nagel Pupille cameras, also designed the Tessina but did not produce it. Dr Rudolph Steineck, the designer and manufacturer of the Steineck ABC camera in Tützing, West Germany, directly after the war, subsequently moved to Lugano, Switzerland, where his company Concava S.A., began distribution of the Tessina which from 1961 was manufactured by Siegrist of Grenchen, Switzerland. How the mysterious Steineck came to own its plans is just one element of confusion surrounding both Steineck and the Tessina.

Ever since it first appeared in 1961 the Tessina has advertised itself as the only subminiature that made sense. Tessina ads in photo magazines showed its 35mm. film format next to a strip of Minox film and 16mm. film, then posed the simple question: which looks more reasonable to you? The Tessina advantage was obvious. Where the Minox negative was 8 x 11mm. and most other subminiatures made a 10 x 14mm. image on 16mm. film, the Tessina made a large 14 x 21mm. image on ordinary 35mm. film. At that time special film in cassettes and film processing was readily available for Minox, Mamiya, Ricoh, Minicord, Gami and other subminiature cameras. Thirty years later, when collecting cassettes is as important as collecting the cameras that use them, the Tessina advantage is even more obvious. The Tessina still uses standard 35mm. film loaded into special readily available Tessina cassettes.

Reloading the Tessina cassette is simple because it is, after all, only a skinny version of the standard 35mm. cassette but with easy snap-on tops. Moreover, the people at Concava thoughtfully designed a very intelligent device which cuts and reloads 35mm. film directly from a standard cassette into the Tessina cassette - in full daylight, too! Most people, myself included, find it easier to cut a 16-18 inch length of film for 25 exposures from a bulk roll and load it into a

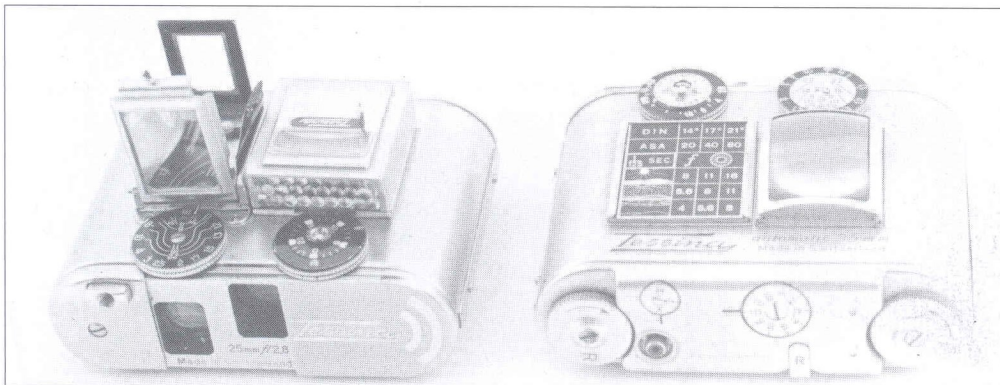
tessina cassette in a dark closet or darkroom.

Despite its very small size only  $2\frac{5}{8} \times 2\frac{1}{4} \times \frac{3}{4}$  inches, the Tessina TLR offers the photographer every flexibility. The Tessar-type four element 25mm. Tessinon lens is made from high quality Lantham glass and has apertures from f/2.8 through to f/22, adjustable by turning the left of two small wheels on the top surface of the camera. The smaller round cover plate wheel counts exposures. The wheel to the right sets distance from less than twelve inches through infinity. This wheel cover plate lists complete depth of field for setting hyperfocal distances. Ground glass viewing is generally clear and easy, even at close distances where the proximity of the two lenses reduces the need for parallax adjustment. Focusing the very small ground glass is difficult, however, and it is easier to set the distance scale by estimate and depend upon the Tessina's extensive depth of field. Should peering at the small ground glass prove tiring several sliding viewfinders are available for the Tessina. The standard folding viewfinder is much like the old style four-sided twin lens reflex housing. Even if a little inconvenient to fold and then unfold, it provides adequate shade from extraneous light. Moreover, the front surface is a mirrored lens, like that on the Zeiss Ikon Contaflex TLR, which permits simply looking directly through it for viewfinder framing, or, holding it in front of yourself to see your own image reflected in the mirrored front panel for self portraits.

Other viewfinders may prove more convenient and more useful. The smooth field lens offers slight magnification but, most of all, keeps distracting light from bouncing off of the ground glass and needs no founding and unfolding. For more precision and definitely greater viewing comfort, the six power prism finder converts the small ground glass and presents an image similar to that found in SLR viewfinders, and with no mirror blackout. And if your needs include close detail work, like copying blueprints or photographing small objects with fine but important detail, the eight power tunnel magnifier makes focusing easy and precise, although the image is inverted left to right.

Both taking and viewing lenses are set deep within the body with the camera body providing a natural lens shade. A sliding front panel further protects both lenses from damage when the camera is not in use. The shutter button, threaded for a cable release, can be depressed only when both lenses are completely uncovered.

LEFT TO RIGHT: Tessina with pop-up viewfinder and meter; Tessina with field viewfinder and pictographic exposure guide.





experienced camera makers and had held his position since only shortly after the business was established. They went on to list the following cameras as being of their own manufacture: Minia, Tivoli, Standard, Pullman, Tablo, Arial and Record.

One further proposal for using the new capital was to stock photographic plates and papers for the first time.

Their Wafer plate cameras, introduced 1899, were very lightweight and compact models with a drop-front and pull-out lens panel. The quarter-plate No. 1 was the cheapest, the No. 2 having a longer extension and better lens. Both had reversing backs and could optionally be supplied with Levi's Pullman plate or film changing box. The Record was a twin-lens, box-form, reflex, introduced 1897. Offered in polished mahogany or walnut, it featured a full-size image seen on a screen in the top of the box-form body.

Another stroke of good fortune in our research was the survival of the documents of incorporation for Levi, Hones & Co., together with related papers, from the archives at the Public Record Office (only every fifth such file has been kept). In addition to listing the shareholders, these papers tell us that Walter Joseph Levi (optician) became the manager from 16 May 1898 and from October 1901 the directors were Walter Joseph Levi (above) and Lewis Joseph Levi (solicitor), the latter replacing A. J. Jones who retired from his position. A letter dated 1 November 1905 states that the company had not traded for over twelve months and on 14 November 1905 the Receiver seized and realised the assets on behalf of the debenture holders.

Why the business failed we have been unable to determine but on 7 Mar 1907 it was officially dissolved.

We mentioned in our introductory remarks that this story has subsequent connections with two other photographic companies and one of these was the takeover of Joseph Levi & Co., by Houghtons, which has already been noted. The second centres on Mr C. Garner who spent the first few years of a career spanning nearly sixty years in the photographic industry with Joseph Levi & Co., at Hatton Garden. In the 1890s he joined W. Butcher & Son of Blackheath, which in 1907 became a limited company incorporating Charles Tylar and England Brothers, and remained with them through the amalgamation with Houghtons Ltd until 1926 when he took the Ica agency. This led to the formation of Garner & Peeling in 1927 to market the products of the new Zeiss Ikon combine of German companies. However, when Zeiss Ikon Ltd was formed in the UK, Mr R. E. Peeling joined them as managing director and Mr C. Garner formed, with Alec Jones, Jones & Garner Ltd to handle Ihagee and, later, Plaubel and Schneider products in the UK.

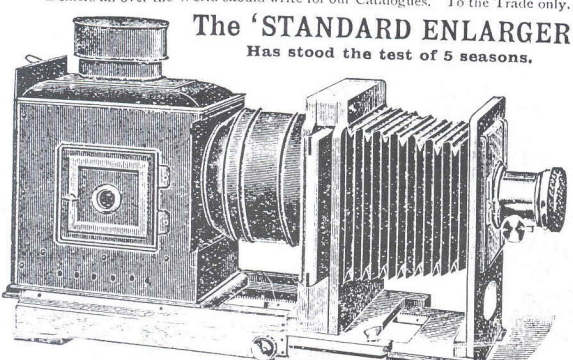
From the 1901 British Journal Photographic Almanac.

1310 THE BRITISH JOURNAL ALMANAC ADVERTISEMENTS

**LEVI, JONES & CO., LTD.**  
 29 HOXTON SQUARE, OLD STREET, LONDON, N.  
BOA-FIDE MANUFACTURERS OF Late of 71 Farringdon Road,

**CAMERAS, LANTERNS, \* \***  
**\* \* \* and the Matagraph, &c.**  
Dealers all over the World should write for our Catalogues. To the Trade only.

**The 'STANDARD ENLARGER'**  
Has stood the test of 5 seasons.



continued from page 30

the proper size and and shape to reflect a perfectly non-distorted image at both ends of the ground glass on top, and film plane below.

To understand how truly small the Tessina is, consider how tiny it could have been had its designers wished to use a different film size. Theoretically, had the Tessina used 16mm. film to produce a 10 x 12mm. image, the camera's overall dimensions could have been one half what they are. Moreover, sprocketed 16mm. film was, and is, readily available. Indeed, the camera could have been even smaller. While sprocketed 9.5mm. Minox film is not available 8mm. film is sprocketed and could have resulted in a camera which produced a small 6 x 9mm. or 6 x 10mm. sized negative but in a camera about an inch square! Of course, in the latter cases the camera would have a *really* minuscule viewing ground glass and *really* tiny wheels for setting aperture and distance. In short, the camera could be made that small but at the price of usability. Making it as 'huge' as it is, so that it takes standard 35mm. film has resulted in a very small camera with a bigger camera negative.

For the serious subminiature photographer the Minox is the Tessina's only serious competition. And yet, the two cameras have very different personalities. Compared with the Minox the Tessina offers far greater exposure control, flexibility and, as an added benefit, the Tessina presents a 294mm. square negative, over three and a half times larger than the 88mm. square Minox negative. Yet despite these advantages many subminiature users report being disappointed with the Tessina's results while far fewer seem unhappy with the results they get from the far smaller Minox camera. I believe this may be the case because the Tessina can be fidgety and difficult to hold by those not used to the camera. Also, because the Tessina is a more delicate instrument the lens to mirror to film plane alignment of many older Tessina cameras may require adjustment. The Minox, by contrast, fits the hand very nicely and are far more durable. Also, the Minox is easier and faster to use, is beautifully well built and durable. You can probably hand hold a Minox at much lower shutter speeds. There is one thing, however, the Tessina can do that no Minox can do well: take really fine colour pictures or slides which can be processed by any corner store or one-hour processing lab, and for just a little more than the standard bill of fare.

New Tessina cameras are custom built, cost the earth and are subject to an average back order delay of about one year. Used Tessina cameras are readily available, if expensive, and they may require servicing for optimal performance. Those photographers willing to adjust to the Tessina's peculiarities and learn how to use the camera to best advantage will find that it is capable of the most demanding work and the pleasant general scenery pictures, and all on an easily available film. Anyway, did you ever try to wear a Retina on your wrist?

## Photographica World

### REVISION OF COPY DATES AND PUBLICATION DATES

In order to meet the increased demands on editorial time and to accommodate the needs of the printers the copy and publication dates for 1996 will be:

| Issue            | Copy Date  | Publication  |
|------------------|------------|--------------|
| No. 76 March     | 1 February | 6 March      |
| No. 77 June      | 1 May      | 15 June      |
| No. 78 September | 1 August   | 15 September |
| No. 79 December  | 1 November | 15 December  |

*Material should be received in advance of the copy date*



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*And now* we wish you much pleasure and success with your *Photavit* ,36". We are always at your service should you require any further information.



#### Description of the camera parts

- 1 Film indicator with click-stop lever
- 2 Knurled disc to adjust the counter
- 3 Film counter
- 4 Release bottom with cable release socket
- 5 Accessory shoe
- 8 Speed and aperture setting mark
- 9 Speed setting ring
- 10 Setting ring for apertures (black numbers) resp. exposure values (red numbers)
- 11 Lens-coupling ring with catch
- 12 Depth-of-field ring
- 14 Filter factors
- 15 Exposure value scale
- 16 Index mark to read the exposure values
- 17 DIN and ASA degrees
- 18 Measuring knob for the exposure meter
- 19 Knurled ring and index mark to adjust the film sensitivity
- 22 Speed-aperture coupling lever
- 23 Distance setting in metres and feet
- 25 Window for view finder and rangefinder
- 26 Quick-action lever

#### The range finder

The range finder coupled with the view finder permits quick as well as reliable focusing by turning the distance setting ring (23) until the contours coincide with each other in the bright measuring field of the view finder (see figures on the opposite side).

All lenses of the *Photavit 36* i. e. also Tele- and Wide-angle lenses are coupled with the range finder.

#### The interchangeable lenses

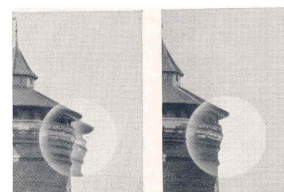
All lenses of the *Photavit 36* have helical thread and are completely interchangeable. They are coupled both with the range finder and with the exposure value shutter. Quick and secure interchange by bayonet fitting and perfect precision.

#### Inserting the lenses

Set the catch with the red mark on the lens-coupling ring to the same level with the red dot in the interior of the shutter (33). Insert the lens and lock same by clockwise turning until it clicks into the catch (fig. 7).

#### Interchanging the lenses

Press the catch with the red mark on the lens coupling ring in the direction of the range finding ring. Turn the lenses in anti-clockwise direction to the sensible stop and remove.



unsharp

sharp



#### The ever ready case

For the *Photavit 36'* hide ever ready case is available, which is completely lined with velvet and equipped with chromium edges and adjustable straps. The front part may be unbuttoned. We recommend this case for the protection of your camera against scratches and weather.

#### Further accessories

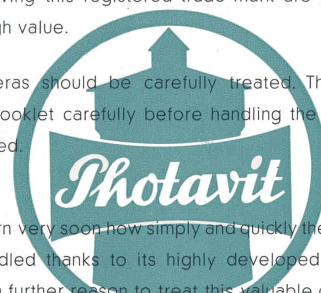
Filters in different colours, lens hoods and supplementary lenses are available and a short-distance setting instrument in preparation.

#### Note

The *Photavit 36'* is also supplied without exposure meter. In this case the instructions concerning the exposure meter made in this booklet do not apply. Instead of the exposure meter we equip this type with a setting disc for the film sensitivity which is attached on the same place.

Cameras having this registered trade mark are precision instruments of high value.

These cameras should be carefully treated. Therefore please study this booklet carefully before handling the camera preferably unloaded.



You will learn very soon how simply and quickly the *Photavit 36'* can be handled thanks to its highly developed automatization. And that is a further reason to treat this valuable camera as carefully as possible. Your *Photavit 36'* will richly repay you with reliable service for many years.



For the *Photavit 36'* wide selection of additional lenses is provided such as:  
 A normal wide-angle Enna Lithagon 1:3,5, focal length 35 mm, angle of vision 64°.  
 An extreme wide-angle Enna-Ultra-Lithagon 1:3,5, focal length 28 mm, angle of vision 75°.

A normal Tele Ennalyt 1:3,5, focal length 90 mm, angle of vision 26°.

A super Tele Enna Ennalyt 1:3,5, focal length 135 mm, angle of vision 18°.

#### The Universal view finder

for all lenses of 28 - 135 focal length.

Place the finder in the camera shoe. After the adjustment of the focal length suiting the inserted lens the finder image exactly shows the picture. The compensation for parallax is made by setting the distance with the help of the switch lever placed on the side of the finder. When using wide-angle lenses of 28 mm focal length a supplementary lens is placed on the finder.

Finder adjustment on index 35.



Fig. 8

*Photavit 36'* with Tele Ennalyt 1:3,5 / 135 mm and Universal Viewfinder suitable for all focal lengths.

#### Description of the camera parts

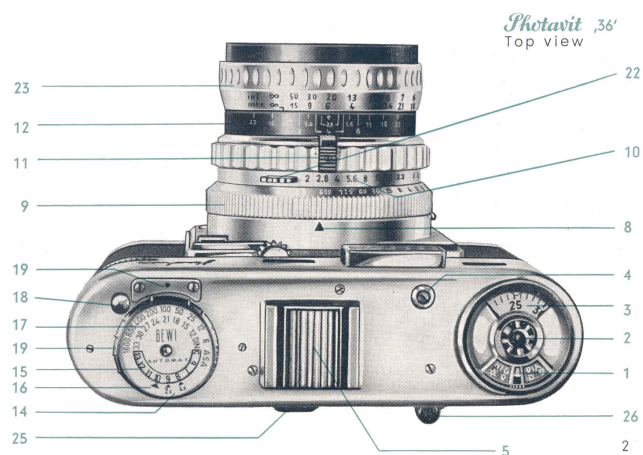
- 1 Film indicator with click-stop lever
- 2 Knurled disc to adjust the counter
- 3 Film counter
- 4 Release button with cable release socket
- 5 Accessory shoe
- 6 View-finder and range finder window
- 7 Selenium cell
- 8 Setting mark for speed and aperture
- 9 Speed setting ring
- 10 Setting ring for apertures (black numbers) resp. exposure values (red numbers)
- 11 Lens coupling ring with catch
- 12 Depth-of-field ring
- 13 Thread to screw-on the filter and supplementary lens
- 14 Filter factors
- 15 Exposure value scale
- 16 Index mark to read the exposure values
- 17 DIN and ASA degrees
- 18 Measuring knob for the exposure meter
- 19 Knurled ring and index mark to adjust the film sensitivity
- 20 Rewind lever
- 21 Rewind wheel
- 22 Coupling lever for combined speed-aperture setting
- 23 Distance setting in metres and feet
- 24 Flash contact



The normal measuring method is the subject measurement made from the position of exposure. Usually this is adopted when the shadows and lights are proportionally equal. When taking pictures out of doors make sure that same will not catch too much open sky since the higher light intensity of the sky might result in under-exposure of persons and subjects being taken. In this case tilt the camera a little. It is of importance when measuring to concentrate oneself on the important part of the picture. When taking pictures of persons or portraits, no matter if there is a light or dark background, the short distance measurement should be adopted on principal, i.e. only measure the light reflected by the persons if possible.

At difficult light conditions full of contrast, e.g. snow landscapes, the so-called light measuring proves true. In that case not the reflected but the incident light from the subject to the point of exposure is measured. In this case set the diffusion disc placed in the camera case upon the selenium cell. You will have good results by this method even at exposures in rooms. Principally the measurement is the same with black-white and colour-film, however, when using colour reversing film, it is necessary to perform the same as carefully as possible due to the narrow exposure range.

When making counter-light exposures the diffusion disc is also set on the selenium cell. In that case, of course, the exposure measurement is made from the position of the camera.







PHOTAVIT-WERK G.m.b.H. NÜRNBERG

Printed In Germany





Setting the synchro switch lever (31, fig. 7) for the different kinds of exposures:

1. Exposures without flash: Setting M or X
2. Exposures with flash: Setting according to table on page 11.  
To set X or M press the locking lever (32, fig. 7)
3. Selftimer exposures: Setting V. The switch lever only rests in this position if the shutter is cocked, however, without pressing the XM locking lever. When the exposure is made the switch lever will automatically return from V to X. You may take flash exposures when setting X (see table).

You also have complete freedom to alter the setting of the switch lever when the shutter is already cocked; therefore you are able to alter your setting as often as you desire.

#### Sequence of operation when

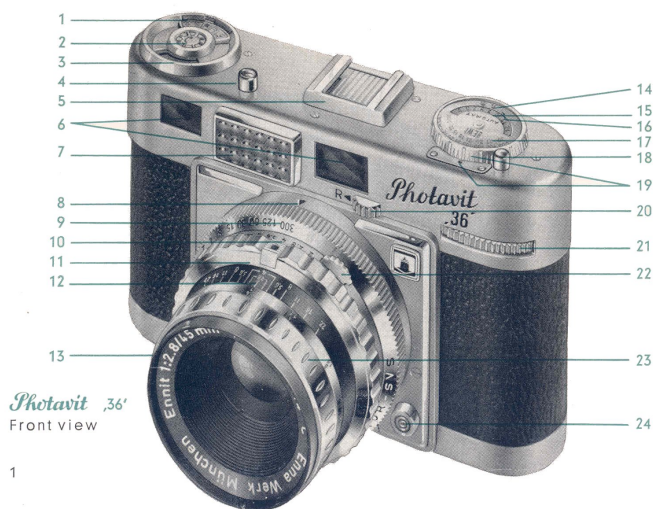
##### loading the *Photavit* 36'

1. Open the Camera
2. Insert the film cassette
3. Fix the film (bend-off the beginning of the film)
4. Close the camera
5. Push the rewind lever to the right in case it is still placed on R
6. Press twice the quick-action lever to the stop
7. Set the counter on 36 resp. 20 when using cassettes for 20 pictures.
8. Adjust the film sensitivity on the exposure meter and the type of film on the film indicator.

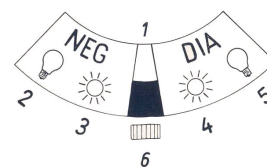
##### unloading the *Photavit* 36'

1. Set the rewind lever on R
2. Turn the rewind spool until the film is completely wound into the cassette
3. Open the camera
4. Take out the cassette
5. Put the rewind lever to the right in the initial position
6. Push up the back and lock the camera.





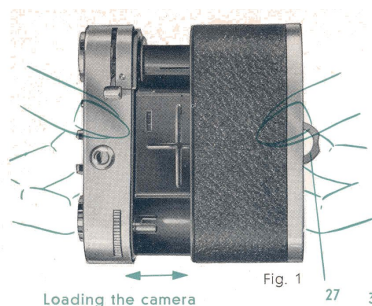
The film indicator



The film setting fields:

- Field 1 (black-white) for black-white film
- Field 2 (blue) for Colour-Negative-Artificial Light film
- Field 3 (blue) for Colour-Negative-Daylight film
- Field 4 (red) for Colour-Positive (reversing) Daylight film
- Field 5 (red) for Colour-Positive (reversing) Artificial Light film
- 6 Setting catch





Loading the camera

1. Open the camera. Fold-up the back-side locking bar (27) and interrupt the locking by a quarter turn to the left in direction to the red mark. Then draw out the back cover downwards. (fig. 1)
2. Put the film cassette into the empty cassette space and let the film key engage same by turning the rewind

wheel. Fold-up the film pressing plate (28) and pull the beginning of the film over the film running path. Bend down the beginning of the film 1 cm approx. and put the pinched-off part into the slot of the take-up spool (fig. 2). Turn the knurled ring of the take-up spool (29) until the film will run out of the

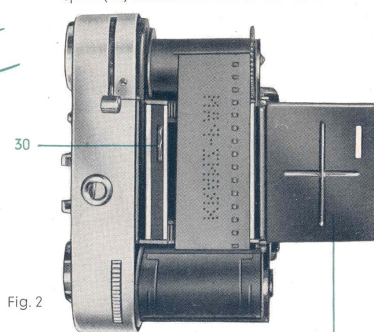


Fig. 2

#### The exposure meter

To measure the exposure value first adjust the light sensitivity of the film used in DIN or ASA (see table as per margin) by turning the knurled ring to the red index dot. (19); single-degree setting, e.g. 17/10 DIN: short knurled line on the right of 18/10. Then view subject through the view finder and press at the same time the measuring button (18) to the stop for at least 1 sec. After that let slide back **slowly** the measuring button to the neutral position. Read the exposure value (red number opposite the black index mark) in the measuring window of the "BEWI-Automat" and transfer the same on the shutter. The measured exposure value should not be readjusted until the next measurement is made. When measuring see to it that the window of the selenium cell is absolutely free. When the instrument indicates a red dot instead of a red exposure value the light conditions are too unfavourable and no measurement was made. When using filters the time of exposure, as is well known, should be extended according to the factors indicated on the socket. These factors are indicated on the "BEWI-Automat" thus enabling to read immediately the equivalent exposure value without any conversion even when using filters. Example: The black index mark indicates the exposure value 10. Then the equivalent exposure value is 9, when using a double filter and 8 with a quadruple filter.

Film Comparison Table

| DIN /10° | ASA = BSI |
|----------|-----------|
| 11       | 10        |
| 12       | 12        |
| 13       | 16        |
| 14       | 20        |
| 15       | 25        |
| 16       | 32        |
| 17       | 40        |
| 18       | 50        |
| 19       | 64        |
| 20       | 80        |
| 21       | 100       |
| 22       | 125       |
| 23       | 160       |
| 24       | 200       |
| 25       | 250       |
| 26       | 320       |
| 27       | 400       |
| 28       | 500       |
| 29       | 650       |
| 30       | 800       |



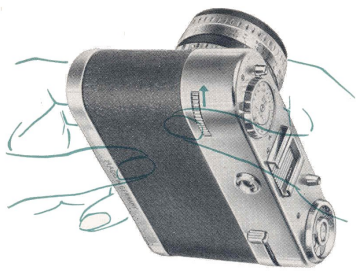


Fig. 5

#### Removing the exposed film

After approx. 36 resp. 20 pictures have been taken you will feel a resistance when operating the quick action lever which prevents the further transport of the film. Same is finished now.

In order to remove the exposed film set the rewind-lever (20) on R and rewind the film into the cassette by turning the rewind wheel (21, fig. 5). You will become aware of the completed rewinding by a scratching noise caused by the bent beginning of the film when it is sliding back into the cassette.

Open the camera, take out the cassette, close the camera and

replace immediately the rewind lever (20).



Fig. 6

#### Cable connection when using flash

Figure shows the *Photavit 36'* in connection with Photavit Dynamo-Flash unit being always ready for operation without battery and any maintenance.

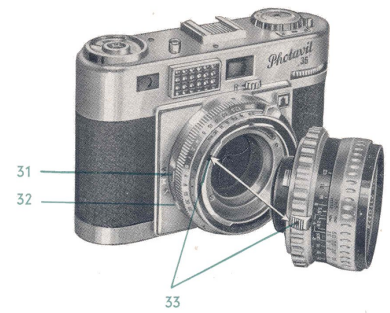


Fig. 7 The *Photavit 36'* with removed lenses



Setting the synchro switch lever when using flash

| FLASHBULBS                                                                    |                | Position of the switch lever |   |
|-------------------------------------------------------------------------------|----------------|------------------------------|---|
| Type of bulbs                                                                 |                | X                            | M |
|                                                                               |                | Possible speed of exposure   |   |
| Osram Vacublitz XO, XP                                                        | 1 — 1/30 sec.  | —                            |   |
| General Electric, Sylvania M-2                                                |                |                              |   |
| General Electric, Power Mite M-2                                              |                |                              |   |
| General Electric<br>Westinghouse SM<br>Sylvania SF                            | 1 — 1/60 sec.  | —                            |   |
| Westinghouse M-2                                                              | 1 — 1/30 sec.  | 1/60 — 1/125 sec.            |   |
| Osram Vacublitz XM 1, XM 5, S 0, S 2<br>Philips Photoflux PF 1, PF 5, PF 60   | 1 — 1/30 sec.  | 1/60 — 1/300 sec.            |   |
| General Electric<br>Westinghouse No. 5, 11, 22<br>Sylvania No. 8, 25, 40, 0 2 |                |                              |   |
| General Electric No. 50<br>Sylvania No. 3                                     |                | 1/30 sec.                    |   |
| ELEKTRONEN-BLITZ                                                              | 1 — 1/300 sec. |                              |   |

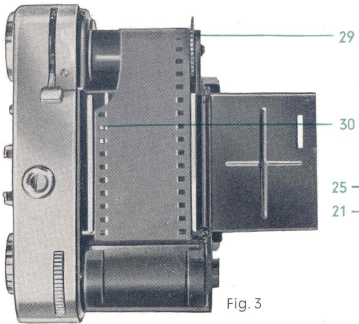


Fig. 3

cassette in its full width and the teeth of the transport wheel (30) catch the upper perforation of the film. (fig. 3)

3. Fold back the film pressing plate, push-up the back and lock it by a quarter turn of the locking bar in the right direction up to the black mark. Fold-down the backside locking bar

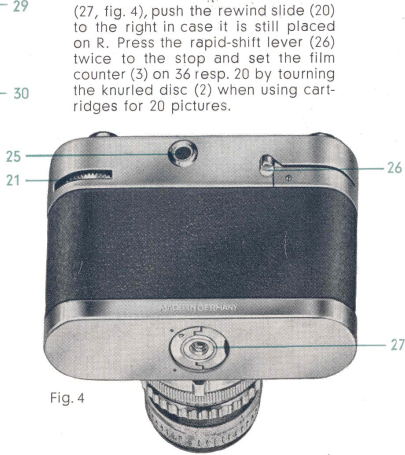


Fig. 4

(27, fig. 4), push the rewind slide (20) to the right in case it is still placed on R. Press the rapid-shift lever (26) twice to the stop and set the film counter (3) on 36 resp. 20 by turning the knurled disc (2) when using cartridges for 20 pictures.



#### Main points of operation when taking pictures

1. Push the quick action lever to the right up to the stop. Then the shutter is cocked, the film will move, the double exposure locking is released and the counter is moved on.
2. Hold the camera against the head and view subject through the eye-piece. When doing this press down the measuring knob of the exposure meter for at least one second to the stop. Then let the knob slide back to the neutral position slowly.
3. Read the exposure value (red mark opposite the black index mark) in the measuring window of the "BEWI-Automat" and transfer the same on to the shutter. To do this press the coupling (22) and turn the time setting resp. aperture setting ring until the red index dot is being placed on the former opposite to the indicated exposure value.
4. Consider whether the exposure should be made with shorter exposure time and larger aperture or smaller aperture (larger depth of field) and longer exposure time. To do that turn the speed setting ring accordingly.
5. View the subject through the eye-piece and set the distance by turning the distance setting ring (23) until the contours coincide with each other in the bright measuring field of the finder.
6. Press the release button (4). **The release will not work if you forgot to set back the rewind lever (20) after the film was rewound.**

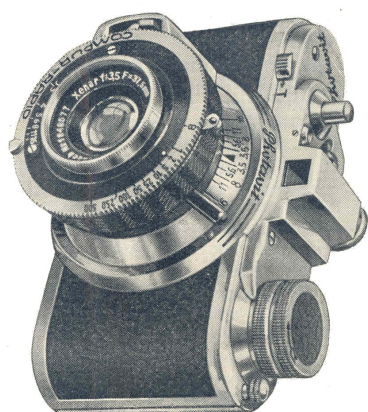
#### The shutter

Press the coupling lever (22) and the speed (9) resp. aperture setting ring (10) until the red mark is placed on the former opposite to the red exposure value desired. By doing this the speed is coupled with the aperture. You have complete freedom to select a longer or shorter exposure time and a larger or smaller aperture within a certain range according to the requirements of the exposure. In this case do **not** push down the coupling lever, however, only set the speed or aperture desired. In the first case the corresponding aperture and in the second case the corresponding speed of exposure is set automatically.

Some examples for the different setting possibilities:

|                               |                   |                      |                      |                      |                     |                        |                        |               |
|-------------------------------|-------------------|----------------------|----------------------|----------------------|---------------------|------------------------|------------------------|---------------|
| Setting on<br>light value 12: | Speed<br>aperture | $\frac{1}{8}$<br>22  | $\frac{1}{15}$<br>16 | $\frac{1}{30}$<br>11 | $\frac{1}{60}$<br>8 | $\frac{1}{125}$<br>5,6 | $\frac{1}{300}$<br>3,5 | sec.          |
| Setting on<br>light value 5:  | Speed<br>aperture | $\frac{1}{4}$<br>2,8 | $\frac{1}{2}$<br>4   | 1<br>5,6             | 2=B<br>8            | 4<br>11                | 8<br>16                | 15 sec.<br>22 |

The speed setting ring should merely rest in the catch and not be set on intermediate values. The **speed-aperture** coupling contrarily rests on intermediate exposure values, too. The green numbers 4 - 60 only serve as calculation help. B means 2 sec. (see example above). All exposure speeds higher than 1 sec. are made as known by the B-adjustment.



Original Size  
Grandeur nat.  
tamaño nat.

## Photavit STANDARD IV

| lens<br>objectif<br>lente                                                                                        | shutter<br>obturateur<br>obturador | price<br>prix<br>precio |
|------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------|
| Xenar 1 : 2,8                                                                                                    | Compur-Rapid                       |                         |
| Xenar 1 : 3,5                                                                                                    | Compur-Rapid                       |                         |
| Radionar 1 : 3,5                                                                                                 | Compur-Rapid                       |                         |
| Radionar 1 : 3,5                                                                                                 | Pronior-Super                      |                         |
| everready leather-case<br>étui en cuir toujours prêt<br>Estuche de apronte de cuero                              |                                    |                         |
| filter-set (3 filters in case)<br>3 écrans en étui<br>juego de filtros (con 3 filtros distintos en<br>1 estuche) |                                    |                         |
| sun-shade - parasoleil - parasol                                                                                 |                                    |                         |

PHOTAVIT-WERK G.m.b.H. NÜRNBERG

Druck: A. & P. Frisch, Nürnberg





## PHOTAVIT...

- .. the miniature camera in elegant and compact form which in performance, precision and appearance is not excelled by more expensive cameras ...
- .. comes with the famous Schneider - Kreuznach lenses. Because of the short focal length (only 37.5 mm) this camera has an outstanding depth of field ...
- .. is equipped either with the world-known Compur Rapid shutter (1 sec. - 1/500 sec.) or the Prontor Super shutter (1 sec. - 1/300 sec.) with automatic self release and synchronized flash ...
- .. cannot be double exposed, has feather-light built-in shutter release and automatic counting device ...
- .. is ideal for ladies, for travelling and sport, because the camera weighs only 15 ounces and is no longer than 3 3/4 inches, including its attractive leather case ...

## PHOTAVIT

a master piece of modern precision is the camera which enables you to make better and easier pictures.

## PHOTAVIT...

l'appareil photographique à format réduit, de forme élégante et solide, dont le rendement, la précision et l'aspect ne sont pas inférieures à un appareil de grand prix,

est muni des objectifs de renommée mondiale de la maison Schneider-Kreuznach, qui grâce à leur foyer extrêmement court (de 37,5 mm seulement) accordent à cet appareil une profondeur de champ remarquable,

est livré ou avec le célèbre obturateur Compur-Rapid (1-1/500 sec.) ou bien avec l'obturateur non moins connu Prontor-Super (1-1/300 sec., auto-déclencheur et flash électrique couplé),

possède un mécanisme évitant les expositions doubles, un déclenchement au boîtier et un système-compteur automatique,

est l'appareil idéal pour la dame, le voyage, le sport et les promenades car son poids, y compris une pochette de disposition très élégante en cuir, ne dépasse pas 420 g, et la longueur est de seulement 9,5 cm.

## PHOTAVIT un véritable chef d'oeuvre

de précision moderne est l'appareil qui vous présente les dernières découvertes afin de photographier plus agréablement et pour obtenir des résultats meilleurs.

## PHOTAVIT...

la máquina fotográfica de formato reducido, de linea elegante y terminación sólida, que nada tiene que envidiar a una máquina de precio en cuanto a rendimiento, precisión y aspecto ...

está equipada con los mundialmente renombrados lentes Schneider-Kreuznach, los que gracias a su extraordinario corto foco (solamente 37,5 mm) dan a ésta máquina una profundidad focal sobresaliente ...

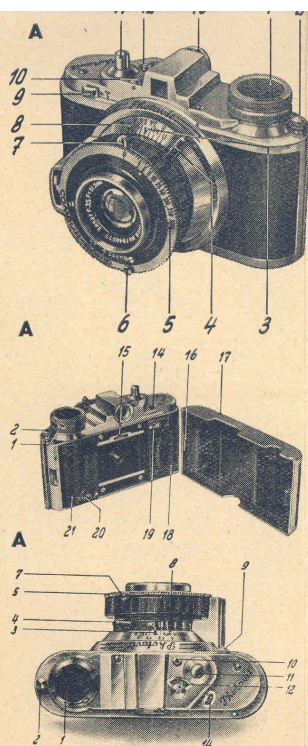
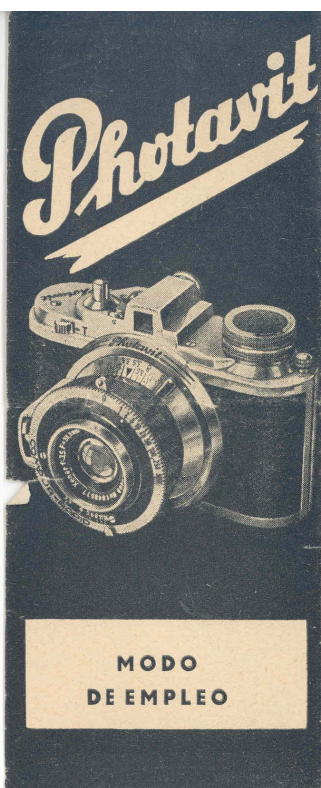
viene provista tanto con el famoso obturador «Compur-Rapid» (de 1 segundo hasta 1/500 de segundo), como también con el no menos conocido obturador «Prontor-Super» (de 1 segundo hasta 1/300 de segundo), auto-disparador y contacto para flash sincronizado ...

posee un mecanismo que evita las exposiciones dobles, un dispositivo especial de desenganche de la caja y contador automático de tomas ...

es la cámara ideal para la dama, el viaje deporte y excursiones, pues su peso es solamente 420 Grs. inclusive el vistoso «estuche de apronte» de cuero, y su largo es solamente 9,5 Cms.

## PHOTAVIT ...

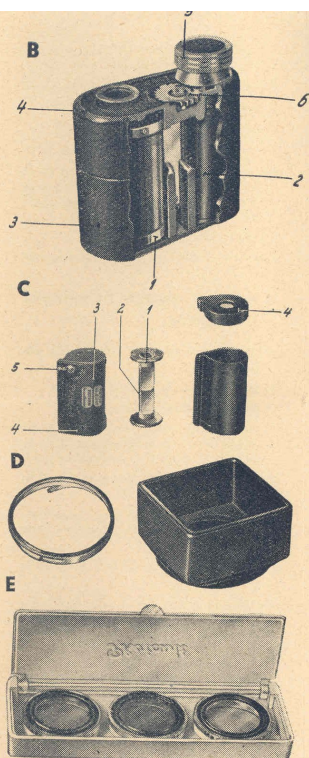
es una verdadera obra maestra, de precisión moderna, es la cámara que da a Vd. las últimas conquistas para fotografiar más fácil y mejor!



#### A) MAQUINA

1. botón giratorio para transportar el rollo
2. pernito para cerrar la máquina
3. raya de enfóque
4. pernito para mover el anillo métrico
5. escala de velocidades de obturación
6. ajustador del diafragma
7. palanquita para armar el obturador
8. tabla de profundidad focal
9. bloqueo para exposiciones de tiempo
10. borne para atornillar el disparador de alambre
11. eje del disparador
12. contador que automáticamente indica el número de tomas realizadas
13. visor que muestra la imagen útil
14. bloqueo para colocar el contador sobre el 0
15. ruedita del transporte

16. prolongación de enganche
17. tapa de la máquina
18. chasis lleno
19. señalador del chasis lleno
20. " " " " vacío
21. chasis vacío



#### B) REBOBINADOR PARA LUZ DEL DIA

1. chasis Leica
2. chasis Photavit
3. parte inferior del rebobinador
4. parte superior del rebobinador
5. botón giratorio
6. engranaje rebobinador

#### C) CHASSIS

1. carrete para enrollar la película
  2. hendidura para introducir la película
  3. cápsula del chasis
  4. tapa del chasis
  5. señalador del chasis que sirve para marcar el chasis.
- ese dispositivo puede tener el siguiente significado:
- punto rojo — hay película expuesta dentro del chasis punto blanco — hay película sin exponer en el chasis — 0 el chasis está vacío.

#### D) PARASOL

1. parasol
  2. anillo del parasol
- El parasol sirve para fotografiar a contraluz. Si se quiere usar simultáneamente parasol y filtro, hay que colocar primero el anillo (D 2) sobre el lente, luego el filtro, y finalmente el parasol (D 1).

#### E) JUEGO DE FILTROS CON 3 FILTROS DISTINTOS.

Filtro amarillo - filtro verde - filtro rojo

El número en el anillo del filtro - por ejemplo 3 - indica cuántas veces más hay que exponer con relación a tomas sin filtro.



## I. COMO SE CARGAN LOS CHASSIS PHOTAVIT

(los números entre paréntesis corresponden a los números de la descripción).

- Usando los **cartuchos Leica para luz del día** de uso corriente, se puede trabajar con el rebobinador Photavit a la luz del día.
- corte el extremo del rollo y practique un recorte en forma de V puntiaguda.
- inserte este extremo en la hendidura (C 2) del carrete Photavit y enrolle algo la película.
- lateralmente inserte al carrete (C 1) con el rollo en el chasis (C 3).
- cubra el chasis con su tapa (C 4).
- coloque los chasis Leica (B 1) y Photavit (B 2) en el rebobinador, de modo que el chasis Photavit ocupe el espacio menor.

- coloque la parte superior del rebobinador (B 4); en caso de no cerrar bien la tapa, dé vuelta al botón giratorio (B 5) hasta llegar al tope.
- dé vuelta al engranaje del rebobinador (B 6) en la dirección que indica la flecha R, hasta el tope.
- dé vuelta al botón giratorio del rebobinador (B 5) hasta sentirlo bloqueado (vuelta a la derecha).
- abra la tapa (B 4) y saque los chasis.
- divida el pedacito de película que asoma de los chasis por la mitad.
- vuelva a recortar el extremo del rollo en forma de V puntiaguda.

El chasis Photavit está ahora listo para ser colocado en la máquina.

**Observación:** un chasis Leica da 2 chasis Photavit llenos. En la película de un chasis Photavit lleno caben 25 tomas.

- Empleando los **cartuchos Leica para cuarto oscuro** de uso corriente, hay que usar el rebobinador en completa oscuridad. Se maneja igual como indicamos en el no. 1.

- Usando película para cine al metro hay que rebobinar en completa oscuridad.

- corte aproximadamente 80 cm de película
- recorte un extremo en forma de V
- inserte en el carrete Photavit (C 1)
- enrolle la película sobre el carrete (C 1)
- coloque al carrete con la película en el chasis (C 3) de manera que sobresalgan aproximadamente 3 cm de la hendidura del chasis
- ponga la tapa (C 4)
- recorte el cabo que asoma en forma de V

## II. COMO SE APRONTA LA MAQUINA PARA SACAR.

- levante el pernito de cierre de la máquina (A 2)
- quite la tapa (A 17) de la máquina
- extraiga el chasis vacío (A 18)
- inserte la película recortada en V del chasis lleno en la hendidura (C 2) de un carrete vacío (C 1) y enrolle un poco.
- inserte al carrete (C 1) en el chasis (C 3), y asegure la tapa (C 4)

después de esto resulta muy importante poner el señalador (C 5) del chasis vacío sobre el punto rojo

- coloque los chasis (A 21 y A 18) en la máquina

los chasis, unidos por el rollo, se colocan en la máquina de manera tal, que el chasis vacío (con el señalador sobre rojo) se encuentre debajo del botón giratorio (A 1)

- levante la tapa en dirección al botón giratorio (A 1) hasta que el chasis (A 21) se deslice adentro del espacio para chasis
- dé vuelta a la tapa en dirección al botón giratorio (A 1), hasta el tope

- dé vuelta al botón giratorio en la dirección que indica la flecha, hasta que la película se encuentre bien tendida entre los chasis, y la ruedita de transporte esté en una perforación.

- enganche la tapa de la caja en la caja por medio del dispositivo especial (A 16), y cierre la caja.

- empuje al botoncito de cierre (A 2) para abajo

- dé vuelta al botón giratorio (A 1) en la dirección que indica la flecha, hasta sentirlo bloqueado; arme al obturador, por medio de la palanquita (A 7), disparé, haciendo accionar el eje del disparador (A 11), y vuelva a hacer girar el botón hasta el bloqueo. Esas maniobras deben repetirse dos veces para enrollar la parte de la película que fué expuesta al acomodarla dentro de los chasis.

- empuje al bloque del condador (A 14) hacia abajo hasta colocar la ruedita (A 12) sobre el 0

- quite la tapa del lente

- ajuste el diafragma por medio del indicador correspondiente (A 6), el tiempo de obturación por medio de la escala de velocidades (A 5), y la distancia con el pernito (A 4)

- arme al obturador por medio de la palanquita correspondiente (A 7)

## AHOR LA MAQUINA ESTA LISTA PARA SACAR.

las maniobras después de cada toma se repiten de la manera siguiente:

- hacer girar el botón giratorio en la dirección que indica la flecha, hasta que llegue a bloquearse
- ajustar diafragma, velocidad de obturación y distancia
- armar el obturador
- disparar

## ESCALA DE PROFUNDIDAD FOCAL

Por medio de la escala de profundidad focal (A 8) se puede comprobar en el acto el campo de profundidad. Para eso hay a derecha e izquierda de la raya de enfoque

(A 3) senda escala con los números de diafragma 16, 11, etc. Esos números indican el campo de profundidad focal de la manera siguiente: digamos que la rayita de enfoque (A 3) esté sobre 3 m. Para diafragma 16 tendremos entonces

raya índice izquierda — infinito  
raya índice derecha — 1,4 m

quiere decir que, enfocando para los 3 metros, y poniendo el diafragma a 16, el campo de profundidad focal se extenderá desde 1,4 m hasta el infinito.

### Observación:

- para exposiciones de tiempo ponga el anillo con la escala de velocidades (A 5) sobre B, arme la palanquita del obturador (A 7), haga presión sobre el eje del disparador (A 11). Cuando el eje está en su posición más baja, empuje al bloqueo (A 9) en la dirección que indica la flecha. Queda ahora abierto el obturador hasta que Ud. haga volver el bloqueo (A 9) a su posición inicial.
- Cuando el botón giratorio sigue girando sin bloqueo, quiere decir que el chasis está vacío.

### Acuérdese de lo siguiente:

- Si al colocar una película nueva el botón giratorio no se mueve, arme el obturador y presione sobre el eje del disparador. De esta manera el bloqueo quedará anulado.
- Si el disparador no funciona, significa que el obturador no está armado, o la película no ha sido transportada, o la palanquita en forma de T junto al visor está en posición de bloqueo, o no hay rollo en la máquina.
- La ruedita del transporte de película no se debe mover en dirección opuesta a la normal.
- Pida siempre la devolución de sus chasis PHOTAVIT.

Y otro consejo más — cambie siempre el rollo Leica entero sobre los chasis Photavit o, si quiere, llene varios chasis a la vez. Resulta más agradable no darse cuenta recién en el momento de precisarlos, que los rollos ya han sido usados en su totalidad.

Y ahora le deseamos a Ud. que tenga plena satisfacción con su

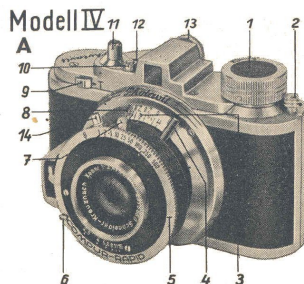
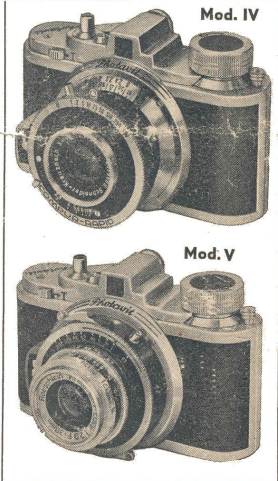
»Photavit«

Nos alegraremos con Ud. si nos quiere comunicar sus éxitos y experiencias.

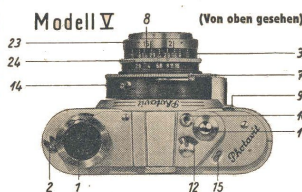
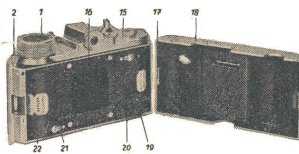
... y por si precisa algún consejo, estaremos siempre a sus gratas órdenes.

# Photavit

## Gebrauchsanweisung



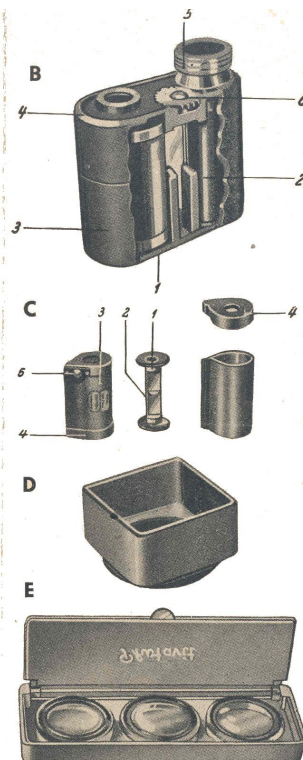
Kamera mit abgenommener Rückwand



### A) Kamera

- 1 Drehknopf zum Transport des Filmstreifens
- 2 Verschlussstift zum Verschließen der Kamera
- 3 Einstellstrich für Entfernung
- 4 Stift zur Betätigung des Meterringes bei Modell IV
- 5 Zeitskalenring für Verschluss
- 6 Zeiger zum Einstellen der Blende bei Modell IV
- 7 Verschlussspannhebel
- 8 Tiefenschärfenskala
- 9 Sperrhebel für Zeitaufnahmen
- 10 Einschraubbuchse für Drahtauslöser
- 11 Auslöseachse
- 12 Zahnrad zeigt selbsttätig die gemachten Aufnahmen
- 13 Sucher, der den Bildausschnitt angibt
- 14 Synchron. Blitzkontakt
- 15 Zahnradsperrhebel für Null-Einstellung des Zahnrades
- 16 Transportrad
- 17 Einhängensatz
- 18 Kameradeckel
- 19 Kassette, gefüllt
- 20 Kassettenmerker der gefüllten Kassette
- 21 Kassettenmerker der leeren Kassette
- 22 Kassette, leer
- 23 Entfernungseinstellring bei Mod. IV
- 24 Blendeneinstellring bei Mod. V

### F) Vorsatzlinsen



### B) Tageslicht-Umspuler

- 1 Leica-Kassette
- 2 Photavit-Kassette
- 3 Umspuler-Unterteil
- 4 Umspuler-Oberteil
- 5 Drehknopf
- 6 Umpulzahnrad

### C) Kassette

- 1 Spule zum Aufwickeln des Films
- 2 Schlitz zum Einführen
- 3 Kassettenhülse
- 4 Kassettendeckel
- 5 Kassettenmerker dient zum Kennzeichnen der Kassette.

Diese Zeigervorrichtung kann folgende Bedeutung haben:  
 roter Punkt - belichteter Film in Kassette  
 weißer Punkt - unbelichteter Film in Kassette  
 oder leere Kassette

### D) Sonnenblende

Die Sonnenblende wird für Gegenlichtaufnahmen verwendet. Es empfiehlt sich aber, sie auch bei allen anderen Aufnahmen zu nehmen. Bei Regen und Schnee schützt sie dazu das Objektiv.

### E) Filtersatz mit 3 verschiedenen Filtern

Gelbfilter - Grünfilter - Rotfilter  
 Der Faktor auf dem Ring des Filters z. B. 8 gibt an, um wievielfach länger gegenüber Aufnahmen ohne Filter zu belichten ist.

### F) Vorsatzlinsen für Nahaufnahmen

Linse Nr. I für Aufnahmen von 75-80,7cm  
 Linse Nr. II für Aufnahmen von 40-26,8cm  
 Linse I und II zusammen für Aufnahmen von 27-20,2cm.



## I. Laden der Photavit-Kassette:

(Die Nummern in Klammern decken sich mit den Nummern der Beschreibung.)

4. Bei Verwendung der handelsüblichen **Leica-Tageslichtpatronen** kann bei Tageslicht mit Photavit-Umspuler gearbeitet werden.
  - a) Leica-Anschnitt abschneiden und Filmanfang in eine spitze V-Form schneiden.
  - b) Anschnitt in Schlitz (C2) der Photavit-Spule (C1) einführen und Film eine Umdrehung aufwickeln.
  - c) Spule (C1) mit Film in Kassette seitlich (C3) einschieben.
  - d) Kassettendeckel (C4) schließen.
  - e) Die Leica-Kassette (B4) und Photavit-Kassette (B2) so in den Umspuler einsetzen, daß die Photavit-Kassette in den kleineren Raum zu liegen kommt.
  - f) Umspuler-Oberteil (B4) aufsetzen, wenn Deckel nicht schließt, Drehknopf (B5) drehen, bis Filmschlüssel einrastet.
  - g) Umspulerzahnrad (B6) in Pfeilrichtung R bis zum Anschlag drehen.
  - h) Umspuler-Drehknopf (B5) bis zur Sperrung drehen (Rechtsdrehung).
  - i) Deckel (B4) öffnen und Kassetten herausnehmen.
  - j) Den aus beiden Kassetten herausschauenden Film in der Mitte zertrennen.
  - k) Filmente wieder in spitze V-Form schneiden.
- Die Photavit-Kassette ist somit zum Einlegen bereit.
- Bemerkung:** Die Leica-Kassette ergibt 2 volle Photavit-Kassetten. Auf den Film

einer gefüllten Photavit-Kassette kann man ca. 25 Aufnahmen bringen.

2. Bei Verwendung der handelsüblichen **Leica-Dunkelkammerpackungen** muß im total dunklen Raum mit Photavit-Umspuler gearbeitet werden. Handhabung wie unter 1. angegeben.
3. Bei Verwendung von **Kino-Normalfilm in Meterware** muß in einem Dunkelraum umgespult werden.
- a) Im Dunkelraum ca. 80 cm Film Länge abschneiden.
- b) Film in V-Form anschneiden.
- c) In Photavit-Spule (C1) einführen.
- d) Film auf Spule (C1) aufwickeln.
- e) Spule mit aufgewickeltem Film so in Kassette (C3) einlegen, daß noch ca. 3 cm aus dem Kassettenschlitz heraus schauen.
- f) Kassettendeckel (C4) schließen.
- g) Herausschauendes Filmente in V-Form anschneiden.
4. Bei Verwendung der im Handel befindlichen **Photavit-Nachfüllpackungen** für 25 Aufnahmen (Fabrikat ADOX) fällt das Umspulen fort. Nach Entfernung der Außenverpackung wird der Film in die Kassette eingelegt, der Papiervorlauf durch den Kassettenschlitz gezogen und dann der Kassettendeckel aufgesetzt. Der Papiervorlauf wird nun herausgezogen, bis der Film erscheint. Dann wird weiter wie oben verfahren.

## II. Kamera aufnahmebereit machen

- a) Kamera-Verschlussstift (A2) hochziehen.
- b) Kameradeckel (A7) abnehmen.
- c) Leere Kassette (A18) herausnehmen.
- d) Den spitz angeschnittenen Film der

gefüllten Kassette in den Schlitz (C2) einer leeren Spule (C1) einführen und eine Umdrehung aufwickeln.

- e) Spule (C1) in Kassette (C3) einschieben u. Kassettendeckel (C4) schließen. Hiernach ist es wichtig, den Kassettenmerker (C5) der Leerkassette auf rot zu stellen.
- f) Kassetten (A24 und A18) in Kamera einlegen.

Die durch den Film zusammenhängenden Kassetten werden so in die Kassettenräume der Kamera eingelegt, daß die Leerkassette (Kassettenmerker auf rot gestellt) unter dem Drehknopf (A1) zu liegen kommt.

- g) Drehknopf (A1) hochheben und arretieren, dann Kassette (A24) in den Kassettenraum einlegen.
- h) Drehknopf (A1) drehen, bis er in die ursprüngliche Lage zurückgeht.
- i) Drehknopf in Pfeilrichtung drehen, bis Film zwischen den Kassetten gespannt ist und das Transportrad (A15) in der Perforation liegt.
- j) Gehäusedeckel in Gehäuse mit Öse (A16) einhängen und schließen.
- k) Kamera-Verschlussknopf (A2) wieder nach unten drücken.
- l) Drehknopf (A1) in Pfeilrichtung bis zur Sperrung drehen; Verschluss-Spannhebel (A7) spannen, mit Auslöseachse (A11) Verschluss auslösen und wieder Drehknopf (A1) bis zur Sperrung drehen. Diese Betätigung muß zweimal durchgeführt werden, damit der durch das Einlegen vorbereitete Film aufgespult wird.
- m) Zählrad-Sperrhebel (A14) nach unten schieben, bis Zählrad (A12) auf Null gesprungen ist.

- n) Optikschutzkappe abnehmen.

- o) Blende mit Zeiger (A6) bzw. bei Modell V mit Blendeneinstellring (A6) einstellen. Verschlusszeiten mit Zeitskalenring (A5) und Entfernung mit Stift (A4), bei Modell V durch Drehen der Vorderlinse (A4) auf die erforderliche Einstellung bringen.
- p) Verschluss mit Spannhebel (A7) spannen.

## Jetzt ist die Kamera aufnahmebereit

Die Betätigungsgriffe nach jeder Aufnahme wiederholen sich dann wie folgt

1. Drehknopf in Pfeilrichtung drehen, bis Sperrung erfolgt.
2. Blende, Verschlusszeit und Entfernung einstellen.
3. Verschluss spannen.
4. Aufnahme auslösen.

## Tiefenschärfenskala

Mit der Tiefenschärfenskala (A8) kann man sofort den eingestellten Tiefenschärfenbereich ablesen. Hierzu ist links und rechts vom Entfernungseinstellstrich (A3) je eine Skala mit den Blendenzahlen 16, 11 usw. angebracht. Diese geben den Tiefenschärfenbereich wie folgt an:

Der Entfernungseinstellstrich (A3) ist z. B. bei Modell IV mit Schneider-Optik, auf 3 m eingestellt. Für Blende 16 ergibt sich dann:

linker Indexstrich unendlich  
rechter Indexstrich 1,4;  
d. h. somit: bei Entfernungseinstellung 3 m und Blende 16 ist das Bild von 1,4 m bis unendlich scharf.

## Bemerkung:

1. Bei Zeitaufnahmen Zeitskalenring (A5) auf B stellen, Verschluss-Spann-

hebel (A7) spannen, Auslöseachse (A11) herunterdrücken. Wenn Auslöseachse in tiefster Stellung ist, Sperrhebel (A9) in Pfeilrichtung drücken. Der Verschluss bleibt jetzt geöffnet bis Sperrhebel (A9) wieder zurückgedrückt wird.

2. Läßt sich der Drehknopf ohne Sperrung weiterdrehen, so ist dies das Kennzeichen, daß sich kein Film mehr in der Spule befindet.

## Beachte:

1. Wenn beim Einlegen des Filmes sich der **Drehknopf nicht drehen** läßt, Verschluss spannen und Auslöseachse nach unten drücken. Somit ist die Sperrung aufgehoben.
2. Wenn **Auslösung sich nicht betätigen läßt**, ist entweder der Verschluss nicht gespannt oder der Film nicht weiter transportiert oder der T-Hebel am Sucher in Sperrstellung oder es ist kein Film eingelegt.
3. Das Film-Transporträdchen auf ~~Hand~~ nicht in falscher Drehrichtung (entgegengesetzte Filmtransport-Bewegung) bewegt werden.
4. Photavit-Kassetten vom Photohändler zurückgeben lassen.

Und dann noch einen Rat — spulen Sie immer gleich den ganzen Leicafilm auf unsere Kassetten um, denn es ist angenehmer, nicht erst bei Bedarf festzustellen, daß der Film aufgebraucht ist.

## Anmerkung

Die Handhabung ist bei beiden Modellen die gleiche bis auf Entfernung- und Blendeneinstellung. Bei Modell IV erfolgt die Einstellung der Entfernung durch einen Schneckengang, bei Modell V durch Drehen der Vorderlinse. Mod. V hat im Gegensatz zu Mod. IV einen besonderen Blendeneinstellung mit einrastbaren Blenden.

# Photavit

Motto: Wer mit Photavit fotografiert, hat mehr vom Fotografieren!

**Die Photavit** ist eine Präzisionskamera, mit der selbst der Anfänger kaum einen Fehler machen kann. So geistvoll, psychotechnisch folgerichtig ist sie bis ins einzelne durchdacht.

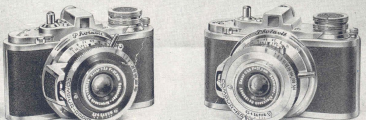
**Die Photavit** gestattet es Ihnen, Ihre Aufmerksamkeit ungeteilt dem Objekt der Aufnahme zuzuwenden. Alle wichtigen Teile sind so handgerecht angeordnet, daß man sie auch in Augenblicken höchster Eile treffsicher bedienen kann, ohne erst lange hineinsehen zu müssen.

**Die Photavit** verhindert automatisch jeden gedankenlosen Filmverschleiß, sei es durch Leertransport oder durch Doppelbelichtung. Bei ihr gibt es keinen Weitertransport des Films ohne vorherige Belichtung, keine neue Belichtung ohne vorherigen Weitertransport.

**Die Photavit** liefert ohne langwierige Entfernungsmessung und ohne zeitraubende Schärfeneinstellung gestochen scharfe Bilder. Selbst grobe Schärfefehler gleicht sie durch die erstmalige Tiefenschärfe ihrer außerordentlich kurzbreitweitigen Optik ohne Ihr Zutun aus.

**Die Photavit** denkt eben an alles, sogar an Ihre Finanzen. Bei all ihren Vorzügen in konstruktiv-technischer und ästhetischer Hinsicht, die sie zu einer der modernsten und formschönsten Kleinbildkameras der Gegenwart machen, kostet sie nicht mehr als eine wohlfeile Gebrauchskamera.

Die Kamera, die den Anfänger entzückt und den Kenner begeistert!



## Ein Blick in die „Kennkarte“ der Photavit:

1. Das Gehäuse aus kompaktem Leichtmetall verbürgt bei geringem Gewicht strapazierfähige Stabilität. Der Bezug aus feinarbigem, großem Leder verleiht der Kamera ein gödigenes, elegantes Aussehen, das durch die Mattverchromung aller blanken Teile wirkungsvoll betont wird. Im Innern zwei Kassettenkammern und kräftige Filmandruckplatte. Rückwand mit großer, übersichtlich gegliederter Tiefenschärfentabelle. Boden mit Stativgewinde. Lichtstarker Fernrohrversender, der klar und zuverlässig den Bildausschnitt zeigt.
2. Die lichtstarke Optik (Schneider Xenar 1:2,8 und 1:3,5, Schneider Radiolar 1:3,5) in Schneckenangfassung mit Radialhebel zur Entfernungseinstellung und „reduzendem“ Tiefenschärfenring (der automatisch den Schärfereich für alle Blenden anzeigt) erlaubt bei ihrer kurzen Brennweite von 3,75 cm und der dadurch bedingten außerordentlichen Tiefenschärfe stärkste Vergrößerungen ohne Beeinträchtigung der Bildgröße. Auf den Einbau eines kostspieligen Entfernungsmessers konnte wegen des großen Tiefenschärfereichs ohne weiteres verzichtet werden.
3. Der Compur-Rapid-Verschluß (von 1 sec bis 1/500 sec) macht die Kamera für alle Zwecke geeignet. Die Photavit vereinigt in sich alle Vorzüge einer Stativ- und einer Schnappschußkamera, darf deshalb ohne Übertreibung als Universalkamera angesprochen werden. Der Auslöser arbeitet besonders zügig und weich, so daß selbst noch Freilaufaufnahmen mit  $1/100 - 1/500$  sec gewagt werden können, ohne daß ein Verwackeln der Bilder zu befürchten ist.
4. Die Filmtank- und Verschlusssperre macht jeden Leertransport des Filmtreffens und jede Doppelbelichtung unmöglich.
5. Das automatische Zählwerk zeigt die Anzahl der gemachten Aufnahmen zuverlässig an. Es kann nach Einlage eines neuen Films durch eine Rücklafraste mühelos in die Anfangsstellung gebracht werden.
6. Das quadratische Bildformat (von 24 mal 24 mm) ist das optisch ideale Format für Linsen sehr kurzer Brennweite. Ein rechteckiges Format (etwa 24 mal 36 mm) würde unbedingt eine längere Brennweite erforderlich machen, habe aber damit den großen Vorteil der erhöhten Tiefenschärfe auf. Man merke sich: das quadratische Format ist kein beschnittenes Rechteck-Format, sondern umgekehrt: das Rechteck-Format ein beschnittenes quadratisches Format. Bei gleicher Brennweite geht auf ein quadratisches Bild mehr als auf ein rechteckiges.
7. Als Filmmaterial wird für die Photavit der handelsübliche Leica-Film verwendet, und zwar in zwei Hälften für je 25 Aufnahmen. Kein Zurückspulen des Films nach der Aufnahme. Die belichtete Kassette kann ohne weiteres gegen eine unbelichtete ausgetauscht werden. Die Einspülung des Leica-Films in die Photavit-Kassette geschieht bei Tageslicht. Zu diesem Zweck wurde eine sinnreiche Vorrichtung geschaffen, die mit Recht als „Dunkelkammer in der Westentasche“ bezeichnet wird. Übrigens kann jederzeit, auf einfachste Art, der belichtete Film nach jeder beliebigen Aufnahme entnommen und der unbelichtete Teil des Films weiterverwendet werden.

Einige Modelle haben auch Prontor-Super-Verschluß (1 sec -  $1/500$  sec) mit Selbstauslöser und synchronisiertem Blitzlichtauslöser

## ... die Kamera für Sie!

Wie oft wohl schon haben Sie mit einem Gefühl neidvoller Bewunderung, all die herrlichen Aufnahmen betrachtet, die in den Anlagen großer Fotogeschäfte, in illustrierten Zeitschriften, Bildbüchern und Ausstellungen als Vorbilder und Musterbeispiele der heutigen Lichtbildkunst zu sehen sind. Und wie oft wohl schon mögen Sie vor diesen Meisterwerken im stillen gedacht haben: „So etwas bringe ich nie und nimmer zustande?“

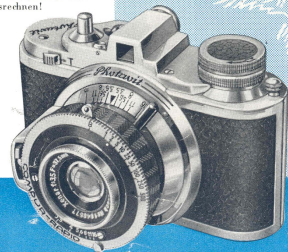
Das innere Eingeständnis eht Sie als einen bescheidenen Menschen, der selbstlos genug ist, um das Können anderer zu bewundern, aber — es geht von irdigen Voraussetzungen aus!

Zunächst einmal: die Aufnahmen, die immer wieder Ihre staunende Bewunderung erregen, sind zweifellos herrlich und durchaus Ihrer Bewunderung wert. Doch — so sonderbar es sich anhören mag — es sind *nur* sorgfältig ausgewählte, motivisch geduckt vergrößerte und wirkungsvoll hergestellte Haupttreffer aus einer langen „Lotterie“ von Schnappschüssen, unter denen sich auch sehr viele Durchschnittsaufnahmen und sogar ausgesprochene „Niets“ befinden. Zu Gesicht bekommen Sie aber immer nur die Haupttreffer, und eben das ist es, was zugleich Ihre Bewunderung — Ihren Minderwertigkeitskomplex — erregt. Sie deuten als reine Meisterschaft, was auch Sache der Geduld, der Klugheit und des Glückes ist.

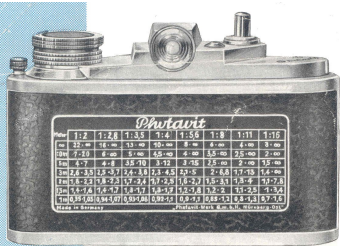
Vielleicht haben Sie dies bisher zu wenig beachtet. Vielleicht auch haben Sie bis jetzt nicht die richtige Kamera benutzt: eine Kamera, die es Ihnen wirtschaftlich ermöglicht, das „Fotografieren im neuen Stil“, das Fotografieren als Sport und „Lotterie“, kunstgerecht zu betreiben. Dazu braucht man nämlich unter allen Umständen eine Kleinbildkamera. Warum, das können Sie sich leicht ausrechnen!

Nur mit einer Kleinbildkamera, und zwar nur mit einer Präzisionskamera, kann man aus dem Vollen schöpfen, frisch und munter drauflos knipsen und sein Schnappschuß-Click erfolgreich versuchen. Ohne ständige Angst haben zu müssen, eines guten Tages, grade im entscheidenden Moment, mit leeren Taschen und leeren Kassetten dazustehen.

„Photavit“-Standard IV, Originalgröße



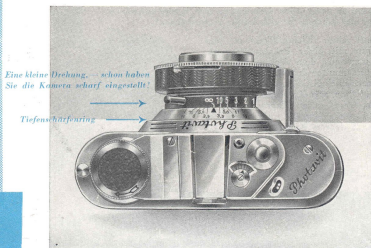




Originalgröße

Die Seele der lebendigen Lichtbilderei ist der Schnappschuß. Die Seele und das Geheimnis! Darum ist die Photavit gerade die richtige Kamera für Sie. Mit Photavit werden Ihnen schon bald genau so herrliche Aufnahmen gelingen wie den berühmtesten Meisterschützen der modernen Fotografie. Beherzigen Sie, was uns unlängst erst ein begeisteter Photavit-Amateur schrieb:

Wer mit „**Photavit**“ fotografiert, hat mehr vom Fotografieren!



Rasch und sicher! Das ist die Parole des modernen Amateurs. Er weiß, wann er einnehmen muß auf den entscheidenden Moment, die lebendige Situation. Rasch und sicher! Das ist auch die Parole der „Photavit“.

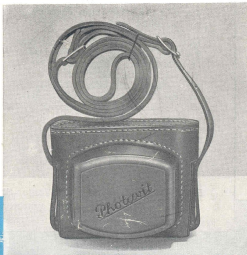


Das Gewicht der Photavit beträgt 300 Gramm. Sie ist nur 9,5 cm lang und 6 cm hoch. Etwas Handlicheres und Bequemerer kann man sich also kaum vorstellen. Sie läßt sich mühelos in einer kleinen Damentasche unterbringen. Ihre Vorzüge liegen buchstäblich „auf der Hand“.

1 Jahr Fabrikgarantie

Wer eine **Photavit** kauft, kauft eine Kamera fürs Leben

Die Photavit in der Bereitschaftstasche: unauffällig, leicht und jederzeit „schußbereit“



Hersteller:  
**PHOTAVIT-WERK GmbH.**  
NÜRNBERG 16

**Photavit**

erobert die  
**WELT!**

Hof