

This manual is for reference and historical purposes, all rights reserved.

This page is copyright© by M. Butkus, NJ.

This page may not be sold or distributed without the expressed permission of the producer

I have no connection with any camera company

On-line camera manual library

This is the full text and images from the manual. This may take 3 full minutes for the PDF file to download.

If you find this manual useful, how about a donation of \$3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you \$7.50 for a electronic copy or \$18.00 for a hard to read Xerox copy.

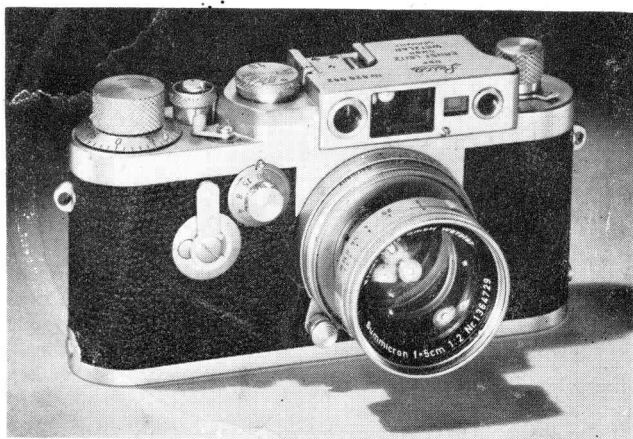
This will allow me to continue to buy new manuals and pay their shipping costs.

It'll make you feel better, won't it?

**If you use Pay Pal or wish to use your credit card,
click on the secure site on my main page.**

New Leica Equipment Supplement to the 13th Edition

LEICA MANUAL AND DATA BOOK



New Leica IIIg Camera

CONTENTS

1. New Leica IIIg Camera.....	2
2. 50mm Elmar f/2.8 Lens.....	5
3. 50mm Summicron f/2 in Rigid Mount for the Leica M 3.....	5
4. New Leica-Meter 3.....	6
5. New Leica-Meter MC for the Leica M 3.....	6
6. New Focoslides for Leica M 3.....	7
7. Reprovit II Copying Outfit.....	8
8. Focomat IIc Color Enlarger.....	8
9. Prado SM 300 Projector.....	12
10. New Flash Guide Number Tables.....	13

MORGAN & MORGAN, Inc • Publishers • New York
THE FOUNTAIN PRESS • London

New Equipment Supplement to the **LEICA MANUAL** **AND DATA BOOK**

- 1 -

LEICA IIIg CAMERA

It has been seven years since the last change was introduced in the basic Leica camera (excluding the completely new Leica M3). The last models were the Leicas IIIf, IIIf, and If. Based on the IIIf, (the first Leica to have internal flash synchronization) various changes have been incorporated in the latest Leica to improve performance and increase ease of operation. In addition, some of the features of the remarkable viewfinder of the M3 Leica have been found adaptable to the classic Leica design. With these changes and improvements, a new model of the "classic" Leica—the Leica IIIg—is now available.

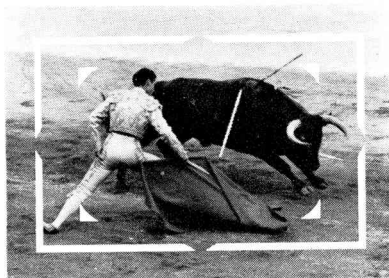
The three most important features of the new Leica IIIg are: big-image viewfinder with bright-line field indicator, automatic parallax compensation and self-adjusting, automatic internal flash synchronization.

Most of the steps in operating the IIIg are the same as those for the earlier IIIf Leicas as described in the LEICA MANUAL proper. Loading and unloading, focusing and estimating

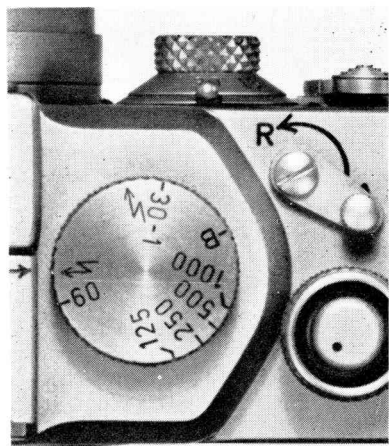
depth of field, use of the self-timer, changing lenses, etc., are still the same.

New Bright-Line Viewfinder

The new viewfinder image is nearly life-size (actually .7x). Superimposed on this image is a bright-line frame which outlines the field of the 50mm lenses. In addition, four triangular corners are visible inside the bright-line frame, defining the field of the 90mm lens. The optical device which forms the bright-line frame is illuminated by light entering the small window on the front of the camera. The frame outlines the precise field of the lens whether or not the eye is exactly centered over the eyepiece.



1. In the Leica IIIg built-in Bright-Line Viewfinder, the bright-line frame outlines the field of the 50mm lenses. Four triangular corners show field of 90mm lens.



2. Leica IIIg top shutter speed dial automatically synchronizes Class M and FP flashlamps; also Class F and strobe lights on lightning bolt symbols.

In addition, this bright-line device is coupled to the rangefinder in such a manner as to automatically compensate parallax for any distance on which the lens is focused.

The IIIg rangefinder and viewfinder have individual eyepieces placed close together at the back of the camera as in the IIIf. Only a slight shift is necessary to look through either eyepiece. The left eyepiece (rangefinder) is used in exactly the same manner as on the IIIf cameras. The right eyepiece is for the bright-line viewfinder.

Accessory viewfinders for other lenses fit into the shoe on top of the camera.

Automatic Parallax Compensation

Both the bright-line frame and the corner triangles move automatically as the lens is focused. This compensates for parallax for both the 50mm and 90mm lenses throughout the entire focusing range of each. In addition, the field of view is always outlined correctly, even if the user fails to sight through the center of the eyepiece.

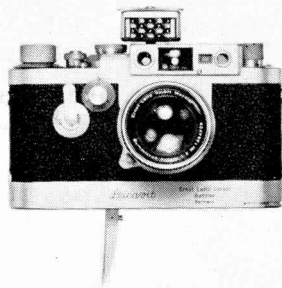
The IIIg Leica not only has no camera parallax, but it also has no eye parallax.

Automatic Flash Synchronization

The flash synchronization mechanism in the Leica IIIg now automatically varies the flash contact-point setting for best synchronization at each given shutter speed. It needs no special synchro-dial or additional adjustments for timing the shutter and flash. Standard flashlamps of Class M and FP are correctly synchronized at all shutter speeds recommended in the flash guide tables on pages 14, 15 and 16.

Class F flashlamps may be used with the *red lightning bolt only*, at any speed from 1/30 second down to 1 second. This slow-speed method (top shutter speed dial at the *red lightning bolt* and front dial at any setting from 1/15 to 1 second) will also work for Class M and Class FP lamps, but is not recommended, since the lightning bolt symbols are actually intended only as synchronization points for electronic flash and Class F flashlamps. The larger lamps in Class M and Class FP are best used at higher shutter speed settings.

Electronic flash units are synchronized at one of two settings. The



3. Leica IIIg Camera with new Leica-Meter 3 in top accessory clip and Leicavit Rapid Winder substituted for regular camera baseplate.



4. Leica IIIg shows field of 90mm Elmar lens (right) directly in camera's built-in bright-frame viewfinder; 28mm Wide Angle Elmar (left) has separate viewfinder.

shutter is set either on the black lightning bolt, giving an exposure speed of 1/50 second, or the red lightning bolt giving an exposure speed of 1/30 second. Focal-plane shutter speeds faster than 1/50 second cannot be used with electronic flash; slower shutter speeds can be used with electronic flash by setting the fast shutter speed dial at the *red* lightning bolt and the slow speed dial at any setting from 1/30 second to 1 second.

If the fast-speed dial is set on B, open-flash pictures may be taken with any type of flashlamp or electronic unit.

IIIg Shutter Settings

The principal difference between the shutter settings of the Leica IIIg and of the earlier IIIf is in the addition of two lightning bolt marks on the top IIIg dial, and the elimination of the synchro-dial found on the IIIf. Similar to the IIIf, the IIIg has two shutter speed dials—the main dial for higher speeds is on the top of the camera, and the supplementary slow-speed dial is on the front of the camera.

Shutter speeds on the new IIIg Leica are designed to correlate with the lens apertures. Each step up or down in shutter speeds gives half or double the exposure of the speed above or below it.

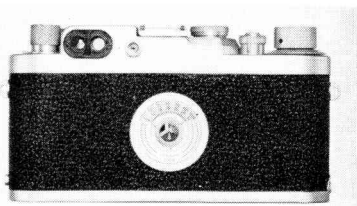
The slow-speed dial on the front of the camera gives "Time," 1 second, 1/2, 1/4, 1/8, 1/15, 1/30 second. The fast speed dial on top of the camera has "Bulb," 1/30, 1/60, 1/125, 1/250, 1/500, and 1/1000 second. Slow speeds of 1/30 to 1 second are set on the front dial, (with the top speed dial set at the same time on 30-1, or the *red* lightning bolt).

Exposures from 1/30 to 1/1000 second are obtained by setting the top dial. For the exact speed of 1/30, both front and top dials must be set to 30. Note that the figures on the top dial must be read only *after* the shutter has been wound. Since the top shutter speed dial rotates when the exposure is made, the indicator will not show the actual speed of the shutter until it is fully wound.

Other Features

The method of changing lenses on the IIIg Leica is the same as on the IIIf. All screw-in type Leica lenses now available for Leica cameras will fit the IIIg. In addition, a new version of the famous 50mm Elmar—with f/2.8 aperture—is now available in a screw-mount for the IIIg and earlier Leicas.

Another refinement on the IIIg is a new film-type indicator on the back of the camera, similar to that on the M3 Leica. Black-and-white and indoor and outdoor color film are indicated.



5. Film-type indicator on back of Leica IIIg provides a convenient reminder for type of film loaded in camera, similar to dial on Leica M3.

The IIIg Leica, due to its new enlarged window is slightly higher than the IIIf and earlier Leicas. Certain accessories, such as the Eveready cases, the Focoslides, etc., are available especially for this model. The Leicavit Rapid Winder, since it fits the bottom of the camera, requires no special change, and the Leicavit fits this camera. Other accessories, such as the Leica-Meter 3, special viewfinders, flash units, etc., can be used in the accessory clip on the top of the IIIg.

-2-

50mm ELMAR f/2.8 LENS

The 50mm f/3.5 Elmar was the first lens available for the Leica camera. It is on the performance of this first Leica lens that the Leica reputation was made. Now, 30 years and countless Leicas later, a new Elmar, and with its speed increased to f/2.8, is available for the first time. The added



6. The 50mm Elmar f/2.8 lens is the latest of a distinguished line of camera optics. The f/2.8 is the fastest of the Elmar lenses and especially useful for the slower color films.



7. The 50mm Summicron f/2 lens in rigid mount for the Leica M3 has a removable lens unit for use in various new close-up accessories which are available.

speed of the f/2.8 lens gives the Elmar a broader application, especially with the slower color films. The new lens uses lanthanum crown glass in its formula.

At this time, the f/2.8 Elmar will be available only in the screw mount for IIIg and earlier standard Leicas. The previous 50mm Elmar f/3.5 lens will continue to be manufactured in both bayonet and screw mounts.

Those who wish to use the f/2.8 Elmar on the Leica M3 can, of course, do so by using the bayonet adapter for 50mm lenses.

-3-

50mm SUMMICRON f/2 IN RIGID MOUNT FOR THE LEICA M3

The new 50mm Summicron f/2, in rigid, noncollapsible mount, is now the standard f/2 lens for the Leica M3 camera. The lens unit of this rigid Summicron can be removed from its focusing mount and used with a num-

ber of new close-up accessories in the same manner as the lens unit of the Dual Range Summicron. Lens unit and mount are matched to one another and bear identical serial numbers.

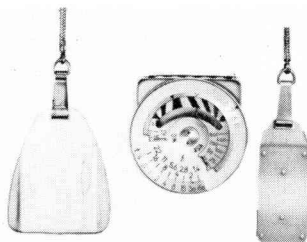
The collapsible mount 50mm f/2 Summicron is no longer available in bayonet style but is still being made with the screw mount for the IIIg and earlier Leicas. However, M3 owners who prefer a collapsible Summicron, can use the screw-mounting collapsible Summicron with the 50mm bayonet adapter.

- 4 -

NEW LEICA-METER 3

The new Leica-Meter 3 is similar to the previous Leica-Meter 2, except for an improved dial arrangement which simplifies the reading. The incident light attachments, the Booster Cell, and carrying cases for the Leica-Meter 2 also fit the new Leica-Meter 3.

The calculator dial of the new light meter is arranged for readings in a variety of systems. Film speed calibrations are given in both ASA and DIN numbers, shutter speeds are listed for both the geometric series shutters and the ASA series of shutter speeds. In addition, Light Value numbers are available for those who also own other



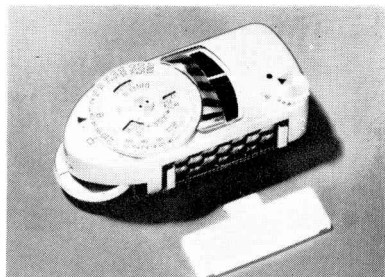
8. New Leica-Meter 3 (center) is small, light-weight, and can be carried on watch-chain clip (left) or used in any Leica accessory clip; incident-light attachment (right) can also be used on meter.

cameras calibrated by the LVS system. In addition to all of these, between the 1/30 and 1/60 setting is a red dot indicating the shutter speed of home movie cameras operating at 16 frames per second.

- 5 -

NEW LEICA-METER MC FOR THE LEICA M3

The new Leica-Meter MC for the M3 camera couples directly to the shutter speed dial to provide semi-automatic setting. The major improvement in the Leica-Meter MC is the Sensitivity Switch which adjusts the sensitivity of the meter cell electrically, thus eliminating the folding baffle which was formerly used over the



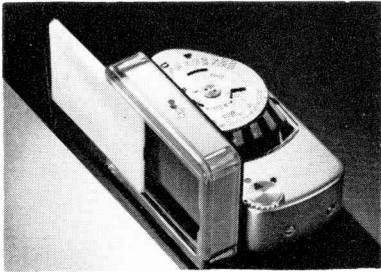
9. New Leica-Meter MC for the Leica M3 camera only, couples directly to shutter speed dial for semi-automatic setting. Sensitivity switch adjusts meter cell; incident-light attachment fits front.

front of the meter. In addition, there is a redesigned Booster Cell for a third sensitivity range for extremely low light levels. The Booster Cell can be used either by reflected or incident light, and incident light adapters come with both the meter and the Booster Cell.

The calculator range of the Leica-Meter MC has been extended to an exposure index of 1000.

The Leica-Meter MC couples to the

shutter speed dial of the Leica M3 and is graduated in the new "geometric series" of shutter speeds to correspond with the shutter on the latest Leica M3. The earlier Leica-Meter MC has speeds corresponding to the earlier M3 cameras. It is important to have the matching meter for your camera model.



10. Booster Cell with incident-light attachment can be used on Leica-Meter MC for added sensitivity in dim light.

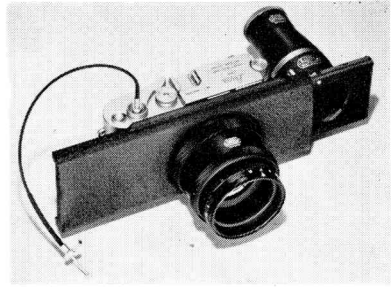
Geometric Shutter Speeds on Leica M3

In connection with the introduction of the new Leica-Meter MC, a minor change has been made in the shutter speed dial of current production of the Leica M3. The new shutter speed dials are calibrated in a geometric series of speeds, each of which gives twice as much exposure as the next faster speed. Thus the speed markings on the new dial are 1 second, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500 and 1/1000.

- 6 -

NEW FOCOSLIDE FOR LEICA M3

A new model of the Focoslide is now available for the Leica M3. With it, all sorts of copying and close-up photography can be done with ease and precision. Like previous models, the new Focoslide features ground-glass focusing.



11. Focoslide outfit for copying and close-ups with the Leica M3 features ground-glass focusing with ease and precision.

A special helical focusing mount known as the Focomount accepts the lens unit from either the new rigid mount Summicron f/2 lens or the Dual Range Summicron. These units are used with a special Diaphragm Adjusting Ring. Reproduction ratios available with the above units range from 1:50 to 1:2.2.

Another Focomount is available for use with the 50mm Focotar enlarging and repro lens. It covers a range from infinity down to 1:2.2, without extension tubes.

By using the Repto M3 extension tubes, you can extend the focusing range of both the above outfits to a 1:1 ratio or higher.

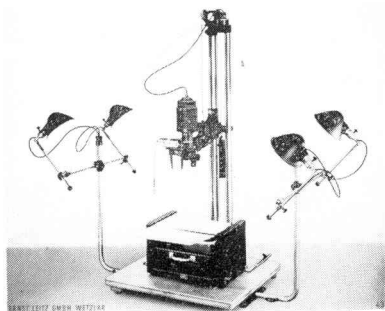
A Focoslide outfit for the M3 includes a helical focusing mount (Focomount), an extension tube for close work, a 5X magnifier for the ground glass, and a cable release for the camera.

Except for the manner of fastening the camera to the Focoslide, the new model for the Leica M3 operates in the same manner as the earlier Focoslides. It can be used on the column of any Leica enlarger or for field work, where it may be mounted on any standard tripod. This makes it particularly valuable for expedition work for close-ups of nature and scientific subjects in natural habitats.

REPROVIT II COPYING OUTFIT

The Reprovit II is a versatile outfit for microfilming and copying small objects, medical specimens, books, art work and all types of flat copy and printed material. Its focusing stage, mounted on a counterbalanced carrying arm, has a bellows and rack and pinion adjustment and a scale giving exposure factors and ratios of reproduction. Without additional accessories, areas from 16 x 24 inches to as small as 1 x 1-1/2 inches can be covered with the standard 50mm Focotar f/4.5 lens supplied with the outfit. By replacing the Focotar lens with the 24mm Micro Summar f/4.5 lens, macrophotographs can be made with magnifications up to 6.5x on the negative.

The focusing stage and bellows can be removed from the carrying arm and used on a tripod for such things as nature photography, etc. Focus is continuous from infinity to natural size (1:1). A 100-watt focusing light may be substituted for the magnifier over the ground glass in the focusing stage,



12. Reprovit II copying outfit is extremely versatile and can be used for microfilming and photographing all kinds of flat copy and small objects, medical specimens, etc.

projecting the ground glass outline and focusing lines down to the easel or baseboard. Four 100-watt frosted lamps in adjustable side arms provide even illumination for the exposure.

The constant-level easel will hold flat material up to 11-3/8 x 16-5/8 inches. As the illustration shows, it is an open box arrangement with a heavy glass top, a lower, sliding platform which can be used at various heights, an adjustable arm to hold copy that extends over the easel and a sliding wedge-shaped drawer for adjusting the height of the lower platform.

FOCOMAT IIc COLOR ENLARGER

The new Focomat, model IIc, replaces the Focomat IIa. It contains a variety of improvements and added features and is an excellent instrument for professional darkrooms. As in previous models, vertical adjustment is accomplished by a parallelogram linkage with counterbalance springs. The entire enlarger head is raised and lowered with one hand and may be locked at any desired point. Focusing is automatic with either of the two lenses supplied, throughout the range of motion of the parallelogram linkage.

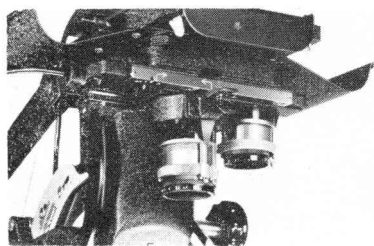
The standard Focomat IIc comes with a 60mm and 95mm Focotar f/4.5 lens and sliding lens changer, standard lamp housing with double condenser and 150-watt opal lamp, and 24 x 36mm and 6 x 6cm negative masks. Equipped for color work, the Focomat IIc includes all of the above, plus a filter drawer for 12 x 12cm correction filters and the internally illuminated enlargement indicator, complete with twin plug.

The lamp housing has an adjustable socket for either a 150-watt or 250-watt opal enlarging lamp. For the 250-watt lamp, a voltage reducer is available so that the lamp can be burned at full brilliancy during exposure and dimmed down during focusing and adjustment for longer life. The double-condenser unit is easily removed for cleaning.

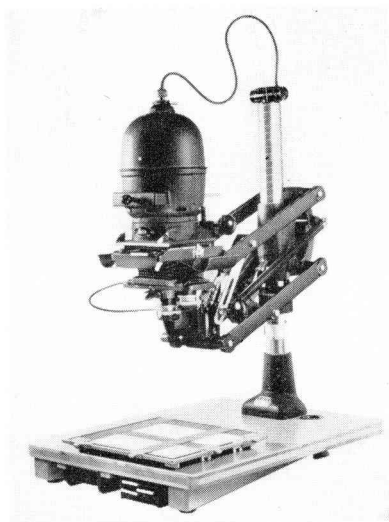
Two Lenses

The two Focomat lenses (60mm and 95mm Focotar f/4.5) are mounted on a special sliding carrier which in turn is mounted on roller bearings. A Bowden wire coupling connects the sliding lens carrier with a shifting mechanism for the focusing cams. In this way whenever the lens carrier is shifted to bring either of the two lenses into use, the corresponding cam is automatically connected at the same time so that the lens will automatically maintain sharp focus throughout the entire range of enlarger settings.

For special purposes such as using the tilting negative carrier for correction of faulty perspective, the automatic focusing mechanism can be disconnected by means of a knurled button. When the automatic focusing mechanism is uncoupled, the lens carrier is then set at one of three heights by means of grooves. Three grooves



13. The two lenses on the Focomat IIc enlarger are mounted on a sliding carrier connected by a Bowden coupling which selects a focusing cam for maintaining sharp focus throughout the entire enlarger range.

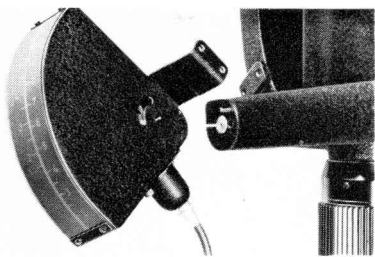


14. Focomat IIc Color Enlarger has automatic focusing and a variety of accessories for the professional darkroom.

permit setting the lens carrier at any of three different extensions for rough focusing; final focusing is carried out manually by the knurled focusing ring.

The 95mm Focotar lens has two notches in the focusing mount. The first notch is the setting for enlarging from negatives held in the normal negative film holders. When the enlarger is used for copying, the 95mm lens must be turned into its mount approximately 1 revolution, at which point it will click into the second notch marked "R".

The automatic focusing range is from approximately 2x to 11x with the 60mm Focotar f/4.5 and from approximately 1.3x to 6x with the 95mm Focotar f/4.5. When focusing manually, same-size reproductions, as well as reductions down to 1 : 2.5 (.4x) can be obtained, which allows printing of 6 x 9cm negatives on Leica size lantern slides or film. The maximum enlargement with the 60mm lens is 16x and with the 95mm lens is 9.3x.



15. The enlargement ratio indicator for the Focomat IIc has scales showing the exact degree of enlargement for either lens and is internally illuminated so that it may be seen in color darkrooms.

Enlargements beyond the automatic focusing range are produced by raising the enlarger head on the column. Bigger enlargements may be made by turning the enlarger head to the back of the column and projecting the image on the floor.

When using the automatic focusing device the reproduction ratio is shown on the enlargement indicator on the right side of the Focomat. When working in total darkness, as with color materials, a transilluminated enlargement indicator on the left side of the enlarger is used.

The enlarger column is made of brass tubing 2-3/8 inches in diameter and is spirally grooved. A knurled collar running on this spiral groove provides an easy means of raising or lowering the entire enlarging head. For automatic focusing, the knurled collar is turned downward until it rests on the vertical adapter ring which in turn contains 6 notches. The various notches allow adjustment for varying heights of easels. There are 3 positions for enlarging and 3 positions for copying. In each case one position marked "0" is for flat copy or printing paper placed directly on the baseboard. The mark "25" is for all Leitz 8 x 10-inch enlarging easels. The position marked "30" is for the 12 x 16-inch Leitz easel.

To set the ring for vertical adjust-

ment, release the clamp lever just under the parallelogram arms and raise the whole enlarger head by turning the knurled, threaded collar. Then turn the vertical adapter ring to the desired setting, which is attained by dropping the corresponding notch over the pin in the column. Next, lower the enlarger head by means of the threaded collar until it rests solidly on the adapter ring. Finally, tighten the clamping lever again.

The negative holder which comes with the Focomat IIc accepts films in strip form or as single frames from 2-1/4 x 3-1/4 down to 35mm. It features an upper glass pressure plate especially treated to prevent Newton rings; there is also a clear lower glass plate. The open area of the holder outlines the 2-1/4 x 3-1/4 frame; for smaller negatives, special metal masks are inserted.

To the left and right of the film stage there are rotatable discs. These can be set in three different positions to align 35mm, 45mm, and 62mm film strips.

When placing individual negatives in the negative holder, it is possible to align them more accurately by the use of the light box built into the baseboard. When this box is pulled out by its handle, the light goes on automat-

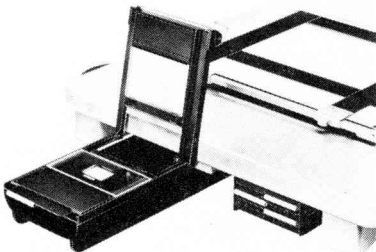


16. The spirally-grooved brass enlarger column of the Focomat IIc has a knurled collar for easy raising or lowering of the head, and a notched adapter providing adjustment for the height of various easels.

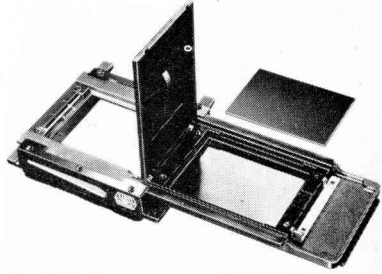
ically, giving illumination through a safelight filter so that no uncovered paper in the darkroom will be fogged accidentally. The negative holder fits into a recess on the extended light box, and may then be opened for easy alignment of the individual negative with its mask.

There is also available a special film holder for 35mm film only. It has a single upper pressure plate, treated to prevent Newton rings.

The Focomat IIc copying cassette is a sliding device which has a focusing glass with a test plate and a closed compartment with dark slide for sheet film or plates 2-1/2 x 3-1/4 inches. The cassette is loaded in a darkroom simply by lifting the lid and inserting a plate; if sheet film is used, a pressure plate supplied with the cassette is placed over the film. When copying, release the locking screw and raise the enlarger lamp house to the black ring on the guide pin. Insert the copying cassette into the film stage as far as possible, in place of the negative carrier. Next, turn the focusing mount of the 95mm Focotar lens one revolution clockwise, and latch it under catch "R"; also set the vertical adapter ring at the base of the column at "Repro" and the proper setting for the easel in use. In this way automatic focusing will be correct throughout the entire range. (The locking catch, "R", of the



17. Underneath the baseboard of the Focomat IIc is a sliding light box which facilitates the accurate centering of single-frame negatives in the mask aperture.



18. The special copying cassette with focusing glass and test plate for Focomat IIc.

95mm Focotar will have to be adjusted by the user if the copying cassette is purchased separately.)

By pressing the catch on the front of the cassette and pushing the slide to the right, the test plate is brought into position and may be projected onto the baseboard. It can be adjusted so that the negative size in use covers the material to be copied which is already placed on the board. The projected field carries a series of outlines for negative sizes 59 x 84mm (for 2-1/4 x 3-1/4-inch negatives), 54 x 54mm (for 7 x 7cm), 32 x 45mm and 24 x 36mm (for standard Leica size). After the copy has been centered, slide the cassette carrier to the left until it locks, pull out the darkslide to its stop, make the exposure, and then push the dark slide back.

When the material being copied is covered by a glass plate, or is highly glossy in surface, some danger of reflection exists. To prevent this a black light shield covering all shiny parts of the enlarger is fastened to the lens carrier.

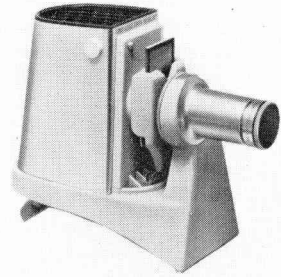
For correction of faulty perspective in enlarging, a film holder tilting device is available. It consists of a double glass plate film holder, an angle joint, and an upper and lower light-tight bellows. A tilting paper easel is available for use in connection with the tilting negative holder.

PRADO SM 300 PROJECTOR

The new Prado SM 300 is a 300-watt blower-cooled slide projector adaptable to 2x2 slides, both glass and cardboard mounted, and single-frame or double-frame film strips. The Prado SM 300 takes the place of the former Prado 250.

A new optical system featuring an aspheric condenser gives the Prado SM 300 a light output brighter than that of many 500-watt projectors. Four projection lenses from 85mm to 120mm in focal length are available for various screen sizes and projection distances.

Several types of slide carrier will be available for this new projector. The carrier normally supplied is a vertical slide changer which features an ingenious "anti-pop" device, to prevent cardboard-mounted slides from popping in and out of focus due to film buckling from the heat of the projector. This device consists of a self-adjusting curved glass plate which keeps slides constantly in the focal plane, yet cannot scratch or mar them. The "anti-pop" plate goes out of action auto-

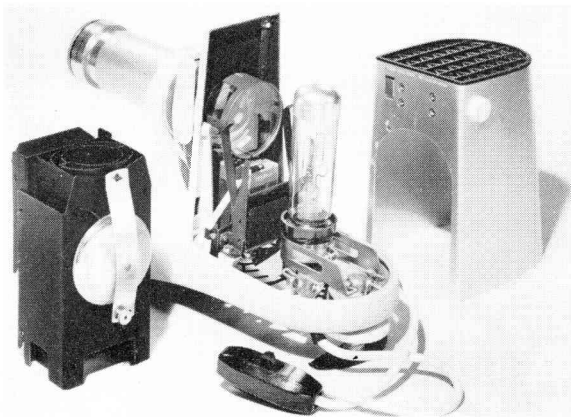


19. Prado SM 300 Projector with sliding vertical slide carrier.

matically when you use glass-mounted transparencies, which can be intermixed with cardboard mounts.

Three additional slide carriers will be available: a conventional horizontal slide changer, a semi-automatic magazine changer which also contains the anti-pop glass, and a film-strip carrier with masks for single and double-frame film strips.

A fiber carrying case is available for the Prado SM 300. It has a separate lower storage compartment for slide magazines, extension cords, spare projection bulbs, etc. The lower section of the carrying case also serves as a projection-stand base.



20. Lamphouse of Prado SM 300 Projector partially disassembled showing: (left) cooling duct and mirror reflector; (center) projector with condenser lenses and lamp; (right) lamphouse shell.

GUIDE NUMBER CHARTS

For Flash Synchronized Leica Cameras

The following guide numbers are for use with any flash-synchronized Leica camera and Leitz flash unit and most popular types of flash bulbs. To use the guide number, divide the bulb-to-subject distance into it. The answer is the correct aperture.

For instance: suppose you are using Adox KB-17 film (Exposure Index T. 25) and plan to shoot at 1/100th of a second with a #26 bulb at a distance of 9 feet. The guide number is 72. Dividing 9 (feet) into 72 gives 8 (f/8), the correct aperture under average conditions. When the aperture is one not marked on your lens (at 10 feet away, the guide number above would call for f/7.2), just use the nearest marked aperture—f/8.

Leica IIIg

Synchronization is completely automatic in the IIIg. However, for certain fast-peaking bulbs like the SM and SF, you must use the red arrow setting on the fast-speed dial. Bulbs requiring this setting are so marked on the charts. Do not use Class M or FP bulbs at the lightning bolt settings of the IIIg.

Leica M 3

Synchronization is also completely automatic in the Leica M 3. However, when you use certain fast-peaking bulbs, you must plug the camera cord of the flash unit into the lightning bolt socket of the M 3. Other bulbs call for the use of the bulb socket. The charts in this pamphlet indicate the proper socket to use. Models of the M 3 which have shutter speeds of 1/30, 1/60, 1/125, etc., have a red lightning bolt next to the 1/60th setting. This setting is for use with elec-

tronic flash, SM and SF flash bulbs. For all other types of bulbs, use only the marked shutter speed settings.

Black- and Red-Dial "f" Series Leicas

For the "f" series Leicas, you will also need the synchro-dial setting (which controls synchronization) in addition to the guide number. Separate charts for synchro-dial settings are below.

SYNCHRO-DIAL SETTINGS FOR LEICA IIIIF

RED DIAL		BLACK DIAL	
G.E. #6—SYLVANIA #26			
Open to 1/25th	16	Open to 1/30th	17
1/50th	13	1/40th	11
1/75th	7	1/60th	8
1/100th	5	1/100th	6.5
1/200th-1/250th	2	1/200th-1/250th	4
1/500th	1	1/500th	3.5
1/1000th	0	1/1000th	2.5

G.E. #5—SYLVANIA #0 and #25

Open to 1/25th	14.	Open to 1/30th	16
1/50th	11	1/40th	11
1/75th	6	1/60th	8
1/100th	4	1/100th	5.5
1/200th-1/250th	2	1/200th-1/250th	4
1/500th	1	1/500th	3.5
1/1000th	0	1/1000th	2

G.E. SM—SYLVANIA SF

Open to 1/25th	0	Open to 1/30th	4
----------------	---	----------------	---

G.E. M-2—SYLVANIA M-2

Open to 1/25th	7	Open to 1/30th	14
1/50th	7	1/40th	*

G.E. #11—SYLVANIA #40

Open to 1/25th	14	Open to 1/30th	17
1/50th	11	1/40th	11
1/75th	6	1/60th	8
1/100th	4	Open to 1/100th	5.5
1/200th-1/250th	2	1/200th-1/250th	4
1/500th	1	1/500th	3.5
1/1000th	0	1/1000th	2

G.E. #8—SYLVANIA #8

Open to 1/25th	10	Open to 1/30th	16
1/50th	10	1/40th	*

ELECTRONIC FLASH

1/25th	0	1/30th	2
1/50th	20		

*May be used but not recommended since variations in individual shutters and/or flash lamps prevent consistent results.

Electronic Flash

Since electronic flash units vary from brand to brand in their light output, the guide numbers in this pamphlet apply only to the Braun Hobby Flash units distributed by E. Leitz, Inc.

Using Guide Number Charts

1. Find the chart for the bulb you are using.
2. Read down the shutter speed column to the line for the speed you wish to use.
3. Read across the line to the column for the film or exposure index group you are using. The proper guide number appears in this column.
4. Check to see if the bulb you are using needs a particular socket connection (with the M 3) or speed dial setting (with the IIIg). With either of these two cameras, you are now ready to shoot.

Using Synchro-Dial Charts

For If, IIf and IIIg Leicas

1. As you did with the guide number charts, find the synchro-dial chart for the bulb you are using.
2. Under the proper column for your camera, (red or black dial), find the speed you intend to use.
3. Set the synchro-dial to the number given on the shutter speed line.

The guide numbers given here are accurate for Leitz Ceyoo and Chico flash units and the Braun Hobby electronic flash units.

Flash equipment of other manufacture may require an adjustment in the guide numbers. Also, keep in mind that the guide numbers are just that — guides. Changes in surroundings will call for changes in exposure. The guide numbers are for medium-sized, medium colored rooms. In small, light rooms, close down a stop; in large, dark rooms, open up a stop or two.

BRAUN HOBBY "AUTOMATIC" with Mirror-Center Reflector

M 3 Contact Socket ⚡

IIIg: Use BLACK or RED Arrow

SHUTTER SPEED	FILM EXPOSURE INDEX					
	12-20	24-40	50-80	100-160	200-320	400-640
Use any speed up to and including 1/50th second or special symbols	90‡	110‡	160‡	220‡	†	†

BRAUN HOBBY "STANDARD" with Mirror-Center Reflector

M 3 Contact Socket ⚡

IIIg: Use BLACK or RED Arrow

SHUTTER SPEED	FILM EXPOSURE INDEX					
	12-20	24-40	50-80	100-160	200-320	400-640
Use any speed up to and including 1/50th second or special symbols	56‡	80‡	110‡	160‡	†	†

BRAUN HOBBY "AUTOMATIC" with Mirror-Center Reflector

M 3 Contact Socket ⚡

IIIg: Use BLACK or RED Arrow

SHUTTER SPEED	FILM			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Use any speed up to and including 1/50th second or special symbols	155‡	75‡	75‡	56‡

NOTE: Electronic flash duration is far shorter than normal camera shutter speeds. Thus, shutter speeds do not affect the exposure (Guide Number).

†Not recommended because extremely high film speed results in overexposure.

‡For normal beam (50°); for 70° beam, open up about ½ stop.

BRAUN HOBBY "STANDARD"
with Mirror-Center Reflector

M 3 Contact Socket ⚡
IIIg: Use BLACK or RED Arrow

SHUTTER SPEED	FILM			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Use any speed up to and including 1/50th second or special symbols	110‡	56‡	56‡	35‡

NOTE: Electronic flash duration is far shorter than normal camera shutter speeds. Thus, shutter speeds do not affect the exposure (guide number).

‡For normal beam (50°); for 70° beam, open up about ½ stop.

ABBREVIATIONS

A.F.=Anscochrome Type F
E.F.=Ektachrome Type F
K.A.=Kodachrome Type A
K.F.=Kodachrome Type F

CLEAR LAMPS

G.E. #6—SYLVANIA #26

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	120	120	90	110	100	145	205	270	390	550
1/30th	120	120	90	110	100	145	205	270	390	550
1/40th	102	102	77	95	86	122	172	230	320	450
1/50th	85	85	64	80	72	100	145	190	250	350
1/60th	72	72	55	70	62	86	122	162	220	310
1/75th	60	60	45	55	52	72	100	135	190	270
1/100th	60	60	45	55	52	72	100	135	190	270
1/200th-1/250th	38	38	*	*	*	45	62	85	120	170
1/500th	28	28	*	*	*	32	45	60	85	120
1/1000th	*	*	*	*	*	*	*	42	60	85

G.E. #5—SYLVANIA #0 & #25

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	96	96	70	88	80	110	160	225	310	435
1/30th	96	96	70	88	80	110	160	225	310	435

G.E. #8—SYLVANIA #8

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	66	66	48	60	55	80	110	160	225	315
1/30th	66	66	48	60	55	80	110	160	225	315

G.E. #11—SYLVANIA #40

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	113	113	82	100	94	130	190	260	360	510
1/30th	113	113	82	100	94	130	190	260	360	510
1/40th	106	106	78	95	89	122	178	248	338	485
1/50th	100	100	74	90	84	115	165	235	315	460
1/60th	94	94	70	86	80	108	158	228	305	450

G.E. #M-2—SYLVANIA #M-2

M 3 Contact Socket ⚡

IIIg: Use RED Arrow

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	66	66	48	56	52	86	135	175	320	450
1/30th	66	66	48	56	52	86	135	175	320	450

G.E. SM—SYLVANIA SF

M 3 Contact Socket ⚡

IIIg: Use RED Arrow

SHUTTER SPEED	FILM EXPOSURE INDEX									
	A.F.	E.F.	K.A.	K.F.	12-20	24-40	50-80	100-160	200-320	400-640
Open to 1/25th	60	60	44	55†	49	64	86	120	170	240
1/30th	60	60	44	55†	49	64	86	120	170	240

†—with 82B filter

BLUE LAMPS

G.E. #6B—SYLVANIA #26B

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Open to 1/25th	100	75	75	45
1/30th	100	75	75	45
1/40th	90	64	64	38
1/50th	70	53	53	32
1/60th	70	48	48	28
1/75th	55	45	45	24
1/100th	55	45	45	24
1/200th-1/250th	47	32	32	*
1/500th	*	*	*	*
1/1000th	*	*	*	*

*May be used, but not recommended since variations in individual shutters and/or flash lamps prevent consistent results.

G.E. #5B—SYLVANIA #25B

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Open to 1/25th	135	70	70	42
1/30th	135	70	70	42

G.E. #M2B—SYLVANIA #M2B

M 3 Contact Socket ⚡

IIIg: Use RED Arrow

SHUTTER SPEED	FILM EXPOSURE INDEX			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Open to 1/25th	100	56	56	35
1/30th	100	56	56	35

G.E. #11B—SYLVANIA #40B

M 3 Contact Socket ⚡

SHUTTER SPEED	FILM EXPOSURE INDEX			
	Super Anscochrome	Anscochrome	Ektachrome	Kodachrome
Open to 1/25th	120	90	90	50
1/30th	120	90	90	50
1/40th	110	82	82	45
1/50th	100	75	75	40
1/60th	95	72	72	38