

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.

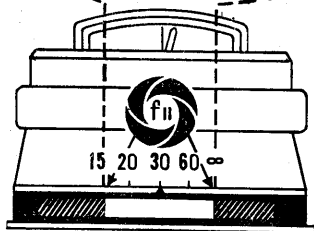
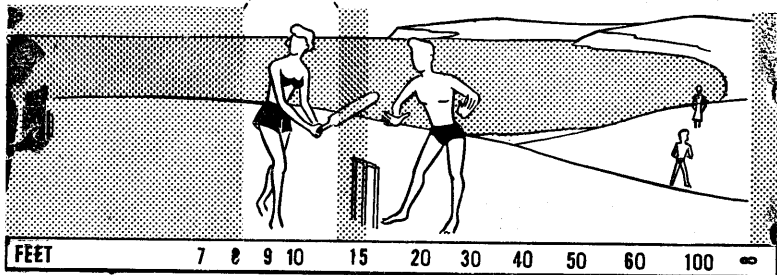
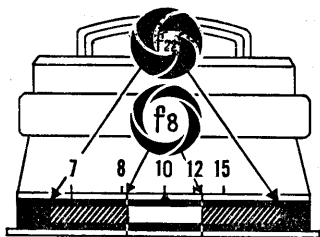
If you find this manual useful, how about a donation of \$3 to: M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701 and send your e-mail address so I can thank you. Most other places would charge you \$7.50 for a electronic copy or \$18.00 for a hard to read Xerox copy.

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.**

DEPTH OF FIELD



The automatic depth of field indicator fitted to current Rolleiflex models consists of a white strip next to the distance scale on the focusing knob. The length of this strip indicates the extent of the depth of field available as shown on the distance scale. The strip automatically shortens on opening up the lens aperture, and gets longer on stopping down. The larger the aperture, therefore, the shallower the zone of sharp focus. Thus with the camera focused on 10 ft., the depth at $f8$ will extend from about 8 to just beyond 12 ft.; at $f22$ it will cover a range from about $6\frac{1}{2}$ ft. to infinity. Far focusing distances also yield greater depth of field (bottom). Some Rolleiflex models have a depth of field scale engraved on the body panel next to the distance scale. This indicates the depth of field by means of index lines numbered to correspond to the lens aperture (top right)

This is coupled to the aperture control and directly shows the near and far limits of sharpness without reference to aperture numbers.

Two more points on depth of field.

First, the depth obtained depends also on the focal length of the lens. Short focus lenses yield more depth and tele lenses less depth. As the lens of the Rolleiflex is fixed we can ignore this point.

Secondly, the sharp zones obtained by the indicator or tables are based on a somewhat arbitrary assumption of how much blurring is acceptable. So depth of field data for different cameras with the same lens may not always agree, and you are also quite safe in rounding off figures obtained from such data. And if you intend to make really big enlargements from your negatives, you can use stricter standards of sharpness by simply stopping down the lens by one stop.

Zone Focusing

With action subjects and similar occasions where you want to shoot quickly, determining sharp zones even with the depth of field indicator wastes too much time. There you need prepared settings covering given near and medium distance ranges that you can easily memorize and set on the camera. The focusing zone table (p. 64) gives such settings; then you only have to worry about keeping the subject within that zone while you shoot.

With landscapes and views you sometimes need depth from infinity to the nearest possible point. Thus by stopping down to $f 11$ and focusing on 25 ft. you get a really extended zone from infinity down to about 12 ft. But don't use this setting if you want the maximum sharpness in the far distance; in that case focus on infinity (∞).

FLASH PHOTOGRAPHY

Flash is an efficient light source where no or insufficient daylight is available such as at night, indoors, etc. In the flashlight you carry your own private "sun" with which you can illuminate your subject or scene at any time and place.

THE FLASH BULB is similar to a small electric bulb. However, when current passes through it, it lights up in an intense flash lasting usually about $1/40$ to $1/60$ sec. Each bulb will flash only once and has to be discarded afterwards.

The flash bulb is inserted in a flash gun and the current of the battery fires the bulb, while a reflector fixed behind the bulb makes sure that all the light is directed towards the subject. Most flash guns incorporate a capacitor unit which increases the reliability of firing, even when the battery is nearly exhausted. The shutter speed, provided it is slower than $1/50$ sec., has no effect on exposure, since the flash is shorter than the exposure time.

Popular-size flash bulbs are now being made only in the blue-tinted variety. These can be used for black-and-white or colour (negative or reversal) photography. either as the sole light source or as fill-in lighting by daylight. Clear glass bulbs used to be recommended for negative colour films but this is no longer the case.

ELECTRONIC FLASH UNITS utilize the discharge of a high-tension capacitor through a flash tube. The power is derived from an accumulator or battery (there are also models working from the mains electricity supply). The electronic flash outfit is rather bigger and heavier than the flash bulb outfit, its comparative light output equals a small flash bulb and its initial cost higher. On the other hand, anything from 10,000 to 25,000 flashes are obtained from one tube. The flash duration is extremely short ($1/700$ to $1/2000$ sec.) and will arrest the fastest movements. The cost of an individual exposure is negligible.

Electronic flash is suitable for black-and-white and negative colour film and also for daylight type, reversal colour films. It can also be used for fill-in lighting by daylight.

How to use Flash

The Rolleiflex shutters are internally synchronized for use with flash bulbs and electronic flash. The cable from the flash gun is plugged into the flash socket of the camera. On releasing the shutter, an electric circuit is automatically closed through the flash socket, setting off the flash at this moment.

The shutters of the Rollei-Magic II and earlier Rolleiflex models have a non-adjustable flash contact which has the characteristics of the X-synchronization described below. On all other shutters the synchronizing lever can be set to X or M.

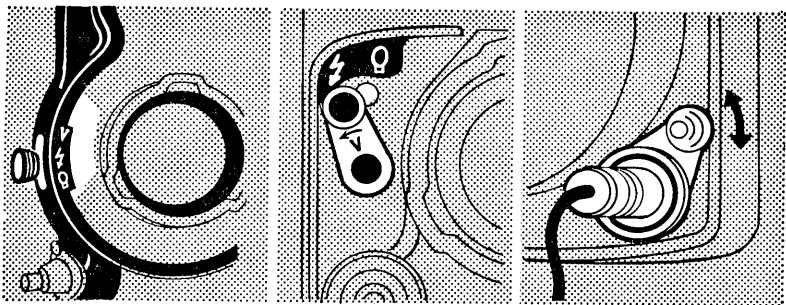
The Rolleiflex models prior to 1950 are not synchronized for flash but they can be fitted with an internal flash contact and are then handled as explained for X synchronization.

WITH THE SYNCHRONIZING LEVER SET TO X the shutter closes the flash circuit at the moment when the blades are fully open. Therefore, electronic flash is synchronized at any shutter speed to 1/300 or 1/500 sec. This setting may also be used with flash bulbs with short firing delay (i.e. bulbs which require only 4-6 milliseconds—thousands of a second) to reach the peak of their light output with the shutter set to 1/60 sec. With other bulbs, the fastest usable speed is 1/30 sec.

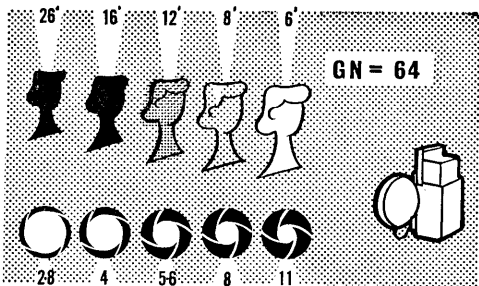
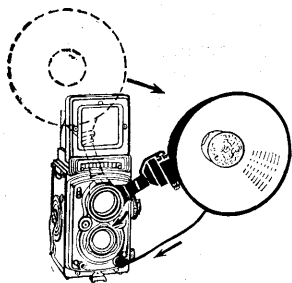
WITH THE SYNCHRONIZING LEVER SET TO M the shutter closes the flash circuit 16-18 milliseconds before the shutter blades open to allow for the firing delay of most average flash bulbs. This setting is suitable for normal flash bulbs at all speeds up to 1/300 or 1/500 sec. The M-setting will not synchronize electronic flash or short-delay bulbs.

WITH THE SYNCHRONIZING LEVER SET TO V (not on Rollei-Magic II and early Rolleiflex models) the delayed action release for self-portraits is brought into action. At the same time the shutter works with X-synchronization. This means that you can work with delayed action and flash at X-synchronization; delayed action with M-synchronization is not possible. (Many earlier Rolleiflex

FLASH EXPOSURES



Modern Rollei models have a synchronizing lever to select different types of flash synchronization. With the lever set to the symbol of a lightning flash, the camera is synchronized for electronic flash at all shutter speeds, or for flash bulbs up to 1/30 second. When set to the symbol of a flash bulb, all speeds up to 1/500 second can be used with flash bulbs, but not with electronic flash. Moving the lever to V tensions the self-timer (page 35). To move the lever pull out the button at the end first. The flash cable from the flash gun plugs into the socket on the camera (right); a lock holds the plug securely in position. To release the plug, pull the lever surrounding the socket (right).



The Rolleiflex gun, specially designed for the Rollei models, has a bracket with a bayonet ring which fits over the finder lens of the camera. That holds the flash gun firmly on the camera (left). Flash exposures can conveniently be worked out by guide numbers, which are the product of the *f*-number and flash-to-subject distance for correct exposure. To obtain the correct lens opening divide the guide number by the distance. For example, with a guide number of 64 (right) and a flash 8 feet from the subject, the correct aperture is $64/8=f8$. Similarly with a flash at 16 feet the correct aperture would be *f*4, and so on.

models have a separate self-timer system which is independent of flash synchronization.)

Exposure Guide Numbers

There is a convenient way of working out exposures with flash, and this is by means of a guide number. When you buy flash bulbs you will always find the guide number for any speed of film printed on the packet.

To find the correct aperture to use, divide the guide number by the distance between the flash and the subject. For instance, suppose you find that the guide number of the bulb with the film in use is 160. If you then want to take a photograph at a distance of 10 ft. from the subject, divide $160 \div 10 = 16$. Therefore, the correct aperture to use is $f 16$. Alternatively, if you want to use an aperture of $f 8$ for any reason, then the correct flash distance is $160 \div 8 = 20$. So the flash must be 20 ft. from the subject.

So far we have assumed that the exposures have been for average shots without much subject movement. For these a shutter speed of $1/30$ sec. is long enough to utilize all the light emitted from the bulb. On the other hand, to arrest fast movements a faster shutter speed is required, such as $1/125$, $1/250$ or even $1/500$ sec. With each of these speeds a different guide number is needed (usually printed on the flash bulb packet) to determine the correct exposure. They allow for a wider aperture to compensate for the fact that at fast shutter speeds some of the light emitted from the bulb is lost.

CAMERA CARE IN TROPICAL CLIMATES

High and widely varying temperatures with low humidity, as occur in desert regions and dry seasons, and very high humidity in rainy seasons, call for special precautions to protect the life and continued good performance of the camera. These conditions also cause the growth of moulds on organic matter. Sand, dust and insects may present problems.

The camera should be kept dry and clean. Leather parts should be wax polished, metal parts lightly greased. Never leave the camera unnecessarily exposed to heat. Always keep it in its case. A water-tight metal ever-ready case (●) is available for most models for complete protection from air, dust, water. The lens should be covered with a lens cap when not in use. Outer lens surfaces have to be kept clean, dirt and grit removed with an air-blower and by tapping. Wipe the lens surface with cotton wool or open mesh fabric (butter muslin) when required.

Store photographic equipment in an airtight metal box or a tin which should be sealed with adhesive (e.g. medical) tape. In a humid atmosphere, add some desiccating agent, e.g. silica gel.

Condensation on the lens may occur when the camera is moved from a cool place into humid heat; this has to be removed before use and the whole camera carefully wiped before re-storing.

Films should not be kept longer than six months in their original airtight tins (tropical packing) at continual temperatures of 90°F (32°C). At continual 100°F (38°C), the life of most films is limited to a month or two. Keep films for as short as possible a time in the camera.

Films should be processed as soon as possible after exposure—within a week or two or, in very hot humid climates, within a few days. Keep the film in an airtight container with desiccant (to absorb moisture). If possible, keep in a refrigerator, but only if you can dry out the exposed film and the container is sealed.

FACTS AND FIGURES

This section gives the more important exposure, close-up, zone focusing, film, etc., data for the Rolleiflex in handy tabular form for easy reference.

CONVERSION OF FEET AND INCHES INTO METRIC UNITS

Many cameras are marked only in either the metric or British system, while most of the tables in this book are also given in only one system. The table below shows at a glance equivalent lengths

| British to Metric | | Metric to British | |
|-------------------|----------|-------------------|---------------------|
| $\frac{1}{8}$ in. | 0.32 cm. | 0.5 cm. | $\frac{1}{4}$ in. |
| $\frac{1}{4}$ in. | 0.64 cm. | 1 cm. | $\frac{3}{8}$ in. |
| $\frac{1}{2}$ in. | 1.27 cm. | 2 cm. | $\frac{1}{2}$ in. |
| 1 in. | 2.54 cm. | 3 cm. | $1\frac{1}{8}$ in. |
| 2 in. | 5.08 cm. | 4 cm. | $1\frac{3}{8}$ in. |
| 3 in. | 7.62 cm. | 5 cm. | $1\frac{1}{2}$ in. |
| 4 in. | 10.2 cm. | 6 cm. | $2\frac{1}{8}$ in. |
| 5 in. | 12.7 cm. | 7 cm. | $2\frac{3}{8}$ in. |
| 6 in. | 15.2 cm. | 8 cm. | $3\frac{1}{8}$ in. |
| 7 in. | 17.8 cm. | 9 cm. | $3\frac{1}{2}$ in. |
| 8 in. | 20.3 cm. | 10 cm. | $3\frac{3}{8}$ in. |
| 9 in. | 22.9 cm. | 12 cm. | $4\frac{1}{8}$ in. |
| 10 in. | 25.4 cm. | 15 cm. | $5\frac{7}{8}$ in. |
| 11 in. | 27.9 cm. | 20 cm. | $7\frac{7}{8}$ in. |
| 1 ft. | 30.5 cm. | 25 cm. | $9\frac{1}{8}$ in. |
| 2 ft. | 61.0 cm. | 30 cm. | 11 in. |
| 3 ft. | 91.4 cm. | 40 cm. | $15\frac{3}{4}$ in. |
| 4 ft. | 1.22 m. | 50 cm. | $19\frac{3}{4}$ in. |
| 5 ft. | 1.52 m. | 60 cm. | $23\frac{3}{8}$ in. |
| 6 ft. | 1.83 m. | 80 cm. | $31\frac{1}{2}$ in. |
| 7 ft. | 2.13 m. | 100 cm. | $39\frac{1}{2}$ in. |
| 8 ft. | 2.44 m. | 1.5 m. | 4 ft. 11 in. |
| 9 ft. | 2.74 m. | 2 m. | 6 ft. 7 in. |
| 10 ft. | 3.05 m. | 2.5 m. | 8 ft. 3 in. |
| 15 ft. | 4.57 m. | 3 m. | 9 ft. 10 in. |
| 20 ft. | 6.10 m. | 4 m. | 13 ft. 2 in. |
| 30 ft. | 9.14 m. | 5 m. | 16 ft. 5 in. |
| 40 ft. | 12.20 m. | 10 m. | 33 ft. 0 in. |
| 50 ft. | 15.24 m. | 15 m. | 49 ft. 2 in. |
| 100 ft. | 30.48 m. | 20 m. | 66 ft. 0 in. |

ZONE FOCUSING

| Zone | Stop | $2\frac{1}{4} \times 2\frac{1}{4}$ Rollei | | 4×4 Rollei | |
|------------------|--------|---|------------------------|---------------------|----------------------|
| | | Distance Setting | Depth from-to | Distance Setting | Depth from-to |
| Near ... | ... f8 | 10 ft. | $7\frac{1}{2}$ –15 ft. | 6 ft. | 5 – $7\frac{1}{2}$ |
| Intermediate ... | ... f8 | 20 ft. | 12–57 ft. | 15 ft. | 10–30 |
| Far ... | ... f8 | 30 ft. | 15– ∞ | 30 ft. | 15– ∞ |

DAYLIGHT EXPOSURE VALUES

For Rolleiflex models without exposure meter add up the respective figures in tables 1, 2 and 3. The result is the exposure value to be set. On models without exposure value scale use table 4 to get aperture-speed combinations (set the shutter to nearest marked speeds if necessary—e.g. 1/25 sec. for 1/30 sec.).

1. Subject and weather

| | Clear sun | Cloudy light | Cloudy med. | Cloudy dull |
|--|--------------|-----------------|----------------|----------------|
| Distant land or seascape without foreground | 13 | 12 | 11 | 10 |
| —with light foreground | 12 | 11 | 10 | 9 |
| Open streets, squares, light buildings | 11 | 10 | 9 | 8 |
| Figures, groups in open, near objects without heavy shade | 10 | 9 | 8 | 7 |
| —in shade | 9 | 8 | 7 | 6 |
| Average interiors, diffused light ... | 3 | 2 | 1 | 0 |

2. Month and time

| | May June July | Aug. April | Sept. March | Oct. Feb. | Nov. Dec. Jan. |
|---|---------------------|---------------|----------------|--------------|----------------------|
| 11 a.m. to 2 p.m. | 3 | 3 | 3 | 2 | 2 |
| 9 a.m. to 11 a.m. } 2 p.m. to 4 p.m. } | 3 | 3 | 2 | 2 | 1 |
| 4 p.m. to 6 p.m. | 2 | 2 | 1 | 1 | 0 |

3. Film Speed

| | | | | | | | |
|-------------|--------|--------|--------|----------|----------|----------|-----|
| ASA ... 10° | 16-20° | 25-32° | 50-64° | 100-125° | 200-250° | 400-500° | 800 |
| DIN ... 21 | 13-14 | 15-16 | 18-19 | 21-22 | 24-25 | 27-28 | 30 |
| | 2½ | -1½ | -1 | 0 | +1 | +2 | +3 |
| | | | | | | | +4 |

4. Exposure Values and Aperture-Speed Combinations

| Exp. Value | f2.8 | f4 | f5.6 | f8 | f11 | f16 | f22 |
|---------------|-------|-------|-------|-------|-------|-------|-------|
| 3 ... | 1 | 2s | 4s | 8s | 15s | 30s | 60s |
| 4 ... | 1/2 | 1 | 2s | 4s | 8s | 15s | 30s |
| 5 ... | 1/4 | 1/2 | 1 | 2s | 4s | 8s | 15s |
| 6 ... | 1/8 | 1/4 | 1/2 | 1 | 2s | 4s | 8s |
| 7 ... | 1/15 | 1/8 | 1/4 | 1/2 | 1 | 2s | 4s |
| 8 ... | 1/30 | 1/15 | 1/8 | 1/4 | 1/2 | 1 | 2s |
| 9 ... | 1/60 | 1/30 | 1/15 | 1/8 | 1/4 | 1/2 | 1 |
| 10 ... | 1/125 | 1/60 | 1/30 | 1/15 | 1/8 | 1/4 | 1/2 |
| 11 ... | 1/250 | 1/125 | 1/60 | 1/30 | 1/15 | 1/8 | 1/4 |
| 12 ... | 1/500 | 1/250 | 1/250 | 1/60 | 1/30 | 1/15 | 1/8 |
| 13 ... | — | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 | 1/15 |
| 14 ... | — | — | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| 15 ... | — | — | — | 1/500 | 1/250 | 1/125 | 1/60 |
| 16 ... | — | — | — | — | 1/500 | 1/250 | 1/125 |

SHUTTER SPEEDS TO ARREST MOVEMENT

| Subject | Distance between Camera and Object | | | | |
|------------------------------|------------------------------------|----------------|-------------------|-----------------|------------------|
| | 10 ft. 3 m. | 20 ft. 6 m. | 40 ft. 12.5 m. | 80 ft. 25 m. | 160 ft. 50 m. |
| Swimmer | 1/60 | 1/30 | 1/15 | 1/8 | 1/4 |
| Walker | 1/125 | 1/60 | 1/30 | 1/15 | 1/8 |
| Runner | 1/250 | 1/125 | 1/60 | 1/30 | 1/15 |
| Cyclist | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| Skater | — | 1/500 | 1/250 | 1/125 | 1/60 |
| Horse galloping | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| " trotting | 1/250 | 1/125 | 1/60 | 1/30 | 1/15 |
| " walking | 1/125 | 1/60 | 1/30 | 1/15 | 1/8 |
| Racehorse | — | 1/500 | 1/250 | 1/125 | 1/60 |
| Waves | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| Heavy waves | — | — | 1/300 | 1/150 | 1/75 |
| Boats making 10 knots | 1/250 | 1/125 | 1/60 | 1/30 | 1/15 |
| " " 20 knots | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| Tramcar | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| Motor car on road | — | 1/500 | 1/250 | 1/125 | 1/60 |
| Slow train | 1/500 | 1/250 | 1/125 | 1/60 | 1/30 |
| Fast train | — | — | 1/500 | 1/250 | 1/125 |
| Aeroplane | — | — | — | 1/500 | 1/250 |

The shutter speeds as listed above are applicable to motion which cuts right across the direction in which the lens and the photographer look.

If the motion photographed is at an acute angle with the direction in which the lens points the exposure time can be longer, say 1/30 second instead of 1/60.

If the subject moves directly towards the lens (or for that matter away from it) the exposure time can be three or four times longer, say 1/8 of a second instead of 1/30.

Where the above table shows speeds not marked on the shutter use the next faster speed.

APERTURES WITH CLEAR FLASH BULBS (80-100 ASA FILMS)

| Distance | G.E., Mazda, G.E.C. No. 1 Philips: PF 1 | Mazda, G.E., G.E.C.: No. 5 Philips: PF 5 Sylvania: Press 25 | Philips: PF 38 Sylvania: Press 40 G.E.: No. 11 | Philips: PF 60 G.E.: No. 22 Sylvania: No. 2 |
|------------------------|---|--|---|--|
| 16 ft. (2 m.) | 16 | — | — | — |
| 18 ft. (2.5 m.) | 12.5 | — | — | — |
| 10 ft. (3 m.) | 10 | 16 | — | — |
| 22 ft. (3.6 m.) | 8 | 16 | 16 | — |
| 25 ft. (4.5 m.) | 6.3 | 11 | 12.5 | 16 |
| 20 ft. (6 m.) | 4.5 | 8 | 10 | 12.5 |
| 25 ft. (7.5 m.) | 4 | 6.3 | 8 | 11 |
| 30 ft. (9 m.) | 3.5 | 5.6 | 6.3 | 9 |

In bright rooms (kitchen, bathroom) or with films faster than 100 ASA, use next smaller aperture. In very large rooms, at night outdoors or with slower 40-64 ASA film use next larger aperture.

The *Focal Flash Chart* gives exposures for all types of flash as well as for flash combined with daylight. It further contains a list of all flash bulbs with their use and performance, also information on "colour and flash" and much additional flash data.

APERTURES WITH BLUE FLASH BULBS

(For 32 ASA Daylight Type Colour Film)

| Distance | PF 1/B No. 1B | PF 60/97 No. 22B |
|-----------------------|------------------|---------------------|
| 3½ ft. (1 m.) | f 16 | — |
| 5 ft. (1.5 m.) | f 11 | f 22 |
| 7 ft. (2.2 m.) | f 8 | f 16 |
| 10 ft. (3 m.) | f 5.6 | f 11 |

CLOSE-UPS WITH 2¼ × 2¼ in. ROLLEIS (75-80 mm. LENS)

| | 31 | Lens-to-Subject Distance (in.) | | | | | |
|-------------------------|-------------|--------------------------------|---------------|---------|---------------|---------|--------|
| | | 23 | 19 | 15 | 13 | 10 | |
| Rolleinar needed | ... No. 1 | No. 1 | No. 1 or 2 | No. 2 | No. 2 or 3 | No. 3 | |
| Subject field (in.) ... | ... 22 × 22 | 16½ × 16½ | 13⅝ × 13⅝ | 11 × 11 | 8⅝ × 8⅝ | 6⅝ × 6⅝ | |
| Scale of reproduction | ... 1 : 10 | 1 : 7.5 | 1 : 6 | 1 : 5 | 1 : 4 | 1 : 3 | |
| Depth of field (in.) | | | | | | | |
| f 8 | | 28¼-33¾ | 21¾-24¾ | 18-20½ | 14⅝-15¾ | 12⅝-13¾ | 9¾-10½ |
| f 11 | | 27½-34¼ | 21⅛-25½ | 17⅝-20½ | 14¾-16⅛ | 12⅝-13¾ | 9½-10⅝ |
| f 16 | | 26½-37¼ | 20⅝-26¾ | 17-21½ | 13⅝-16½ | 12¼-13¾ | 9⅝-10½ |
| f 22 | | 24¾-41¼ | 19½-28¼ | 16⅝-22½ | 13½-17⅝ | 12-14⅝ | 9⅝-10¾ |

CLOSE-UPS WITH 1⅝ × 1⅝ in. ROLLEIS (60 mm. LENS)

| | 31 | Lens-to-Subject Distance (in.) | | | | | |
|-------------------------|---------------|--------------------------------|---------------|-----------|---------------|---------|--------|
| | | 23 | 19 | 15 | 13 | 10 | |
| Rolleinar needed | ... No. 1 | No. 1 | No. 1 or 2 | No. 2 | No. 2 or 3 | No. 3 | |
| Subject field (in.) ... | ... 20⅝ × 20⅝ | 15⅝ × 15⅝ | 13 × 13 | 10⅝ × 10⅝ | 7⅝ × 7⅝ | 6 × 6 | |
| Scale of reproduction | ... 1 : 13 | 1 : 9.5 | 1 : 8 | 1 : 6.5 | 1 : 5 | 1 : 3.7 | |
| Depth of field (in.) | | | | | | | |
| f 8 | | 27⅞-34¼ | 21½-25⅝ | 17¾-20¼ | 14¼-16 | 12⅝-13¾ | 9¾-10½ |
| f 11 | | 27-36⅛ | 20¾-25⅝ | 17⅝-20⅞ | 13¾-16⅝ | 12½-13¾ | 9½-10⅝ |
| f 16 | | 25½-39¼ | 20-27 | 16¾-21¾ | 13⅝-17 | 12-14⅝ | 9⅝-10¾ |
| f 22 | | 23⅞-43½ | 19⅛-29⅝ | 16⅝-23⅝ | 13-17¾ | 11⅝-14¾ | 9⅝-11 |

The actual subject distance, plane of maximum sharpness, etc., are determined on the focusing screen. The above tables give values at selected distances for general guidance.

CONVERSION OF FILM SPEED SYSTEMS

| ASA & BS Arith. (New) | ASA Log (New) | DIN | BS Log |
|-----------------------------|---------------------|-----|-----------|
| 3 | | 6 | 16° |
| 6 | 1° | 9 | 19° |
| 12 | 2° | 12 | 22° |
| 25 | 3° | 15 | 25° |
| 50 | 4° | 18 | 28° |
| 100 | 5° | 21 | 31° |
| 200 | 6° | 24 | 34° |
| 400 | 7° | 27 | 37° |
| 800 | 8° | 30 | 40° |
| 1600 | 9° | 33 | 43° |

BLACK-AND-WHITE FILTER DATA

| Rollei Filter | Exposure Value Adjustment | Exposure Increase | Application and Effect |
|---------------|---|----------------------|---|
| Light yellow | -1 | 2× | Landscapes, snow, clouds. Renders yellow and green lighter, blue darker |
| Medium yellow | -1.5 | 3× | |
| Light green | -1 | 2× | Landscapes, snow, clouds. Renders green lighter, red (complexion) and blue darker |
| Green | -1.5 | 3× | |
| Orange | -1.5 to -3 | 3-7× | Hazy distant views. Renders yellow-red lighter, blue darker, distant objects clearer |
| Light red | -2 to -3.5 | 4-10× | Hazy distant views. Renders red lighter, blue-green darker. Gives stronger effects than orange filter |
| Light blue | -0.5 | 1.5× | Artificial light. Renders red darker. For extra red-sensitive pan emulsions |
| UV | -0.5 | 1.5× | High altitudes above 6,000 ft. Seascapes. Eliminates ultra-violet rays which reduce contrast |
| Infra-red* | Exposure depends on the type of emulsion used and must be determined by tests | | Special filter for infra-red emulsions. Transmits dark red above 700 m μ and infra-red |

* Infra-red filters marked with R engraved on the mount have ground-in focus compensation. Focusing is done in the usual way, on the ground glass.

COLOUR CORRECTION FILTERS

| Film balanced for | Used with | Filter | Exposure value Adjustment | Exposure increase |
|--|--|--------|---------------------------------|----------------------|
| Daylight (Reversal) (Type D or T) | skylight filter haze correction | R1 | 0 | 0 |
| | overcast daylight | R2 | -0.5 | 1.5 |
| | reduction of excessive red | B1 | 0 | 0 |
| | electronic flash | R2 | -0.5 | 1.5 |
| | average daylight and blue flash bulbs | none | — | — |
| | clear flash bulbs | B2+B5 | -1.5 | 3 |
| | photofloods | B11 | -1.5 | 3 |
| | studio lamps (3200K) | B2+B11 | -2 | 4 |
| Flash (Reversal) (Type F) | overcast daylight | R11 | -1 | |
| | electronic flash | R2+R5 | -1 | 2 |
| | average daylight and blue flash bulbs | R2+R5 | -1 | 2 |
| | clear flash bulbs | none | — | — |
| | photofloods | B2 | -0.5 | 1.5 |
| | studio lamps (3200K) | B5 | -1 | |
| Photofloods (Reversal) (Type A) | blue flash bulbs and average daylight | R11 | -1 | 2 |
| | clear flash bulbs | R2 | -0.5 | 1.5 |
| | photofloods | none | — | — |
| | studio lamps (3200K) | B2 | -0.5 | 1.5 |
| | household lamps | B2+B5 | -1.5 | 3 |
| Daylight (Negative) (Type D or T) | daylight, electronic flash, and blue flash bulbs | none | — | — |
| | clear flash bulbs, photofloods and studio lamps (3200K) | B5 | -1 | 2 |
| Artificial light (Negative) (Type A) | daylight, electronic flash and blue flash bulbs | R5 | -0.5 | 1.5 |
| | clear flash bulbs, photofloods and studio lamps (3200K) | none | — | — |

BLACK-AND-WHITE FILMS

| Make | Type | Speed in | | Grain | Available as |
|------------------------|------|----------|---------|-------|--------------|
| | | ASA | DIN | | |
| Adox— | | | | | |
| Adox KB 14 | ... | P. | 40 | 17 | uf. rm |
| Adox KB 17 | ... | P. | 80 | 20 | ef. rm |
| Adox KB 21 | ... | P. | 200 | 24 | mg. rm |
| Adox KB 25 | ... | P. | 500 | 28 | mg. r |
| Adox UKB 17 Reversal | ... | P. | 80 | 20 | ef. m |
| Agfa— | | | | | |
| Isopan F | ... | P. | 80 | 20 | ef. rm |
| Isopan FF | ... | P. | 32 | 16 | uf. rm |
| Isopan ISS | ... | Pr | 200 | 24 | mg. r |
| Isopan Ultra | ... | Pr. | 500 | 28 | mg. rm |
| Isopan Record | ... | Pr. | 1600 | 33 | mg. rm |
| Anso— | | | | | |
| Super Hypan | ... | P. | 500 | 28 | mg. rm |
| All weather pan | ... | P. | 125 | 22 | fg. r |
| Ferrania— | | | | | |
| P.30 | ... | P. | 80 | 20 | ef. m |
| P.33 | ... | Pr. | 160 | 23 | fg. m |
| P.36 | ... | Pr. | 320 | 26 | mg. rm |
| Gevaert— | | | | | |
| Gevapan 27 | ... | P. | 64 | 19 | ef. rm |
| Gevapan 30 | ... | P. | 125 | 22 | fg. rm |
| Gevapan 33 | ... | P. | 250 | 25 | fg. rm |
| Gevapan 36 | ... | P. | 500 | 28 | mg. rm |
| Dia-Direct 26 Reversal | ... | P. | 25 | 15 | ef. m |
| Infra-Red † | ... | IR. | 100 | 21 | fg. m |
| Ilford— | | | | | |
| Pan F | ... | P. | 50 | 18 | uf. m |
| F.P.3 | ... | P. | 125 | 22 | ef. rm |
| H.P. 3 | ... | Pr. | 400 | 27 | mg. rm |
| H.P. 4 | ... | P. | 400-650 | 27-29 | fg. r |
| H.P.S. | ... | Pr. | 800 | 30 | mg. rm |
| Kodak— | | | | | |
| Panatomic X | ... | P. | 40 | 17 | ef. rm |
| Plus X | ... | P. | 160 | 23 | fg. m |
| Tri-X | ... | P. | 400 | 27 | mg. rm |
| Royal X Pan | ... | P. | 1250 | 32 | mg. r. |
| ORWO-Wolfen— | | | | | |
| NP 10 | ... | P. | 8 | 10 | uf. rm |
| NP 18 | ... | P. | 50 | 18 | ef. rm |
| NP 22 | ... | P. | 125 | 22 | fg. rm |
| NP 27 | ... | P. | 400 | 27 | mg. rm |
| Perutz— | | | | | |
| P 14 | ... | P. | 40 | 17 | uf. m |
| P 21 | ... | Pr. | 200 | 24 | fg. rm |
| P 25 | ... | Pr. | 500 | 28 | mg. rm |
| P 17 | ... | P. | 80 | 20 | ef. rm |
| Miniature Reversal | ... | P. | 25 | 15 | ef. m |

The ASA speeds are the minimum correct exposure ratings (page 25). Some manufacturers may, however, still be quoting their speeds according to the older system to give more liberal exposure.

TYPE: P=panchromatic; Pr.=panchromatic with increased red sensitivity; IR=infra-red.

GRAIN: uf.=ultra fine grain; ef.=extra fine grain; fg.=fine grain; mg.=medium grain.

† With deep red filter.

AVAILABLE AS: r=roll film size, m=miniature (35 mm.) film size; the latter can be used only in conjunction with the Rolleikin cine film back.

COLOUR FILMS

| Film | Type | Speed in | | Pro- cessing | Avail- able as |
|--------------------------|------------------------------|----------|-----|-----------------|-------------------|
| | | ASA | DIN | | |
| Agfacolor Neg. | Universal (Type CN14) | 20 | 14 | U | rm |
| Agfacolor Neg. | Universal (Type CN17) | 40 | 17 | U | rm |
| Agfacolor Rev. | Daylight (Type CT18) | 50 | 18 | M | rm |
| Agfacolor Rev. | Artificial Light (Type CK20) | 80 | 20 | M | rm |
| Anso 50 Rev. | Daylight | 50 | 18 | M | rm |
| Anso 100 Rev. | Daylight | 100 | 21 | M | m |
| Anso T100 Rev. | Artificial Light | 100 | 21 | M | m |
| Anso 200 Rev. | Daylight | 200 | 24 | M | m |
| Ektachrome Prof. Rev. E3 | Daylight | 50 | 18 | U | r |
| Ektachrome X Rev. | Daylight | 64 | 19 | U | rm |
| H.S. Ektachrome Rev. | Daylight | 160 | 23 | U | m |
| H.S. Ektachrome Rev. | Artificial Light (Type B) | 125 | 22 | U | m |
| Ferraniacolor Rev. | Daylight | 20 | 14 | U | rm |
| Ferraniacolor Rev. | Artificial Light | 20 | 14 | U | rm |
| Ferraniacolor Dia. 28 | Daylight | 50 | 18 | M | rm |
| Gevacolor Neg. | Universal (Type N5) | 25 | 15 | L | rm |
| Gevacolor Rev. | Daylight (Type R5) | 40 | 17 | M | rm |
| Ilford Colorslide | Daylight | 32 | 16 | M | m |
| Ilford Super Colorslide | Daylight | 64 | 19 | M | m |
| Ilford Colorprint | Universal | 64 | 19 | M | m |
| Kodachrome X Rev. | Daylight | 64 | 19 | M | m |
| Kodachrome II Rev. | Daylight | 25 | 15 | M | m |
| Kodacolor Neg. X | Universal | 80 | 20 | U | rm |
| Perutz Color Rev. | Daylight (Type C18) | 50 | 18 | M | rm |

PROCESSING: M=films processed by the maker; L=films can be processed only by an approved laboratory through a photographic dealer; U=films can be processed by the user by means of special processing kits.

Available as: r=rollfilm size, m=miniature (35 mm.) film size; the latter can be used only in conjunction with the Rolleikin cine film back.