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LEICA R9

Bedienungsanleitung / Instructions

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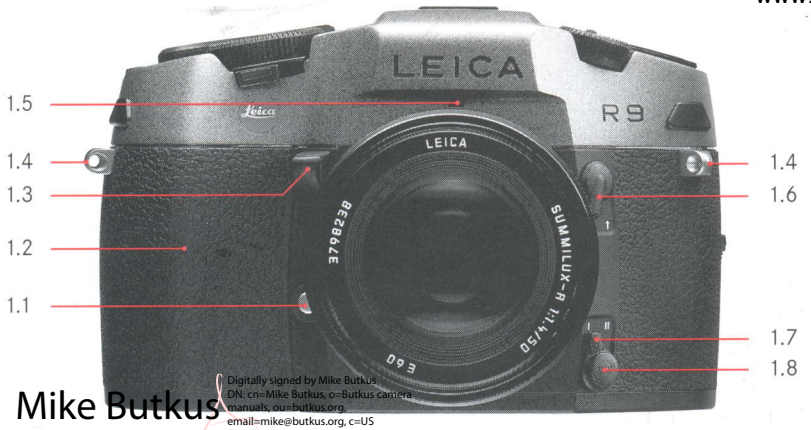
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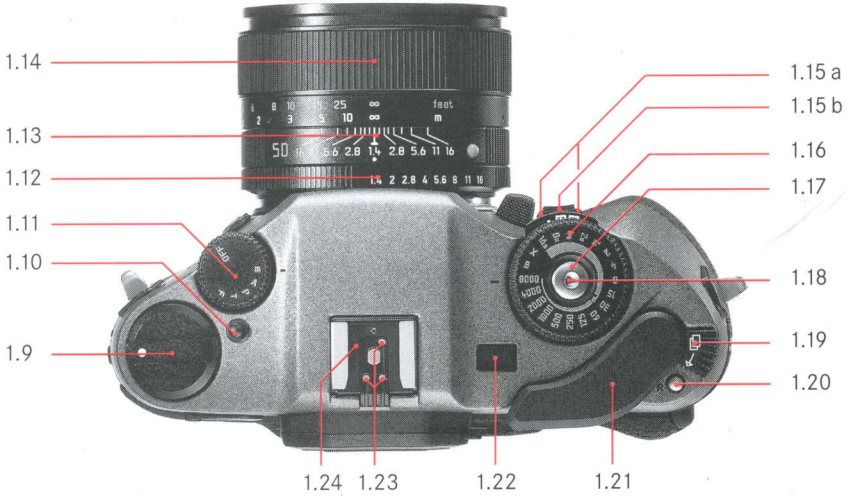


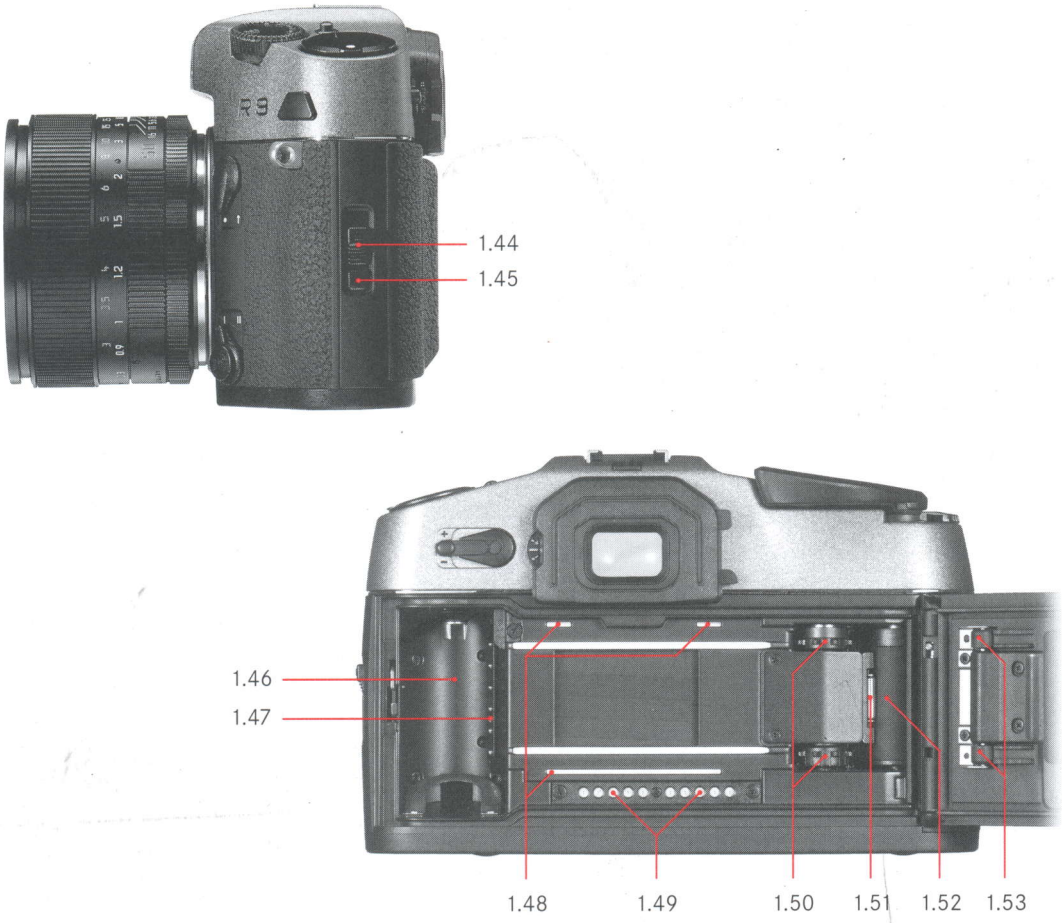
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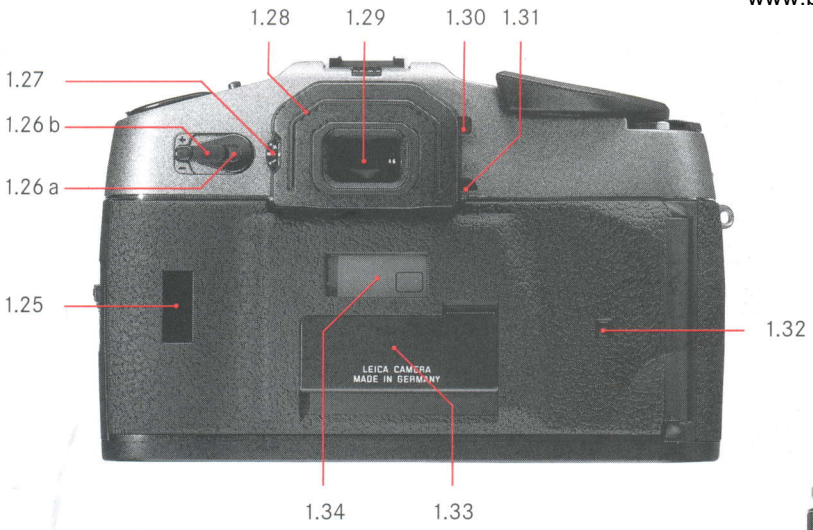


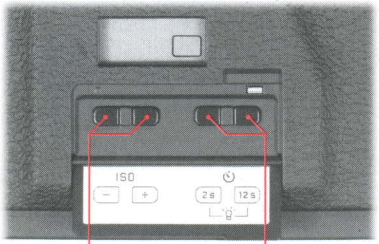
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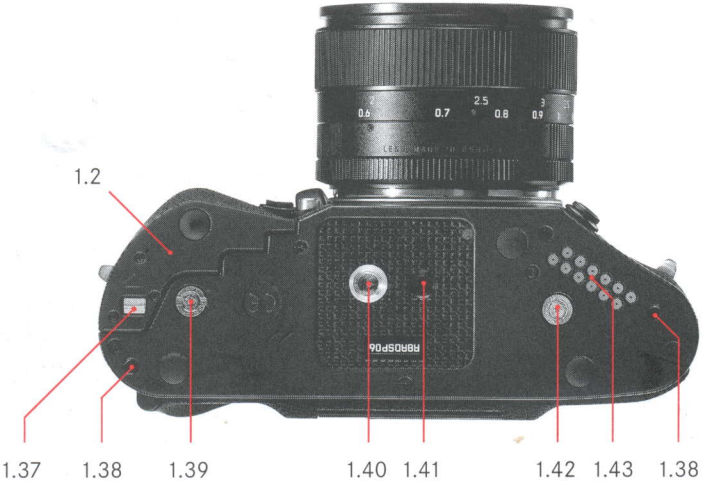



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Foreword

Dear customer

Leica would like to thank you for purchasing the LEICA R9 and congratulate you on your choice. With this unique SLR camera, you have made an excellent selection.

We wish you a great deal of pleasure and success using your new LEICA R9.

A range of automatic functions and the manual setting options offer you carefree photography, while still allowing you complete freedom in picture composition. High quality precision mechanics and electronics ensure reliability and a long service life.

The camera is complimented by a carefully selected range of useful accessories, which provide you with the perfect equipment for all your photographic needs.

The LEICA R9 is designed to be practical to operate and has a logical and easy to understand design. It is nonetheless recommended that you read these instructions carefully, so that you can take full advantage of the photographic possibilities offered by your new LEICA R9.

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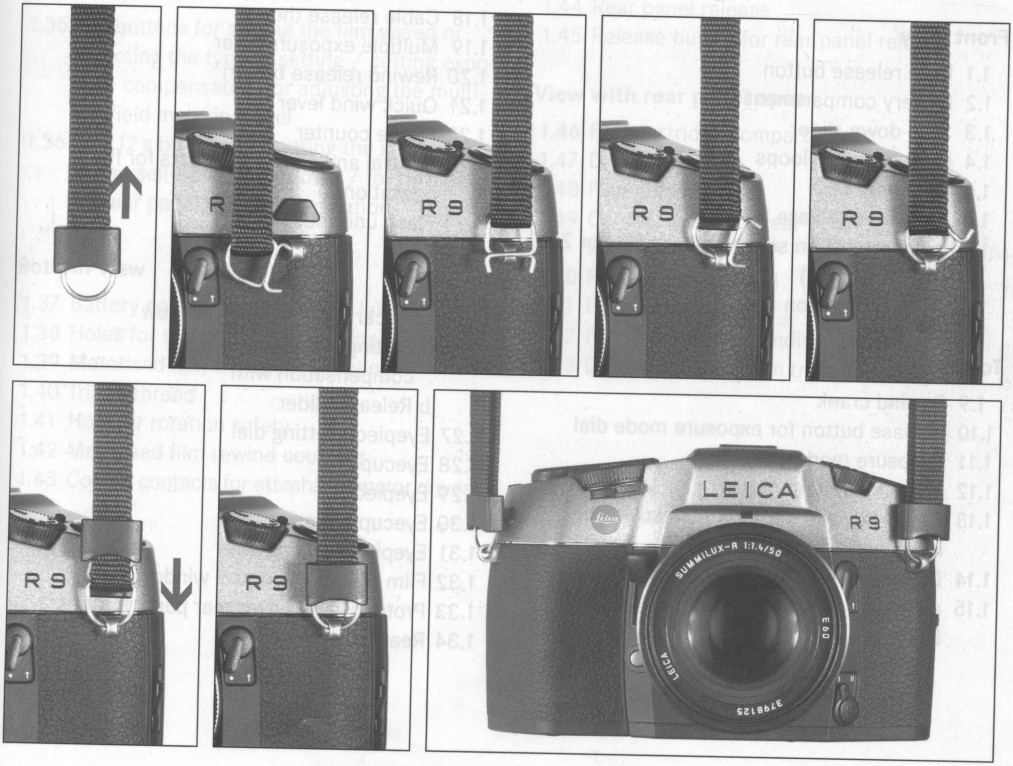
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Attaching the carrying strap



Designation of parts

Front view

1.1 Lens release button
1.2 Battery compartment
1.3 Stop-down slider
1.4 Carrying strap loops
1.5 Self-timer LED
1.6 Mirror pre-release lever
1.7 Synchronisation selection lever (1st or 2nd shutter curtain)
1.8 Flash connection socket

Top view

1.9 Rewind crank
1.10 Release button for exposure mode dial
1.11 Exposure mode dial
1.12 Aperture setting ring
1.13 Fixed ring with depth of field scale and index point for lens change
1.14 Distance setting ring
1.15 a Exposure metering mode selector with
b Release button
1.16 Shutter speed dial
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1.17 Shutter release button
1.18 Cable release thread
1.19 Multiple exposure lever
1.20 Rewind release button
1.21 Quick wind lever
1.22 Frame counter
1.23 Central and control contacts for flash operation
1.24 Flash unit (hot-) shoe

Rear view

1.25 Film cartridge viewing window
1.26 a Setting lever for exposure compensation with
b Release slider
1.27 Eyepiece setting dial
1.28 Eyecup
1.29 Eyepiece
1.30 Eyecup release catch
1.31 Eyepiece closing lever
1.32 Film transport control window
1.33 Protective flap over rear panel buttons
1.34 Rear panel display

View with protective flap over rear panel buttons open

1.35 +/- buttons for setting the film speed or selecting the type of setting / setting exposure compensation for adjusting the multiple field metering level
1.36 2 s/12 s buttons for setting the self-timer or the self-timer countdown / for turning on rear panel display illumination

Bottom view

1.37 Battery compartment release latch
1.38 Holes for motor drive guide pins
1.39 Motorised film transport coupling
1.40 Tripod thread
1.41 Hole for rotation safety
1.42 Motorised film rewind coupling
1.43 Control contacts for attachable motor drives

Left view

1.44 Rear panel release
1.45 Release button for rear panel release

View with rear panel open

1.46 Film cartridge compartment
1.47 DX contact strip
1.48 Film guide rails
1.49 Contact strips for rear panel function transfer
1.50 Film sprocket wheel
1.51 Film pressure roller
1.52 Film take up and winding reel
1.53 Drive spindle for film transport display

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2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10

2.1 Warning symbol if metering range is insufficient

2.2 Indication of
- a Exposure compensation and/or
- b Manual film speed setting differing from DX value

2.3 Metering method symbol
- a ⊡ = Multiple field metering
- b ▭ = Center-weighted metering
- c • = Selective metering

Extinguishes at pressure point for selective and integral metering = Metering memory-lock

2.4 Flash symbol
- a Flashing = Flash charging, flash is not ready
- b Lit up = Flash is ready

2.5 Plus or minus = Indication of set flash exposure compensation

2.6 Exposure mode
- a m = Manual shutter speed and aperture settings
- b A = Aperture priority
- c P = Variable automatic program mode
- d T = Shutter speed priority
- e F = Flash metering mode

P or T flashing = Minimum aperture of lens not set

2.7 Aperture, manually set value for m and A, automatically controlled value for T and P; display in half steps

2.8 Light balance for display of
- a Manual exposure control setting (small markings: 1/2 EV step each, large markings: 1 EV step each)
- b Exposure compensation setting for automatic modes
- c Automatic exposure series setting (bracketing, only possible with Motor-Drive R8/R9)
- d Exposure control for flash metering mode

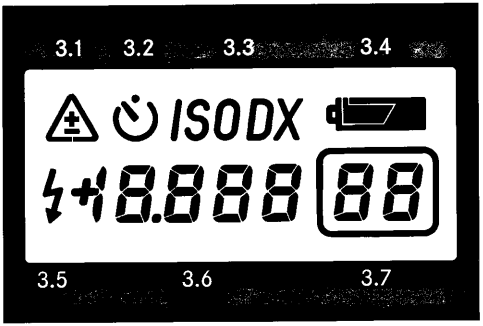
2.9 Shutter speed (= exposure time)
- a Manually set value for m and T, automatically controlled value for A and P; display in half steps or
- b HI (high) or LO (low) for over- or underexposure in automatic modes and for flash exposure
- c "bul b" = *B* setting for long-time exposures
- d HSS = High speed sync flash mode (alternating with the time value)
- e Err for camera settings that cannot be made

2.10 Frame counter for
- a Displaying the frame number
- b Both figures flashing = Multiple exposure.
- c Figures flashing in the following sequence: left / right / both = first / second / third frame in an automatic exposure series (bracketing, only possible with Motor-Drive R8/R9)
- d 00 flashing = Film not loaded correctly or not completely rewound (only when using Motor-Winder R8/R9 or Motor-Drive R8/R9)

Note:

The viewfinder LCD is always lit up when the power is turned on (see "Turning the camera on / Activating the electronics / - the exposure metering system, p. 131). The brightness of this illumination is automatically adjusted to the external lighting conditions to give optimum readability. This ensures that the information can be read at the greatest external brightness and prevents over-illumination in low-light conditions.

Rear panel displays



3.1 Indication of
- a Set exposure compensation
- b Manual film speed setting differing from DX value

3.2 Indication of self-timer operation

3.3 Film speed setting
- a **ISO** = Manual film speed setting
- b **DX** = Automatic DX scanning

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3.4 Battery status display
- a ▬ (and other displays) = Battery has sufficient capacity
- b ▭ (and other displays) = Battery must be replaced soon
- c ▭ (no other displays) = Battery dead, no release possible

3.5 Flash symbol
- a Flashing = Flash charging, flash is not ready
- b Lit up = Flash is ready

3.6 Plus/minus and numerical display for
- a Exposure compensation value with respective sign
- b Film speed
- c Exposure compensation for flash metering mode
- d Expired exposure time in *B* setting
- e **HI** or **LO** for over- or underexposure of flash illumination
- f **OFF** for self-timer turned off (only briefly after setting)
- g Remaining self-timer delay
- h **Err** for camera settings that cannot be made

3.7 Frame counter for
- a displaying the frame number
- b Both figures flashing = Multiple exposures
- c Figures flashing in the following sequence: left / right / both = first / second / third frame in an automatic exposure series (bracketing, only possible with Motor-Drive R8/R9)
- d 00 flashing = Film not loaded correctly or not completely rewound (only when using Motor-Winder R8/R9 or Motor-Drive R8/R9)

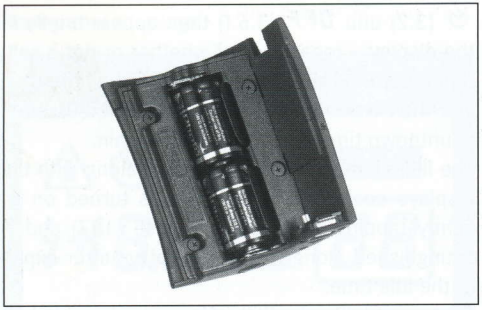
Turning on display illumination

The LEICA R9's rear panel display can be backlit in blue for optimum readability even in darkness. To turn on this backlighting, briefly press both self-timer buttons simultaneously (1.36) when the shutter is cocked and the camera is turned on (see "Quick wind lever", p. 121 and "Turning the camera on / Activating the electronics / - the exposure metering system, p. 131).

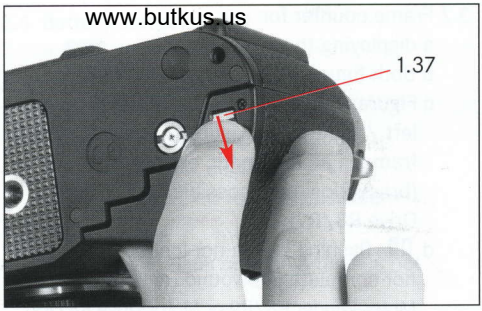
(3.2) und OFF (3.6.f) then appear briefly in the display – regardless of whether or not a self-timer countdown had already been entered. If you then want to use the self-timer, the desired countdown time must be entered again.

The illumination is then turned on along with the displays each time the camera is turned on by lightly tapping the shutter release (1.17) and is extinguished along with the displays after expiry of the idle time.

To turn the illumination off, press the two buttons briefly a second time. Each time the camera is turned off by turning the exposure mode dial (1.11) to the **OFF** position, it is permanently turned off. As a result, it must be turned on as described above when the camera is used again.



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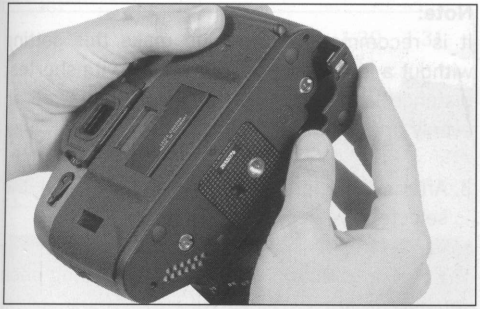
Power supply / Inserting and changing the batteries

The LEICA R9 takes 2 type "CR2" (Ø 15.6 mm x 27 mm) lithium cells, which are housed in a removable battery compartment (1.2), which simultaneously serves as a handgrip. To remove the battery compartment, slide the release latch (1.37) on the bottom in the direction of the arrow. The battery compartment can then be slid off downwards.

Important:
The exposure mode dial (1.11) should first of all be set to **OFF**.

To attach the battery compartment, push it on from below. It must lock into place. The Motor-Winder R8/R9 and Motor-Drive R8/R9 are both equipped with their own battery compartment and are attached to the camera with these compartments in place. The camera's battery compartment must therefore be detached first.

Note:
The capacity of batteries differs greatly from one manufacturer to another. For this reason, it is not possible to provide any information about the number of exposures that can be made with each set of batteries.



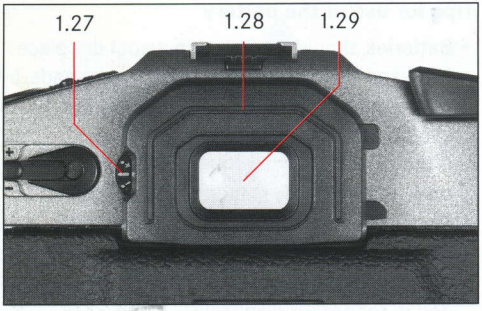
Automatic battery check

The camera automatically monitors the available battery capacity and displays it via the split battery symbol (3.4) on the rear panel display (1.34):

- Full battery symbol ( ) and the normal displays appear: batteries are fine.
- Half battery symbol ( ) and the normal displays appear: Have new batteries at hand!
- Half battery symbol ( ) appears, but not the other displays: Batteries are dead, shutter cannot be released.

Tips for use of the battery

- Batteries should be stored in a cool dry place.
- New and used batteries, or batteries made by different manufacturers or of different types should not be used together.
- If the camera is not going to be used for a long time, the batteries should be removed.
- Please do not throw used batteries in the normal waste (they often contain toxic, polluting substances); instead make sure they are handed in for proper disposal.



Eyepiece adjustment

In order to take full advantage of the LEICA R9's potential and the high performance of the Leica R-lenses, the viewfinder image must be sharp when you view it. The eyepiece (1.29) can therefore by adjusted by ± 2 diopters, so that it is exactly set to match your eye. To do this, use the dial (1.27) to the left of the eyepiece

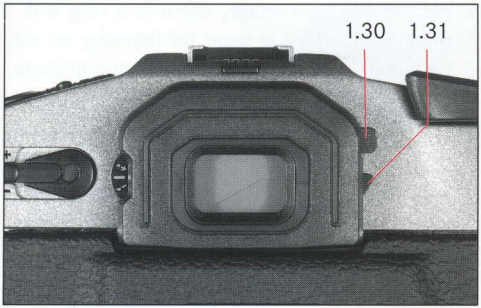
1. Pull it out slightly to release it
2. While looking at the viewfinder image, turn it until the markings for the selective metering field are sharp and in contrast.

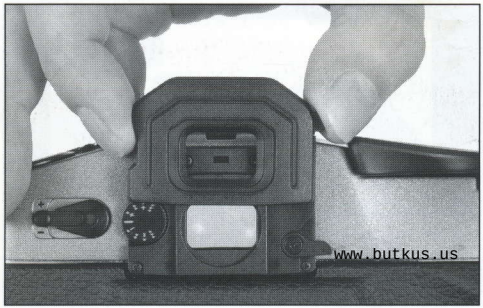
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Note:
It is recommended that you make this setting without a lens or with the lens set to its shortest distance and while aiming the camera at an evenly bright subject (e.g. the sky).

3. After setting, push the dial back in to lock the selected eyepiece setting.

The markings allow you to repeat a setting once you have found it.
If the eyepiece adjustment range is not sufficient to make an optimum setting, additional correction lenses are available (see "Eyepiece correction lenses, p. 194).





Closing the eyepiece

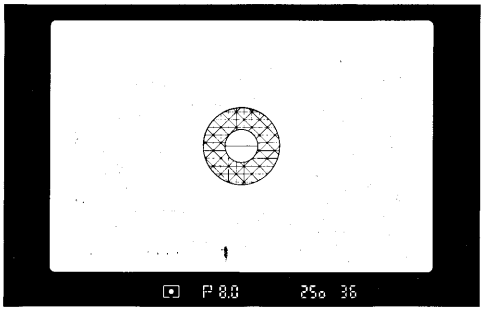
The silicon photo diodes on the LEICA R9's exposure meter are shielded from light. For this reason, light entering via the eyepiece can only influence the metered result in extreme cases, for example if, when using a tripod, the user is not looking through the viewfinder and direct sunlight or a strong spotlight are shining into the eyepiece from behind. For cases such as this, the eyepiece lock lever (1.31) to the right of the viewfinder can be used to close the eyepiece. The cover that swings into place is red.

Changing the eyecup

The standard eyecup (1.28) on the LEICA R9 can be changed for a larger one, which provides wearers of spectacles with better protection against interfering light from the side (see "Large eyecup", p. 193).

To remove an eyepiece cup

1. Press the release latch (1.30) to the left towards the eyepiece
2. Slide the eyecup straight upwards to remove it. An eyecup is attached by pushing it into the eyepiece guide from above until you hear it click into place.



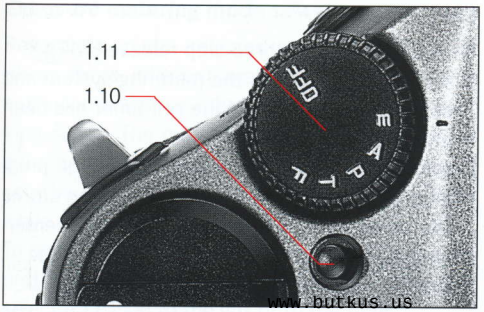
Focusing with the universal screen

As standard, the LEICA R9 is supplied with a universal screen, which can be used for most common photographic situations and offers three different focusing options:

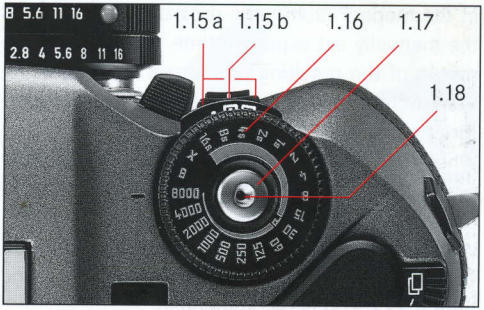
1. If the focus is not set precisely, the edges and lines of the subject do not correspond with each other in the split-image in the center of the viewfinder.
2. Around the split-image, there is a ring with a prism grid, which is used for focusing on subjects with weak contours. Flickering indicates that the subject is out of focus.
3. The surrounding surface is matte. It can be used to assess the sharpness of the entire image field and is especially useful when using longer focal lengths and in the close-up range.

Further focusing screens are available as accessories. They are easy to change and offer optimum focusing conditions for any use (see "Exchangeable focusing screens", p. 192).

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Exposure mode dial

The LEICA R9's exposure mode dial (1.11) is also used as the main switch. It has 6 positions, which are also secure against accidental adjustment. To adjust the dial, the release button (1.10) must always be pressed. The positions in detail:

OFF In this position, all of the camera's functions and displays are turned off (see p. 131).

m Manual setting of shutter speed and aperture (see p. 153).

A Aperture priority mode (see p. 150)

P Variable automatic program mode (see p. 144).

T Shutter speed priority mode (see p. 151)

F Flash metering mode before exposure (see p. 178).

Shutter speed dial

In the modes *m* (manual setting of shutter speed/exposure time and aperture) and *T* (shutter speed priority), the exposure time is set manually using the shutter speed dial (1.16). Speeds of 16 s to 1/8 000 s are available and half values can also be set. ▸

In the mode *P* (automatic program), you can use the manually set exposure time to determine the nature of the resulting photographs by adjusting the automatically controlled shutter speed/aperture combination.

When using *A* (aperture priority), the shutter speed dial can be set to any value other than **B** or **X**.

When using flash units that do not conform to the system, the setting **X** (shortest flash sync time = 1/250 s) is recommended.

Long-time exposures of any length are made using the setting **B**.

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Shutter release

The LEICA R9 has a three-step release (1.17):

1. A short tap activates the metering system and starts the countdown if the self-timer has been preselected.
2. Pushing the shutter release down to the pressure point and holding it in this position stores the metered value for selective and center-weighted metering in the automatic modes.
3. Pressing it further releases the shutter.

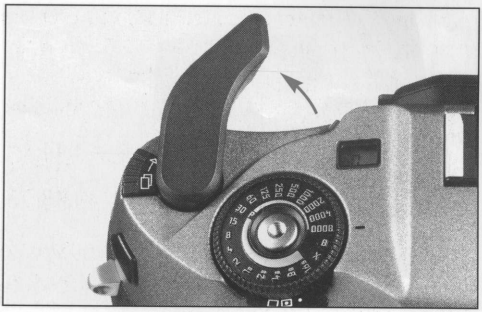
If the shutter speed dial is set to **B**, the shutter remains open for as long as the shutter release button is held down. The display bul b (2.9 c) appears in the viewfinder and the expired exposure time (3.6) can be read on the rear panel display (1.35), This display works for up to 19 min. 59 sec. If position **B** and an additional self-timer countdown time are selected, the shutter only opens after expiry of the self-timer delay and remains open until the shutter release (or another of the camera's electric controls) is tapped again. As the shutter release button does not have to be held down in this case, blur-free long-time exposures are possible. The thread for connecting a standard cable release (1.18) is found in the center of the shutter release button.

Exposure metering mode selector

Regardless of the selected mode, the LEICA R9 offers three different metering methods, which cater for a diverse range of situations and working styles. The metering mode selector (1.15) is situated below the shutter speed dial, so that it can be operated easily with the index finger while the camera is being held up to the eye.

To select one of the metering methods, press the protruding release button (1.15 b) and move the selector (1.15 a) to the left or to the right.

- Center-weighted integral metering (selector to the right)
- Multiple field metering (selector in the middle)
- Selective metering (selector to the left, towards the lens)



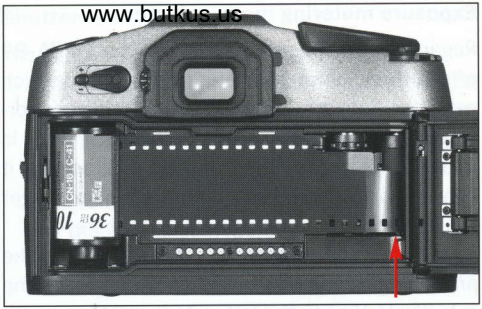
Quick wind lever

The quick wind lever (1.21) winds the film and cocks the shutter. When swung out (in the ready position) you can place your thumb behind the quick wind lever to support the camera securely. The film should be wound on to the next frame immediately after taking a photograph, so that the camera is ready to take another photograph straightaway.

If one of the two motorised drives is being used – Motor-Winder R8/R9 or Motor-Drive R8/R9 – the quick wind lever also acts as their main switch. As long as it is swung out, the motors are turned off; if it is swung in, the motor winds the film on after every exposure.

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Changing the film

Always check first whether a film is already inserted, by looking through the film transport viewing window (1.32). If so, proceed as described under "Film rewind" on p. 123.

Opening the camera

To open the rear panel

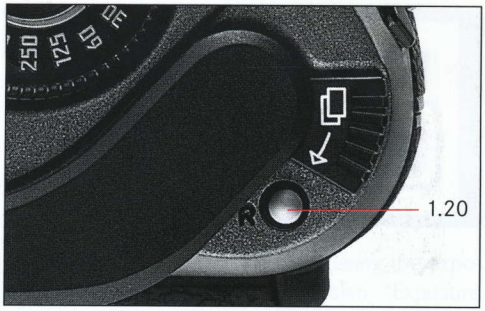
1. Press the release button (1.45) and, while doing so,
2. Slide the rear panel release catch (1.44) upwards. This causes the rear panel to spring open and it can then be completely opened.

Loading the film

3. Insert the film cartridge into the empty film compartment (1.46)
4. Pull out the film leader until it reaches the red markings on the winding reel on the other side (1.52). The film must be flat on the guide rails (1.48) and the gear teeth on the sprocket wheel (1.50) must grip the perforations in the film.
5. Close the rear panel, i.e. press it until you hear and feel it click into place.
6. Wind the film to frame number 1, either manually with the quick wind lever or with an attached motor by pressing the shutter release. This automatically threads the film. ▸

You can see whether the film is being wound correctly in the film transport viewing window (1.32). The lines move from top to bottom.
If this is not the case or, when using a motor, the 00 flashes in the frame counters (1.22, 2.10, 3.7), the film has not been loaded properly. Open the rear panel again and correct the loading of the film.

Note:
For automatic film threading, it is important that the winding reel is not dirty. If necessary, you should clean it with a moist cloth.

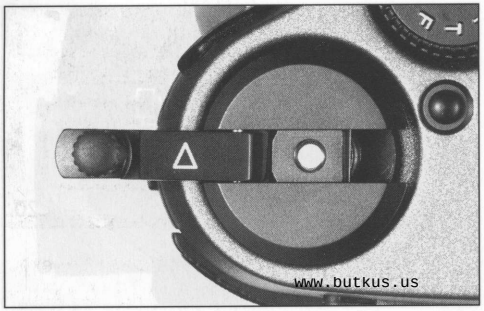


Film rewind

When the film has been exposed up to the last frame, the quick wind lever can no longer be operated or a motor being used turns itself off. Before removing the film, it must be rewound into the film cartridge. To do this:

1. Press the rewind release button (1.20)
2. Flip out the rewind crank (1.9)
3. Turn it in the direction of the arrow (clockwise) to rewind the film

As soon as the lines in the film transport viewing window come to a standstill, the film has been rewound apart from the leader. If you want to rewind the film completely into the cartridge (e.g. to clearly identify it as exposed), you should ▸

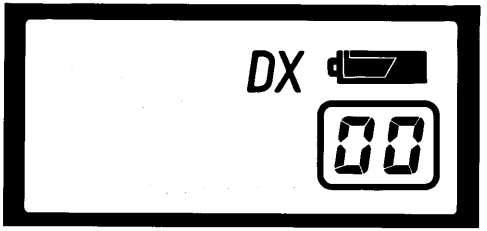


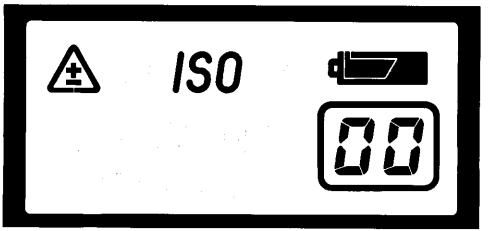
turn the crank a few more revolutions, until you feel a distinct reduction of the resistance, indicating that the film leader has been completely rewound into the cartridge.
When using the Motor-Winder R8/R9 or Motor-Drive R8/R9, the film can be rewound using the motor. Even when using a motor, you can decide whether or not the leader is to be rewound into the cartridge. After a motorised rewind, the 00 in the frame counter flashes; the camera can then be opened and the film removed. Please refer to the relevant manuals for more details of using the motors.

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Important:
For rewinding, only the rewind release button should be pressed and not the multiple exposure lever (1.19, film brake!).

Attention:
If the end of the film is still protruding from the cartridge after rewinding, the shutter release should not be pressed as the end of the film may damage the shutter.





Setting the film speed

The LEICA R9 allows you to set the film speed both automatically and manually. The automatic setting for DX-coded films can be made in the range from ISO 25/15° to 5 000/38° (ISO is the international identification for film speeds). Film speeds can be manually set between ISO 6/9° and 12 500/42°.

Note:
Setting an additional exposure compensation (up to ± 3 EV) provides a total setting range of ISO 0.8/0° to 100 000/51°).

To select the desired type of setting or to make the actual setting

1. First of all, turn on the camera using the exposure mode dial (1.11) (see also "Exposure mode dial", p. 119).
2. Power it up by tapping the shutter release (1.17) (see also "Turning the camera on / Activating the electronics / - the exposure metering system, p. 131).

If the display ***DX*** (3.3 b) appears in the rear panel display (1.34) after powering up the camera, the camera is set for DX scanning. To confirm the correct function, in this case the ISO value read (3.6 a) is always displayed.
If, on the other hand, ***ISO*** (3.3 a) appears, the film speed has previously been set manually. With the camera turned on, briefly pressing one of the two setting buttons (1.35) allows you to view the currently set value. ▸

Then:

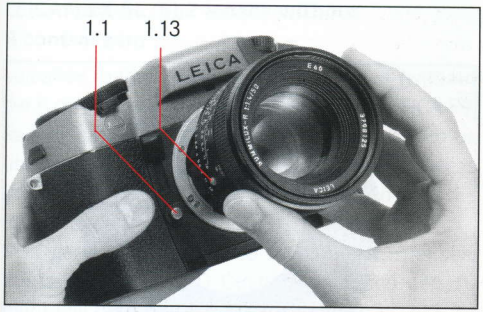
3. Open the flap over the rear panel buttons (1.33) downwards – it is held in place by a magnet.
4. The plus and minus buttons (1.35) are used as described below both to select the setting type and also to manually set the film speed: Pressing the left-hand minus button reduces the ISO values, pressing the right-hand plus button increases it or, with the highest ISO value (12 500), sets the camera to automatic DX mode. Pressing the buttons briefly changes the values by one step, while holding it down scrolls through the values up to the respective final values or the ***DX*** setting.

If a film without DX coding or with damaged and therefore unreadable DX coding is used in the ***DX*** setting, or if no film is inside, the camera uses ISO 100/21°. If you then load a film with DX coding, the automatic scanning is active again.

If you want to manually set an ISO value different from the DX coded film speed, in order to deliberately over- or underexpose an entire film, ***ISO*** appears in the rear panel display, along with the warning displays ⚠ (3.1, 2.2) there and in the viewfinder display. The manually set value is the one that is valid in this case.

A manually set ISO value is retained after changing the film even if the new DX coded film has a different speed.

For safety reasons and to prevent the values from being changed accidentally, the cover flap on the rear panel should always be closed when taking photographs.



Attaching and removing the lens

All lenses and accessories that have the control cam for Leica R cameras can be used on the LEICA R9, i.e. lenses from 15mm to 800mm focal length are available (see "Use of existing lenses and accessories, p. 128). Like most of the current Leica R lenses, the LEICA R9 has a contact strip on the bayonet side. This allows electronic exposure control in addition to the mechanical control, and also lens data, such as the focal length, to be transmitted to the camera.

Regardless of the distance and aperture settings, the Leica R lenses are attached as follows:

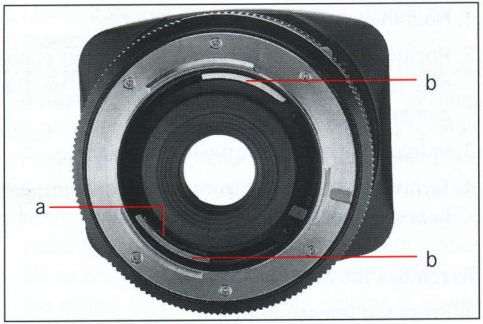
1. Hold the lens by the fixed ring (1.13).
2. Position the red point on the lens mount opposite the bayonet release button (1.1) on the camera housing.
3. In this position, insert the lens straight in.
4. Turn the lens slightly to the right, and you will hear and feel it click into place.

To remove the lens

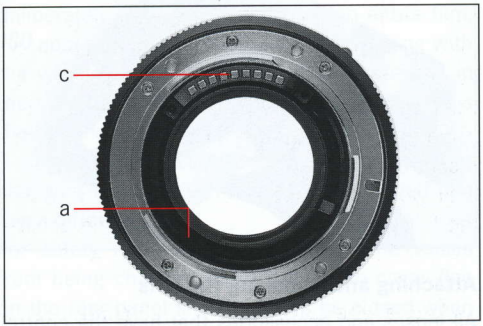
1. Press the release button
2. Unlock the lens by turning it slightly to the left
3. Pull it straight out.

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Use of existing lenses and accessories



R cam (a) and LEICAFLEX control cams (b)



R cam (a) and electric contacts (c)

LEICA R lenses

All lenses and lens accessories from the Leica R range fit the LEICA R9 without any modifications. Some earlier lenses without automatic diaphragm, as well as various accessories without automatic diaphragm, can only be used in aperture priority or manual modes (see "Stop-down metering", p. 141).

Most Leica R lenses can be fitted with an electric contact strip for data transmission and electronic exposure compensation. To do this, however, the LEICAFLEX SL/SL2 control cams must be removed, i.e. these lenses can then only be used on Leica R models (from LEICA R3).

LEICAFLEX SL/SL2 lenses without R control cam

Leicaflex model lenses and accessories (without the R control cam) may not be used on the LEICA R9, as they can damage the camera. If they are to be used on the LEICA R9 or other Leica R cameras (from the LEICA R3), they must be fitted with the R control cam.

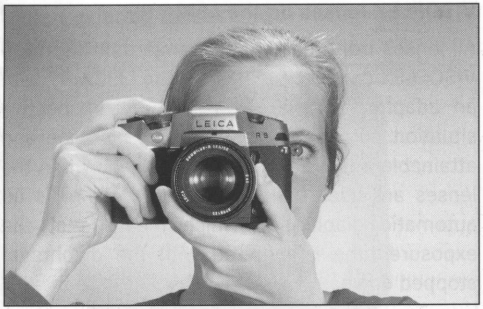
It is generally possible to modify these lenses; the Leica Camera AG Customer Service department will be happy to advise you (see p. 203 for address).

As long as the LEICAFLEX SL/SL2 control cams are retained, the modified lenses and accessories can still be used on all Leicaflex models. Contact strips for data transmission to the LEICA R9 cannot then be added.

VISOFLEX lenses on the LEICA R9

All lenses from the Leica M range that fit on the VISOFLEX can also be used on the LEICA R9 with an adapter, order No. 14 167. The respective situation parameters, e.g. subject distance and attainable image ratio are the same as when the lenses are used on the VISOFLEX. There is no automatic diaphragm, which means that the exposure time is metered with the diaphragm stopped down.

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Holding the camera correctly

For secure, three-point support, hold the camera with the right hand. The index finger should be on the shutter release button, with the thumb behind the quick wind lever. The left hand supports the lens from underneath. For portrait format photographs, the camera is simply rotated. The hands remain in the same position as for photographs in landscape format, ready to wind the film on and to focus.

Turning the camera on / Activating the electronics / - the exposure metering system

The LEICA R9 is turned on and off using the exposure mode dial (1.11). In the **OFF** position, the camera electronics and all displays are turned off to guard against accidental shutter release and unnecessary power consumption. Selecting one of the exposure modes switches the camera into a ready mode (see also "Exposure mode dial", p. 119).

Lightly pressing the shutter release button on the camera (1.17), one of the two on the Motor-Drive R8/R9, or on a remote control unit turns the exposure metering system on. The LCDs in the viewfinder, on the top panel (1.22) and the rear panel (1.34) light up. If the shutter is cocked, they remain on for 14 seconds after the release button is let go; when the shutter is released they go out immediately after the release button is let go.

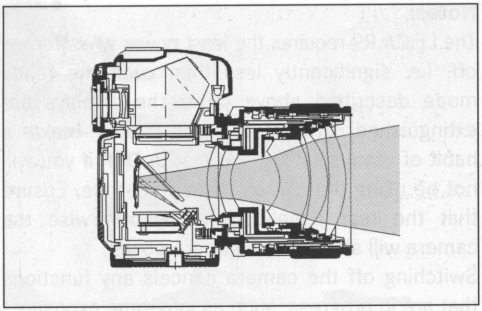
Notes:

The LEICA R9 requires the least power when turned off, i.e. significantly less than even the ready mode described above (after the displays are extinguished). Therefore, you should make a habit of always setting the dial to **OFF** if you will not be using the camera for a long time. Ensure that the rear panel is closed, otherwise the camera will also consume more power.

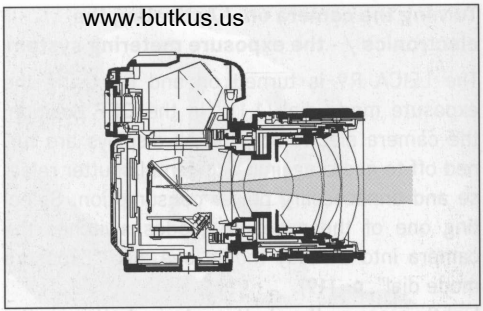
Switching off the camera cancels any functions that are in progress, such as long-time exposures and mirror pre-release (see "Mirror pre-release", p. 184). By contrast, self-timer mode (see "Self-timer", p. 183) is only interrupted.

When the camera is turned off, the frame counter on the top panel only goes out after a short delay.

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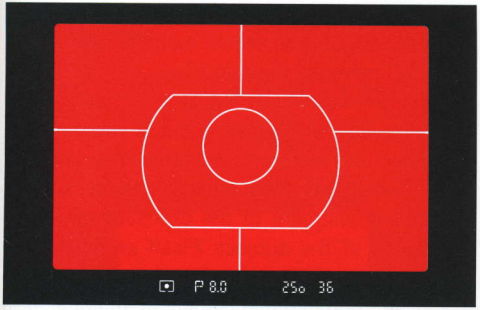
Pencil of rays for center-weighted and multiple-field metering



Pencil of rays for selective metering

Exposure metering

In order to do justice to diverse lighting situations and reflection characteristics of subjects, the LEICA R9 has exposure metering through the lens, with three different metering methods: multiple field metering, center-weighted integral metering and selective metering. The camera has two different photo diodes for this TTL (**T**hrough **L**ens) metering procedure: one circular diode on the reflector behind the partially transparent swinging mirror with a precisely defined metering field and one diode with 5 metering fields in the bottom of the camera, protected from stray light. Depending on the desired metering method, the metered values from these six fields are evaluated.



Multiple field metering

This metering method is based on the recording of 6 metered values, from the 5 fields in the multiple field metering cell and the selective metering cell field.
Common difficult lighting conditions and contrasts, such as reflections, backlighting, large portions of sky in landscape photographs etc. are automatically analysed and the brightness distribution pattern is assigned to stored typical subjects. The microprocessor then determines the exposure.

Multiple field metering therefore represents an extremely convenient, universal and secure method of exposure metering for the vast majority of all photographs, regardless of the level of brightness and whether or not you want to position your main subject in the center of the image. This makes it particularly suitable for quick snapshots and for use in conjunction with automatic program mode.

Adjusting the exposure level for multiple field metering

On top of all that, on the LEICA R9 you can adjust the exposure level for multiple field metering in very small graduations to match your individual circumstances. This exposure compensation, a permanent "override" of the automatic program, can be useful for the following reasons.

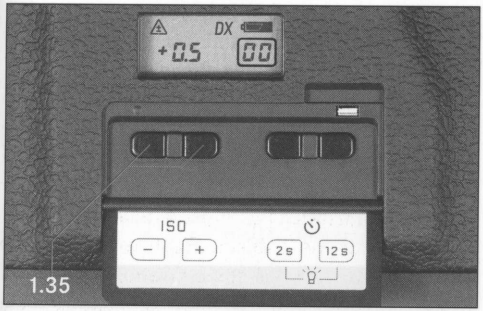
Despite the accuracy of multiple field metering, for subjects with high contrasts there are always areas that are neglected, i.e. over- or underexposed, by this "optimised compromise exposure". Furthermore, the system cannot take account of whether you are using slide or color negative material and the purpose for which your photographs are to be used, e.g. for prints, projection or publication.

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It is only possible to adjust multiple field metering if this metering method is set.

This compensation only has an effect on multiple field metering, which means that if you switch to the other two metering methods, they continue to be available in their default settings, e.g. for selective adjustment of the exposure for important areas of the subject. Flash exposures are also unaffected by this compensation.

If you set both compensation of multiple field metering and a "normal" exposure compensation, the values are added together. For example, multiple field compensation of −0.5 EV combined with exposure compensation of −1 EV gives a total compensation of −1.5 EV for multiple field metering (see also "Exposure compensation", p. 138).



1.35

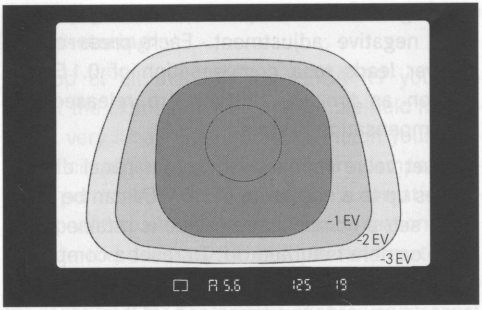
With the camera turned on and powered up (see "Turning the camera on / Activating the electronics / - the exposure metering system, p. 131), the setting is made as follows:

1. Press the +/- buttons (both!) for setting the film speed (1.35) with two fingers on your right hand for approx. 3 s, until the numerical display *0.0* in the rear panel display (1.34) flashes.
2. Continuing to hold down the two buttons, with the left thumb first of all slide the release for the exposure compensation setting lever (1.26 b) to the right, then press it up or down along with the lever (1.26 a) to make a positive or negative adjustment. Each press of the lever leads to a compensation of 0.1 EV. As soon as the +/- buttons are released, the compensation is stored.

The set value appears in the rear panel display. Values up to a maximum of ± 0.7 EV can be set. Once set, a compensation value is retained even if the camera is turned off. To reset a compensation value, e.g. + 0.5 EV, to zero, either press the lever downwards five times or hold it in its lowest position for approx. 2 s. To clear a negative compensation value, the lever is pressed upwards.

Note:
The procedure described above must always be followed to reset multiple field metering compensation. It is not done at the same time as resetting "normal" exposure compensation.

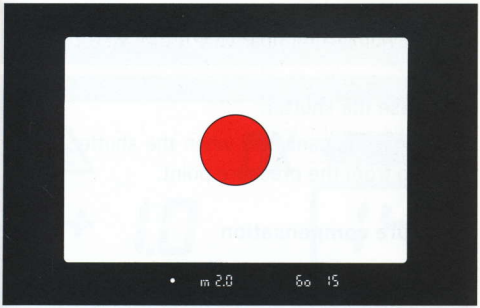
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Center-weighted integral metering

Center-weighted integral metering also uses all metered values but they are weighted differently. This metering method also takes account of the entire image field, although the parts of the subject situated in the center have more influence on the exposure value calculation than the areas at the margins.
It is suitable for subjects without high contrasts, when the differently bright details are evenly distributed and/or when your main subject is to be positioned in the center of the photograph.

It is particularly useful if you want convenience but still want to be able to control and, if necessary, selectively influence the exposure, e.g. in conjunction with exposure compensation (see "Exposure compensation", p. 138) or with metering memory-lock (see "Metering memory-lock", p. 138).



Selective metering

For selective metering, only the metering field from the circular metering cell on the reflector is used.

This method is always selected if there are critical differences in brightness throughout the subject and a specific detail is to be exposed correctly. Since the precisely defined metering field is indicated in the viewfinder by the large central circle with a diameter of 7 mm, it is easy to selectively measure the detail or area of the subject that corresponds to the average grey scale value. If you do not want these areas to be in the center of the photograph, the use of metering memory-lock is recommended.

The metering field is the same size in relation to the entire image field for all lens focal lengths and is clearly visible in the viewfinder with all focusing screens.



Metering memory-lock

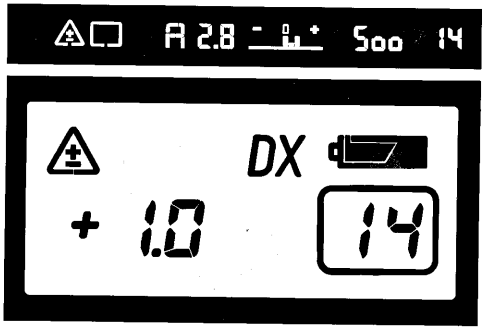
Whenever you are 1. using one of the three automatic exposure modes and, 2. for an individual photograph, you do not want the main subject or the metered average grey area to be in the center for composition reasons, metering memory-lock is a very easy and useful function. It is available for both center-weighted and selective metering.
It is used as follows:

1. Aim the 7 mm circle in the viewfinder at the area to be metered.
2. Press the shutter release (1.17) to its 2nd pressure point. As long as the button remains depressed, the value is stored. As a visual indication of this, the relevant metering method symbol (2.3) is extinguished. If the aperture or shutter speed is changed during this time, the other value adjusts accordingly and is displayed.
3. While keeping the shutter release at the pressure point, compose the final picture detail and
4. release the shutter.

The storage is cancelled when the shutter release is let go from the pressure point.

Exposure compensation

Exposure meters are calibrated to an average grey scale value (18% reflection), which corresponds to the brightness of a normal photographic subject. It is often the case that the metered subject area does not match these requirements or, for a particular reason (e.g. due to a different use or personal preference) that you want some photographs to be slightly darker or brighter. If this applies to a whole series of successive photographs or an entire film, you should employ an appropriate exposure compensation rather than metering memory-lock, which can only ever be carried out for a single photograph.



Entering and cancelling an exposure compensation

To make the setting with the camera turned on and powered up (see "Turning the camera on / Activating the electronics / - the exposure metering system" on p. 131), with the left thumb first of all slide the release for the exposure compensation setting lever (1.26 a) to the right, then press it up or down along with the lever (1.26 b) to make a positive or negative adjustment. Each press of the lever leads to a compensation of 0.5 EV. Values of ± 3 EV can be set.

As soon as an exposure compensation value has been entered, the corresponding symbol (2.1) appears in the viewfinder and, in the automatic modes *A*, *T* and *P*, the setting can also be read on the light balance (2.8). In all modes, the warning symbol (3.1) and the set value (3.6) appear on the rear panel display.

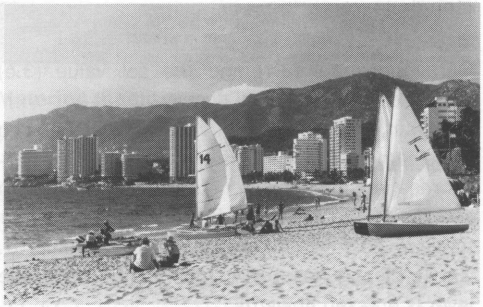
Once set, a compensation value is retained even if the camera is turned off.

To reset a compensation value, e.g. + 2 EV, to zero, either press the lever downwards four times or hold it in its lowest position for approx. 2 s. To clear a negative compensation value, the lever is pressed upwards.

Important:

An exposure compensation value set on the camera influences both the metering of the available light and that of the flash illumination.

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Example of a positive compensation

With very bright subjects, such as snow or a beach, the exposure meter selects a relatively short exposure time due to the extreme brightness. As a result, the snow shows up in an average grey and any people in the photograph are too dark: this is underexposure! To remedy this problem, the exposure time needs to be extended or the diaphragm opened, i.e. a compensation setting of e.g. + 2 needs to be made.



Example of a negative compensation

For very dark subjects that reflect very little light, the exposure meter selects an exposure time that is far too long. A black car will appear grey: this is overexposure! The exposure time needs to be shortened, i.e. a compensation setting of e.g. – 1 is required.

Working below the metering range

If the camera's metering range is not reached, accurate exposure metering is not possible. Any values that are then shown in the viewfinder can lead to incorrect exposure results. For this reason, if the metering range is not reached, the warning symbol ⚠ (2.1) appears in the viewfinder. The LEICA R9's metering system is extremely sensitive, especially for selective metering. If the warning display appears when the metering method is set to center-weighted or multiple field metering, you can often continue to work using selective metering.

Full aperture metering

Most Leica R lenses are equipped with an automatic diaphragm. This means that the viewfinder image can always be viewed ast full stop, and therefore with the maximum possible light, and exposure metering occurs with the aperture open. The lens diaphragm does not close to the selected value until just before the shutter is released, after mirror pre-release or the when the stopping-down slider is pressed.

Stop-down metering

The PC-Super-Angulon-R 28 mm f/2.8 lens, certain earlier Leica R lenses and various accessories to not have an automatic diaphragm. With these devices, the exposure has to be metered with the set lens aperture, i.e. the stopped-down aperture. In this case, the LEICA R9's metering cells receive more or less light when the lens aperture is changed. With lenses and accessories with no automatic diaphragm, only the modes *A* or *m* can be used. The camera cannot display the stopped-down aperture.

Exposure meter diagram

The following diagram shows the relationships between film speed (SV = speed value) and light intensity/brightness (BV = brightness value) on the one hand and between exposure time (TV = time value) and aperture (AV = aperture value) on the other, each with the resulting exposure value (EV = exposure value). The two parts of the diagram used are brought together by the diagonal lines corresponding to the EV values.

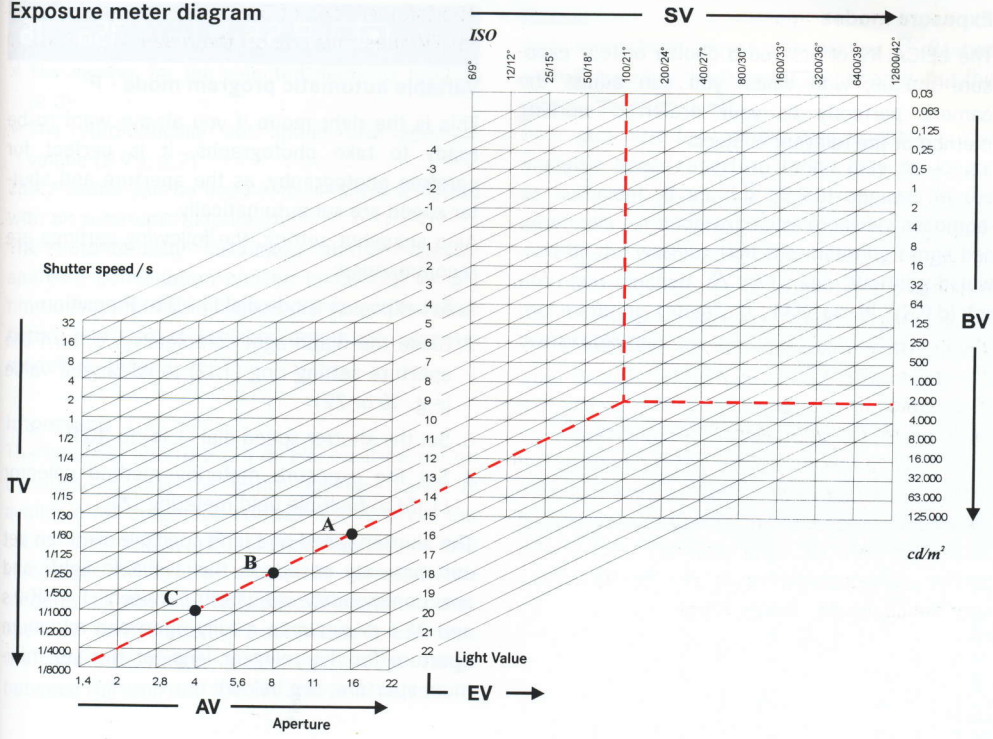
An example (dotted line) shows the relations of the individual values to one another. From the set film speed (here: ISO 100/21°), you can follow the vertical line to its intersection with the horizontal line for the given light intensity (here: 2 000 cd/m²). The diagonal line running through this intersection leads to the corresponding exposure value (EV 14). This EV value can be translated into different aperture and shutter speed combinations, i.e. it can be transposed into the camera's working range.

The intersections of the vertical AV and horizontal TV lines must be on the diagonal EV lines in order for the exposure to be correct, e.g. f/16 and 1/60 s (case A) or f/8 and 1/250 s (case B) or f/4 with 1/1000 s (case C). Each of these combinations would result in correct exposure.

In aperture and shutter speed priority modes, one of these values is selected and the second is set automatically. In automatic program mode, both values are set automatically.

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Exposure meter diagram



Exposure modes

The LEICA R9 offers you a choice of four exposure modes, with which you can adjust the camera perfectly to your preferred working method or the relevant subject.



Variable automatic program mode - *P*

This is the right mode if you always want to be ready to take photographs. It is perfect for carefree photography, as the aperture and shutter speed are set automatically.
As a snapshot setting, the following settings are recommended:

1. Set exposure mode dial (1.11) to **P** position
2. Close the diaphragm completely, i.e. turn the aperture setting ring (1.12) to its largest value (e.g. 16 or 22)
3. Set the shutter speed dial (1.16) to **30 P**
4. Set the exposure metering method selector (1.15) to Multiple field metering

The shutter speed and lens aperture are then set automatically based on the available light, and are continuously adjusted between 1/8 000 s and 32 s or between a fully open and minimum aperture for the relevant lens (or the set minimum aperture, see below).

The following indications appear in the viewfinder:

- P for the selected exposure mode (2.6 c)
- The symbol for the selected metering method (2.3)
- The automatically set speed and aperture values (2.9 a, 2.7)

The *P* mode can be used with all Leica R lenses with an automatic diaphragm.

The automatically calculated shutter speed/aperture combination can be influenced at any time using the shutter speed dial (see "Characteristics and use of variable automatic program mode", p. 146).

Important:

The smallest aperture (16 or 22) must be set on the lens, so that the entire aperture range is available for automatic control. If this is not the case, the display P (2.6 c) flashes in the viewfinder. When the shutter is released, the camera still automatically sets a correct speed-aperture combination. In such cases, however, the aperture range is limited to the range between full stop and the set aperture value.

Notes:

With some older lenses, the display P flashes even if you stop down as far as possible, but the correct aperture is set.

With very little light or extreme brightness, the available speed/aperture range may no longer be sufficient. If so, LO (2.9 b) appears in the viewfinder for underexposure (possibly accompanied by the warning that the metering range has not been reached ⚠ (2.1), see "Working below the metering range", p. 141) or HI (2.9 b) for overexposure.

Characteristics and use of variable automatic program mode P

The LEICA R9's variable automatic program mode combines the security and speed of fully automatic exposure control with the freedom to adjust the speed/aperture combination selected by the camera to your own preferences at any time. This is done using the shutter speed dial (1.16).

For example, if you are taking sports photographs and prefer to use fast speeds and large apertures, a fast speed can be selected. If, on the other hand, you would rather have a large depth of field (small aperture) and accept the associated slower speeds that are necessary, then a slower shutter speed can be set (e.g. for landscape photography). The overall exposure, i.e. the brightness of the image, remains unchanged.

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In general, the automatic program mode works as follows. Starting from very low brightness, only the shutter speed is automatically shortened to the set value as the brightness increases, while the lens aperture remains completely open. After the set exposure time, the shutter speed and aperture are adjusted automatically, i.e. the speed is continuously shortened and the lens is continuously stopped down. If, due to the program, the lens aperture has reached its smallest f/stop, only the shutter speed continues to be reduced as the brightness increases, until it reaches 1/8 000 s. If, on the other hand, 1/8 000 s is reached before the smallest aperture of the lens, from this exposure time onwards only the aperture is reduced.

Standard setting (Example A)

Shutter speed dial set to **60**
Particularly suitable for

- Normal subjects with uncritical lighting conditions
- Focal lengths between 35 mm and 90 mm

A lens with a speed of 4 is used (e.g. Vario-Elmar-R 35-70 mm f/4). The shutter speed dial is set to 1/60 s. This results in a progression corresponding to line A. For example, with an exposure value of EV 14, this program setting leads to exposure of 1/250 s at f/8.

To achieve a larger depth of field and/or slower shutter speed (Example B)

Set the shutter speed dial between 16 s and 1/15 s. There is a tendency for lenses to be stopped down more with longer exposure times. Particularly suitable for

- Good lighting conditions and short focal lengths
- Static subjects, e.g. landscape photography

Warning:
Longer exposure times increase the risk of blurring!

A lens with a speed of 2.8 is used (e.g. Vario-Elmarit-R 19 mm f/2.8). The shutter speed dial is set to $^1/_2$ s. This results in a progression corresponding to line B. At the same exposure value of EV14, this program leads to an exposure of 1/60 s at f/16.

To achieve a faster shutter speed and/or lower depth of field (Example C)

Set the shutter speed dial between 1/60 s and 1/8 000 s.

There is a tendency for shorter exposure times with a lower depth of field (larger apertures). Particularly suitable for

- Poor lighting conditions or long focal lengths
- Moving subjects, e.g. sports photography

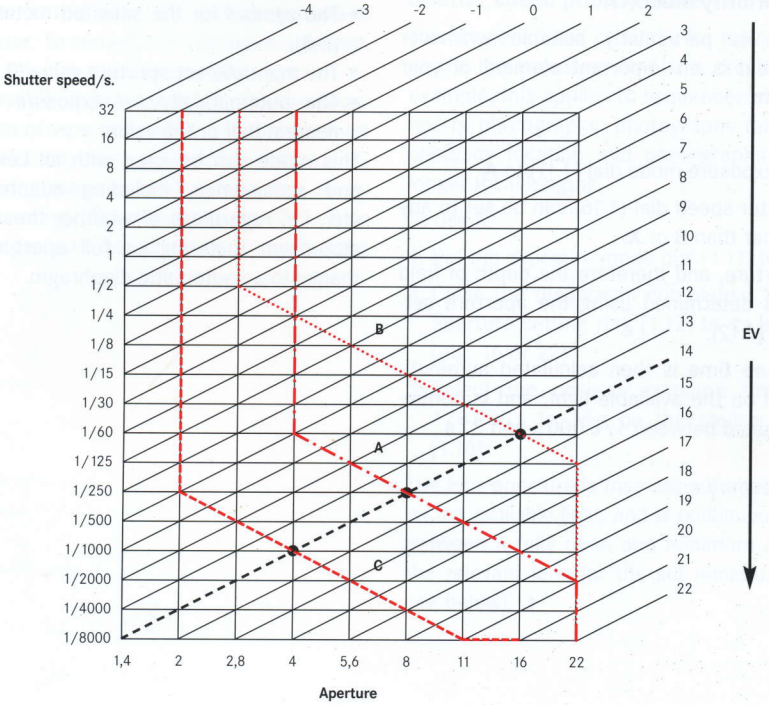
Warning:
Shallower depth of field!

A lens with a speed of 2 is used (e.g. Apo-Summicron-R 180 mm f/2). The shutter speed dial is set to 1/250 s. This results in a progression corresponding to line C. With the same example figure of EV14, this program results in an exposure of 1/1 000 s at f/4.

Rule of thumb

To avoid blurred images when taking pictures free hand, you should aim for a longest shutter speed of 1/focal length (mm). If, for example, you are using a lens with a focal length of 180 mm, exposure times longer than 1/180 s should not be used. The shutter speed dial should be set to **250** to achieve this.

Program behavior at different shutter speed settings and with different lenses





Aperture priority mode - *A*

This mode is particularly suitable whenever depth of field is an important element of your composition.

To use it:

1. Set the exposure mode dial (1.11) to **A**
2. The shutter speed dial (1.16) can be set to any value other than **B** or **X**.
3. The aperture, and therefore the depth of field range, is determined using the aperture setting ring (1.12).

The exposure time is then calculated automatically based on the available light, and is continuously adjusted between 1/8 000 s and 32 s.

The following indications appear in the viewfinder:

- A (aperture priority) for the selected exposure mode (2.6 b)
- The symbol for the selected metering method (2.3),
- The manually set aperture value (2.7)
- The automatically set exposure time (2.9 a, nearest half or full value)

This mode can be used with all Leica R lenses and accessories, including adapters, bellows etc., i.e. regardless of whether these only allow stop-down metering or full aperture metering thanks to an automatic diaphragm.

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Notes:

With extreme brightness, the shutter speed range may no longer be sufficient for the selected aperture. In this case, HI (2.9 b) appears in the viewfinder. To remedy this problem, you can, if possible, select a smaller aperture.

If the display LO (2.9 b) appears in the viewfinder in conditions of very poor light, a larger aperture should be selected, to prevent underexposure.

If the metering range is not reached, the corresponding warning ⚠ also appears (2.1). It is then no longer possible to correctly meter the exposure.



Shutter speed priority mode - *T*

This mode is used primarily for moving subjects, where the exposure time is a creative tool. For example, this applies to sequences of movement, sports photographs, photographs taken from an unsteady location and photographs taken with longer focal lengths.

To use it:

1. Set the exposure mode dial (1.11) to **T**
2. Close the diaphragm completely, i.e. turn the aperture setting ring (1.12) to its largest value (e.g. 16 or 22)
3. Select the desired exposure time between 1/8 000 s to 16 s on the shutter speed dial (1.16)

The lens aperture is then set automatically based on the available light, and is continuously adjusted between a fully open and minimum aperture for the relevant lens (or the set minimum aperture, see below). ▸

The following indications appear in the viewfinder:

- T (time priority) for the selected exposure mode (2.6 d)
- The symbol for the selected metering method (2.3)
- The manually set shutter speed value (2.9 a)
- The automatically set aperture value (2.7)

The *T* mode can be used with all Leica R lenses with an automatic diaphragm.

Important:
The smallest aperture (16 or 22) must be set on the lens, so that the entire aperture range is available for automatic control. If this is not the case, the display T flashes in the viewfinder. When the shutter is released, the camera still automatically sets a correct speed-aperture combination. In such cases, however, the aperture range is limited to the range between open aperture and the set aperture value.

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With some older lenses, the display T flashes even if you stop down as far as possible, but the correct aperture is nevertheless set.
With very little light or extreme brightness, the available aperture range of the lens you are using may no longer be sufficient for the selected shutter speed. In this case, the correct exposure is still used, by automatic setting of the appropriate shutter speed, i.e. by "overriding" the manual selection. For underexposure, LO appears (possibly accompanied by the warning that the metering range has not been reached ⚠, see "Working below the metering range", p. 141) or HI for overexposure.



Manual aperture and exposure time setting mode - *m*

For many interesting photographic situations and picture composition ideas, none of the automatic exposure modes would deliver the desired results. In these cases, the solution is to set the shutter speed and the aperture manually.

To do this:

1. Set the exposure mode dial (1.11) to **m**
2. Set the aperture setting ring (1.12), the shutter speed dial (1.16) and the exposure metering selector (1.15) to the desired values and the desired metering method.

The following indications appear in the viewfinder:

- **m** for the selected exposure mode (2.6 a)
- The symbol for the selected metering method (2.3),
- The manually set speed and aperture values (2.9 a, 2.7)
- A light balance (2.8), which assists in adjusting the exposure.

The light balance shows the deviation of the set shutter speed/aperture combination from the metered exposure value. The display clearly shows the range −2.5 EV to +2.5 EV in $^1/_2$ EV steps. Larger deviations are shown by the illumination of all markings on the plus or minus side of the light balance.

To achieve the correct exposure according to the result of the exposure metering, the aperture and/or shutter speed should be adjusted until the zero marking lights up on the light balance.

This mode can be used with all Leica R lenses and accessories, including adapters, bellows, etc., i.e. regardless of whether these only allow stop-down metering or full aperture metering thanks to an automatic diaphragm.

Flash photography with the LEICA R9

General information on using flash units

All flash units and studio flash systems that conform to the currently valid ISO standard 10 330 or the older DIN 19 014 (positive polarity on X contact)[1] can be connected to the LEICA R9. Electronic flash units that meet the technical requirements of 3000/3002 system camera adaptation (SCA) offer the most versatile range of options and can be connected to the LEICA R9 via the SCA 3501 or SCA 3502M3 adapters.

Other separate flash units[2] with a standard flash shoe can also be used and are fired via the central contact (X contact).

Studio flash systems and other flash units with connection cord and standard flash plug can be connected via the flash connection socket (1.8).

[1] If you want to connect e.g. a studio flash system that does not conform to the ISO standard to the LEICA R9, please consult the Customer Service department at Leica Camera AG or a Leica agent.

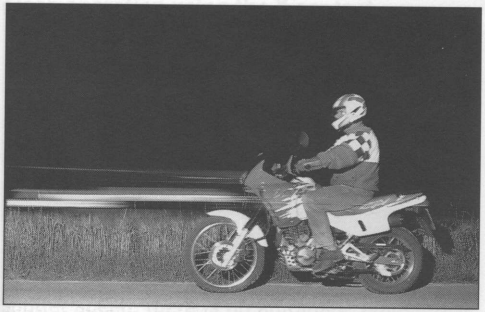
[2] The use of flash systems from other manufacturers and SCA adapters for other camera systems is not recommended as their differing contact position and assignment can lead to malfunctions or even to damage.

As well as controlling the firing and illumination of flash units when taking photographs, the LEICA R9 also makes it possible to selectively meter the flash performance before taking the photograph in order to determine the aperture that should be set (see "Flash metering mode before exposure - *F*", p. 178).

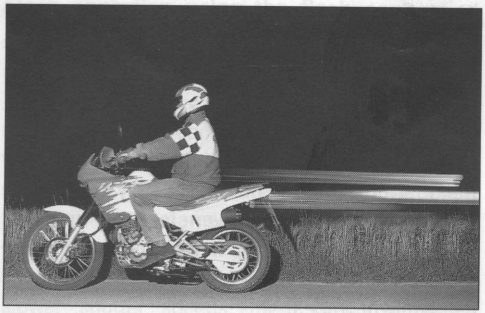
Flash sync speed

With standard flash technology, the LEICA R9's flash sync speed is 1/250 s. Studio flash systems in particular often have flash burst durations that are considerably longer. In order to take full advantage of the full light quantity provided by these flash units, slower shutter speeds, such as 1/180 s or 1/125 s are recommended.

When used with SCA 3002 standard flash units that have an *HSS* mode (High Speed Synchronisation) and the SCA 3502M3, the LEICA R9 also allows the use of all faster shutter speeds up to 1/8 000 s (see "High speed sync flash mode", p. 172).



Flash on the first shutter curtain



Flash on the second shutter curtain

Selecting the sync moment

Flash photographs are illuminated by two light sources, the available light and the light from the flash. Parts of the subject that are exclusively or primarily illuminated by the flash are almost always reproduced extremely sharply (with correct focusing) due to the extremely fast pulse of light. By contrast, all other parts of the subject – those that are sufficiently illuminated by the available light or illuminate themselves – are portrayed with different degrees of sharpness in the same picture.

Whether these parts of the subject are reproduced sharply or "blurred", and the degree of blurring, is determined by two independent factors.

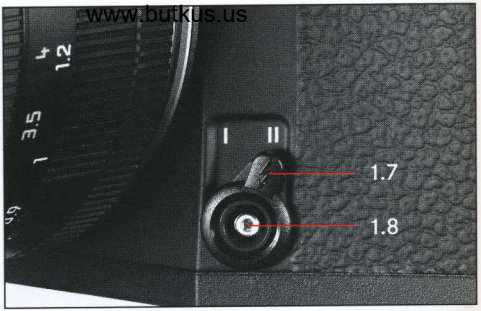
1. The length of the exposure time, i.e. for how long these parts of the subject "act upon" the film
2. How quickly these parts of the subject – or the camera itself – are moving during exposure. ▸

The longer the shutter speed/exposure time or the faster this movement, the more clearly the two – superimposed – parts of the picture can differ.

With the flash fired at the normal time, at the beginning of the exposure, i.e. immediately after the 1st shutter curtain has completely opened the film window, this can even lead to apparent contradictions, such as in the picture of the motorcycle (top left), which is being overtaken by its own light traces.

The LEICA R9 gives you a choice between this normal flash firing time and synchronisation with the end of the exposure, i.e. immediately before the 2nd shutter curtain begins to close the film window again. In this case, the sharp image is located at the end of the movement. In the photograph (top right), this flash technique gives a natural impression of movement and dynamics.

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The flash moment is set using the synchronisation selector (1.7):

- Position I: Flash fired after the 1st shutter curtain
- Position II: Flash fired after the 2nd shutter curtain

Notes:

When using the flash sync time and faster shutter speeds, in terms of the image there is no difference, or only for rapid movements, between the two flash moments.

Selection of the 2nd shutter curtain does not work for strobe flash mode.

Flash operation using the X contact

With a connection via the accessory shoe (1.24) without the SCA 3501/3502M3 adapter, the flash can optionally be fired with the first or the second shutter curtain. However, as the flash unit cannot transmit any information, the camera cannot "detect" the attached flash unit and therefore reacts as if no flash unit were connected. The shutter speed should be manually set to the flash sync speed **X** = 1/250 s or to a slower shutter speed; there is no automatic adjustment. The flash ready and control displays are inactive.
If the flash unit is suitable, the light can be controlled using its own automatic mode, i.e. the sensor on the flash unit, or manually by selecting the appropriate partial output level (see flash unit instructions).

Flash operation using the flash connection socket

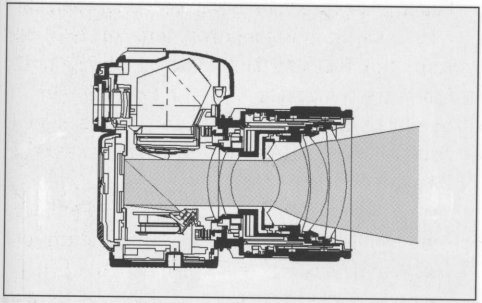
Flash units and large studio flash systems with a standard flash plug can be connected via the flash connection socket (1.8). The camera fires the flash either with the first or the second shutter curtain. However, as no flash information is transmitted, the camera reacts as it would without a flash. The shutter speed should be manually set to the flash sync speed **X** = 1/250 s or to slower shutter speeds; there is no automatic adjustment. Very powerful flash units, especially studio flash systems, often have flash burst durations that are considerably longer. In order to take full advantage of the full light quantity provided by these flash units, slower shutter speeds, such as 1/180 s or 1/125 s are recommended. The flash ready and control displays are inactive.

Flash operation using standard SCA 3000/3002 flash units and SCA 3501/3502M3 adapters

When a suitable flash unit is connected via an SCA 3501/3502M3 adapter, the LEICA R9 offers decisive advantages in many situations and helps you to achieve successful flash photographs. Depending on the selected mode, the camera performs various functions automatically, while still leaving you the necessary creative freedom to compose flash photographs according to your requirements.

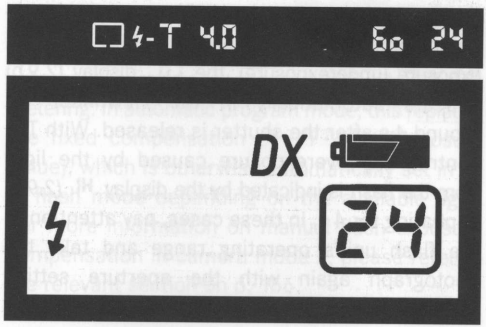
- Flash exposure metering during exposure and through the lens (TTL metering). This TTL flash exposure metering is recommended for macro photography, when using a filter or with zoom or telephoto lenses.
- All information about the flash charge status and flash over- or underexposure is displayed in the viewfinder and in the rear panel display.
- Automatic switching to flash sync speed (depending on the mode).
- Flash exposure compensation, i.e. selective over- and under-apportionment of the light from the flash to illuminate shadows in the foreground regardless of the available light or to obtain a better distribution of the light in backlighting situations (only on adapter or flash unit, see p. 162).
- Transmission of the lens focal length for automatic reflector adaptation of the flash unit (only for lenses with electrical contacts).
- Transmission of the set lens aperture for controlling the flash unit's automatic computer mode (only for lenses with electrical contacts).
- Display of intermediate aperture values when using zoom lenses of differing apertures (only for lenses with electrical contacts).
- Transmission of the film speed and camera exposure compensation settings for control of the flash unit.
- Automatic switching to slower shutter speeds when using strobe flash.
- Automatic flash exposure series (only with appropriately equipped flash units).

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Pencil of rays for TTL flash metering

TTL flash exposure metering occurs with a center-weighted characteristic via separately arranged silicon photo diodes, which are located next to the multiple field exposure metering cell on the bottom of the camera, protected from stray light. Using appropriate adapters (available from photographic dealers), several flash units can be fired simultaneously or the TTL control can be carried out without a cord.



Flash ready and control displays (only with SCA 3501/3502M3 adapters)

With the camera power up (see "Turning the camera on / Activating the electronics / - the exposure metering system", p. 131) and using the SCA 3501/3502M3, the flash symbol (ϟ, 2.4) in the viewfinder and in the rear panel display (3.5) shows the flash unit's charging level and therefore the readiness of the flash.

- Flash symbol flashing: The flash unit is currently charging. As the flash is not yet ready, the camera behaves as it would with no flash and works in the set mode. If the shutter is released, the flash does not fire.
- Flash symbol constantly lit: Flash is ready. ▸

If the light from the flash in TTL control or automatic computer mode is insufficient for a correct exposure (underexposure), the LO display (2.9 b) appears automatically in the viewfinder for around 4 s after the shutter is released. With TTL control, any overexposure caused by the light from the flash is indicated by the display HI (2.9 b) appearing for 4 s. In these cases, pay attention to the flash unit's operating range and take the photograph again with the aperture setting changed accordingly.

Note:
The displays are based on standardised exposures. Therefore, individual photographs may be rated as acceptable from an individual point of view despite these displays.

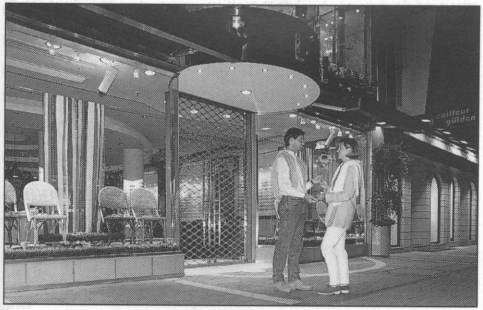
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Without flash illumination

Flash exposure compensation

With the switch on the SCA 3501/3502M3 adapter or on the flash unit itself (SCA 3002 standard units), regardless of the camera's exposure compensation setting – which influences both the exposure of the available light and the flash light – you can set a flash exposure compensation, which only influences the flash exposure, so that you can deliberately make it stronger or weaker.



With flash illumination

A negative adjustment is always made if you want to reduce the proportion of light from the flash, e.g. if you only want to use it as a fill-in flash. In such cases, the existing lighting atmosphere is retained and the additional flash merely brightens dark parts of the subject or areas of shadow in the foreground.

This compensation is effective in all camera exposure modes, when using the flash unit's automatic computer mode and with camera TTL metering. In automatic program mode, this replaces the fixed compensation of $-1\,{}^{2}/_{3}$ EV (Exposure Value), which is otherwise automatically set in fill in flash mode depending on the available light. For more information on manual flash exposure compensation in camera mode P, please refer to the relevant section on p. 166.

Note:
Flash exposure compensation is not effective in metering flash mode *F* and manual flash mode, where the flash is fired with a fixed output.

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Setting flash exposure compensation on the SCA 3501/3502M3 adapter

A flash exposure compensation is input and activated using three switches (on the SCA 3502M3, these are covered by a flap). The first switch is used to set the flash exposure compensation in whole light values (EV steps), i.e. −3 EV, -2 EV, ..., +3 EV. The second switch is for fine setting in $^1/_3$ EV steps (-$^1/_3$, 0 EV or +$^1/_3$), allowing all values from −3 $^1/_3$ EV to +3 $^1/_3$ EV to be set in $^1/_3$ EV steps. To put the set values into effect, the third switch is set to **ON**.

To indicate that a flash exposure compensation has been set, a red LED lights up on the outside of the SCA 3501/3502M3 adapter or, on SCA 3002 standard flash units, the respective sign and value appear in its displays. A + or - (2.2) appears in the viewfinder to the right of the flash symbol.

Setting flash exposure compensation on standard SCA 3002 flash units

With SCA 3002 standard flash units, flash exposure compensation settings must be made directly on the unit. For details of the settings and the corresponding flash unit displays, please refer to the respective instructions.
In all cases, a + or - (2.2) appears in the viewfinder to the right of the flash symbol to indicate that a flash exposure compensation has been set.

Setting flash exposure compensation on the camera in exposure mode *m*

The manual setting – and therefore fixing – of the shutter speed and aperture in the camera's *m* mode defines the exposure of the ambient light. As a consequence, in this case, apart from the light balance display in the viewfinder, an exposure compensation using the selector (1.26) on the camera – after adjusting the exposure - only influences the flash exposure.

Flash control in the four exposure modes with an SCA 3501/3502M3 adapter

Automatic program mode *P* and TTL flash operation

Automatic program mode *P* offers fully automatic co-ordination of the available light and the light from the flash with optimised control for balanced photographs by increasing the proportion of available light and reducing the proportion of flash light depending on the situation. Alternatively, manual flash exposure compensation (+3 $^1/_3$ EV) is possible.

For carefree flash photography in all conditions and automatic flash illumination, the following settings are recommended.

1. Set exposure mode dial (1.11) to **P** position
2. Close the diaphragm completely, i.e. turn the aperture setting ring (1.12) to its lowest value (e.g. 16 or 22)
3. Set the shutter speed dial (1.16) to **30 P**
4. Set the exposure metering method selector (1.15) preferably to center-weighted metering ☐
5. Set flash unit with SCA 3501/3502M3 adapter to **TTL** position ▸

Depending on the available light, the camera controls the exposure of the ambient and flash light as follows:



a) TTL full flash in poor lighting conditions

In poor lighting conditions, e.g. inside a dark room, where a combination of automatically controlled shutter speeds (depending on the focal length used) and the largest aperture setting will not result in a correctly exposed photograph, the camera automatically selects f/5.6 and a shutter speed that is appropriate for the focal length being used (according to the rule of thumb for blur-free free hand photographs = 1/ focal length, e.g. 1/60 s with the Macro-Elmarit-R 60 mm f/2.8*) up to the sync speed of 1/250 s and controls the flash as the main light. This results in a "normal" flash photograph.

*The focal length-adjusted shutter speed setting requires the use of lenses with a contact strip, i.e. ROM capability (see "Attaching and removing the lens" and "Use of existing lenses and accessories", p. 127 and 128). For lenses with no ROM capability, the camera always uses 1/250 s in the cases described.

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Focal length / shutter speed combinations used

Focal length	Slowest shutter speed
15mm	1/15 s
16-30mm	1/30 s
31-60mm	1/60 s
61-125mm	1/125 s
Longer focal lengths and/ or lenses without ROM	1/250 s



b) Automatic fill-flash in normal lighting conditions

In normal lighting conditions, the camera automatically sets the exposure time using a shutter speed that is appropriate for the focal length being used (see case a above) and selects an aperture according to the available light, so that the subject is correctly exposed, even without the flash.

The camera then uses the flash as a fill-in flash (- 1 $^2/_3$ EV), for example to illuminate dark shadows in the foreground or backlit subjects, in order to obtain more balanced lighting overall.

Displays:

In addition to the flash symbol, the minus sign (- , 2.5) appears to the right of it in the viewfinder to indicate the automatic flash exposure compensation.



c) No flash in very bright conditions

In very bright conditions, where 1/250 s and even the smallest aperture would lead to overexposure in flash mode, the camera does not fire the flash. The shutter speed and aperture are set as normal in automatic program mode and are displayed in the viewfinder.

However, the flash symbol in the viewfinder (2.4) does light up as the flash is charged.

Note:

Manual flash exposure compensation always uses the input value, even in *P*. This is true even in cases where the camera would otherwise automatically switch to fill-in flash (- 1 $^2/_3$ EV).

Manual flash compensation in camera exposure mode *P*

For the majority of subjects, the automatic use of the flash light as a fill-in flash, as described above under point b, results in an appropriately illuminated foreground. For cases where the parts of the subject in the foreground do not have average brightness or reflection properties, as for intentional under- and overexposure using the flash illumination, the LEICA R9 also allows individual control of the flash intensity in mode *P*. The setting is made as described in the sections under "Flash exposure compensation" starting on p. 160.

Displays:

In addition to the flash symbol, the relevant sign appears to the right of it in the viewfinder to indicate the manual flash exposure compensation. If the compensation value is 0, there is no sign.
On SCA 3002 standard flash units, the sign and compensation value appear in the display.

To deactivate a manual compensation

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1. Reset the flash exposure compensation to **0** on the adapter or on the flash unit.
2. On the camera, move the exposure mode dial (1.11) from the **P** position to any other position and back to **P** to use automatic flash exposure compensation again.

Note:

If the compensation is not reset to **0** on the adapter or flash unit before adjusting the exposure mode dial, the compensation value previously input manually but now no longer valid (unless it was $-1\ ^2/_3$ EV, which corresponds to the automatic compensation) flashes in the display of SCA 3002 standard flash units. This flashing can be cancelled by repeating steps 1 and 2.



Aperture priority mode *A* and TTL flash operation

For "normal" flash photographs inside and generally for poor lighting conditions.
The aperture setting is selected according to the flash unit's operating range and the desired depth of field, while the shutter speed is automatically set to 1/250 s by the camera. If this combination would lead to overexposure due to the available ambient light, the time display 250 (2.9 a) starts to flash. In this case, a smaller aperture setting should be selected.



Shutter speed priority mode *T* and TTL controlled variable flash illumination

For normal photographs with available light and additional flash illumination.
All shutter speeds between 16 s and 1/250 s can be freely selected, while the smallest aperture should be manually set (e.g. 22). When a shorter shutter speed is selected, the camera automatically switches to the flash sync speed of 1/250 s. The aperture is set automatically by the camera according to the available light, in order to ensure correct exposure of the subject (even without flash).
If this combination would lead to overexposure due to the available ambient light, the time display 250 (2.9 a) starts to flash (also see „Important" and „Notes" on p. 152).
The flash leads to additional TTL controlled illumination. The flash illumination can be selectively reduced on the SCA adapter or on the flash unit itself (on SCA 3002 standard units) using exposure compensation (e.g. – 2 EV) so that only backlit shadows or subject details can be brightened. The natural lighting situation is retained.



Manual exposure control *m* and TTL controlled variable flash illumination

The exposure of the available light and the influence of the flash light can be controlled independently of one another.

The shutter speed and aperture are adjusted to the available light manually using the light balance (2.8). All shutter speeds between 16 s and the flash sync speed of 1/250 s can be set. The influence of the available light, and therefore the brightness of the background, can thus be systematically influenced using over- and underexposure. The effect of the flash illumination can be controlled on the SCA adapter or on the flash unit itself (on SCA 3002 standard units). If the flash is only to be used as a fill-in, a corresponding flash exposure compensation is entered (see also "Setting flash exposure compensation on the camera in exposure mode *m*", p. 163).

Flash operation with the flash's own automatic mode

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When using the flash unit and SCA 3501/3502M3 automatic computer mode, the quantity of light reflected by the subject is metered and evaluated by an integrated sensor in the flash unit rather than by the camera. If the **X** position is selected on the camera's shutter speed dial (1.16), the exposure always uses the flash sync time of 1/250 s. Otherwise, the exposure modes generally function in the same way as without flash. The fastest shutter speed is the flash sync speed of 1/250 s however. If this limitation to the flash sync speed results in overexposure, this is shown in the viewfinder by flashing of the shutter speed display 250 (2.9 a) in the automatic exposure modes or, in *m*, by the light balance (2.8).

As the modes *P*, *A*, and *T* already create a normally exposed photograph using the ambient light, the flash power should be reduced, i.e. a flash exposure compensation of e.g. −1 EV to −2 EV should be set. On modern flash units, the aperture set on the lens is transmitted to the flash unit and automatically used as a basis for the computer's calculation.
Metering takes account of the film speed set on the camera and any exposure compensation set for the ambient light and the flash.

Manual flash with fixed output

If the flash unit is used in manual flash mode with full output or fixed partial output (insofar as this can be set on the flash unit), there is no control of the flash light quantity emitted. The exposure modes generally function in the same way as without flash, but the flash sync speed is used as the fastest shutter speed. If this limitation to the flash sync speed results in overexposure, this is shown in the viewfinder by flashing of the shutter speed display 250 (2.9 a) in automatic exposure modes or, in *m*, by the light balance (2.9). The lens aperture to be set is derived from the flash output, the film speed and the distance to the subject or, vice versa, the flash partial output to be set is derived from the aperture, the film speed, the focal length and the distance to the subject (see flash unit instructions). However, it can also be determined by the camera using a metering flash (see "Flash metering mode before exposure - *F*", p. 178).

Overview of using the flash with SCA -3501/3502M3 adapters

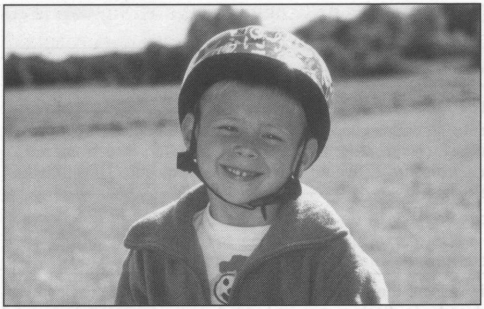
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Camera setting	Setting on the flash unit (with SCA 3501):		
	TTL-automatic	**Computer automatic**	**Manual flash with fixed performance**
X or ***B*** (any program)	The operating modes *m, A, T, P* are no longer effective, an exposure measurement for ambient light does not occur. The exposure generally occurs with 1/250 s at **X** or for any length with **B** with the aperture set manually. The flash light is controlled according to the operating mode.		
m	In the operating mode *m* flash exposures with shutter speeds between 16 s and 1/250 s can be made. The available light is metered and controlled with the light balance. The flash light is controlled according to the operating mode.		
A	The aperture priority mode is switched off, 1/250 s is always used.	The set automatic operating mode (*A, T* or *P*) carries out a regular exposure*) with the available light.	The set automatic operating mode (*A, T* or *P*) carries out a regular exposure*) with the available light.
T	The shutter speed priority mode*) is active and carries out a regular exposure with the available light. For this reason the additional flash should be reduced via flash exposure compensation.	For this reason, the flash should be reduced via flash exposure compensation.	The full flash performance is added.

Camera setting	Setting on the flash unit (with SCA 3501):		
	TTL-automatic	**Computer automatic**	**Manual flash with fixed performance**
P (in darkness)	At a fixed aperture of 5.6, the ambient brightness is taken into account by selecting an appropriate shutter speed value (up to the "free hand limit" of the focal length being used = 1/focal length [with ROM lenses, see p. 164]). The flash is TTL controlled as the main light.	The set automatic operating mode (*A*, *T* or *P*) carries out a regular exposure*) with the available light.	The set automatic operating mode (*A*, *T* or *P*) carries out a regular exposure*) with the available light.
P (in regular light conditions)	The ambient brightness is taken into account by selecting an appropriate shutter speed value (up to the "free hand limit" of the focal length being used = 1/focal length [with ROM lenses, see p. 164]). The flash is only used as a fill-in with an automatically reduced performance (-1 2/3 EV). Alternatively, manual flash exposure compensation (+3 1/3 EV) is possible.	For this reason, the flash should be reduced via flash exposure compensation.	The full flash performance is added.
P (in extreme brightness)	Since a flash would cause overexposure with 1/250 s in this light, the flash is not released. The camera works with the regular automatic program mode.		

**) The flash synch time 1/250 s is selected as the shortest exposure time.*

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High speed sync flash mode

(With appropriately equipped flash units (with HSS mode/s) and SCA 3502M3 adapter)

Alongside the flash photography described, with shutter speeds up to the sync speed of 1/250 s, the LEICA R9 also allows the flash to be used with all faster shutter speeds from 1/350 s to 1/8 000 s. This flash technology opens up new opportunities for daylight fill-in flash, e.g. if, with a high level of brightness, you want to take photographs with an open aperture for picture composition reasons, or you want to "freeze" a rapid movement.

The technology

With traditional flash technology, the flash exposure is made by the emission of a – controlled or uncontrolled – flash burst, whose reflected light can expose the entire image field when the shutter is open.

With focal plane shutters like those on the LEICA R9, however, the shutter window is only completely open for a brief moment up to a particular time – the sync speed.

Shorter exposure speeds can only be achieved if the 2nd shutter curtain is already moving before the 1st has completely opened the shutter window. As a consequence, the shutter window for shutter speeds faster than this sync time cannot be completely reached by a single flash at any time.

By contrast, in high speed sync flash mode the emission of several flashes in rapid succession creates an effect similar to that of a constant light source, exposing the entire shutter window evenly while the shutter is moving.

High speed sync flash is possible with either manual or TTL flash control, as well as in the camera exposure modes *m* and *A*.

Notes:

Due to the distribution of the available power over several flashes occurring in quick succession, with high speed sync flash mode the guide numbers and therefore the achievable range, are significantly lower than in "normal" flash mode. Therefore, high speed sync flash mode is primarily suitable for illuminating subjects in the foreground.

If shutter speeds of 1/250 s or slower are set (in *m*) or applied (in *A*), the camera automatically switches the flash unit to the appropriate mode with normally controlled flash operation. This is also indicated by the much longer range in the flash unit display.

If the flash unit is not (yet) ready to use, i.e. it is not yet (re)charged - the flash symbols in the viewfinder (2.4) and rear panel (3.5) LCDs are flashing – the set camera modes work normally and the flash unit is not fired.

High speed sync flash mode is not possible when mirror pre-release is active (see the appropriate section on p. 184). In this case, the camera automatically switches back to the sync speed and there is a normal TTL-controlled flash exposure.

For more detailed information, please refer to the appropriate flash unit instructions.

High speed sync flash with the flash unit's *M HSS* mode

For total control over all exposure parameters.
The settings in detail:

1. Set exposure mode dial (1.11) to **m** position
2. Set the shutter speed dial (1.16) to the desired value (1/350 s or faster)
3. Set the aperture setting ring (1.12) to the desired value (preferably large apertures, i.e. low values)
4. Set the exposure metering method selector (1.15) to the desired method
5. To power up the camera, lightly tap the shutter release (1.17)
6. Set *M HSS* on the flash unit

Displays:
Unlike the normal displays in camera mode *m*, the shutter speed and HSS can be seen alternately in the viewfinder (2.9 a/d).
In the flash unit display, **M HSS**, the flash output level set and the resulting range appear.
Exposure of the ambient light is adjusted using the light balance on the camera (see "Manual aperture and exposure time setting mode *m*", p. 153). The flash exposure is determined according to guide number calculation, using the information shown in the flash unit display. To do this, the range specified in the flash unit display simply has to be adjusted to the subject distance by setting the shutter speed and/or aperture and/or flash output appropriately.

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Notes:
When setting the exposure for the ambient light using the shutter speed and aperture in accordance with the light balance, the correct flash exposure for different subject distances can only be achieved with manual adjustment of the flash output.
By setting appropriate output levels, flash exposure compensation is also possible in *M HSS* mode.

High speed sync flash with the flash unit's *TTL HSS* mode

For TTL controlled fill-in flash exposures (with preset $-1\ ^2/_3$ EV compensation) in conjunction with selectively metered pre-flash/es.

Note:

If the shutter is released before firing a pre-flash, depending on the manually or automatically set shutter speed either no flash at all will be fired - with speeds shorter than 1/250 s, or, with speeds within the normal sync range, the camera will trigger a TTL-controlled flash instead of a high-speed sync flash.

The settings in detail:

1. Set exposure mode dial (1.11) to the **m** or **A** position
2. Set the shutter speed dial (1.16) to the desired value in m (1/350 s or faster); the setting is ineffective in *A*
3. Set the aperture setting ring (1.12) to the desired value (preferably large apertures, i.e. low values; the highest available value in this mode is 5.6)
4. Set the exposure metering method selector (1.15) to the desired method
5. To power up the camera, lightly tap the shutter release (1.17)
6. Set *TTL HSS* on the flash unit

Displays:

Unlike the normal flash mode, the minus sign (2.5) appears in the viewfinder to the right of the flash symbol, the shutter speed and HSS can be seen alternately (2.9 a/d) and the symbol for selective metering (2.3 c) flashes to indicated that a pre-flash has to be fired to determine the flash exposure.

The flash unit display shows the maximum range for this flash mode.

Note:

If higher values than 5.6 are set, the selected exposure metering mode appears again instead of the flashing selective point and HSS no longer alternates with the shutter speed display to indicate that pre-flash firing and therefore *HSS* mode are not possible. ▸

Determining the flash exposure

1. Using the focusing screen's selective metering field, aim at the appropriate subject detail / the main subject, and
2. fire the pre-flash by completely pressing down the stop-down slider (1.3) (the resulting number of pre-flashes is controlled automatically depending on the subject brightness and distance).

Note:

To fire the pre-flash, the camera must be wound on, i.e. the shutter must be cocked.

Displays:

In the viewfinder, the flashing symbol for selective metering is once again replaced by the one for the set metering method. If the metered subject detail is outside the flash range, i.e. it is too close or too far away, a HI / LO warning display (2.9 b) appears for 4 s.

The flash unit display then shows the maximum range calculated for the metered subject detail.

After the pre-flash(es), the camera's metering result remains stored for an extended period of 20 s (i.e. for as long as the displays can be seen) regardless of the result of the ambient light metering, allowing you to select the framing freely and at leisure. Regardless of the stored flash measurement, in camera mode *A* the ambient light measurement can also be stored.

If the shutter is then released, there is a fill-in flash exposure with automatic compensation of $-1\ ^2/_3$ EV controlled by guide numbers, i.e. adjusted to the calculated subject distance, based on the metering result of the TTL pre-flash. Even after the photograph has been taken, the HI / LO warning display (2.9 b) appears for 4 s if the metered subject detail was outside the flash range, i.e. too close or too far away.

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Notes:

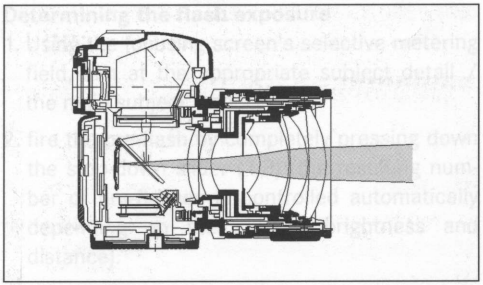
Any number of pre-flash measurements are possible before taking the photograph. Each new measurement overwrites the previous one.

Manual flash exposure compensation of $\pm 3\ ^{1}/_{3}$ EV is also possible in *TTL HSS* mode as an alternative to the automatic $-1\ ^{2}/_{3}$ EV compensation. They are set and turned off as described in the sections "Flash exposure compensation" on p. 160 and "Manual flash exposure compensation in camera exposure mode *P*" on p. 166.

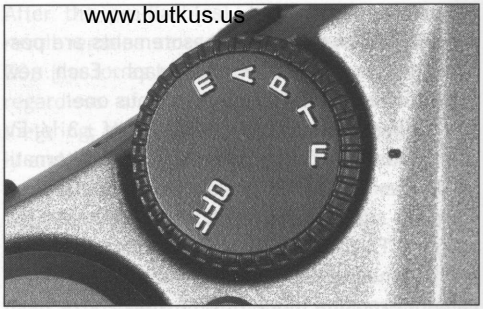
With a manually set (*m*) or automatically controlled (*A*) shutter speed of 1/250 s or slower and with no pre-flash/es, there is a normal TTL controlled fill-in flash exposure. With pre-flash/es there is a guide number controlled fill-in flash exposure according to the calculated subject brightness and based on the TTL pre-flash metered result.

To control the depth of field without firing a pre-flash, the flash unit must be turned off first.

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Pencil of rays for flash metering before exposure



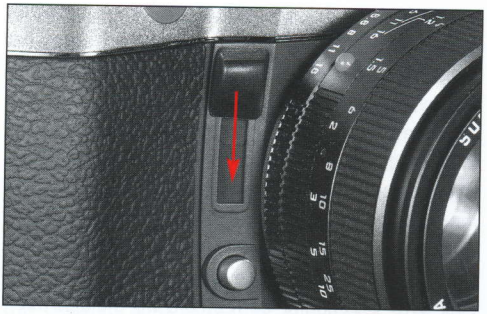
Flash metering mode before exposure - *F*

The LEICA R9's flash metering function offers you the option of metering the light energy of non-TTL controllable flash units (e.g. studio flash systems and flash units with fixed output) so that the correct aperture can be selected without the need for an additional exposure meter. In contrast to external flash exposure meters, the LEICA R9 meters through the lens (TTL), which brings considerable advantages when using filters, zoom lenses of varying speeds or for close-up photography. In order to meter specific details that are vital to the photograph or, for example, a grey card, this is done in selective mode, according to the markings on the focusing screens.

The exposure mode dial (1.11) is set to the *F* position and the selective metering field of the focusing screen is aimed at the appropriate subject detail. The flash unit is then fired by completely pressing down the stopping down slider (1.3). After the flash has been fired, the exposure deviation of the flash, as compared to correct exposure, appears in the viewfinder (light balance, 2.8 d) and in the rear panel display (3.6 c) in the range – 2.5 EV to + 2.5 EV in 0.5 EV steps. Deviations of 3 or more EV cannot be differentiated and a new measurement must be taken using a different aperture setting.

The shortest exposure time that can be set is the LEICA R9 flash sync speed (1/250 s).

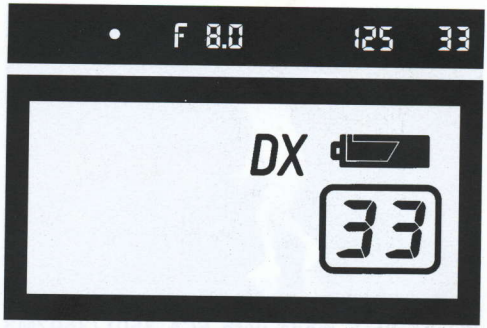
Very powerful flash units, especially studio flash systems, often have flash burst durations that



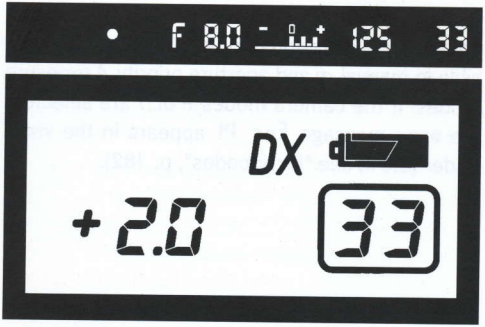
are considerably longer. In order to take full advantage of the full light quantity provided by these flash units, slower shutter speeds, such as 1/180 s or 1/125 s are recommended.

Flash metering mode also works in conjunction with the strobe setting on the flash unit. In this case, the total number of flashes emitted are metered and evaluated. This metering method is advantageous if large sections of the subject remain in the same place.

With many flash units, the aperture and range displays apply to a single flash. This information can be used to the best advantage when the subject does not remain in the same place, but moves around in front of the background.



Displays before metering



Displays after metering

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Strobe flash mode with SCA 3501/3502M3 adapter

This flash method, in which several flashes are emitted in succession during an exposure, is possible in manual *m* and aperture priority *A* exposure modes. If the camera modes *P* or *T* are selected, the error message Err 14 appears in the viewfinder (3.6 h, see "Error codes", p. 182).

In manual mode the exposure time, between 16 s and 1/250 s, and the aperture are set manually; the light balance is used to check on the available light. If the required time, calculated from the selected number of flashes and the flash frequency of the strobe flash, is longer than the set exposure time, the exposure time is automatically extended. The light balance (2.8 a) remains visible and shows the extent to which this would result in overexposure due to the available light. This can be corrected using the aperture.

When using aperture priority mode, the camera calculates the necessary time automatically, depending on the number of flashes and the flash frequency. If this would lead to overexposure due to the available light, the shutter speed display flashes.

For a successful strobe photograph, for example when several phases of one sequence of movement are recorded on one picture, the operating range of the flash unit, the number of flashes, the distance and of course the aperture are of crucial importance. You can find information about this in the instructions for your flash unit.

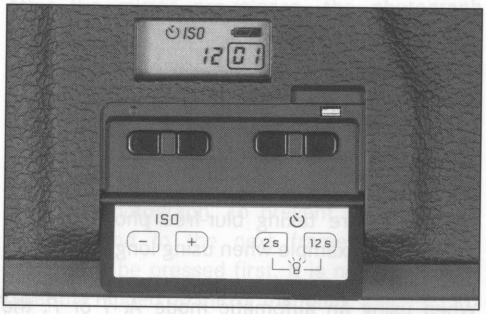
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Warning displays (error codes) for incorrect settings in flash mode

The camera's manual operating concept and the many options, particularly with system flash units, allow settings that do not make sense. In such cases, an error message e.g. Err 12 appears in the viewfinder.

Error code:	Cause:	Remedy:
Err 12	Camera in the metering flash mode (*F*) and flash unit in TTL control	Flash unit must be set to manual
Err 13	Camera in the metering flash mode (*F*) and flash unit in computer automatic	Flash unit must be set to manual
Err 14	Camera in strobe flash mode with camera modes *P* or *T*	Set camera to *m* or *A*
Err 15	Camera in the metering flash mode (F) and shutter speed setting ring at **X**, flash unit in	Set the shutter speed setting ring to any time except for **X** or **B**.
Err 17 Err 18	The film speed is below ISO 25/15°. The film speed is above ISO 400/27°.	The metering flash function is only possible for film speeds between ISO 25/15° and ISO 400/27°, so another film speed must be used.



Self-timer

To use the self-timer function, the cover flap (1.33) on the rear panel is opened. Two different countdown times are available: 2 s or 12 s. With the camera powered up and at the first tap of the one of the two buttons (1.36), the entry is set to ready; the auto release symbol (3.2) and *OFF* (3.6 f) appear in the rear panel display. Briefly pressing one of the two buttons again selects one of the two countdown times.

The countdown commences after tapping and letting go of the shutter release button. The time remaining until the shutter is released is shown in the rear panel display. A visual indication is the flashing of the LED on the front of the camera (1.5). The slow flashing changes to rapid flashing approx. 2 s before the shutter is released.

During the countdown, the process can be cancelled by pressing one of the two buttons on the rear panel again, or the countdown can be restarted, i.e. extended, by pressing the shutter release again.

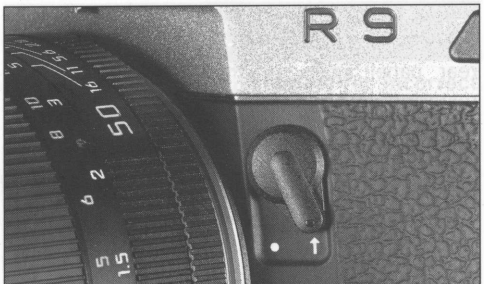
A countdown time can only be set when the shutter is cocked. Each setting only applies to one photograph, it is then automatically reset.

For safety reasons and to prevent the values from being changed accidentally, the cover flap on the rear panel should always be closed when taking photographs.

Note:

Turning off the camera, i.e. turning the exposure mode dial (1.11) to the **OFF** position, only interrupts a self-timer countdown time. When the camera is turned back on, the photograph is taken after the remaining time has expired.

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Mirror pre-release

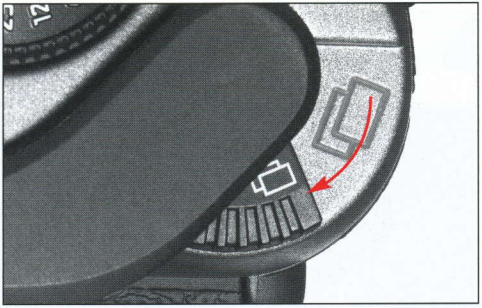
To eliminate the remaining minimal effects of mirror movement and closing of the lens diaphragm, the LEICA R9 offers the possibility of mirror pre-release. To use it, the mirror pre-release selector (1.6) is moved outwards. Then, the first time the shutter release button (1.17) is pressed, only the mirror is flipped up and the diaphragm closes to the value set. The shutter is released, and the actual photograph taken, by pressing the shutter release button a second time. After the exposure, the mirror moves back down into place and the diaphragm opens again in the normal way. If you prefer to take the next photograph without mirror pre-release, the selector must be reset, i.e. moved back inwards.

The mirror pre-release can also be combined with the self-timer. In this case, pressing the shutter release pre-releases the mirror and as soon as the shutter release is let go, the countdown begins. After the countdown is complete, the photograph is taken and the mirror returns to its normal position. This combination is recommended where taking blur-free photographs is difficult, for example when using long focal lengths on a tripod.

When using an automatic mode *A*, *T* or *P*, the exposure metering occurs when the shutter release is pressed for the first time, i.e. shortly before the mirror pre-release. The value is stored and the photograph is taken with this exposure. In mode *m*, the shutter speed/aperture combination is selected manually.

After the mirror pre-release, the photograph must be taken within approx. 2 minutes, as the mirror automatically returns to its original position after this time to conserve the batteries. Powering up the camera (tapping the shutter release) during this waiting period restarts the 2 minutes. The shutter must be cocked again before the next photograph. To prevent the film from being wound to the next frame, the rewind button can be pressed first. It is not possible to reset the flipped up mirror manually.

Note:
Turning off the camera by turning the exposure mode dial (1.11 into the **OFF** position, returns the mirror to its original position, thereby ending the function. However, if the lever is not moved inwards, the next time the camera is turned on and before the next photograph, the function proceeds as described above.



Multiple exposures

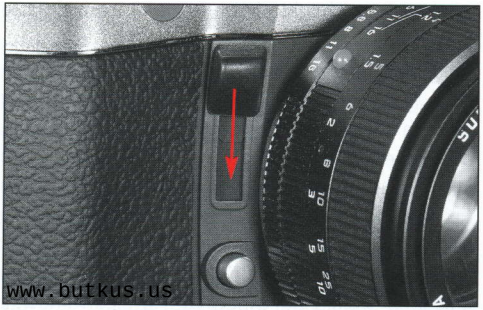
For multiple exposures, the multiple exposure lever (1.19) is moved over the rewind release button (1.20) before the first exposure and the frame counters flash (1.22, 2.10 a, 3.7 a). As a result, when the winding lever is operated or a motor is used after the first exposure, the shutter is cocked but the film is not wound on. The section of film can then be exposed any number of times.

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Shifting the multiple exposure lever simultaneously activates a "film brake", so that the film remains positioned precisely in the film channel. Before the last exposure, the lever is moved back into place. The film is then wound on after the exposure with the winding lever or using the motorised winder.

Note:

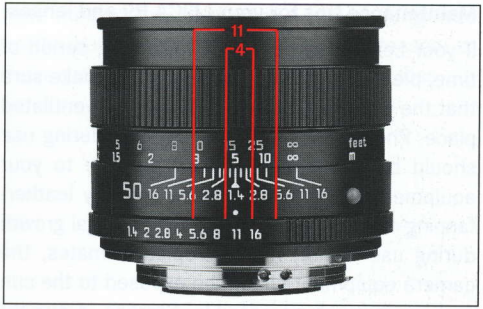
When using motors, note that before the last desired exposure, they must be turned off by moving the quick wind lever (1.21) outwards. Otherwise, when the next photograph is taken, the same section of film would be exposed. Immediately after resetting the multiple exposure lever, the motors can be turned back on and used as normal (see the relevant instructions for details).



Stop-down slider and depth of field

The LEICA R9 meters the exposure with the lens diaphragm open. When the stop-down slider (1.3) is operated, the lens diaphragm closes and allows a visual evaluation of the focused and unfocused areas in the viewfinder (the exposure meter then shows incorrect values!). This is particularly useful for close-up photographs.

In the camera's flash metering mode *F* and, *m* and *A* - in the flash unit's *TTL HSS* mode, pressing the stop-down slider also fires the flash. The shutter release is blocked when the stop-down slider is pressed.



The depth of field scale for the lens shows the range of depths of field for the set subject distance. For example, if the Summilux-R 50 mm f/1.4 lens is set to 5 m, the depth of field at f/4 reaches from approximately 4 m to 8 m, at f/11 from approximately 3 m to 20 m.

Maintenance tips for your LEICA R9 and lenses

If your Leica is to be stored for a long period of time, please remove the batteries and make sure that the camera is stored in a dry, well-ventilated place. Photo cases that have got wet during use should be emptied to prevent damage to your equipment caused by moisture and any leather-tanning residue released. To prevent fungal growth during use in hot, humid tropical climates, the camera equipment should be exposed to the sun and air as much as possible. Storage in airtight containers or cases is only recommended if a desiccant, such as silica gel, is also used. As any dirt may also be a breeding ground for micro-organisms, the equipment should be carefully kept clean.

All mechanically operated bearings and sliding surfaces on your LEICA R9 are lubricated. Please remember this if you will not be using the camera for a long period of time. To prevent the lubrication points from becoming gummy, the camera should be wound on several times and released with every shutter speed with no film loaded every three months. It is also recommended that you repeatedly move and use all other controls, such as the program selector and DIN/ASA setting. The lens helix (range setting) and aperture setting rings should also be moved from time to time.

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A lens works like a magnifying glass if bright sunlight shines on the front of the camera. The camera should therefore never be set aside without protection against strong sunlight. Using the lens cover and keeping the camera in the shade (or directly in the case) help to prevent damage to the interior of the camera.

To remove stains and fingerprints, the camera and lens should be wiped with a clean lint-free cloth. Tougher dirt in hard to reach corners of the camera body can be removed with a small brush. Please do not use any pointed or sharp objects to clean the camera body, as they can damage the lacquered surface of the top panel. Liquid cleaning agents should not be used.

Dust and lint inside the camera (e.g. on the mirror or the film guides) are best removed carefully with a soft hair brush that has been repeatedly degreased in ether and then dried. Be careful not to damage the focusing screen with the shaft of the brush.

Normally, a soft hair brush is sufficient to remove dust from the outer lens elements. However, in case of more stubborn dirt, they can be carefully cleaned with a very clean, soft cloth that is completely free of foreign matter, using circular motions from the inside to the outside.

We recommend micro-fiber cloths (available from photographic and optical specialists) that are stored in a protective container and can be washed at temperatures of up to 40°C (without fabric softener, never iron!). Cloths for cleaning glasses, which are impregnated with chemicals, should not be used as they can damage the lens glass.

Optimum front lens protection in unfavorable conditions (e.g. sand, salt water spray) can be achieved using colorless UVa filters. However, as with any filters, these can cause undesirable reflections in certain backlight situations and with large contrasts. The generally recommended lens hood also protects the lens from unintentional fingerprints and the rain.

Note the serial number of your camera (engraved on the bottom of your LEICA R9) and lenses, as these are extremely important in case of loss.

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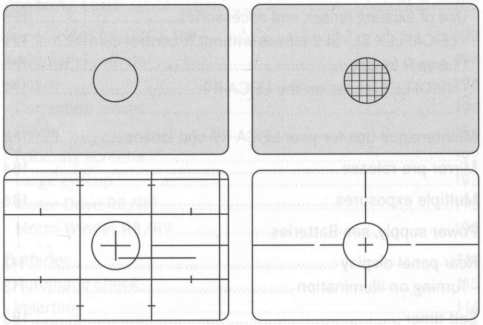
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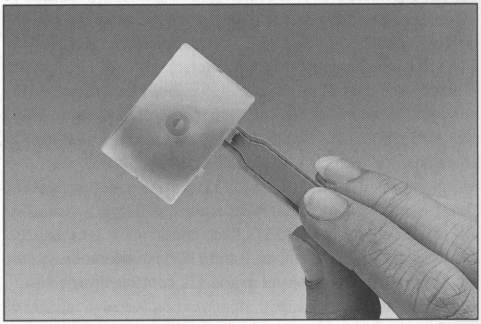
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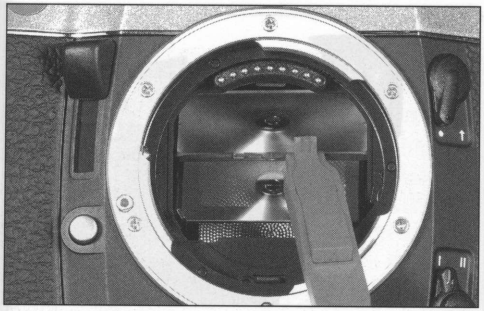




Focusing screens

Special assignments require tailored systems for fast and precise work. This is why there are four extra focusing screens for the LEICA R9 in addition to the universal screen.

- The uniform ground-glass screen (order no. 14 344), e.g. for extreme close-ups and very long focal lengths.
- The micro-prism screen (order no. 14 345), e.g. for disturbed assessment of the image layout.
- The uniform ground-glass screen with grid divisions (order no. 14 346), e.g. for architectural, panoramic and reproduction photography (also has markings for creating slides for TV reproduction).
- The clear-glass screen (order no. 14 347), for scientific photography, e.g. microscopic or astronomical photographs.

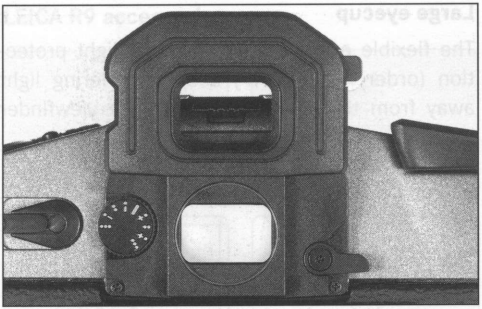


The focusing screens are supplied separately in a container with tweezers and a dust brush. To change the screen, remove the lens, flip down the screen holder and remove the focusing screen using the tweezers.

Large eyecup

The flexible eyepiece cup for stray light protection (order no. 14 217) keeps interfering light away from the eye. As a result, the viewfinder image appears even brighter.

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Eyepiece correction lenses

To allow you to adjust the eyepiece setting by more than the standard ± 2 diopters, corrective lenses from − 3 to + 3 diopters are available (in whole diopter steps). To insert the corrective lens, first of all remove the eyecup (see p. 117), then place the lens in the eyepiece cavity and slide the eyecup back into place. A safety catch prevents both from being lost.



Angle viewfinder

The angle viewfinder (order no. 14 300) makes it easier to see the viewfinder image when taking photographs from a repro-stand or from the "worm perspective". A simple switch also activates a 2 x magnifying glass. To attach the angular viewfinder, the camera's eyecup first of all has to be removed.



LEICA MOTOR-WINDER R8/R9

The Motor-Winder R8/R9 is attached after removing the camera's battery compartment and allows an exposure frequency of approx. 2 frames per second and motorised rewind.

The Motor-Winder R8/R9's batteries (2 x type "123") then also take over the power supply for the camera.

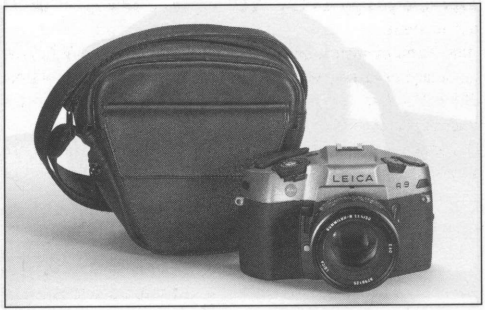
The Motor-Winder R8/R9 has a connection for a remote shutter release, external power supply and Remote-Control R8/R9 with built-in timer.



LEICA MOTOR-DRIVE R8/R9

The Motor-Drive R8/R9 is attached after removing the camera's battery compartment. It allows for single exposures or a frequency of 2 and 4,5 frames per second. The Drive can also be used for motorised rewind. In addition, the Motor-Drive R8/R9 provides a bracketing function, i.e. 3 photographs can be taken automatically with different exposure values (with $^1/_2$ or 1 EV difference).

The Motor-Drive R8/R9's battery pack also takes over the power supply for the camera. The Motor-Drive R8/R9 has a connection for a remote shutter release, external power supply and Remote-Control R8/R9 with built-in timer.



Cases

Ever-ready cases are available for the LEICA R9, which provide the camera with a high level of mechanical protection. (Order no. 14 519 for camera without Motor-Winder R8/R9, order no. 14 527 for camera with Motor-Winder R8/R9). Various combination cases are also available for a varied range of equipment with several lenses and accessories.

Filters

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An assortment of color, UVa and polarising filters are available for use on Leica R lenses.

When the exposure is metered through the lens, the light absorption of the filter is generally taken into account automatically. However, different films have a different sensitivities in the individual areas of the spectrum. For this reason, filters that are more dense or extreme may cause deviations from the metered exposure time. For example, orange filters normally require a compensation of one aperture value, red filters around 2 aperture values on average. It is not possible to provide a generally applicable value, as black and white films have very different sensitivities to red.

Circular polarisation filters allow you to meter and set the camera in the same way as with normal filters. Linear polarisation filters should not be used. Metering with linear polarisation filters can result in extreme deviations, as the transparent main mirror also has a polarising effect and, depending on the filter position, can falsify the measurement.

Technical data

Camera type Microprocessor controlled, manual focusing 35mm SLR camera with multiple automatic modes and motor attachment capability

Lenses

Lens attachment Leica R bayonet with additional electrical contacts. All Leica R lenses, as well as earlier LEICAFLEX/SL/SL2 lenses fitted with R control cam can be used.

Lens system Leica R lenses from 15-800 mm

Exposure metering

Metering methods

- Selective metering (metering field 7mm), metering field indicated in viewfinder; with all modes
- Multiple field metering (6 fields); with all modes, exposure level for multiple field metering can be adjusted by a maximum of ± 0.7 EV in 1/10 EV steps.
- Center-weighted integral metering; with all modes
- Center-weighted integral TTL metering for flash lighting with system-compatible SCA 3000/3002 standard flash units
- Selective TTL test flash exposure metering before exposure with any flash unit

Full aperture metering with all Leica R lenses and accessories with automatic diaphragm, otherwise stop-down metering. Metering method selector in ergonomically optimised design.

Metering memory-lock For selective and integral metering in all automatic modes by pressing the shutter release to the pressure point, indicated by relevant metering method symbol going out in the viewfinder display.

Exposure compensation ± 3 EV (exposure values), can be set in half steps.

Automatic exposure series With LEICA MOTOR DRIVE R8/R9, automatic exposure series of 3 exposures each can be produced. Either $^1/_2$ EV or 1 EV can be selected as deviations between the individual exposures.

Depending on the selected mode, the different exposures are achieved by adjustment of the aperture and/or the shutter speed.

Metering range (at f/1.4 and ISO 100/21°):

Selective metering: 0.007 cd/m² to 125,000 cd/m², i.e. from EV -4 to EV 20 or from 32 s at f/1.4 to 1/8000 s at f/11.

Integral and multiple field metering:

0.003 cd/m² to 125 000 cd/m², i.e. from EV -2 to EV 20 or from 8 s at f/1.4 to 1/8 000 s at f/11, warning symbol in viewfinder if metering range not reached.

Metering cells Silicon photo diodes in bottom of camera and on auxiliary mirror protected from stray light.

Film speed range Manual setting from ISO 6/9° to ISO 12 500/42° (with additional exposure compensation of up to ± 3 EV, overall films from ISO 0.8/0° to ISO 100 000/51° can be exposed), DX scanning from ISO 25/15° to ISO 5 000/38°.

Exposure modes

m	Manual shutter speed and exposure setting, adjustment via light balance
A	Aperture priority
P	Variable automatic program mode
T	Shutter speed priority
F	Selective TTL flash exposure metering before exposure

The mode dial is mechanically protected against accidental adjustment in every position, release button behind the dial is locked automatically when the dial is moved to a new position and the button is not pressed.

Flash exposure control

Flash unit connection Via accessory shoe with central and control contacts or standard flash connection socket.

Synchronisation Flash sync speed: **X** = 250 s; optionally on 1st or 2nd shutter curtain; flash possible with faster shutter speeds (1/350 s – 1/8 000 s) with appropriately equipped flash units (*HSS* mode) and SCA 3502M3 adapter.

With system-compatible flash units (SCA 3000/3002 standard with SCA 3501/3502M3 adapter or LEICA SF 20) TTL control with center-weighted integral metering, computer-, i.e. flash unit-controlled with automatic transmission and consideration of film speed, exposure compensation and set lens aperture, with appropriately equipped Leica R (ROM) lenses and flash units (with zoom reflector) automatic adjustment of flash illumination to the focal length used, all exposure modes can be used, accordingly different exposure levels and proportions of available and flash ligh, in *P* fully automatic with optimised control for balanced photographs with the proportions of available light increased and flash light reduced according to the situation, alternatively manual flash exposure compensation ($\pm 3\ ^1/_3$ EV) possible.

With any flash unit (e.g. studio flash systems) Selective TTL metering flash firing before exposure, display of metering result in viewfinder and rear panel LCDs.

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High-speed sync flash mode For flash photography with faster shutter speeds than the sync speed (1/350 s – 1/8 000 s) and aperture settings between full aperture and f/5.6 (with slower shutter speeds and smaller apertures, automatic selection of normal manual flash – in *M HSS* – or TTL – in *TTL HSS* – flash exposure). The emission of several flashes in rapid succession creates an effect similar to that of a constant light source, exposing the entire image aperture evenly while the shutter is moving.

Optionally in exposure modes *m* or *A*. Only with appropriately equipped flash units (with High Speed Synchronisation mode/s) and SCA 3502M3 adapter.

In flash unit *M HSS* mode, camera exposure mode m and shutter speeds faster than 1/250 s: Adjustment of exposure of ambient light according to camera's light balance. Determination of flash exposure based on guide number calculation (corresponding range shown in flash unit display) by adjusting shutter speed and/or aperture and/or flash output settings to the subject distance (with correct exposure of ambient light, range can be adjusted only by changing the flash output). With a manually set (*m*) shutter speed of 1/250 s or slower, flash exposure is at the manually set output level.

In flash unit *TTL HSS* mode (essentially used as fill-in flash at $-1\ ^2/_3$ EV), camera exposure mode *m* or *A* and shutter speeds faster than 1/250 s: Determination of automatic flash exposure by firing a pre-flash with selective metering of the main subject (no flash function if fired without pre-flash). Metering result remains stored for an extended period (20 s), regardless of the result of the ambient light metering and setting, so that the picture detail can then be freely selected. Metering memory-lock (in *A*) for ambient light possible in any case. Any number of pre-flash measurements are possible before taking the photograph. Manual flash exposure compensation of

± 3 1/3 EV possible as alternative to automatic compensation. Operating displays depend on the setting and current operation in the flash display and camera viewfinder (where HI / LO warnings also appear if above or below the flash range). With a manually set (*m*) or automatically controlled (*A*) shutter speed of 1/250 s or slower: Without pre-flash: Normal, TTL controlled fill-in flash exposure; with pre-flash: guide number controlled fill-in flash exposure according to the calculated subject distance and based on the TTL pre-flash metered result.

Strobe flash mode (multiple flashes fired during an exposure) Automatic adjustment of exposure time with system-compatible and appropriately equipped flash units.

Flash metering cells Silicon photo diodes in bottom of camera protected from stray light.

Film speed range for TTL flash exposure metering
For SCA controlled metering: ISO 12/12° to ISO 3,200/36°
For test flash metering: ISO 25/15° to ISO 400/27°

Displays in flash mode Readiness status: Flashing of constant illumination of flash symbol in viewfinder and rear panel LCDs. Success check: Over- and underexposure indicated by HI or LO signal in camera viewfinder for approx. 4 s after exposure.

Flash exposure compensation ± 3 1/3 EV in 1/3 EV steps on SCA 3002 standard flash units or on the SCA 3501/3502M3 adapter with TTL and computer control of the flash unit in camera modes *m*, *T* and *A*. Fixed −1 2/3 EV preset for automatic program mode and normal lighting conditions, manual compensation (± 3 1/3 EV) also possible.
On the LEICA SF20, ± 3 EV can be set in 1/3 EV steps with TTL control or in 1 EV steps with computer control.

Automatic adjustment of flash reflector for system-compatible SCA 3000/3002 standard flash units with motor zoom reflector, SCA 3501/3502M3 adapters and lenses with electrical contacts.

Viewfinder system

Prism Built-in penta prism

Eyepiece High-eye-point viewfinder. Diopter compensation of approx. ± 2 dpt. can be set on the viewfinder. Additional corrective lenses from − 3 to + 3 dpt. are available. Built-in eyepiece lock.

Focusing screens Interchangeable, 5 models available:
Universal screen (ground glass screen with micro-prism ring and split-image, standard equipment), uniform ground glass screen, uniform ground glass screen with grid divisions, micro-prism screen, clear glass screen with cross hairs

Viewfinder field 23 x 35 mm, equivalent to 93% of film format (96% vertical x 97% horizontal) and the standard slide format.

Magnification 0.75 x with 50 mm lens set to infinity and 0 dpt.

Displays

Viewfinder LCD lines below viewfinder image showing: Warning symbol if below metering range, indication of exposure compensation or manual film speed setting differing from DX value, symbols for metering method incl. display for metering memory-lock, flash symbol, flash ready and flash check, flash exposure compensation, mode display, aperture display in half steps, including values dependent on focal length for zoom lenses with variable aperture, light balance for manual exposure adjustment, exposure compensation, automatic exposure series and metering flash mode, shutter speed or over/under-exposure signals, long-time exposure signal or for impossible camera settings, frame counter with display of multiple exposures, automatic exposure series and incorrectly loaded film

Top panel Top right side: LCD frame counter, is turned on and off with the camera (using the exposure mode dial). Front: LED for auto release

Rear panel Backlit LCD panel with: Indication of exposure compensation or manual film speed setting differing from DX value, display of manual or automatic film speed setting, scanned film speed is displayed with DX function turned on, battery status, automatic warning of weakening battery power, flash symbol, numerical display for film speed, exposure compensation, exposure adjustment in metering flash mode, selftimer time remaining, over- and underexposure signals and impossible camera settings, frame counter with display of multiple exposures, automatic exposure series and incorrectly loaded film or (with Motor-Winder R8/R9 / Motor-Drive R8/R9 only) rewound film.

Shutter and release button

Shutter Microprocessor-controlled metal leaf focal plane shutter with vertical movement.

Shutter speeds Manual setting (*T* and *m*): 16 s to 1/8 000 s in half steps, **B** for long-time exposures of any duration, **X** = 1/250 s for flash synchronisation.

Automatic setting (*P* and *A*): continuous from 32 s to 1/8 000 s. Linear flash possible with all faster shutter speeds than 1/250 s (with SCA 3002 standard flash units and SCA 3501/3502M3 adapter)

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Shutter release Three steps: Lower up – metered value storage - release, integrated standard cable release thread.

Self-timer Two countdown times: 2 s or 12 s, red LED display during countdown.

Swinging mirror Partly transparent with 17 vacuum evaporated layers (70 % reflection, 30 % transmission).

Mirror pre-release Using a separate switch, the shutter release can be used to flip up the swinging mirror without releasing the shutter and to close the lens' automatic diaphragm to the set value. Shutter is only released when the shutter release button is pressed again.

Film transport

Loading Easy and fast procedure due to automatic film threading.

Transport forwards Manual with the quick wind lever or motorised using the Motor-Winder R8/R9 (2 fps) or Motor-Drive R8/R9 (adjustable to 4.5 fps, 2 fps or single frame), window in rear panel to check film transport.

Rewind Manual using rewind crank or motorised using Motor-Winder R8/R9 / Motor-Drive R8/R9.

Frame counter In viewfinder, rear panel and top panel LCDs, automatically reset after rear panel is opened.

Multiple exposures Any number of multiple exposures are possible with no image displacement (film brake) and without the frame counter moving on

Camera body

Material Top panel die-cast magnesium, black or anthracite finish, inner housing aluminium, fixed connection to aluminium tripod plate, base fiberglass-reinforced polycarbonate with aluminium tripod plate, bottom with rubber covering.

Stop-down lever For visual evaluation of depth of field and to fire pre-flashes.

Tripod thread A $^1/_4$ ($^1/_4$") DIN (steel insert) secured against rotation in accordance with DIN 4503, in tripod plate, centrally below lens axis.

Rear panel Backlit LCD panel for display of various functions or operating states (see above), film cartridge viewing window for checking film type loaded, window for checking film winding.

Operating voltage 6 V

Power supply Battery compartment: two 3 V lithium cells, type "CR2" With Motor-Winder R8/R9: two lithium cells, type "123" in winder, with Motor-Drive R8/R9: NiMH battery pack from drive, battery check via symbol in rear panel LCD.

Dimensions (W x H x D) 158 x 101 x 62 mm

Weight approx. 790 g (without batteries)

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Leica Academy

As well as outstanding high-performance products for taking, reproducing and viewing photographs, for many years we have also been offering the special services of the Leica Academy, with practical seminars and training courses, which are intended to share our knowledge about the world of photography, projection and magnification with both beginners and advanced photographic enthusiasts. The contents of the courses, which are run by a trained team of experts in the modern, well-equipped training site at our Solms factory and in the Hofgut Altenberg, vary from general photography areas of special interest and offer a range of suggestions, information and advice for your own work.
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The Leica information service can provide you with an answer to any technical questions relating to the Leica range either in writing, on the telephone or by e-mail.

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