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Leica

User Manual

LEICA R7

We wish you a great deal of pleasure and many years of successful photography with your new LEICA R7.

To enable you to fully enjoy and take advantage of the wide range of possibilities offered by this high-quality, precision camera, we recommend that you first read this manual carefully.

Leica Akademie.

Leica not only develops and manufactures high-performance products for photography, projection, observation and photographic reproduction – an additional service available to you is the Leica Akademie. For many years, this internationally famous school has been teaching photographic know-how in application-oriented seminars and training courses. It meets the needs of photo enthusiasts, both beginners and advanced students, for special training in demanding areas of 35 mm photography, projection, and enlargement.

Up-to-date, well-equipped classrooms at our Solms headquarters are available for courses, which are held by experienced instructors, with syllabuses ranging from general photography to specialized fields of interest. They provide a wealth of practical suggestions, help, and advice. Further information and details of seminars are available from:

Leica Camera GmbH, Leica Akademie
Oskar-Barnack-Strasse 11,
D-35606 Solms, Germany
Telephone +49 (06442) 208-421

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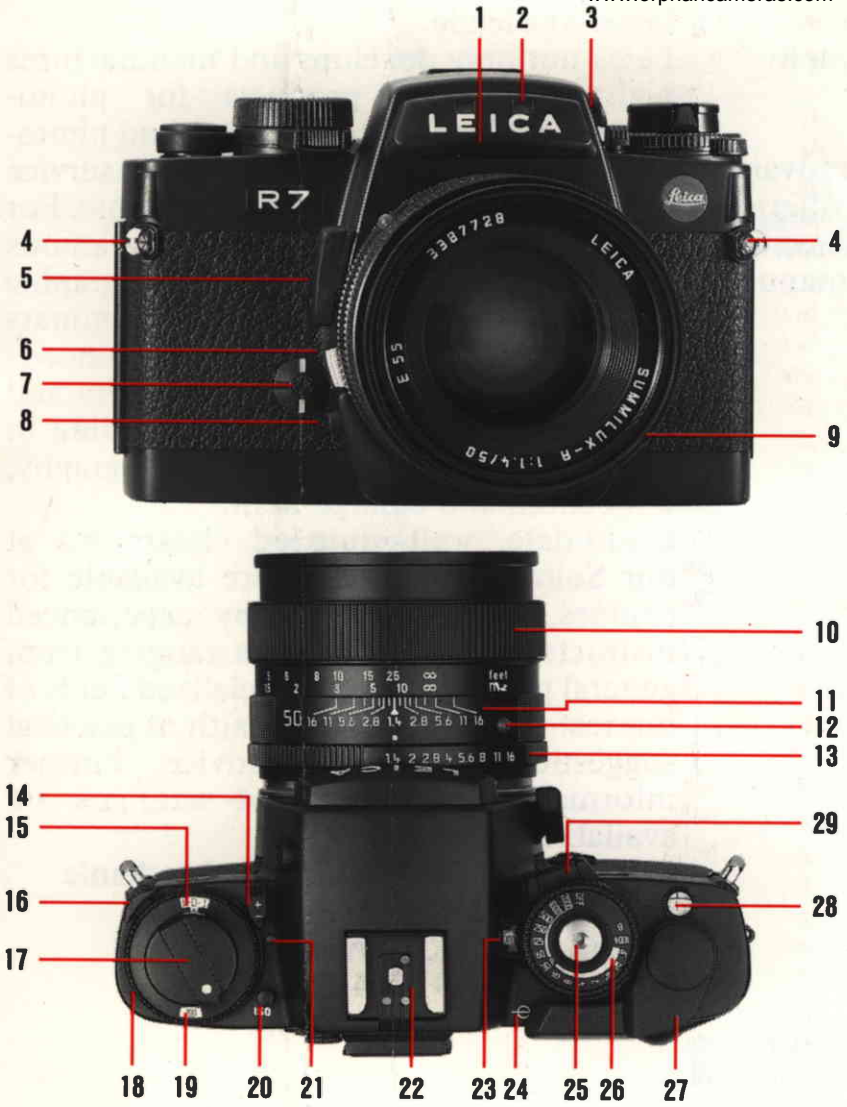

Brief description

1 Window for display and illumination of aperture scale
2 Self-timer LED
3 Coaxial flash-cable contact
4 Eyelet for carrying strap
5 Depth of field lever
6 Bayonet lock
7 Electronic self-timer
8 Connection for independent mirror release
9 Switch for aperture scale illumination
10 Focusing ring
11 Depth of field scale
12 Red dot for alignment of interchangeable lenses
13 Aperture setting ring
14 Release button for override lock
15 Window for override setting display
16 Override setting lever
17 Hinged rewind crank
18 Film speed setting ring
19 ISO film speed control window
20 Release button for setting film speed
21 LED (light diode)
22 Accessory shoe with central hot-shoe and control contacts

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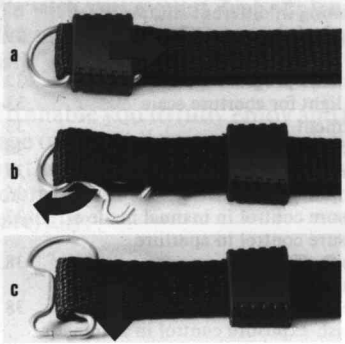



d


e


f


g

Attaching the carrying strap

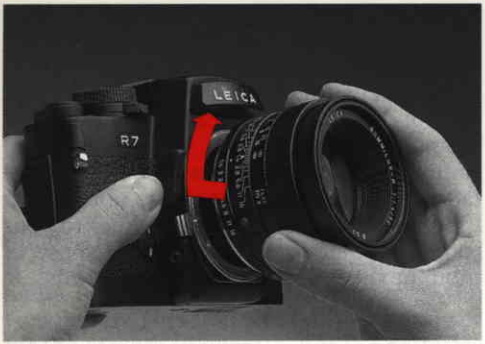
To attach the carrying strap to the eyelets **[4]**:

- Slide back the safety sheath at the end of the strap (fig. a).
- Remove the metal hook from the strap (fig. b and c).
- Insert the hook in the eyelet **[4]**, with the bent part of the hook parallel to the side of the camera (fig. d and e).
- Insert the strap through the open ended, narrow part of the hook, then turn it through 90° for a proper seating on the D-shaped loop (fig. f, g and h).
- Slide the safety sheath fully home over the hook (fig. i and j).


h


i


j



Changing the lens

To avoid damage to your LEICA R7, do not attempt to fit any lens that does not have a control cam for a LEICA R Camera (see page 47).

To insert a LEICA R-Lens regardless of the focus and aperture settings, proceed as follows:

Hold the lens by the fixed ring **[11]**. Position the red dot **[12]** on the lens mount opposite the dot on the bayonet lock **[6]** on the camera body. Insert the lens in this position. A slight clockwise turn locks the lens into position audibly.

Removing the lens:

Hold the lens by the fixed ring **[11]**. Press in the bayonet lock **[6]** on the camera body. Turn the lens anticlockwise and remove. Always change lenses in the shade or in your body's shadow.

Inserting the batteries

The exposure meter and shutter release of the LEICA R7 require a 6 V power supply, either four silver oxide button cells (1.5 V) or two lithium cells (6 V).

Open the battery compartment cap **[37]** by pressing the locking button **[36]** and push the cap in the direction of the camera front. Use a clean cloth to wipe off any oxidization on the surface of the battery cells and insert the batteries in the battery cap; position them as marked by symbols in the battery cap. Close battery compartment cap and push it toward the camera back until it clicks shut.

Notes on battery care and use:

Store battery cells in a cool, dry place. Keep away from children. Never use old and new battery cells together. Do not mix battery cells of different makes. These battery cells are not rechargeable.

Batteries contain toxic and environmentally damaging substances. Do not discard used battery cells, but return them to your camera dealer for recycling or dispose of them at special waste collection points.

Compatible batteries

Silver oxide button cells suitable for the LEICA R7 (valid Spring 1992):

Duracell	D 357 (10 L 14)
EverReady	EPX 76
Kodak	KS 76
Maxell	SR 44
National	SR 44
Panasonic	SR 44
Philips	357
Ray-o-vac	357
Sony	SR 44
Ucar	EPX 76
Varta	V 76 PX

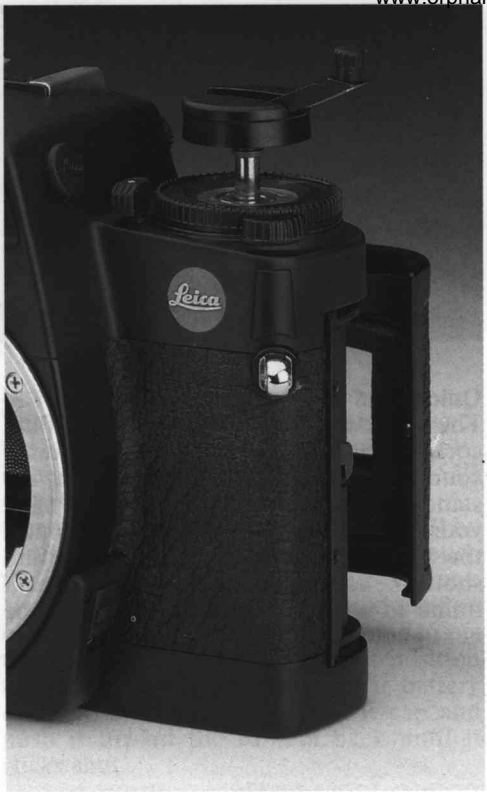
Lithium cells
(valid Spring 1992):

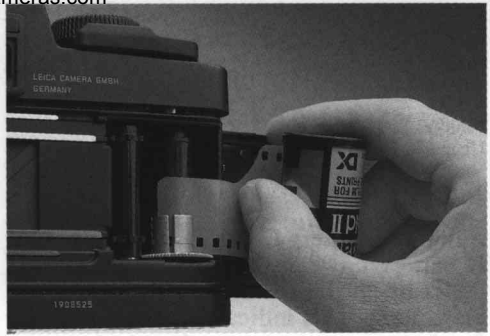
Duracell	DL ⅓ N
Kodak	K 58 L
Philips	CR ⅓ N
Ucar	2 L 76
Varta	CR ⅓ N

Automatic Battery Check
If battery power is low, the symbol "BC" lights up in the lower right corner of the viewfinder. This indicates sufficient power for the camera to operate, but the batteries should be replaced as soon as possible. If battery power is too low for camera functioning, the exposure release is blocked and all displays, except the "BC" symbol extinguish. If the battery is completely flat, the "BC" symbol no longer lights up.

Shutter release without batteries
You can still use the camera when the battery cells are flat or have been removed. To do so, set the shutter speed to "B" or "100⚡".

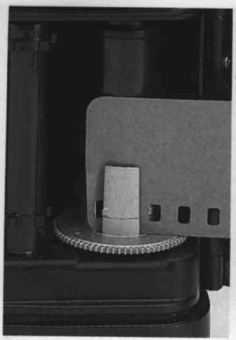
Quick-wind lever
The quick-wind lever **[27]** winds the film, cocks the shutter, and turns the frame counter **[28]**. When hinged out in the stand-by position, there is room to slide your thumb behind it and firmly support the camera. After each exposure, the film should be advanced immediately to the next frame to ensure instant readiness for the next photograph.



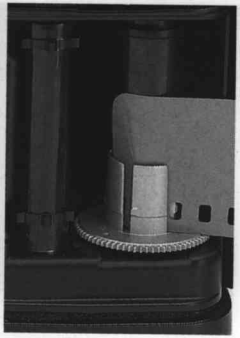


Inserting the film

Pull up the rewind crank **[17]** and knob past the spring resistance to release and open the camera back. The frame counter resets to "S" (start).



Incorrect



Correct

Pick up the film cartridge as shown above, with the emulsion side facing up. Slide the end of the film obliquely from above into one of the slots of the take-up spool, making sure that the film is gripped by at least one of the retaining clips and projects under the next clip.

Pull up the rewind crank as far as it will go and insert the film cartridge in the empty cartridge chamber, then push in the rewind crank. The edge of the film must be parallel with the film guide. As you move the quick-wind lever, the sprockets of the transport drum must engage in the edge perforations of the film.

Use the quick-wind lever to wind the film one frame forward, to ensure that it lies tensioned in the film guide and that the mouth of the cartridge does not project too far. You may occasionally wish to take out a partly exposed film and later insert it again.

To ensure that the film is always inserted under the same conditions, use the quick-wind lever to cock the shutter, then release the shutter before you insert the film.

Snap shut the camera back to close the camera. Release the shutter. Wind the film one frame forward, release the shutter again, then wind on one more frame. The camera is now ready for use. The frame counter **[28]** stands at "1". It counts up to "36".

Important: Bright light may enter through the mouth of the cartridge and damage your film. Always insert film in your body's shadow; never in bright light.

Normally, the film speed setting ring **[18]** can be left in the "DX" position, other film speeds can be manually set (see following section). The camera is now ready for exposure.

Automatic DX-Setting

If DX-coded films are used, push the locking button **[20]** to switch the setting ring **[18]** to the "DX" position, as displayed in the window. It appears at the end of the ASA scale, i.e. next to the ASA setting "12800". "Reading" and setting the film speed occurs automatically for all speeds from ISO 25/15° to ISO 5000/38°.

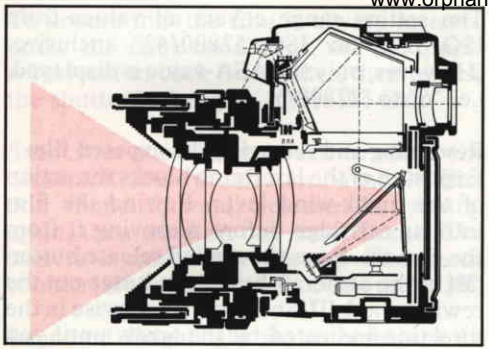
If, in this setting, a non DX-coded film is inserted, or if there is no film in the camera at all, the symbol "ASA" blinks in the viewfinder display. The outer LED **[21]** also blinks.

If exposure is nevertheless released, the selected aperture and shutter speed settings are activated, regardless of the camera mode chosen.

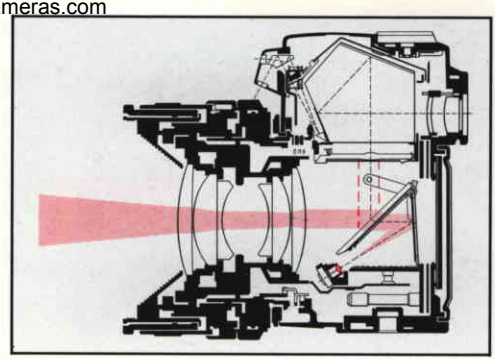
In the case of discrepancy between the manually set film speed and the DX-code, the manually set value becomes operative. The warning symbol ⚠ lights up at right in the viewfinder display.

Setting the film speed manually
To set the film speed in ISO units, press the release button **[20]** and turn the setting ring **[18]** at the same time until the window **[19]** displays the required film speed in ASA. The setting range covers all values from ISO 6/9° to ISO 12800/42° inclusive. (However, only the ASA-value is displayed, i.e. "6" to "12800")

Rewinding and removing the exposed film
Exposure of the last frame blocks the action of the quick-wind lever. Rewind the film into its cartridge before removing it from the camera. Press the rewind release button **[39]** in the camera's baseplate, hinge out the rewind crank **[17]** and turn it clockwise in the direction indicated by the arrow until you feel a slight resistance as the film is pulled out of the take-up spool. Pull up the rewind crank and knob to open the camera back, and remove the cartridge with the exposed film.



Full-field integral metering



Selective metering

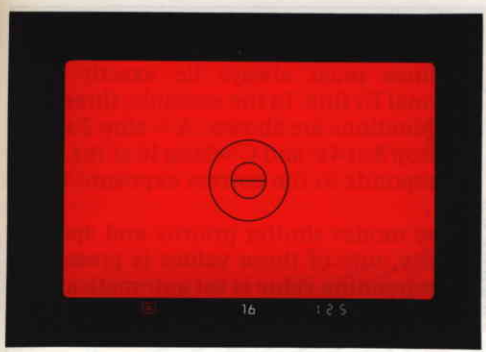
Exposure metering modes

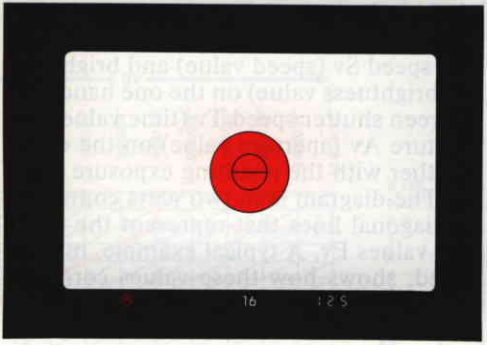
The LEICA R7 has an exposure-meter system that provides two alternative metering modes:

□ Full-field integral metering
○ Selective metering

The exposure metering modes are linked to the camera mode chosen, i.e. they form independent programs.

The exposure meter measures the light that passes through the lens (TTL exposure-metering system). It uses a silicon photodiode, placed in the base of the camera to protect it from stray light. When you use any LEICA R-Lens with an automatic spring-back diaphragm, the exposure meter works at full aperture. The symbol displayed in the window **[23]** next to the mode selector **[26]** and at the lower left of the viewfinder indicates the program (mode) selected.





Full-field integral mode
Most photographic subjects contain details of varied brightness. The light reflected by this type of subject has a mean grey value of 18%, i.e. it is the same as that of a standard grey area that reflects 18% of the light it receives. This is the calibration value for all exposure meters.
The full-field integral mode is suitable for all subjects in normal light, with no extremes of light or color, and where the light and dark areas are fairly evenly distributed over the entire visual field. For this type of subject, choose one of the programs that use the full-field integral mode [A], [T] or [P].

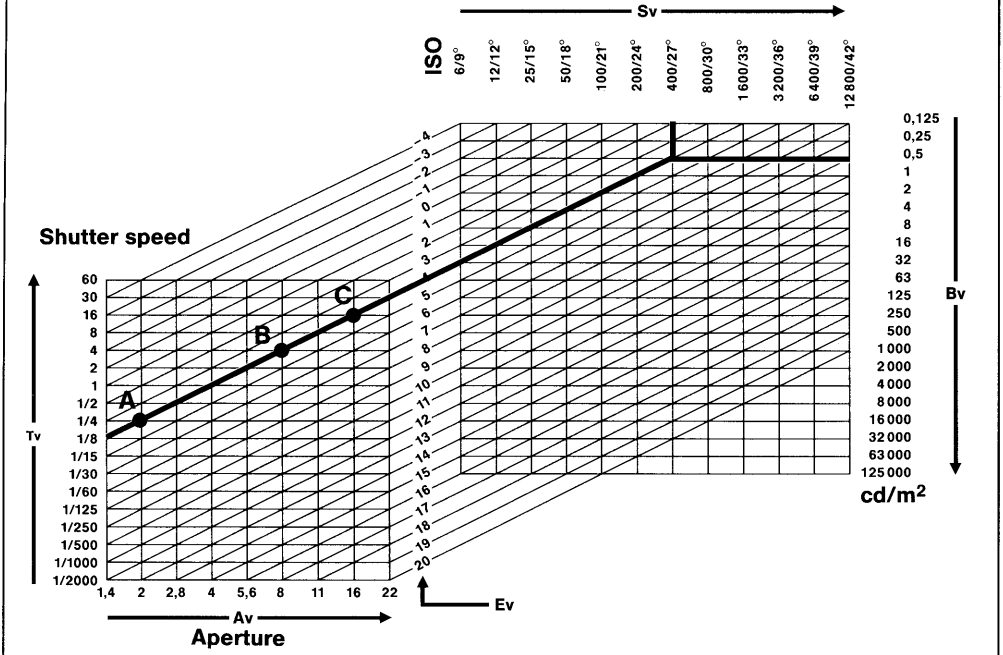
Selective mode
This is the method of choice with high-contrast subjects that have a wide brightness range and correct exposure of a certain detail is particularly important.
The large central circle in the viewfinder indicates the field covered in this mode, in which the exposure meter measures only the light reflected by the exact area of the subject that you want determine the exposure. The field is the same size on all focusing screens and for all lenses, whatever their focal length, and is clearly marked in the viewfinder. For selective mode, choose programs Ⓐ and ⓜ.

Working diagram of the exposure meter
The diagram shows the relationship between film speed Sv (speed value) and brightness Bv (brightness value) on the one hand, and between shutter speed Tv (time value) and aperture Av (aperture value) on the other, together with the resulting exposure value Ev. The diagram is in two parts connected by diagonal lines that represent the exposure values Ev. A typical example, marked in red, shows how these values correlate. Assuming a film speed of ISO 400/27°, follow the vertical line to the point where it intersects with the horizontal line for brightness, in this case 0.5 cd/m², typical for night-time photography.

A diagonal which passes through this point of intersection leads to the relevant exposure value, in this case Ev 4. Various combinations of aperture and shutter speed can produce this value, i.e. transfer to the camera's working range.

For correct exposure, the points of intersection of the vertical Av and the horizontal Tv lines must always lie exactly on a diagonal Ev line. In the example, three such combinations are shown: A = stop 2 at ¼ s; B = stop 8 at 4 s; and C = stop 16 at 16 s. Each corresponds to the correct exposure value.

In the modes shutter priority and aperture priority, one of these values is preset, the corresponding value is set automatically; in automatic program mode, the camera automatically sets both.


Sv
ISO
6/9°
12/12°
25/15°
50/18°
100/21°
200/24°
400/27°
800/30°
1 600/33°
3 200/36°
6 400/39°
12 800/42°
0,125
0,25
0,5
1
2
4
8
16
32
63
125
250
500
1 000
2 000
4 000
8 000
16 000
32 000
63 000
125 000
Bv
cd/m2
Shutter speed
60
30
16
8
4
2
1
1/2
1/4
1/8
1/15
1/30
1/60
1/125
1/250
1/500
1/1000
1/2000
Tv
A
B
C
1,4
2
2,8
4
5,6
8
11
16
22
Av
Aperture
Ev

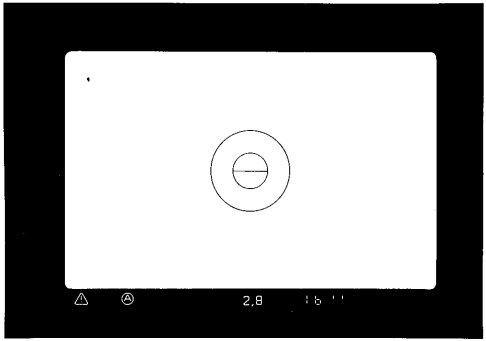
Switching on the exposure meter
Turn the shutter speed setting dial to any value between 1/2000 s and 4 s. Press lightly on the shutter-release button **[25]** as far as the first pressure point or press the locking button on the selector switch **[29]**. When the LEICA R7's exposure meter is switched on, the LED display in the viewfinder lights up. If the shutter is cocked when you release the button you have used to activate the system, the LEDs continue to light for about 12s. If the shutter is not cocked, they extinguish at once.

Exposure metering at full aperture
Most LEICA R-Lenses feature an automatic spring-back diaphragm. This means that, when you take an exposure meter reading, a spring opens the diaphragm to full aperture regardless of the preset stop and then closes it again to the required aperture setting for the exposure. When using the following lenses, exposure metering takes place at working aperture:

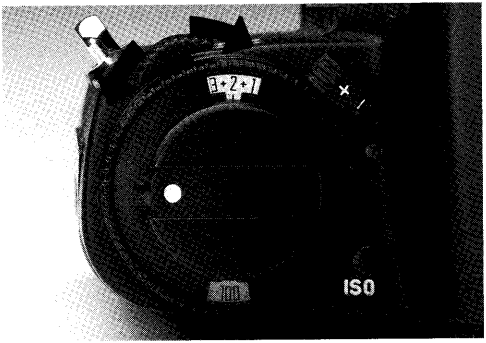
- PC-SUPER-ANGULON-R f/2.8/28 mm,
- PA-CURTAGON-R f/4/35 mm,
- TELYT-R f/6.8/400 mm,
- TELYT-R f/6.8/560 mm und
- TELYT-S f/6.3/800 mm

Exposure metering at working aperture
Some lenses and accessories do not have an automatic spring back diaphragm or lack the linkage mechanism for it. In these cases, you have to obtain the exposure-meter reading at working aperture, stopping up or down to adjust the amount of light reaching the exposure meter's photocell.

With lenses and accessories not equipped with automatic springback diaphragm, the modes [A], Ⓐ and ⓜ can be used.



Low-light warning
The camera has a linear measuring range for correct exposures. When there is too little light for this range, the exposure meter's photoelectric cell can no longer produce an accurate reading and the exposure that the viewfinder displays may produce a poor result. To avoid this, the LEICA R7 has a low-light warning: the ⚠ symbol lights up at left bottom in the viewfinder. In the borderline range the signal may blink.

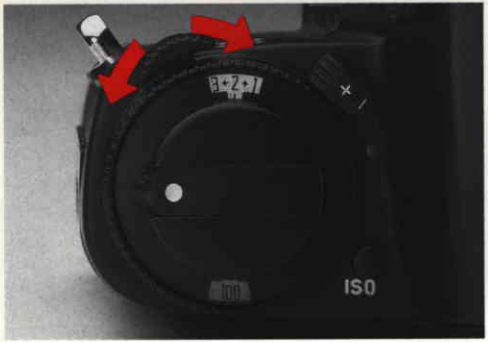


Manual override control (exposure correction)
Exposure meters are calibrated to a standard grey (18% reflection) value for an average photographic subject. If the subject does not conform to this standard, manual override correction of the exposure-meter reading becomes necessary.
Manual override is more often necessary with full-field integral exposure metering. In selective mode, the more limited metering field makes it possible to measure a representative detail with an average grey value, thus ensuring accurate measurement.

Example for "plus" (+) override correction
For a very brightly lit subject, such as snow, sand, or water, the high reflectivity causes the exposure meter to indicate too short an exposure. The snow itself is likely to appear grey, people much too dark: underexposure. To correct this, the time of exposure must be increased, i.e. set the override control to +2.

Example for "minus" (-) override correction
For a very dark subject that reflects only a small amount of light, the exposure meter indicates too long an exposure. A black car appears grey: overexposure. The exposure time must be reduced i.e. set the override control to -1.

To set the override control, press the locking button **[14]** and turn the setting scale **[15]** to the required value by lever **[16]**. To lock the button **[14]**, press it in and turn it anticlockwise. When the override control is at 0, the lever **[16]** fits snugly into the camera body. The override control can be set in steps of one-half of an exposure value, from Ev +3 to Ev -3. When override is active, the symbol ⊽ flashes at bottom right in the viewfinder.



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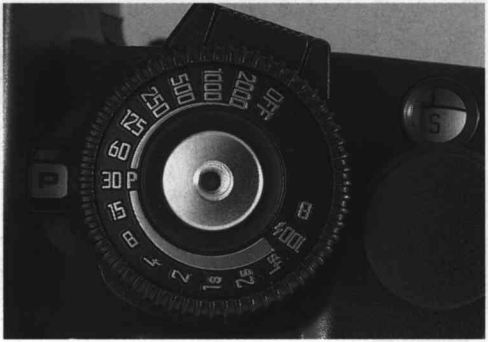
Shutter speed setting dial

The shutter speed setting dial should be set to "OFF" when the camera is not in use. In this setting, the exposure meter is switched off and the electronic shutter release blocked, preventing unnecessary battery drain.

In the program modes [T] and [m] the shutter speed between 1/2000 s and 4 s must be set manually by turning the setting dial **[26]**. Half values can also be set.

In the [P] program mode, the shutter speed setting influences the tendency of the automatic program mode.

In program modes [A] and [A], the shutter speed setting dial can be engaged at any value except "B" or "100⚡". The shutter speed is automatically computed to values between 1/2000 s and 16 s.



When using non-system flash units, the shutter speed must be set to "100⚡". In the "B" setting, the shutter remains open for a long as the exposure release button is pressed down. The symbol "bulb" is displayed in the viewfinder.

In "B" and "100⚡", the shutter can be released without battery power. In these settings, no exposure metering occurs (except TTL-flash exposure metering), even if batteries have been inserted.

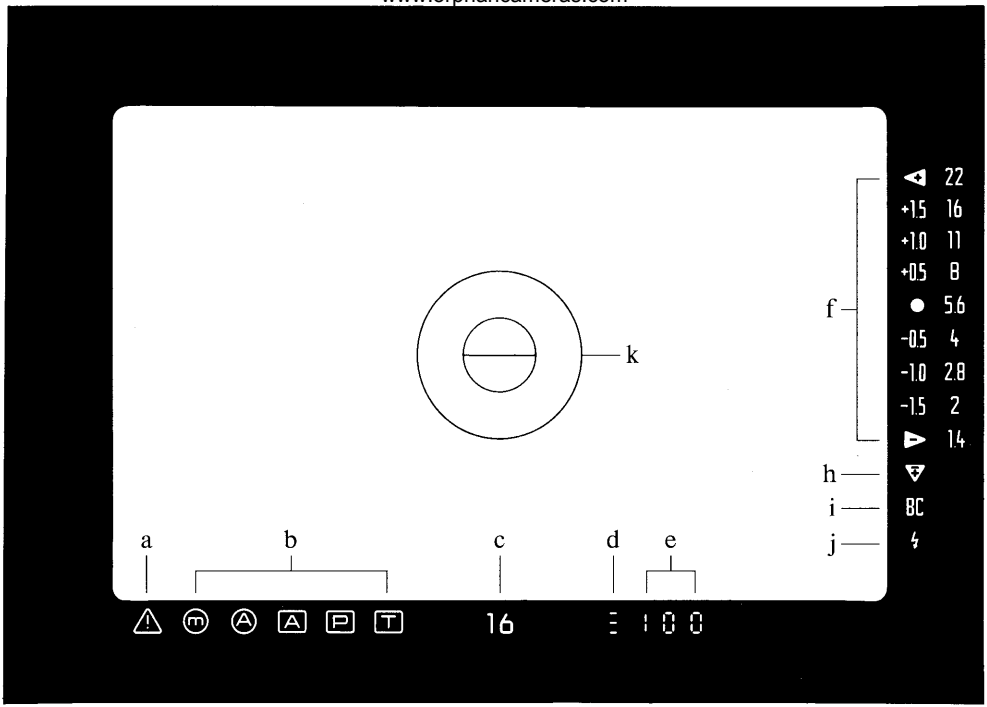
The viewfinder image

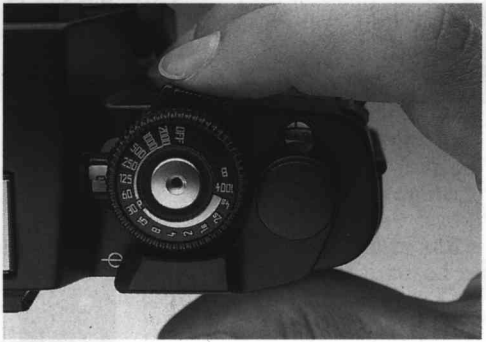
The viewfinder of the LEICA R7 acts as composition and control center for all important information:
It lets you assess focus, perspective, and picture frame; the measuring field for selective exposure metering is clearly marked (the larger circle in the viewfinder center). The viewfinder area is 92% of the frame size; with the eyepiece at 0 diopters and a standard 50mm lens fitted and focused to infinity, it has an 0.8x magnification.

The viewfinder displays all essential data for the program you have set. The LEDs light up when the release button on the program selector is activated or when the shutter release button is pressed. With the shutter cocked, the LEDs light for about 12s. The LED brightness automatically adjusts to the subject in view, ensuring easy reading of all display data. To avoid confusion, the viewfinder displays only the essential data in each program mode.

The illustration opposite shows all the available displays:

a low-light warning - out of exposure metering range
b program mode symbols
c set aperture (reflected display)
d symbol for fill-in flash
e set or computed shutter speed
f light balance for manual setting
g computed aperture
h warning "override activated" (blinks); warning for discrepancy between manual film speed setting and DX-code (lights up)
i low battery warning
j flash ready and flash control symbol
k measuring circle for selective exposure metering.

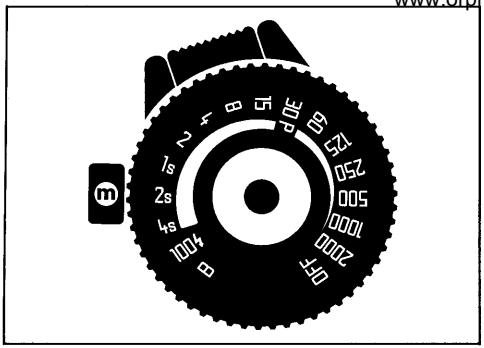


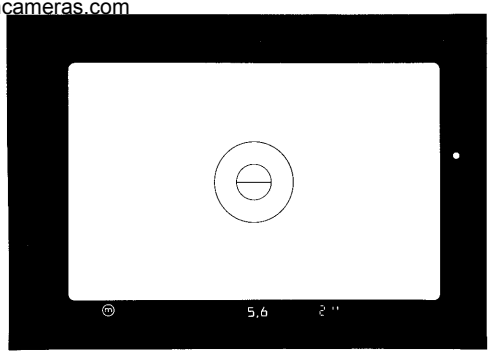


Mode selection
To choose a mode, press the release button and at the same time slide the mode selector **[29]** to the required position. By pressing the release button, the camera is switched on. The viewfinder displays the mode you have selected in the lower left-hand corner. The window **[23]** next to the shutter speed setting ring also displays the mode setting. Check that the mode selector engages properly. To change the setting, the release button must be pushed first.

You can choose between the following programs:

- Ⓜ Manual setting of shutter speed and lens aperture, selective mode.
- Ⓐ Aperture priority, selective mode.
- [A] Aperture priority, full-field integral mode.
- [P] Variable automatic program mode with full-field integral metering.
- [T] Shutter priority with full-field integral metering.





Manual setting with selective mode

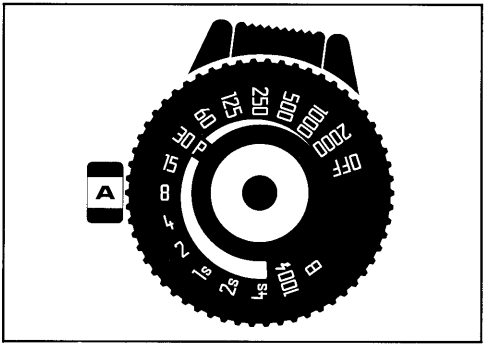
Set the required shutter speed and aperture by hand.

For many interesting photographic motifs, it is preferable to switch off the automatic exposure control and to set both the shutter speed and aperture by hand.
For combining the correct shutter speed and aperture values, a light balance, at right in the viewfinder, shows the deviation between the aperture/shutter speed combination set and the correct exposure value: if the set aperture and shutter speed deviate by 2 or more Ev (exposure values) from the correct value, the symbol ◀ or ▶ lights up. For deviations in the -1.5 to +1.5 range, this can be read in ½ Ev. Aperture or shutter speed must be adjusted until the symbol ● - i.e. correct exposure-lights up.
Program Ⓜ works with any LEICA R-Lens and such accessories as adapters, the universal Focusing Bellows R-BR 2, etc (see page 46).

Viewfinder display:

The viewfinder displays the mode setting Ⓜ in the lower left-hand corner, with the preset aperture at bottom center and the preset shutter speed at bottom right.

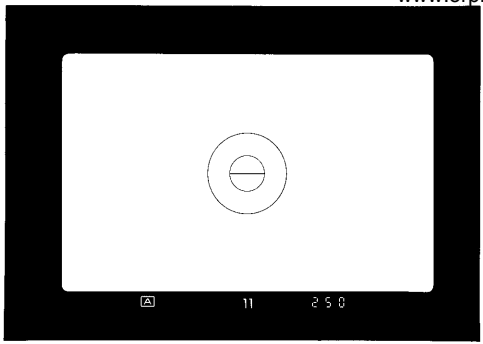
To the right of the viewfinder, a vertical light balance shows the deviation between set and the correct exposure value.



Aperture Priority, full-field integral mode

Preset the required aperture, shutter speed set automatically.

This mode is particularly suitable for normal light conditions and when depth of field is an important creative element. Choose this mode for applications such as landscape and architectural photography. Set the depth of field with the aperture setting ring **[13]**.

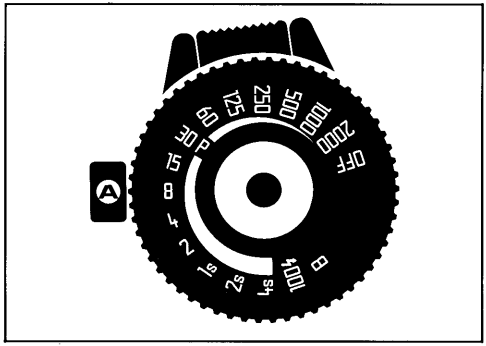


The camera automatically computes the shutter speed from 1/2000 s and 16 s, depending on the available light. The shutter speed setting dial may be set to any shutter speed from 1/2000 s to 4s, except "B", or "100⚡".

Viewfinder display:

Below the viewfinder image, the display shows the following information at a glance: the mode chosen (in this case [A]), the set aperture and the automatic, corresponding shutter speed (in ½ or full shutter speed values).

In extreme brightness, the shutter speed range may not be sufficient for correct exposure, indicated by "2000" flashing. Simply set a smaller aperture. Conversely, if, in poor light, the "16"", symbol flashes, a larger aperture should be set to prevent underexposure.



Aperture priority, selective mode

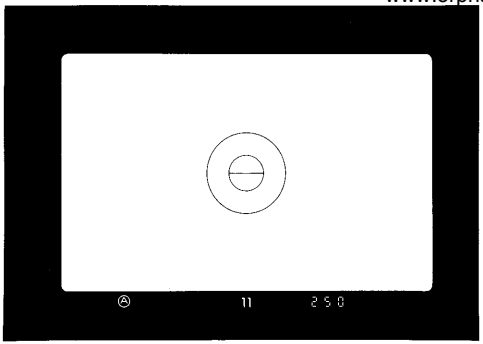
Preset the required aperture, shutter speed is computed automatically.

This mode is indicated where spot readings are necessary, for example in contre-jour portraiture and for spotlighted stage subjects. This program functions like aperture priority with fullfield integral metering, in addition the exposure value can be stored for easy picture composition.

Exposure-metering memory

Only in aperture priority mode with selective metering!

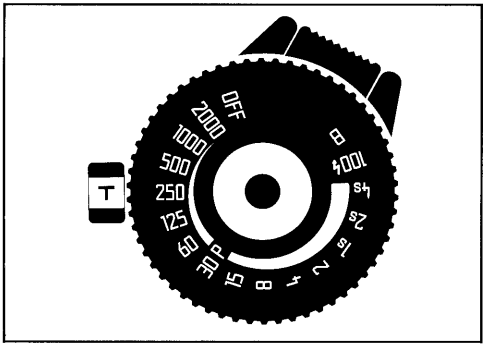
In selective mode, the exposure meter covers only the field within the large central circle of the viewfinder. This allows you to determine the light reflected by a limited area of the subject. To store this value, press the shutter release beyond the first pressure point to the second pressure point and keep your finger in position. The exposure meter reading is stored as long as you keep the shutter release pressed down in this position. To indicate this, the program mode symbol Ⓐ in the viewfinder is extinguished. Still keeping your finger on the shutter release, you can now pan the camera to compose the photograph, then press the shutter release fully home. As long as the exposure value remains in the memory, the viewfinder continues to display the stored shutter speed. If during this time you alter the aperture, the shutter speed changes automatically and the viewfinder displays the new shutter speed. As soon as you take your finger from the shutter release, the stored value is erased.



Viewfinder display:

Below the viewfinder image, the display shows the following information at a glance: the mode chosen (in this case Ⓐ, the set aperture and the automatic, corresponding shutter speed (to the nearest 1/2 or full shutter speed value).

In extreme brightness, the shutter speed range may not be sufficient for correct exposure, indicated by "2000" flashing. Simply set a smaller aperture. Conversely, if, in poor light, the "16′" symbol flashes, a larger aperture should be set to prevent underexposure.



T **Shutter priority with full-field integral metering**

The desired shutter speed is preselected; the corresponding aperture is set automatically.

This mode is used above all for quickly moving subjects, where the shutter speed is the element of composition. This applies particularly to movement sequences, such as sports photography, exposures from an unsteady support or with long-focal-length lenses.

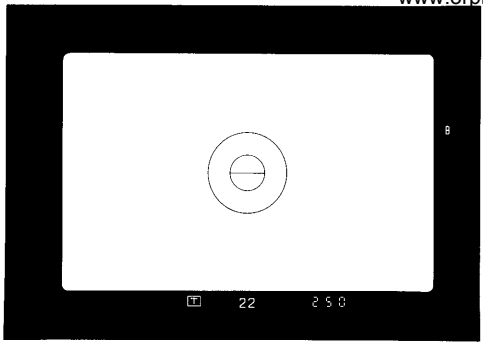
With a high shutter speed, rapid movements can be frozen with pinsharp contours. A slower shutter speed produces deliberate movement blur, which may enhance the dynamic effect.

The desired shutter speed between 1/2000 s and 4 s is preselected on the shutter speed dial; the lens aperture is automatically set depending on ambient light.

Important:
The lens must be stopped down to its smallest aperture (f/16 or f/22 respectively) so that the entire aperture range is available for the automatic control.

Using the FISHEYE-ELMARIT-R f/2.8/16 mm or the former ELMARIT-R f/2.8/19 mm (11225) lens with a minimum aperture f/16, the display T flashes and the aperture scale at right in the viewfinder extinguishes even if the lens has been stopped down completely. Nevertheless, the correct aperture is determined automatically.

The T mode functions with all LEICA R-Lenses with fully automatic spring-back diaphragm.



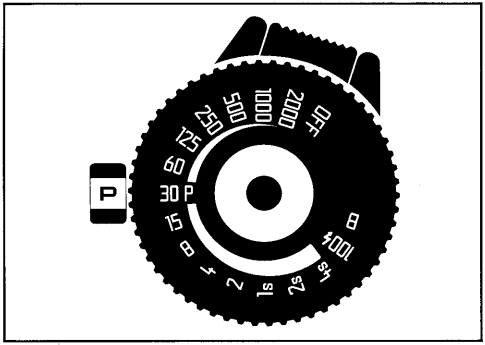
Viewfinder display:

The mode setting is displayed in the bottom left-hand corner of the viewfinder, the preselected shutter speed at bottom right. The smallest aperture set on the lens is displayed at bottom center. If the lens has not been fully stopped down, the program display T flashes and the aperture values at right in the viewfinder frame are not displayed.

If exposure occurs in this setting, the automatic program correctly combines aperture and shutter speed; however, the automatically computed lens aperture is restricted to the range between maximum aperture and the smallest aperture set on the lens itself.

The aperture scale is visible at the right in the viewfinder frame, showing what aperture setting has been computed. The apertures are produced continuously, two adjacent LEDs light up in case of intermediate values.

In extreme brightness or with very little light the aperture range may no longer be adequate for the preselected shutter speed. This is indicated by the aperture setting display flashing. In this case, the shutter speed is automatically corrected and the newly computed speed shown in the viewfinder. Should both aperture and shutter speed display flash simultaneously, the camera's working range has been exceeded.



Variable automatic program mode with full-field integral metering

Aperture and shutter speed are set automatically

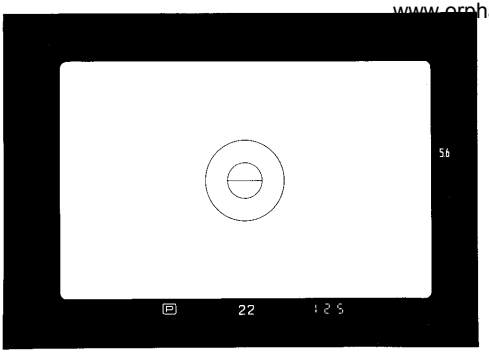
This is the right program for quick-action photography; the camera takes over exposure control for optimum ease of operation. Set a tendency for the automatic program by preselecting a shutter speed setting (normal program: "30 s" shutter speed setting, next to "P"-symbol).

Important!
The lens must be stopped down to its smallest aperture (f/16 or f/22 respectively) so that the entire aperture range is available for the automatic control.

The P program functions with all LEICA R Lenses with fully automatic diaphragm.

Viewfinder display:

The program symbol P is visible at bottom left-hand in the viewfinder; the smallest aperture set is displayed at bottom center. At bottom right, the automatic shutter speed appears while the aperture computed by the camera is displayed in the aperture scale to the right of the viewfinder. If the lens has not been completely stopped down, the program display P flashes and the aperture scale extinguishes. Using FISHEYE-ELMARIT-R f/2.8/16 mm or the former ELMARIT-R f/2.8/19 mm lens with the minimum aperture 16, the P symbol flashes even if the lens has been stopped down completely. Nevertheless, the correct shutter speed/lens aperture combination will be computed. In extreme brightness or very poor light, the automatically controlled shutter speed/aperture range may no longer be sufficient. This is indicated by the respective aperture/shutter speed display flashing.



Automatic program tendencies at different shutter speed setting

The LEICA R7's variable automatic program mode can be influenced by presetting the exposure time. If you want to work predominantly with shorter exposure times (higher shutter speeds), a higher shutter speed setting can be set – e.g. for sports photography; if depth of field is more important (e.g. for landscapes), a longer shutter speed should be set.

Generally, the automatic program functions as follows:

Beginning with a low-light situation, only the shutter speed is reduced automatically on a continuous scale, with increasing brightness, until this set value is reached, whereas the lens remains at full aperture. From this preselected shutter speed setting onwards, the automatic program reduces shutter speed and aperture simultaneously.

If the automatic program mode shuts the lens to smallest aperture, only the shutter speed is increased with increasing brightness, up to 1/2000 s. However, if 1/2000 s is computed before the smallest aperture is reached, the program closes only the aperture at 1/2000 s.

Example A: normal program

A lens with f/2.8 as the largest aperture is used; the shutter speed dial is set at "30" (next to the symbol "P"). In poor light, the camera always works with full aperture and shutter speeds between 16 s and 1/30 s. If the Ev value increases (more available light), the aperture is stopped down and the shutter speed is increased continuously, until the combination f/22 and 1/2000 s is reached (line A). If, for instance, the Ev reads 14, the program mode produces exposure at 1/250 s at f-stop 8. This universal program is suitable for most subjects photographed with 35 mm to 90 mm lenses under normal lighting conditions.

Example B: program for depth of field

If a smaller shutter speed is given, e.g. by setting "2" = 1/2 s the automatic program functions as shown by line B. This is the method of choice for better depth of field and is ideally suited to shorter focal lengths, stationary subjects and good lighting conditions.
Taking the same Ev value of 14, the automatic program now computes 1/60 s at f-stop 16.

Example C: program for action shots:

If the shutter speed is set to a shorter exposure time (higher shutter speed) - e.g. "500" = 1/500 s, line C applies. This program "prefers" higher shutter speeds (shorter times), ideal for freezing moving subjects or when using longer focal lengths. Again taking an Ev of 14, the automatic program now computes 1/1000 s at f-stop 4.