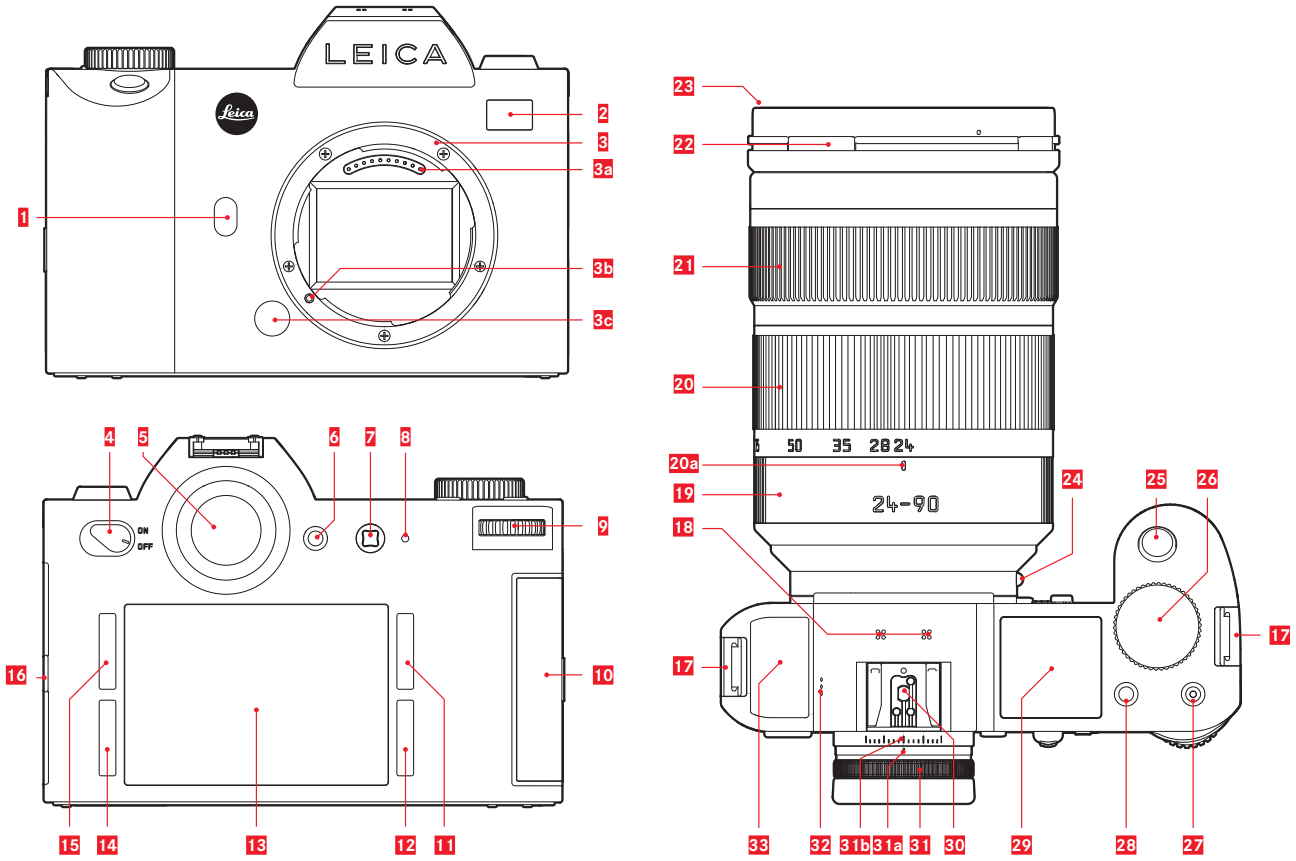
LEICA SL

INSTRUCTIONS

Leica SL

Instructions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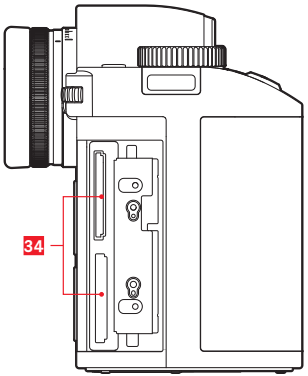
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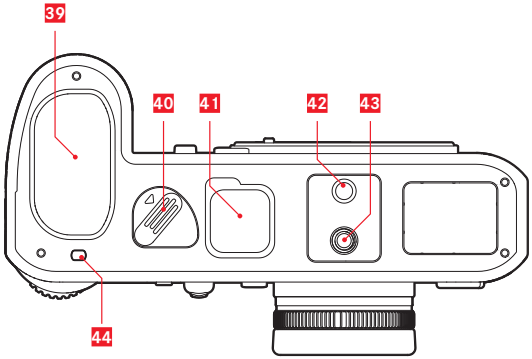
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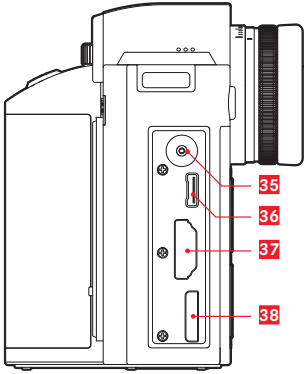
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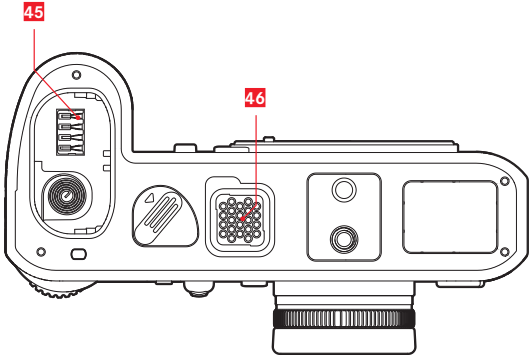
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FOREWORD

Dear Customer,
Leica would like to thank you for purchasing the Leica SL and congratulate you on your choice. With this unique digital 35 mm system camera, you have made an excellent choice.
We wish you a great deal of pleasure and success using your new Leica SL. In order to make best use of all the opportunities offered by this high performance camera, we recommend that you first read these instructions.

Your Leica Camera AG

Meaning of the different categories of information in these instructions

Note:
Additional information

Important:
Failure to observe the instructions may result in damage to the camera, the accessories or the pictures.

Attention:
Failure to observe the instructions may cause personal injury.

SCOPE OF DELIVERY

Before using your Leica SL for the first time, please check that the supplied parts are complete.

a. Carrying strap professional
b. Camera bayonet cover
c. Lithium-ion battery Leica BP-SCL4
d. Charger Leica BC-SCL4, including power cable (EU, US)
e. USB 3.0 micro-B cable
f. Lens/display cleaning cloth
g. Cover for contact array in baseplate
h. Leica SL App (for remote control and transfer of recordings with tablet or smartphone, free download in Apple® App-Store®/Google® Play Store®)
i. Leica Image Shuttle (software for remote control with computer, free download)

Attention:
Store small parts (such as the cover for the contact array in the baseplate) as follows:

- out of reach of children (swallowing can result in suffocation!)
- in a place where they will not be lost, e.g. in the places in the camera packaging designed for this purpose

Subject to changes in design and production.

ACCESSORIES

Please visit the Leica Camera AG website for information on the extensive Leica SL range:
www.leica-camera.com

Important:
Only the accessories specified and described in these instructions, and/or by Leica Camera AG, may be used with the Leica SL.

SPARE PARTS

	Order No.
Camera bayonet cover	16060
Camera Carrying Strap Professional, Cordura	16037
Rechargeable Li-ion Battery BP-SCL4	16062
Battery Charger BC-SCL4 (including mains cables US [423-116.001-020] and EU [423-116.001-005], others depending on local market)	16065
USB 3.0 micro-B cable, 3 m	16071
Cover for contact array in baseplate	470-601.001-014

The symbols on this product (including accessories) have the following meanings:

~	Alternating current (AC)
⎓	Direct current (DC)
⧈	Class II devices (the product has a double-insulated design)

NOTES

- As digital cameras have many functions that are controlled electronically, improvements and enhancements to the functions can be installed on the camera at a later date.
- To do this, Leica releases what are known as firmware updates. Cameras are always supplied from the factory with the latest firmware. But you can download it from our website and transfer it to your camera: if you register as an owner on the Leica Camera home page, you will receive a newsletter informing you when a new firmware update is available. Further information on registration and firmware updates for your camera, as well as any amendments and additions to the details provided in these instructions, can be found in the "Owners' Login" area at: https://owners.leica-camera.com
- The information in these instructions refers to a firmware version 2.0. Instructions and explanations of changes due to different firmware versions can also be found in the “Customer area”.
- You can find out which firmware version your camera is fitted with (also see p. 168-173, 265) as follows:
  1. In the menu's SETUP section, select Camera Information, and
  2. in the sub-menu, Firmware.
- To find specific approvals for this product:
  1. In the menu's SETUP section, select Camera Information, and
  2. in the sub-menu, Regulatory Information.
- The production date of your camera can be found on the stickers in the warranty card and/or on the packaging. The date is written as follows: Year/Month/Day

TABLE OF CONTENTS

CE NOTE

The CE identification of our products documents compliance with the fundamental requirements of the applicable EU directives.

CE

Declaration of Conformity (DoC)
Hereby, "*Leica Camera AG*" declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. Customers can download a copy of the original DoC to our R&TTE products from our DoC server:
www.cert.leica-camera.com
In case of further questions, please contact:
Leica Camera AG, Am Leitz-Park 5, 35578 Wetzlar, Germany

This product is intended for general consumer. (Category 3)
This product on purpose to connect to access point of 2.4 GHz WLAN.

DISPOSAL OF ELECTRICAL AND ELECTRONIC EQUIPMENT

(Applies within the EU, and other European countries with segregated waste collection systems)

This device contains electrical and/or electronic components and must therefore not be disposed of in general household waste! Instead, it should be disposed of at a recycling collection point provided by the local authority. This costs you nothing.
If the device contains standard or rechargeable batteries, these must be removed first and also be disposed of in line with relevant regulations. Further information on the subject is available from your local administration, your local waste collection company, or in the store where you purchased this device.

A recyclable lithium ion/polymer battery powers this camera. Please call 1-800-8-BATTERY for information on how to recycle this battery.

WARNING NOTES

- Modern electronic components react sensitively to electrostatic discharge. As people can easily pick up charges of tens of thousands of volts, by walking on synthetic carpets for example, a discharge can occur when you touch your camera, particularly if it is placed on a conductive surface. If only the camera housing is affected, this discharge is harmless to the electronics. However, despite built-in safety circuits, the outer contacts, such as those on the base of the camera, should not be touched if at all possible for safety reasons.
- For any cleaning of the contacts, do not use an optical micro-fiber cloth (synthetic); use a cotton or linen cloth instead! Before touching the contacts, you can make sure you discharge any electrostatic charge by deliberately touching a heating or water pipe (conductive, grounded material). You can also avoid soiling and oxidization of the contacts by storing your camera in a dry place with the lens or bayonet cover fitted.
- Use only the recommended accessories to prevent faults, short circuits or electric shock.
- Do not attempt to remove parts of the body (covers); qualified repairs can be carried out only at authorized service centers.

LEGAL NOTICES

- Please ensure that you observe copyright laws. The recording and publication of pre-recorded media such as tapes, CDs, or other published or broadcast material may contravene copyright laws. This also applies to all of the software supplied.
- This product incorporates open source software which is distributed in the hope that it will be useful, but without any warranty whatsoever, i.e. without even the implied warranty of merchantability or the software's applicability for a particular purpose. Please refer to the detailed terms and conditions for this as follows:
  1. In the menu's SETUP section, select Camera Information, and
  2. select License Information in the sub-menu.
- This product is licensed under the AVC patent portfolio license for the personal and noncommercial use of a consumer to (i) encode video in compliance with the AVC Standard ("AVC Video") and/or (ii) decode AVC Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC Video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, LLC (see http://www.mpegla.com).
- SD, SDHC, and SDXC are trademarks of SD-3C, LLC.
- USB is a trademark of the USB Implementers Forum, Inc.
- HDMI (High-Definition Multimedia Interface) is a trademark or a registered trademark of HDMI Licensing LLC in the United States and other countries.
- Adobe is a trademark or a registered trademark of Adobe Systems Incorporated in the United States and/or other countries.
- Mac is a trademark of Apple Inc., registered in the U.S. and other countries.
- App Store is a service mark of Apple Inc.
- Windows is either a registered trademark or a trademark of Microsoft Corporation in the United States and/or other countries.
- Android and Google Play are trademarks or registered trademarks of Google Inc.
- QR Code is a registered trademark of DENSO WAVE INCORPORATED.
- Other names of systems and products mentioned in these instructions are usually the registered trademarks or trademarks of the manufacturers who developed the system or product concerned.

FOR U.S. ONLY

Contains FCC ID: VPYLBXN604

This device's transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ratio (SAR).

FCC Note:

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this device does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:
To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Trade Name:	LEICA
Model No.:	LEICA SL (Typ 601)
Responsible party/ support contact:	Leica Camera Inc. 1 Pearl Count, Unit A Allendale, New Jersey 07401 Tel.: +1 201 995 0051 Fax: +1 201 995 1684 technicalinfo@leicacamerausa.com

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

Leica SL (Typ 601)

Tested To Comply With FCC Standards

FOR HOME OR OFFICE USE

FOR CANADA ONLY:

CAN ICES-3 (B)/NMB-3(B)

This device complies with RSS-210 of the IC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference,
(2) This device must accept any interference received, including interference that may cause undesired operation of the device.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the IC radio frequency (RF) Exposure rules.

DESIGNATION OF PARTS

Front view

1 Stop down/**FN** button
2 Self timer LED/Sensor for white balance
3 Bayonet for lens mounting with
  a Contact strip
  b Locking pin/Index point
  c Unlocking button

Rear view

4 Main switch
5 Viewfinder
6 Function button
7 Joystick
8 LED for indicating picture mode/recording data on to the card/brightness sensor
9 Click wheel
10 Door over memory card slots
11 Menu control/function button (**TR**)
12 Menu control/function button (**BR**)
13 Monitor
14 Menu control/function button (**BL**)
15 Menu control/function button (**TL**)
16 Cover over sockets

Top view

17 Carrying strap clip
18 Microphones
19 Fixed ring
20 Zoom ring with
  a Index mark
21 Focusing dial
22 Bayonet for lens hood
23 Filter thread
24 Red alignment button for changing lens
25 Shutter release button
26 Top dial
27 Video release button
28 **LV** button
29 Top panel display
30 Accessory shoe
31 Eyecup with
  a Index mark
  b Diopter setting scale
32 Loudspeaker
33 GPS Antenna

View from right (illustration without door)
34 Memory card slots

View from left (illustration without cover)
35 Threaded flash sync socket
36 Remote control/headphone/external microphone socket
37 HDMI socket
38 USB socket

Bottom views
39 Battery
40 Battery release lever
41 Cover over hand grip contacts
42 Hole for multi-function hand grip guide pin
43 Tripod plate with 1/4" thread
44 Hole for rotation prevention pin
45 Contacts in battery compartment (battery removed)
46 Contacts for hand grip (cover removed)

QUICK START GUIDE

Required parts:
- Camera
- Lens (not supplied)
- Battery
- Charger with appropriate power cable
- Memory card (not supplied)

Note:
The settings recommended here allow you to take good photographs easily, quickly and reliably when you first start to try out the Leica SL. For details of the various modes/functions, refer to the corresponding sections on the specified pages.

Preparation:

1. Attach the lens (see p. 164)
2. Charge the battery (see p. 161)
3. Set the main switch to **OFF** (see p. 166)
4. Insert the charged battery into the camera (see p. 162)
5. Insert the memory card (see p. 163)
6. Set the main switch to **ON** (see p. 166)
7. Select your preferred menu language (see p. 178)
8. Set the date and time (see p. 178)[1]
9. Set the subject focus (see p. 211)

[1] Not necessary as supplied because this is done automatically when GPS (see p. 256) is switched on.

Taking photographs

1. Press the shutter button to the first pressure point to activate distance setting and exposure metering and to save the values.
2. Push the shutter button all the way down to take the photo.

Viewing photographs:

Press the upper right button next to the monitor.
Depending on the camera's previous status, you may have to press more than once to call up the button function icon (▶) first.

To view other pictures:

Turn the click wheel or press the joystick right or left, or use gesture control (see p. 239/283).

Enlarging pictures:

Turn the top dial or press the joystick right or left, or use gesture control (see p. 240/283).

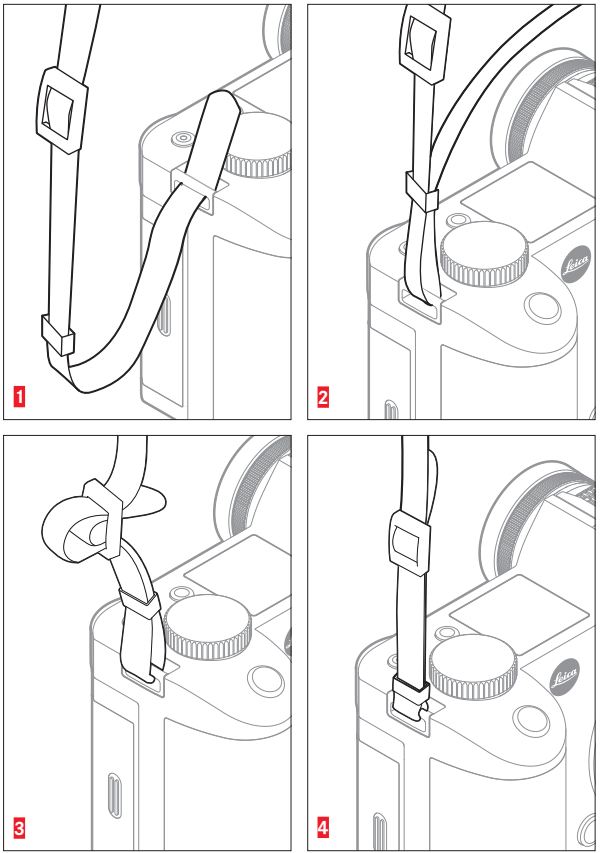
Deleting pictures:

Press the lower left button next to the monitor and make further settings in the deletion menu.

DETAILED INSTRUCTIONS

PREPARATIONS

ATTACHING THE CARRYING STRAP



CHARGING THE BATTERY

The Leica SL is powered by a Lithium ion battery.

Attention:

- Only the battery type specified and described in these instructions, or battery types specified and described by Leica Camera AG, may be used in this camera.
- These batteries may only be used in the units for which they are designed and may only be charged exactly as described below.
- Using this battery contrary to the instructions and using non-specified battery types can result in an explosion under certain circumstances!
- The batteries must not be exposed to sunlight or heat for prolonged periods, or to humidity or moisture. Likewise, the batteries must not be placed in a microwave oven or a high pressure container as this results in a risk of fire or explosion!
- Damp or wet batteries must not be charged or used in the camera under any circumstances!
- Always ensure that the battery contacts are clean and freely accessible. While lithium ion batteries are protected against short circuits, they should still be protected against contact with metal objects such as paper clips or jewelry. A short-circuited battery can get very hot and cause severe burns.
- If a battery is dropped, check the casing and the contacts immediately for any damage. Using a damaged battery can damage the camera.
- In case of noise, discoloration, deformation, overheating or leaking fluid, the battery must be removed from the camera or charger immediately and replaced. Continued use of the battery results in a risk of overheating, which can cause fire and/or explosion!
- In case of leaking fluid or a smell of burning, keep the battery away from sources of heat. Leaked fluid can catch fire!
- A safety valve in the battery guarantees that any excess pressure caused by improper handling is discharged safely.
- Only the charger specified and described in these instructions, or other chargers specified and described by Leica Camera AG, may be used. The use of other chargers not approved by Leica Camera AG can cause damage to the batteries and, in extreme cases, lead to serious or life-threatening injuries.
- The charger supplied should be used exclusively for charging this battery type. Do not attempt to use it for other purposes.
- Ensure that the power socket used is freely accessible.
- Battery and charger must not be opened. Repairs may only be carried out by authorized service centers.
- Ensure that the batteries cannot be accessed by children.

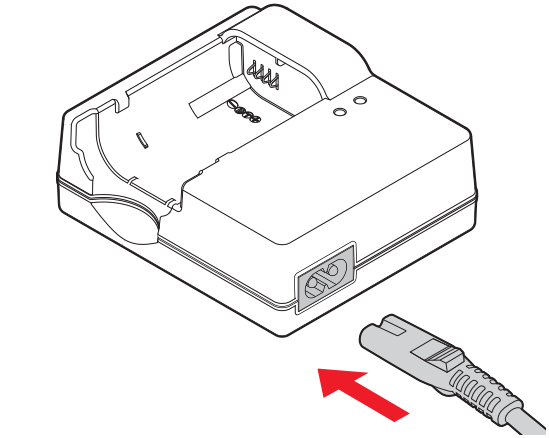
First Aid:

- Battery fluid coming into contact with the eyes may cause blindness. Rinse the eyes immediately with clear water. Do not rub the eyes! Consult a doctor immediately!
- If leaked fluid gets onto the skin or clothing, there is a risk of injury. Rinse the affected areas with clean water. Obtain medical assistance.

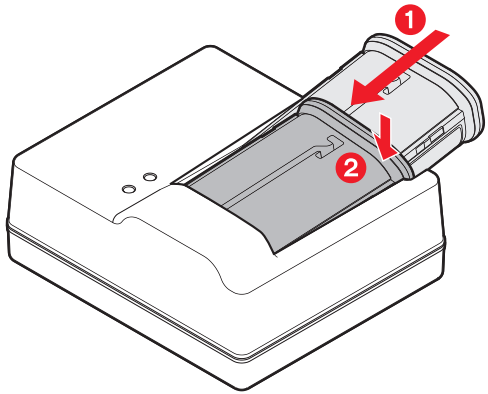
Notes:

- The battery must have a temperature of 0°-35°C/32° - 95°F to be charged (otherwise the charger will not turn on, or will turn off again).
- Lithium ion batteries can be charged at any time, regardless of their current charge level.
- Both battery and charger become warm during charging. This is normal and not a malfunction.
- If the two LEDs flash rapidly (> 2 Hz) after starting charging, this indicates a charging error (e.g. maximum charging time exceeded, voltages or temperatures outside the permitted ranges, or short circuit). In this case, disconnect the charger from the mains and remove the battery. Ensure that the above temperature conditions are met and then restart the charging process. If the problem persists, please contact your dealer, the Leica office in your country or Leica Camera AG.
- Lithium ion batteries should only be stored partly charged, i.e. not when fully discharged or fully charged (see p. 161). If stored for very long periods, it should be charged up and discharged again around once a year.
- Rechargeable lithium ion batteries generate power through internal chemical reactions. This reaction is influenced by ambient temperature and humidity. To ensure a maximum service life of the battery, it should not be exposed to constant extremes (high or low) of temperature (e.g. in a parked car in the summer or winter).
- Even with optimum conditions of use, every battery has a limited service life. After several hundred charging cycles, this becomes noticeable as the operating times get significantly shorter.
- Dispose of damaged batteries in accordance with the relevant regulations (see p. 151) at an approved collection point for proper recycling.
- The replaceable battery provides power to a back-up battery inside the camera. This back-up battery retains the set date and time for up to three months. If this back-up battery becomes discharged it must be recharged by inserting a charged main battery. Once the replaceable battery has been inserted, the full capacity of the back-up battery is recovered after about 60 hours. This process does not require the camera to be turned on. However, you will have to set the date and time again in this situation.
- Remove the battery if you will not be using the camera for a long period of time. Turn the camera off using the main switch before removing the battery (see p. 166). Otherwise, after several weeks the battery could become totally discharged, i.e. the voltage is sharply reduced as the camera still consumes a small amount of current even when it is turned off (e.g. for saving your settings).

PREPARING THE CHARGER

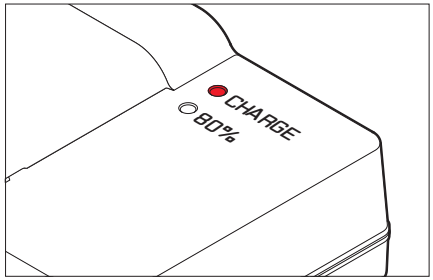


INSERTING THE BATTERY IN THE CHARGER



CHARGE STATUS DISPLAYS

The charging process is indicated by LEDs.



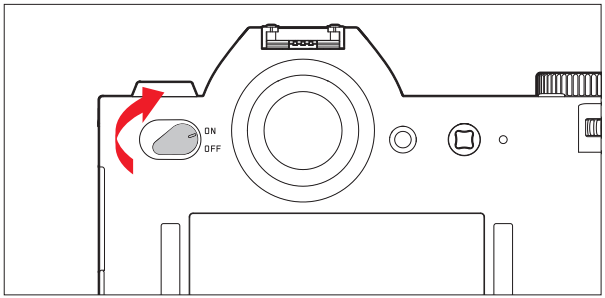
- **CHARGE** LED (green):
  Flashing indicates charging in progress.
- **80%** LED (orange):
  Lighting up indicates charge level of 80% has been achieved.
- Both LEDs light up:
  Charging has been completed.

Notes:

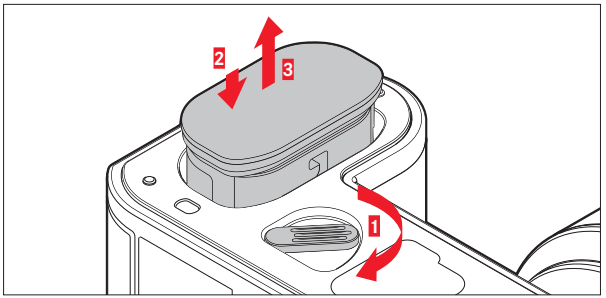
- The charger switches automatically to the prevailing mains voltage.
- Disconnect the charger from the electrical socket and remove the battery after charging is completed.

CHANGING THE BATTERY

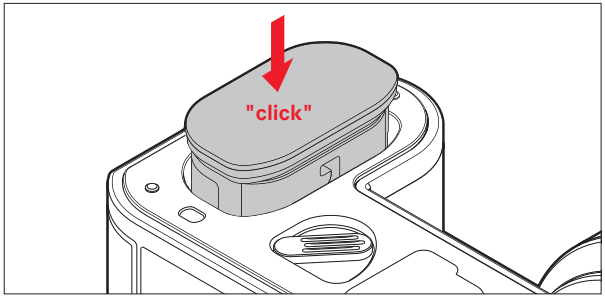
Turn off the camera



Remove the battery



Insert the battery

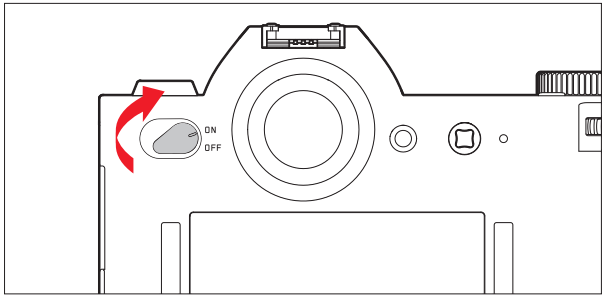


Note:
When the lever is turned, a spring in the battery compartment pushes the battery out so it can be grasped. The locking mechanism has a catch to prevent the battery from accidentally falling further out, even if the camera is held upright.

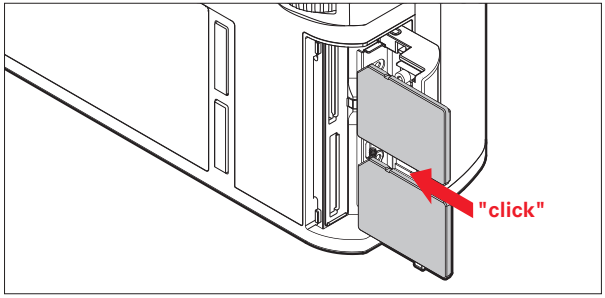
CHANGING THE MEMORY CARD(S)

SD, SDHC or SDXC memory cards can be used in the Leica SL.

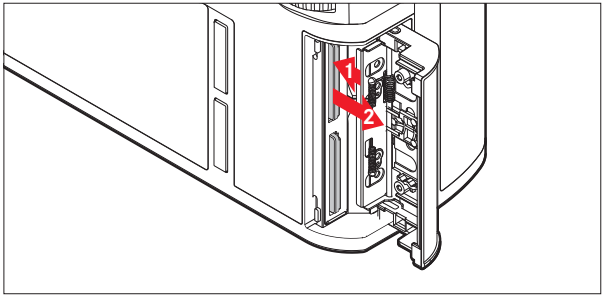
Turn off the camera



Insert the memory card



Remove the memory card



Notes:

The card slots are numbered: Top = **1**, Bottom = **2**.

- Slot **1** operates according to UHS II standards.
- Slot **2** only according to UHS I standards.

This must be taken into account, e.g. when recording 4k video (see p. 226) and using the Storage Backup-function (see p. 185).

Important:

Do not open the door and do not remove the memory card or the battery while the status LED is lit to indicate that the camera is accessing the memory. Otherwise, the data on the card/s can be destroyed and the camera may malfunction.

Notes:

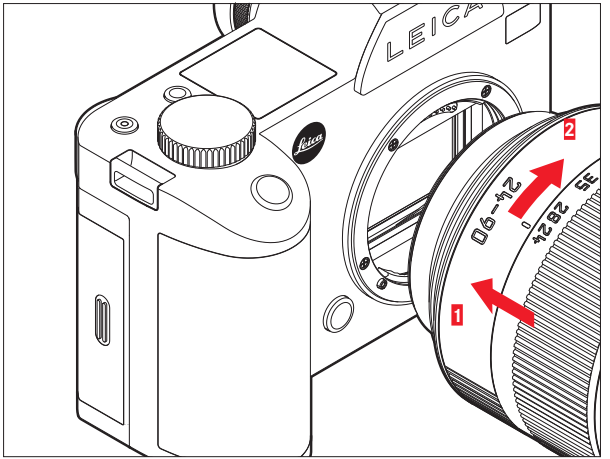
- SD, SDHC, and SDXC memory cards have a write protection switch, which can be used to prevent unintentional storage and deletion of pictures. This switch takes the form of a slider on the non-beveled side of the card; in the lower position, marked LOCK, the data is protected.
- If a memory card cannot be inserted, check that it is aligned correctly.
- If a memory card is inserted, pictures are only saved on the card.
- The range of SD/SDHC/SDXC cards is too large for Leica Camera AG to be able to completely test all available types for compatibility and quality. Although no damage to the camera or the card is generally expected, because some cards may not fully comply with the SD/SDHC/SDXC standards Leica Camera AG cannot provide any guarantee of function.
  A list of recommended memory cards can be found at: https://de.leica-camera.com/Service-Support/Support/Downloads?category=128327&subcategory=&type=68377&language=68389
- As electromagnetic fields, electrostatic charge, and defects of the camera or the card can lead to damage or loss of the data on the memory card/s, we recommend that you also transfer the data to a computer and save it there.

ATTACHING/DETACHING A LENS

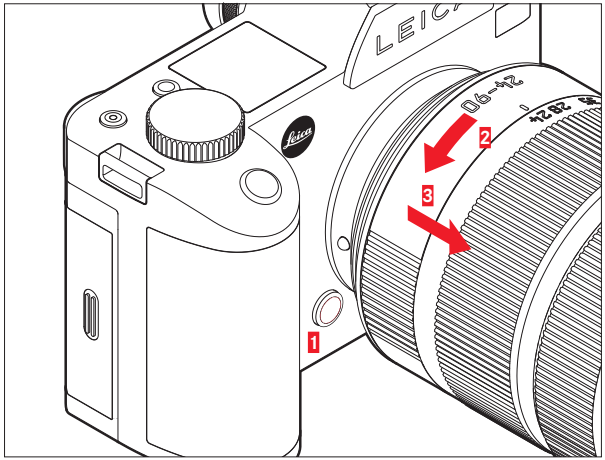
Compatible lenses

In addition to Leica SL lenses, you can also use Leica TL system lenses, as well as Leica M, R and S lenses with the help of adapters available as accessories.

Affixing



Removing

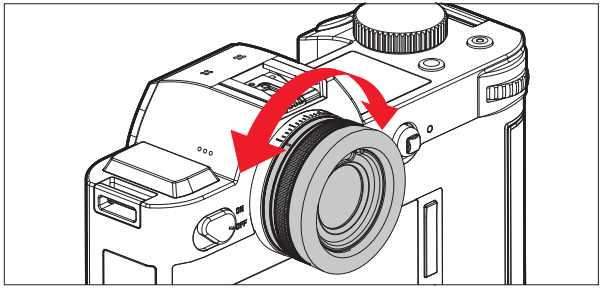


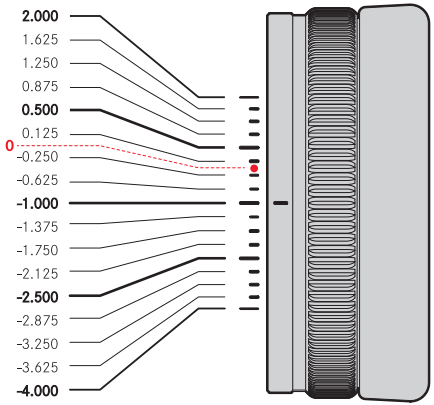
Notes:

- To protect against dust getting into the interior of the camera, it is important always to have a lens or a cover fitted to the camera body. For the same reason, when changing lenses work quickly and in an environment that is as dust-free as possible.
- Camera or lens rear caps should not be stored in your pants pockets as they attract dust that can get into the camera when they are attached.

ADJUSTING THE VIEWFINDER EYEPIECE

The viewfinder can by adjusted from +2 to -4 diopters, so that it is exactly set to match your eye. While looking at the viewfinder image, turn the diopter setting scale until both the image and all the displays are sharp.

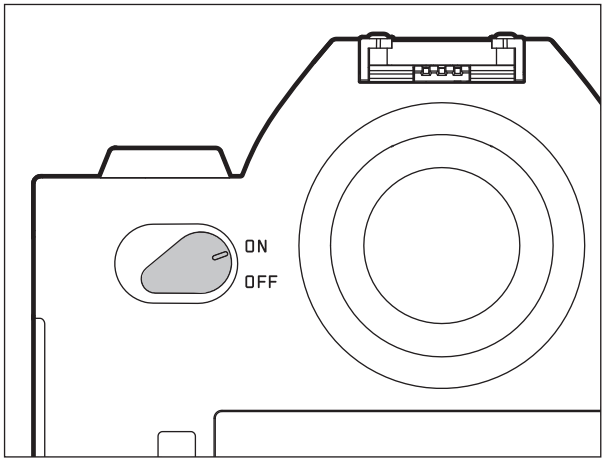




TURNING THE CAMERA ON AND OFF

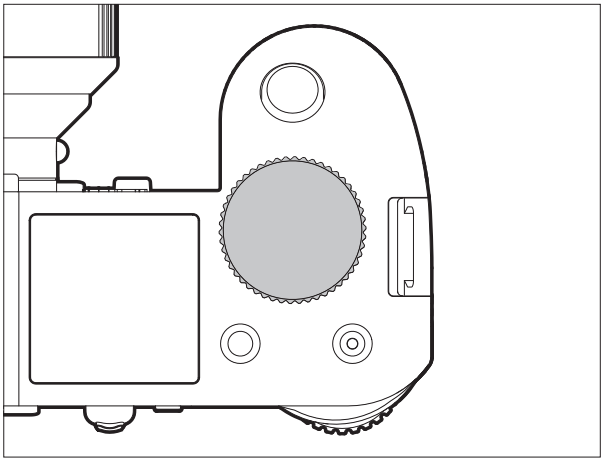
The Leica SL is turned on and off using the main switch.

- **ON** = Turned on
- **OFF** = Turned off



TOP DIAL

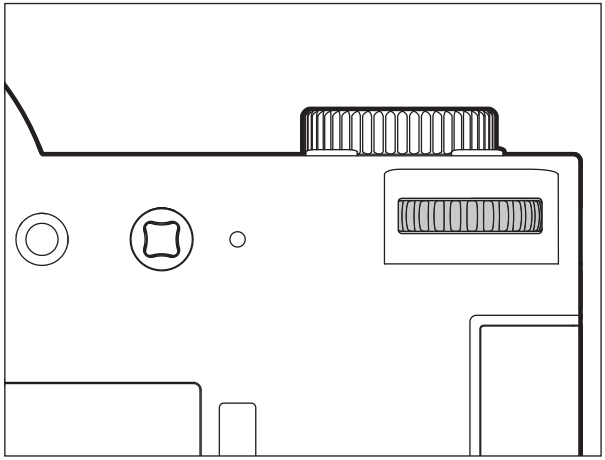
In recording mode, the top dial is used mainly to adjust the exposure by changing the shutter speed (see p. 212). In review mode, it is used for different functions (see p. 240/241)



CLICK WHEEL

In recording mode, the rear wheel is used
- to select the exposure control mode (see p. 211), and
- to adjust the exposure by changing the aperture (see p. 217/221).

In review mode, it is used for different functions (see p. 239-244). During menu control, it is used to navigate within menus and sub-menus, as well as to set and to confirm settings (see p. 169).



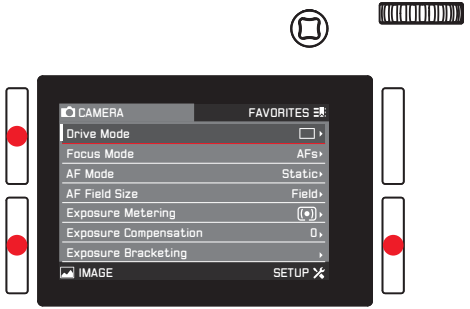
MENU CONTROL

Most of the modes and settings on the Leica SL are operated using menus. Navigation and settings in the whole menu are very quick and simple as

- the menu items in the main menu are divided into three logically grouped function sections that can be accessed directly,
- up to seven buttons for freely assignable menu items can be accessed directly, and
- there is a separate, freely assignable FAVORITES menu.

Calling up the main menu

To call up menu control and directly access the three main menu sections, and also, within the sections, to 'jump' to the individual pages they consist of, you use three of the four buttons located to the left and right of the monitor.



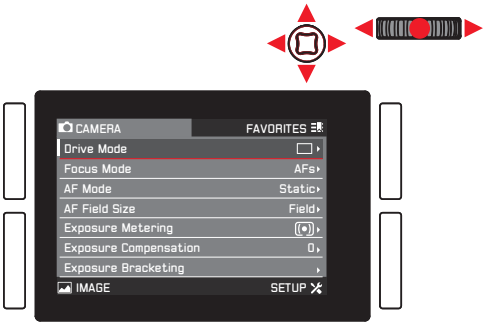
Notes:

- These four buttons next to the monitor are so-called "soft keys". Outside the normal menu control, e.g. when reviewing pictures in the monitor, they have different functions, indicated by corresponding displays.
  The same applies to the upper right button next to the monitor, the function button on the front, the Live View button on the top of the camera, and, where available, to the video recording button.
- During the further course of these instructions, the four buttons next to the monitor will either be identified by stating their specific functions in the relevant situations, or they will be designated as follows:
  - **TL** (top left)
  - **BL** (bottom left)
  - **TR** (top right)
  - **BR** (bottom right)

  The Live View button will be designated **LV**, and the function button **FN**.

Menu settings

All settings of the menu items can also be made with the click wheel or the joystick.



Exiting the menu

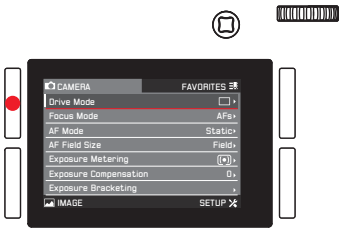
You can exit the menu in various ways:

- to activate photo recording mode:
  Tap the shutter release button (see p. 198)
- to take a photo:
  Press the shutter release all the way
- to activate video preview mode:
  Press the **LV**-button
- to start a video recording:
  Press the video release button (see p. 232)

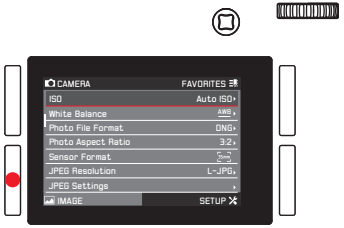
Main menu function sections

The menu list is divided into 3 sections:

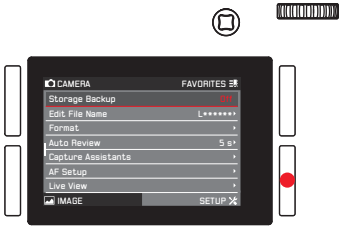
– CAMERA



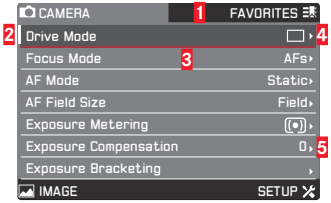
– IMAGE



– SETUP



Menu screen

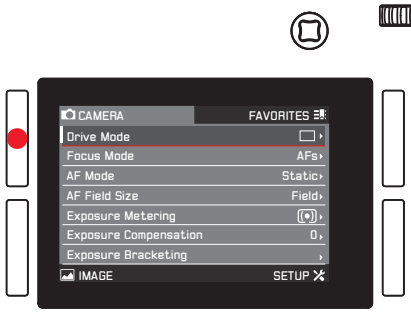


1 Function section titles: The selected one is indicated by a gray background[1]
2 Scrollbar: Indicates on which of the 8 pages you are within the main menu item list, the function sections are made up of 2 or 4 pages
3 Menu item name
4 Menu item setting/value: The active menu item is highlighted (white lettering, dark background, underlined in red), this applies to all menu levels
5 Triangle: Indicates the existence of a sub-menu

[1] The gray tones are inverted in the FAVORITES menu (see p. 176).

Selecting menu items

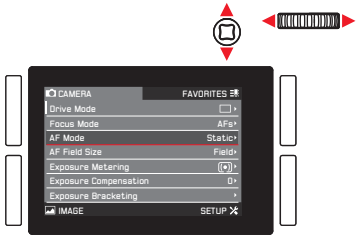
1. Select the first page of a menu section by briefly (≤1 s) pressing the respectively marked button: Three times if the button function icons are activated, two times if not
   - If you were in recording mode, an intermediate step calls up the FAVORITES menu (see p. 176).



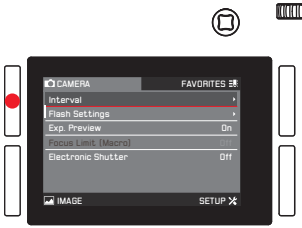
   - If these are displayed from review mode, the button function symbols valid in this situation are first displayed in an intermediate step. ☰ (Menu), ☆ (Marking), ℹ (Displays) and 🗑 (Delete).

2. To select the individual menu items
   – either by turning the click wheel to the right (= scroll down) or to the left (= scroll up),
   – or press the joystick up or down.

   Using these two controls, the items in all three main menu sections are in one common continuous loop, so they can all be reached in either direction by scrolling through the list.

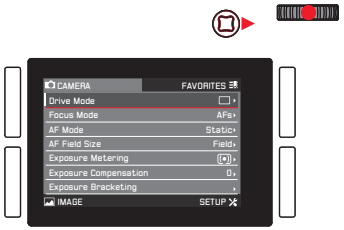


To facilitate faster navigation within the three menu sections, it is also possible to 'jump' directly from page to page by pressing the relevant button next to the monitor. In this case, each section is itself arranged as a closed continuous loop.

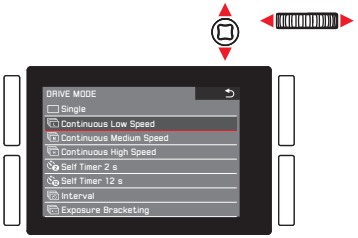


Setting menu items with sub-menu
(with triangle mark on the right)

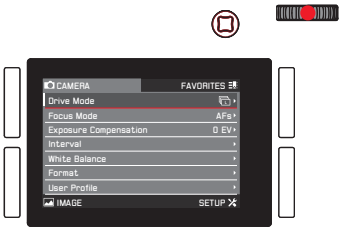
3. Press the click wheel or the joystick inwards or to the right.
   - The sub-menu appears, listing the available options or the values that can be set.



4. Turn the click wheel or press the joystick in the relevant direction (different depending on whether you are using a list or a scale) to select the desired option/value.



5. Press the click wheel or the joystick inwards to confirm the set option/value.
   - The display returns to the next higher menu level, or, for functions that require further settings, advances to the next option.

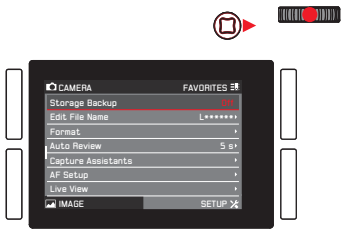


Setting menu items without sub-menu

(without triangle mark on the right)

3. Press the click wheel or the joystick inwards or to the right.
   - The set function variant changes.

The setting is immediately active, i.e. it does not have to be confirmed.



Notes:

- The screens disappear again after 4 s, i.e. settings must be made within this period of time. Briefly pressing the button labeled ↩ allows you to return to the menu at any time without applying any changes made in the sub-menus. Except in the case of menu items requiring a horizontal movement to set them, this can also be done by pressing the joystick to the left.
- Certain sub-menus consist of a scale. Settings on these scales can be performed using either menu or gesture control. Menu control works as described here, gesture control is described in the relevant sections.

DIRECT ACCESS TO MENU ITEMS

For quick operation, you can press and hold down the four buttons next to the monitor, the **LV** and **FN** (stop down) buttons and the video button to directly access seven menu items. You can assign the desired menu item for each button. See 'Menu List' (p. 285-286), for the items available for direct access.

Notes:

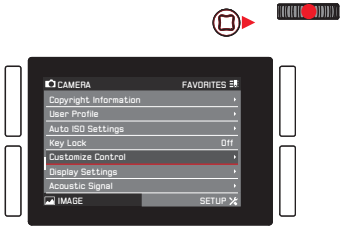
- In their direct access default settings, the buttons are assigned as follows:

TL:	ISO (see p. 194)
BL:	White Balance (see p. 190)
BR:	Lens Profiles User Profile- sub-menu (see p. 252)
TR:	Focus Mode (see p. 201)
FN:	Graycard White Balance- sub-menu (see p. 192, -Photo or -Video depending on the recording mode in use)
LV:	Exposure Compensation (see p. 220)
Video button	Drive Mode (see p. 222/234/236)

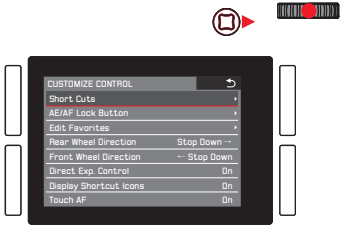
- The Video button is only available for direct access when Key Lock is switched On (see p. 185).

Setting the function/Customizing the buttons

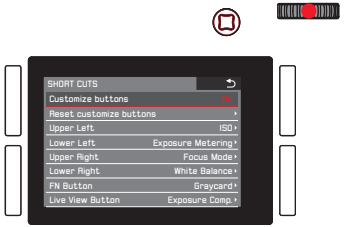
1. In the menu's SETUP section, select Customize Control,



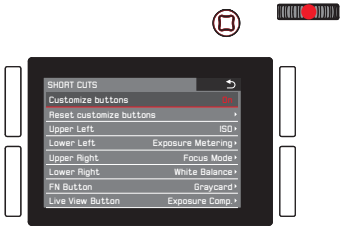
2. Select Short Cuts in the 1st sub-menu.



3. Select Customize Buttons in the corresponding sub-menu.



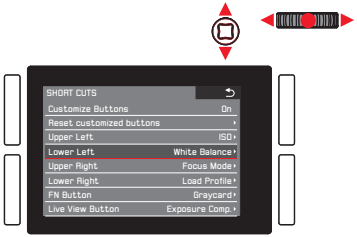
4. Switch the **Customize Buttons** function **On** if you want to change a button's assigned function, or **Off** if you wish to switch off the direct access function for all seven buttons at once.



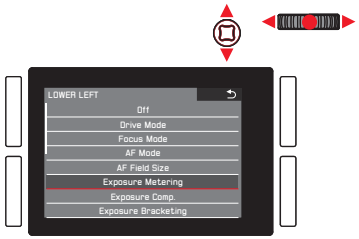
If you want to replace all of your direct access settings by the default settings at once:
Select **Yes** in **Reset Customized Buttons**

If you want to assign a function to the buttons:

5. In the same sub-menu select desired button, and



6. In the corresponding sub-menu, select the function you want to call up directly or execute using the button selected in step 5, or **Off** if you do not want this button to have a direct access function.



The other buttons are customized in the same way.

Calling up the selected menu items

This is possible at any time in recording mode:

1. Press the above mentioned buttons long, and
2. make further settings or execute the function as described earlier in this chapter.

THE FAVORITES MENU

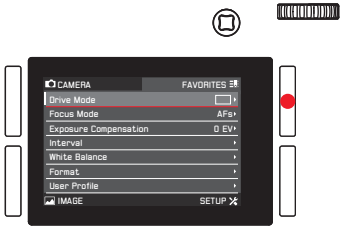
In addition to direct access to individual menu items with the six previously described soft keys, this menu represents a second way to access frequently used menu items quicker than possible by scrolling through the main menu. Since you can assign up to 14 items to the FAVORITES menu, you can utilize it as a customized and condensed ‘personal’ menu. See “Menu List” (p. 285-286) for a list of the selectable menu items.

In its default setting, the FAVORITES menu consists of the following items:

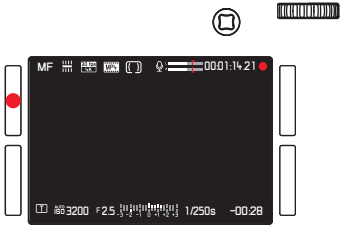
- Drive Mode
- Focus Mode
- Exposure Compensation
- Interval
- White Balance
- Format
- User Profile

Calling up the FAVORITES menu

When the main menu has been called up:
Press the TR button.



In recording and playback modes:
Press the TL button.



Deleting/adding menu items

1. In the SETUP menu, select Customize Control, and
2. in the sub-menu Edit Favorites.
   - A sub-menu appears containing all available menu items, including those already in the FAVORITES menu. The activated menu items are set to On, whereas those that are not activated are set to Off.
3. To add a menu item, switch it On. To remove an item, switch it Off.

Note:
If all availalbe menu items are deactivated, the FAVORITES menu cannot be accessed.

Navigating in the FAVORITES menu

This is the same as described for the main menu.

CAMERA DEFAULT SETTINGS

MENU LANGUAGE

The language used in the default setting of the menu control is English. Other languages can be selected.

Setting the function

1. In the menu's SETUP section, select Language, and
2. select the desired language in the sub-menu.
   - Apart from a few exceptions (button labels, short designations), the language of all texts is changed.

DATE AND TIME

Note:
With the default setting Auto GPS Time, the time, the time zone, and the date are all set automatically.

Date

Setting the function

1. In the menu's SETUP section, select Date & Time, and
2. call up the sub-menu. It consists of the 5 items Auto GPS Time, Time Zone, Daylight Saving Time, Date Setting and Time Setting.
3. Select Date Setting.
   - A further sub-menu is displayed. It contains:
     - In the headline, the momentarily set date format
     - below the headline, three columns for the day, the month and the year.
4. To switch between the headline and the day, month and year columns, press the click wheel or the joystick to the left, right or inwards.
   To set the numbers and the month, turn the click wheel or press the joystick up or down.
5. To confirm and save your settings, press the BR button (next to the OK display).
   - The first sub-menu reappears.

Time

Setting time and time format

These settings are made in the Time Setting sub-menu the same way as previously described for Date Setting.

Activating/Deactivating Auto GPS Time and Daylight Saving Time

1. In the Date & Time sub-menu, select the desired item, and
2. the desired setting by pressing the click wheel or the joystick to the right or inwards.

Notes:

- Auto GPS Time can only be activated, if the GPS function/menu item is activated.
- When Auto GPS Time is activated, the time set on the camera is continuously updated according to the received GPS signals. Consequently, Time Zone and Daylight Saving Time are deactivated, and the respective settings are over-ruled.

Setting Time Zone

1. In the Date & Time sub-menu, select Time Zone, and
2. in the sub-menu, the desired zone according to the listed cities and/or time shifts by turning the click wheel or pressing the joystick up or down.

Note:

Even when no battery is inserted in the camera or the battery is flat, the date and time settings are maintained by a built-in back-up battery for about three months. After that period, however, the date and time must be set again as described above.

ENERGY-SAVING SETTINGS

In order to increase battery life, you can have the monitor and/or camera switched off automatically after a specified period of time.

Setting the function

1. In the menu's SETUP section, select Power Saving,
2. then Auto Power Off or All Displays Auto Off in the sub-menu, and
3. in the respective sub-menus the desired settings.

If these functions are active, the camera switches to energy-saving standby mode or the monitor switches off after the selected time.

Note:
When the camera is in standby mode, it can be turned on at any time by pressing the shutter button or by turning it off and on via the main switch.

MONITOR/VIEWFINDER SETTINGS

Switching between monitor and viewfinder

The displays are the same, regardless of whether they appear on the monitor or viewfinder. However, you can specify when and where the displays appear. In the factory settings, the changes are automatic (using the proximity sensor in the viewfinder eyepiece), but you can also specify that they should appear only in the monitor or only in the viewfinder.

Setting the function

Press the button immediately to the right of the viewfinder.
1x = Display only in the viewfinder
2x = Display only in the monitor
3x = Automatic switching

Note:
The setting applies to pictures and review, however display only in the viewfinder is not available in review mode.

To ensure that the switch happens reliably, you can also change the sensitivity of the sensor.

Setting the function

1. In the menu's SETUP section, select Display Settings,
2. in the sub-menu Eye Sensor Sensitivity, and
3. select the desired setting in the corresponding sub-menu. Users without glasses can retain Low, people who wear glasses should select High.

Monitor brightness

The brightness of the monitor display can be changed for optimized recognition and adjustment to different lighting conditions.

Setting the function

1. In the menu's SETUP section, select Display Settings,
2. then LCD Brightness, and
3. select the desired setting in the corresponding sub-menu. In Auto, the brightness is adjusted automatically.

ACOUSTIC SIGNALS

With the Leica SL, you can decide whether you want your settings and some other functions to be acknowledged by an acoustic signal – two volumes are available – or whether operation of the camera and actually taking photographs should be predominantly free of noise.

Setting the function

1. In the menu's SETUP section, select Acoustic Signal,
2. then Volume in the sub-menu, and
3. select the desired setting in the corresponding sub-menu.

Setting the desired signals

1. In the menu's SETUP section, select Acoustic Signal,
2. in the sub-menu one of the two options AF Confirmation, and Acoustic Signals, and
3. in the corresponding sub-menus, the desired settings.

BUTTON FUNCTION DISPLAYS

You can select whether or not icons indicating the functions of the four buttons next to the monitor are displayed during recording and playback modes. See p. 278, 281 for illustrations of the icons.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. Display Shortcut Icons in the sub-menu, and
3. in the corresponding sub-menu, switch the functions On or Off.

Calling up the displays

If the function is switched on, the button function displays can be called up by pressing the BR button.

DISPLAY OPTIONS

In addition to the default information set displayed in bars at the upper and lower edge of the screen, you have a choice of a number of options to customize the display set during recording and review modes. These include additional information as well as focusing, exposure, and composition aids.
There are three operations involved:
- Switching the displays on or off, thereby determining which of them can be called up
- Modifying the displays (only available in some cases)
- Calling up the displays

Enabling/Disabling the Displays

1. In the menu's SETUP section, select Live View, and
2. in the sub-menu, switch the functions On or Off.

If Full Screen is switched on, a full screen image display without any information whatsoever is available.

Calling up the displays

The display sets switched on are available in an endless loop by (repeatedly) pressing the **BR** button.
They disappear again after a few seconds.

Note:
When changing between picture and review mode, the display most recently selected in the mode in question is active.

Histogram and Clipping/Zebra

The histogram depicts the brightness distribution in the picture. The horizontal axis shows the tone values from black (left) through gray to white (right). The vertical axis corresponds to the number of pixels at each brightness level.
This form of representation – in conjunction with the impression of the picture itself – provides an additional quick and easy assessment of the exposure setting.
The clipping and zebra displays indicate bright areas in a picture that would be rendered without detail, i.e. overexposed (when taking the picture) or are recorded this way (when reviewing). The differences between the two are:
- The clipping display is used for photos, the respective areas flash in black.
- The zebra display is used for videos, the respective areas are indicated by a moving black and white stripe pattern.

Thus, the clipping and zebra displays facilitate easy recognition of affected parts of the image and precise adjustment of the exposure setting.
In order to customize these displays to match specific conditions or your compositional ideas, you can determine their threshold level, i.e. at which degree of overexposure they appear.

Setting the function

1. In the menu's SETUP section, select Capture Assistants,
2. in the sub-menu Clipping/Zebra definition, and
3. in the respective sub-menu, Upper Limit, or Off if this display should not appear.
4. If you selected Upper Limit, set the desired threshold value in the setting screen with the click wheel or the joystick:
   - Click wheel — turn in the desired direction, or press for single-digit advance
   - Joystick — press left or right in the desired direction, or inwards for single-digit advance

   The values are arranged in an endless loop.

Notes:

- The histogram is always based on the displayed brightness, i.e. depending on other settings, it may not represent the final exposure.
- In picture mode, the histogram should be regarded as a "trend indicator" and not as a depiction of the exact numbers of pixels.
- For a picture with flash, the histogram cannot represent the final exposure as the flash is fired after it is displayed.
- When viewing a picture, the histogram may differ slightly from that shown when taking the picture.
- The histogram is not available for simultaneous review of several reduced pictures or for enlarged pictures.
- The clipping indicator is available when viewing both the entire picture and a section of it, but not when simultaneously viewing 12 or 30 reduced pictures.
- The clipping indicators always relate to the detail of the part of the picture currently being displayed.

Grid and horizon

The grid divides the image field into several fields. They facilitate things such as picture composition and exact camera orientation. You can select the grid partition to match the subject.
The bubble level display appears together with the grid display. Explanation: Integrated sensors make it possible for the Leica SL to show its orientation. This indicator enables you to align the camera precisely in the longitudinal and transverse axes to capture critical subjects, e.g. architecture pictures taken from a tripod.

Setting the display:

1. In the menu's SETUP section, select Capture Assistants,
2. in the sub-menu Grid Setup, and
3. in the respective sub-menu, the desired partitioning, or Off if this display should not appear.
   - The bubble level display comprises the following elements: For the longitudinal axis, two long lines are shown to the left and right of the screen's center. They appear green when the camera is oriented correctly and red when it is slanted. For the transverse axis, two green double lines directly to the left and right of the picture's center indicate the starting point. When the camera is slanted they turn white and a short red line appears above and below.

Focus Peaking

To control focusing or to make it easier to achieve precise settings or to increase the precision of a setting, the Leica SL offers two features:
One of these is the identification of sharply focused subjects - 'focus peaking'. The other is the magnified display of a section, as described on p. 209.

Setting the function

1. In the menu's SETUP section, select Live View,
2. then Focus Peaking in the sub-menu, and
3. switch the function On or Off.

To adjust to different subjects/backgrounds you can select one of four colors for the peaking display, and either a high or low sensitivity.

Setting the peaking color

1. In the menu's SETUP section, select Capture Assistants,
2. then Focus Peaking in the sub-menu, and
3. in the Color sub-menu, or in the Sensitivity sub-menu High or Low.
   - If the Peaking Function has been switched on/called up, it is displayed by . All subject details in focus are identified by their edges being highlighted in the selected color. This is done according to the principle: maximum contrast = in focus.

DISABLING THE DIAL AND THE WHEEL

To completely safeguard against unintentional settings of the shutter speed, the aperture, and the exposure control mode, you can deactivate the function of both the top dial and the click wheel. When set to On, turning and pressing during recording mode will have no effect.

Setting the function

1. In the menu's SETUP section, select Key Lock, and
2. switch the function On or Off.

MEMORY CARD MANAGEMENT

When both of the Leica SL's memory card slots are occupied, you can select whether the photo image data is stored on both cards simultaneously or sequentially, i.e. first on one until its capacity limit is reached, and then on the other.

Setting the function

1. In the menu's SETUP section, select Storage Backup, and
2. switch the function On or Off.

On Photo image data is saved on both cards simultaneously
- In the top panel display, this is indicated by 1 = 2.

Off Photo image data is saved on the card in slot 1 until its capacity is reached, and then on the card in slot 2.
- In the top panel display, this is indicated by 1 + 2.

Notes:

- When using applications like Leica Image Shuttle® or Adobe Lightroom® and taking photos while the camera is connected to a computer using a USB cable, the recordings are saved on
  - both the card(s) and the computer when Storage Backup is set to On
  - only on a computer when Storage Backup is set to Off .
- The card capacity display in the top panel reflects the menu setting: With On, it is less than with Off (due to simultaneous/ sequential storage).
- Video image data is always stored as described for Off, i.e. regardless of the menu setting.
- This menu item can be assigned to the FAVORITES menu.

EXPOSURE BASIC SETTINGS

SWITCHING THE SENSOR FORMAT

The Leica SL is a standard 35 mm format camera, i.e. its sensor size is approx. 24 x 36 mm. You can limit the sensor area used to the APS-C format though, i.e. to approx. 15.7 x 23.6 mm.

Setting the function

1. In the menu's IMAGE section, select Sensor Format, and
2. select 35mm or APS-C in the sub-menu.

Notes:

- If Leica TL system lenses are used, the switch to the smaller format is automatic. Correspondingly, this menu item is not available (“grayed out”) in such cases. The APS-C section is then always recorded.
- If APS-C is set, only this section is recorded - except if the DNG file format is used and Leica SL - and other 35 mm lenses. In these cases, the whole sensor surface is recorded. The selected section is then noted in the picture data so that only the APS-C section is normally reviewed. With the help of raw data converters (see p. 187/264), however, the complete 35 mm data set can be used at any time. In principle, the same is the case for settings in the photo aspect ratio sub-menu (see next section).
- Using the smaller format with lenses designed for the 35 mm format to a certain extent results in focal lengths that are effectively greater (by approx. 1.5x – the so-called ‘crop factor’) and therefore a reduced angle of view (approx. 66%).
- This function can be assigned to the FAVORITES menu.

ASPECT RATIO

You can select the aspect ratio to be used for photos, i.e. the relationship between the vertical and horizontal sides of the format.

Setting the function

1. In the menu's IMAGE section, select Photo Aspect Ratio, and
2. select the desired setting in the sub-menu.

Note:

This function can be assigned to the FAVORITES menu.

FILE FORMAT

Two file formats are available for recording the picture data: DNG and JPG.
You can choose whether your picture data are to be saved
a. in only one of these formats, or
b. simultaneously in both (i.e. two files are always created for each picture).

Setting the function

1. In the menu's IMAGE section, select Photo File Format, and
2. select the desired setting in the sub-menu.

Notes:

- DNG (Digital Negative) is a standardized format used to save raw picture data.
- The displayed remaining number of pictures does not necessarily change after every picture. With JPG files, this depends on the subject; very fine structures result in higher data volumes, homogeneous surfaces in lower volumes.
- Review (see p. 238ff) is always on the basis of the JPG file, i.e. even if the picture was recorded in both file formats. As a consequence, if the JPG file is deleted, the DNG file is also deleted at the same time!
- This function can be assigned to the FAVORITES menu.

JPEG SETTINGS

Note:
The functions and settings described in the next three sections refer exclusively to pictures in the JPEG format. If the DNG file format is selected, these settings have no effect - except when the Contrast setting Monochrome is used (see next page).

JPEG resolution

If the JPEG format is selected, pictures can be taken with three different resolutions (numbers of pixels). This allows you to adjust the setting precisely to the intended use or to the available memory card capacity.

Setting the function

1. In the menu's IMAGE section, select JPG Resolution, and
2. select the desired setting in the sub-menu.

Notes:

- Raw data (DNG format) is always stored at the maximum resolution regardless of the settings for JPEG images.
- The effective resolution is subject to both the focal length and aspect ratio settings.
- This function can be assigned to the FAVORITES menu.

JPEG-Contrast, -saturation, -sharpness

One of the many advantages of digital photography is that it is very easy to change critical properties of a picture, i.e. those that determine its character. With the Leica SL, you can influence three of the most important picture properties before you actually take the picture:

- The contrast, i.e. the difference between light and dark sections of the image, determines whether an image has a more "flat" or "brilliant" effect. As a consequence, the contrast can be influenced by increasing or reducing this difference.
- The color saturation determines whether the colors in the picture tend to appear as “pale” and pastel-like or “bright” and colorful. While the lighting and weather conditions (hazy/clear) are given as conditions for the picture, there is definite scope for influencing the reproduction here.
- Sharp reproduction – at least of the main subject –using the correct focusing is a prerequisite for a successful picture. In turn, the impression of a picture being in focus is to a great extent determined by the edge sharpness, i.e. by how small the transition area between light and dark is at edges in the picture. The impression of being in focus can thus be changed by expanding or reducing these areas.

For all three picture properties, you can independently choose between five levels.

Setting the function

1. In the menu's IMAGE section, select JPG Settings,
2. in the sub-menu Contrast, Saturation, or Sharpness, and
3. in the respective sub-menus the desired settings.

In the case of Saturation, the additional option Monochrome allows you to create B/W pictures. Correspondingly, the viewfinder image is also black and white.

Note:

When using the tracking function (see p. 206), the displayed image is in color, even when Monochrome is set. The pictures will nevertheless be saved in B/W.

JPEG working color range

The requirements in terms of color reproduction differ considerably for the various possible uses of digital picture files. Different color spaces have therefore been developed, such as the standard RGB (red/green/blue) that is perfectly adequate for simple printing. For more demanding image processing using the corresponding programs, e.g. for color correction, Adobe® RGB has become established as the standard in the relevant sectors. ECI is used in many cases for professional prepress work. The Leica SL allows you to select between these three color spaces.

Setting the function

1. In the menu's IMAGE section, select JPG Settings,
2. then Color Space in the sub-menu, and
3. in the sub-menu select sRGB, ECI RGB v2.0 or Adobe RGB.

Notes:

- If you want to have your prints produced by major photographic laboratories, mini labs, or Internet picture services, you should select the sRGB setting.
- The Adobe RGB and ECI-RGB v2.0 settings are only recommended for professional image processing in color-calibrated working environments.

JPEG noise reduction

In digital photography, the appearance of flawed pixels that can be white, red, blue and green is called noise. Except when high sensitivities are used, noise is luckily negligible.
Nevertheless, noise reduction is a component of data processing when JPG files are generated. On the other hand, since it also has an effect on the focus review, you can optionally weaken or strengthen this noise reduction in comparison to the standard setting.

Setting the function

1. In the menu's IMAGE section, select JPG Settings,
2. in the sub-menu select Noise Reduction, and
3. in the corresponding sub-menu Low, Medium or High.

WHITE BALANCE

In digital photography, white balance ensures neutral, i.e. natural color rendering in any light. It is based on the camera being preset to reproduce a particular color as white. You can choose between, automatic white balance, several presets, two settings for manual metering, and direct setting of the color temperature:

AWB	Automatic white balance
	Outdoor pictures in sunlight
	Outdoor pictures with cloudy sky
	Outdoor pictures with the main subject in shadow
	Illumination with light bulbs
HMI	Illumination with metal halide lamps
	e.g. for indoor pictures with (prevailing) light from fluorescent tubes with warm light color
	e.g. for indoor pictures with (prevailing) light from fluorescent tubes with cool light color
WB	Illumination with electronic flash
Lv	Manual setting by measurement with selectable target point
	Manual setting by metering
K	Manual color temperature input[1]

[1] All color temperatures are specified in Kelvin.

Notes:

- If non-compatible flash units are used, the WB setting should be used.
- This function can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

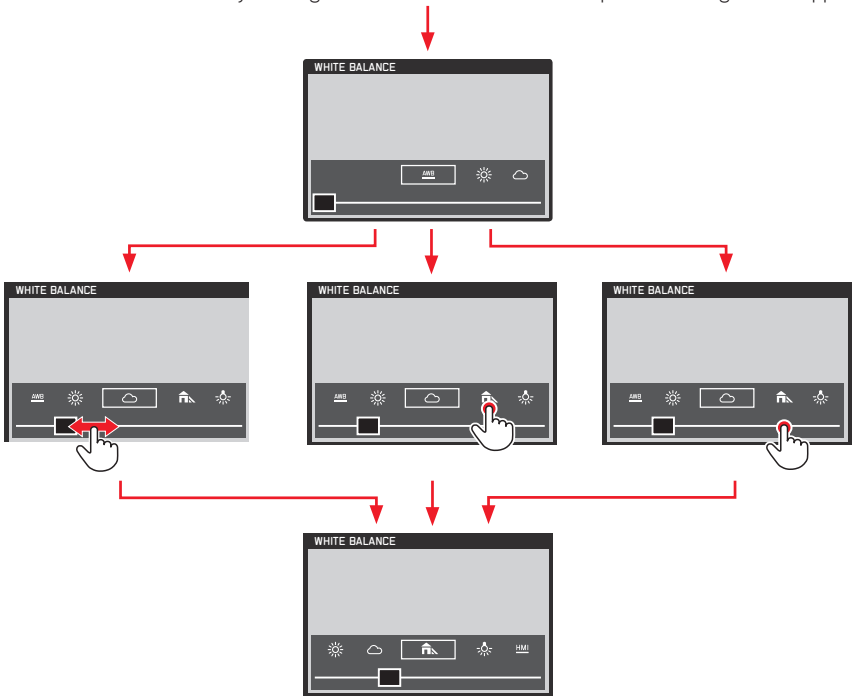
Automatic and fixed presets

Setting the function - using menu control

1. In the menu's IMAGE section, select White Balance,
2. select the desired setting in the sub-menu.
   - The image's color is adjusted accordingly.
3. Save the setting by pressing the rear click wheel, the joystick inwards, or the shutter release button.

Setting the function - using direct access (with gesture control)

Press and hold the button you assigned the function to until the respective setting screen appears.



Notes:

- If you want to exit the screens earlier, press the click wheel, or the joystick inwards, or the **BL** button, or the shutter release button. In any case, the respective settings are automatically saved.
- Even within gesture control, settings can be done with the click wheel or the joystick.

Manual setting by metering

The Leica SL offers you a choice between two such modes that allow operation matched to different situations/subjects.
Graycard is suited best for subjects in which you can clearly identify a neutral gray or pure white area. If not, or if you want to base your metering on an off-center detail, you can utilize Graycard Live View.

Setting the function

1. In the menu's IMAGE section, select White Balance,
2. in the sub-menu, the desired Graycard setting.

These two steps can also be performed using direct access and gesture control, exactly as described for automatic and fixed presets on p. 190 -191.
The further steps differ, depending on the selected Graycard setting.

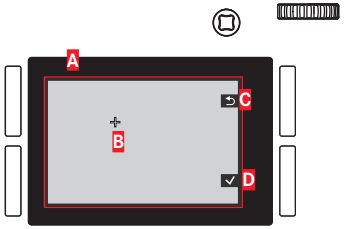
When Graycard is selected:

3. Call up the respective screen by pressing the click wheel or the joystick inwards.
   - In the middle of the screen, the metering zone is indicated by a yellow frame.

   If you wish to exit this screen again without the metering function, press the **TR** button briefly
4. Aim the metering zone at a neutrally gray or pure white area, making sure it completely fills the frame.
5. Save the setting measured by pressing the shutter release button, the **BR**- or **FN** button, or by pressing the click wheel or the joystick inwards.

When Graycard Live View is selected:

3. Call up the respective screen by pressing the click wheel or the joystick inwards.



A Image based on an automatic white balance setting
B Cross hairs indicating the metering area
C Button function indication, return to previous display
D Button function indication, save metered value

4. Press the joystick in the desired direction to move the cross hairs to the detail you want the new white balance setting to be based on.
6. Press the rear click wheel or the joystick inwards for the measurement.
   - The image's color is adjusted accordingly.
7. Either save this setting by pressing the shutter release button to the 1st pressure point, or the **BR** button, or repeat the metering by performing steps 3-6 again.

Notes:

- A value set in this way remains saved for and will be used for all pictures until it is superseded by a new metered value or you use one of the other white balance settings.
- This function can be assigned to the FAVORITES menu.

Direct color temperature setting

You can directly set values between 2000 and 11500. This provides you with a broad scope, covering almost all color temperatures that can occur in practice and within which you can adapt the color reproduction very sensitively to the existing light color and/or your personal preferences.

Setting the function

1. In the menu's IMAGE section, select White Balance,
2. in the sub-menu, K.
3. Press the click wheel or the joystick inwards to call up the respective sub-menu, and
4. Set the desired value by turning the click wheel or by pressing the joystick to the left or right.
   - The displayed image's color hue changes accordingly.
5. Confirm your setting by pressing the click wheel, the joystick inwards, or the shutter release button.

Steps 2. and 4. can also be performed using gesture control, basically as described for automatic and fixed presets on p. 190-191.

ISO SENSITIVITY

The ISO setting allows the shutter speed/aperture value to be adjusted to meet the requirements of the relevant situation. Next to the fixed settings, an automatic function is also available (see also the following section).

Setting the function - using menu control

1. In the menu's IMAGE section, select ISO, and
2. select the desired setting in the sub-menu.

Setting the function - using gesture control (with direct access)

This is done basically as described for White Balance on p. 191.

Auto ISO Setting

When ISO is set to Auto, the camera automatically adjusts the sensitivity to match the ambient brightness. However, when using the function, it is also possible to specify priorities, for example for compositional reasons. This enables you to limit the range of sensitivities used (e.g. to control noise) and also to set the shutter speed above which the automatic increase in sensitivity is activated (instead of using continually slower shutter speeds, e.g. to prevent blurred pictures of moving subjects).

Setting the functions

1. In the menu's SETUP section, select Auto ISO Settings, and
2. select Auto ISO Photo in the sub-menu.

Adjusting the ISO-limits:

3. Select ISO Limit Values in the next sub-menu,
4. in the sub-menu that then appears Minimum ISO or Maximum ISO, and
5. set the desired values.
   - In a bar chart that represents the entire setting range, both the set numerical values and corresponding lines are displayed for easier understanding, blue for the lower and red for the upper limit value.

Setting the maximum exposure time and floating ISO

3. Select Maximum Exposure Time or Floating ISO in the next sub-menu, and
4. select the desired settings in the corresponding sub-menus, or switch the Floating ISO function On or Off.
   - The set Floating ISO function is displayed by ISO.

Floating ISO, when using zoom lenses with variable aperture (such as the Leica Vario-Elmarit-SL 24-90 f/2.8-4 ASPH.), ensures correct exposure with manual exposure setting (M) or, with aperture priority (A), shutter priority (T) and program modes (P), also retention of the shutter speeds and aperture values set automatically and/or manually.

Explanation:
The aperture speeds and aperture values (m) set manually with a focal length of such a lens result in brighter or darker exposure than intended with shorter or longer focal lengths due to the larger or smaller aperture openings. Floating ISO automatically changes the sensitivity, so that the desired exposure is retained with every focal length. Although the three automatic exposure modes (A, T, P) set the correct exposure at every focal length, they do so by means of changed shutter speeds and/or aperture values. Floating ISO also automatically changes the sensitivity in these cases so that both the desired exposure and the original shutter speed/aperture combination is retained at every focal length.

Notes:

- Maximum ISO and Maximum Exposure Time are only effective when ISO is set to Auto ISO.
- 1/f results in the slowest possible shutter speeds based on the rule of thumb for free-handed, blur-free pictures, e.g. 1/100 s with a focal length of 100 mm. 1/2f is principally the same, except that it results in twice as fast shutter speeds whenever possible, e.g. for even more safety against blurred pictures.
- Floating ISO is not available when Auto ISO is switched on.
- Floating ISO can work only if the original ISO setting allows scope for change, i.e.. the highest/lowest ISO setting is not already being used. If this is the case, the Floating ISO warning symbol is displayed.

IMAGE STABILIZATION

The worse the lighting conditions are when taking a picture, the slower the shutter speed has to be in order to achieve the right exposure. This can quickly lead to shutter speeds so long that camera shake, and as a result image blurring, becomes a problem. Some Leica SL lenses are equipped with an optical stabilization system that can compensate for this up to a certain degree, i.e. the equivalent of up to approx. three shutter speed steps. This enables you to create sharp pictures with shutter speeds slower than what would normally be feasible while holding a camera by hand. Video recordings also benefit from a considerably steadier picture composition (see also p. 227).
Keep in mind though, that this system cannot prevent blurred images caused by subject movements in conjunction with inappropriate, i.e. too slow shutter speeds.

Setting the function

1. In the menu's SETUP section, select Optical Image Stabilization and
2. switch the function On or Off.

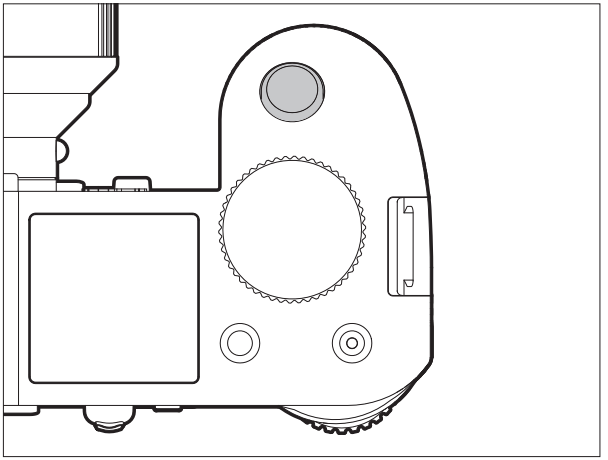
When set to On, the camera automatically selects the appropriate type of operation. Usually, this will mean compensation in all directions. When only a horizontal movement in one direction is registered though, e.g. when 'following' a moving subject during an exposure to 'freeze' it in front of the background, only vertical compensation takes place.

Notes:

- When taking pictures with a tripod, you receive the best results with stabilization switched off.
- This function can be assigned to one of the soft keys for direct access.

PHOTO RECORDING MODE

SHUTTER RELEASE BUTTON



The shutter release button works in two stages.

1. When the camera is in stand-by mode (see p. 180), pressing it to the first pressure point activates the viewfinder, monitor, and top panel displays as well as both automatic distance setting/Autofocus (if set) and exposure metering and control by saving the metered exposure value for spot and center-weighted metering in A, T, and P modes (see p. 216/217). When using autofocus in AFs mode (see p. 201) the focus setting is saved at the same time. New measurements can be performed once the shutter button is released.

Notes:

- If Review mode was previously active (see p. 238), the camera switches back to Recording mode. If it was previously in Standby mode (see p. 180), it is reactivated, i.e. metering systems and displays are turned on.
- The shutter button remains blocked
  - if the internal buffer memory is temporarily full, e.g. after a series of pictures (also applies if no memory card is inserted), or
  - if the inserted memory card(s) is/are full, or
  - if focusing has not (yet) been carried out in the Autofocus mode AFs (see p. 201).
- As an alternative to the shutter release button, the joystick can also be used to save exposure and automatic focusing settings (provided the AE/AF Lock Button function is set accordingly, see p. 218).

2. Pressing the button all the way down takes a picture, or starts any preselected self-timer delay time, or starts a preselected bracketing or interval series (see p. 236/222/234).

Locking the shutter release and video buttons

To prevent taking photos during video preview and recording, or to prevent starting a video during photo mode accidentally, both button functions can be deactivated during the above described modes.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu Mode Lock Photo/Video, and
3. switch the function On or Off.

Recording mode	Button pressed (shutter release button pressed all the way)	Function (When set to OFF)	Function (When set to ON)
Photo mode	Shutter release button	Takes a picture	Takes a picture
	Video button	Starts video recording	no function
Video preview mode	Shutter release button	Takes a picture	no function
	Video button	Starts video recording	Starts video recording
During video recording	Shutter release button	Takes a picture*	Stops video recording
	Video button	Stops video recording	Stops video recording

* Not available with
-4 K video recordings (4096 x 2160, 3840 x 2160)
- Video recordings with 24/100/120 f/s 24p video recordings

Video recordings (image and sound) are interrupted while a (photo) picture is being taken.

Notes:

- This setting does not deactivate the shutter release button's function when pressing it to the first pressure point (see previous section).
- This setting does not affect the buttons' functions when pressed during menu control.

Serial exposures

You can not only use the Leica SL to take single pictures but also to produce a series of pictures.

Setting and using the function

1. In the menu's CAMERA section, select Drive Mode, and
2. in the sub-menu, Continuous Low Speed, Continuous Medium Speed or Continuous High Speed.
3. Keep the shutter release button pressed all the way down.
   – The camera takes pictures until the capacity of the buffer memory or the memory card(s) is depleted.

Notes:

- If the shutter release button is immediately released again after pressing it, only a single picture will be taken regardless of the menu setting.
- The camera's buffer memory only allows a limited number of pictures to be taken in a series at the selected frequency. When the buffer capacity limit is reached, the frequency is reduced.
- Regardless of how many pictures have been taken in a series, both review modes (see p. 238) initially show the last picture in the series or the last picture in the series saved on the currently active card (see p. 239), if not all of the pictures in the series have been transferred from the internal buffer memory to the relevant card yet. Details of how to select the other pictures in the series and further options in the review modes are described in the corresponding sections starting on p. 238.
- Using the Continuous modes interacts with focusing operation, as well as with the exposure and automatic White Balance settings in the following ways/situations (see the respective chapters for details on the mentioned modes):
  – Continuous Low Speed and Continuous Medium Speed
  With AFs, AFc, and MF, the exposure and White Balance settings are determined individually for every single shot, with AFs and AFc focusing is also performed.

4. Continuous High Speed
   With AFs, AFc and MF , exposure and White Balance settings determined for the first shot are used for all following shots.

FOCUSING

Focusing modes

You can choose between one of two automatic/Autofocus modes(AFs, AFc), or focus manually (MF).

Setting the function

1. In the menu's CAMERA section, select Focus Mode, and
2. select the desired function in the sub-menu.

Note:
This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

Automatic focusing/Autofocus

The Autofocus setting procedure is started by pressing the shutter release button to the 1st pressure point.

– The part of the subject you aim at with the AF metering field is automatically focused.

AFs (single)/Focus priority

– After successful setting, the focusing process is stopped and the setting saved for as long as the shutter button is kept pressed.

If no subject has been correctly focused, no picture can be taken.

AFc (continuous)/Shutter release priority

– Focusing continues as long as the shutter button is kept pressed, i.e. during this time, the setting is adjusted whenever the metering system detects other objects at other distances, or the distance from the camera to the part of the subject you are aiming at changes.

The shutter button can always be pressed all the way down, i.e. even if no part of the subject is in focus, a picture can be taken at any time. The only way to save a setting in this mode is to press the joystick inwards (provided the AE/AF Lock Button function is set accordingly, see p. 218).

The focusing status is displayed as follows:

– In case of successful focusing:
  • The color of the AF frame changes to green.
  • An acoustic signal can be heard (if selected).
– In case automatic focusing is not successful/possible:
  • The color of the AF frame changes to red.

Notes:

- When the Touch AF function is activated (see p. 207), automatic focusing can also be started by touching the desired part of the subject in the monitor image.
- When the AE/AF Lock Button function is set accordingly (see p. 218), automatic focusing can also be started by pressing the joystick inwards.
- The shutter button saves the AF setting along with the exposure setting, except in the case of certain AE/AF Lock Button function settings (see p. 219).
- The AF metering system works passively based on contrasts, i.e. differences between light/dark in the part of the subject registered by the selected AF metering mode. Thus, it depends on the subject having a certain minimum brightness.
  Therefore, in certain situations the AF metering system is unable to focus and set the distance correctly, e.g. when the subject registered by the selected AF metering mode
  - is not sufficiently illuminated (see next section), and/or
  - does not incorporate sufficiently differing brightness levels or structures and/or
  - has only horizontal edges in landscape pictures or only vertical edges in portrait pictures and/or
  - is outside the available setting range.

Focusing range limitation

With most lenses, focusing gets faster as the focused distances get longer. This is due to the fact that the lenses' optical systems have to be moved further for shorter distances. Therefore, if you know you will not need to focus on shorter distances, you can speed up AF operation by excluding extremely short distances from the focusing range.

Setting the function

1. In the menu's CAMERA section, select Focus Limit (Macro), and
2. switch the function On or Off.

Notes:

- The distance/focusing limit differs from lens to lens (see the respective instructions).
- This function is not available with certain Leica SL lenses (see the respective instructions). It is not available for other types of lenses, e.g. using adapters.
- When the lens is changed while the camera is switched on, an On setting in Focus Limit (Macro) is reset to Off.
- This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

Manual 'Overriding' of the AF Setting

Provided that Leica SL lenses, or TL system lenses, are used, automatic setting can be manually 'overridden' at any time in both AF modes.

1. Keep the shutter release button at the first pressure point.
2. Use the focusing ring on the lens to focus on the desired subject detail.

More details on manually setting the focus and the setting aid available for this can be found on p. 184/209.

AF auxiliary light

The built-in AF auxiliary lamp extends the operating range of the AF system in poor lighting conditions. If the function is switched on, the lamp will light up in such conditions when AF operation is started by pressing the shutter release button or the joystick (provided it is set accordingly, see p. 219).
The lamp has an operating range of approx. 1-3 m.

Setting the function

1. In the menu's SETUP section, select AF Setup,
2. then AF Assist Lamp in the sub-menu, and
3. switch the function On or Off.

Note:

It is advisable to remove an attached lens hood because it may obstruct the lamp.

Autofocus metering methods and operating modes

To further fine tune the AF system to different subjects, situations and picture composition ideas, with AFs, as well as AFc you can choose between three metering methods and three ways of working. The six functions, with the exception of Auto (face detection), (see p. 207) can be freely combined:

Autofocus metering methods

Setting the function

1. In the menu's CAMERA section, select AF Field Size, and
2. in the sub-menu, 1 Point, Field, or Zone.

1 Point-Metering

This Autofocus Function is based on a single metering field that can be freely moved in the monitor image. Originally, i.e. in its default position, this field is in the center of the image screen. Single field measuring is the preferred method to match the AF setting to subject detail at any place in the image field.
If you wish to move the metering field, you must do this before pressing the shutter release button, i.e. before you start the AF operation. This can be done either with the button or touch control.

Button control

Press the joystick in the desired direction (also to move the metering field back to its central position).

Touch control

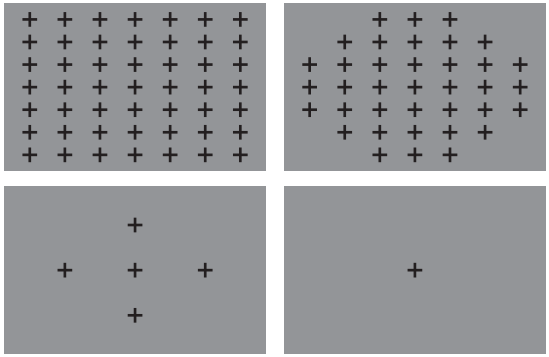
1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu, Touch AF, and
3. switch the function On.
4. Reactivate recording mode, and
5. touch the desired subject part in the monitor image (also to move the metering field back to its central position).

Note:

If this metering method is used together with the exposure metering method (see p. 210), the AF metering field is coupled to spot metering. In these cases, this also affects moving both measurements.

Both other AF metering methods are based on a preset grid comprising 49 metering fields. To make metering even more precisely adjusted to the subject and the situation, you can choose whether all, or 37, or 5, or only 1 metering field(s) should be available.

Metering field distribution



Setting the number of metering fields

1. In the menu's SETUP section, select AF Setup,
2. then Number of Steps in the sub-menu, and
3. set the desired number.

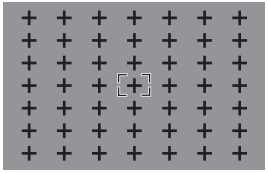
You can also choose whether the relevant grid should be displayed or not.

Setting the function

1. In the menu's SETUP section, select AF Setup,
2. in the sub-menu AF Steps Visible, and
3. switch the function On or Off.
   - The grid goes out as soon as the shutter release button is pressed.

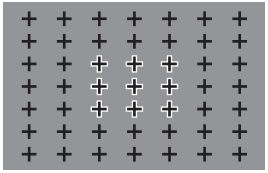
Field-Metering

This metering method works with one of the grid's metering fields.



9 field-Metering [Zone]

With this metering method, subject sections are recorded with a coherent group comprising 3 x 3 fields. Focusing is to the subject sections at the smallest distance. It combines a certain degree of snapshot suitability with the possibility to purposely target larger subjects.



- After the setting has been made, the metering fields are displayed in which the subject sections are displayed in focus.

Within the relevant grid, you can move the active metering field (in Field) or the group of active metering fields (in Zone). This also applies to the functions Static and Dynamic described on the next page, and is done in exactly the same way as described in the previous section for 1 Point.

In addition to the autofocus metering modes described on the previous pages, there are another three functions available that are designed for specific subjects and/or situations.

Setting the function

1. In the menu's CAMERA section, select AF Mode, and
2. in the sub-menu, Static, Dynamic [Tracking], or Auto [Face].

Within the relevant grid, you can move the active metering field (in field) or the group of active metering fields (in Zone). This is done in exactly the same way as described in the previous section for 1 Point.

Note:
This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

Static
With this function, the metering field or the metering field group remains at the place determined by you in the image field, i.e. even if your subject moves out of the metering field or the metering field group.
This function is recommended if you want to set the automatic focusing on a certain place or a certain area of the image field.

Dynamic [Tracking]
With this function, the relevant metering field is automatically tracked to a subject section that has been recorded and focused if it moves through the image field. This is done irrespective of whether the distance to the subject changes in the process and irrespective of whether AFs or AFc has been set.

This function is recommended when the focus of a certain subject section is more important to you than its position in the image field.

- As an indication of the activated function, the metering field or the metering field group is marked by an additional, closed frame.

Notes:
- The tracking function stops when the shutter button is released before taking the picture. In such a situation, the metering field remains at the last position.
- When using the tracking function, the displayed image is in color, even when Monochrome is set in the JPG Settings' Saturation sub-menu (see p. 188). The pictures will nevertheless be saved in B/W.

Auto (Face)

In this function the Leica SL automatically detects faces in the picture and focuses on the one at the shortest distance. If no faces are detected, 9-field metering is used.

Touch-controlled autofocus

In this mode you can start AF operation by tapping on the desired subject anywhere on the monitor image.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu, Touch AF, and
3. switch the function On or Off.

Starting the function

On the monitor, touch the subject section that is to be focused. The operation starts only when you take your finger off the monitor again.

- In this mode, the focusing status is displayed as follows:
  - White: (only before first use) monitor has not been tapped yet
  - Green: Monitor tapped, selected subject is successfully focused
  - Red: Monitor tapped, but selected subject cannot be focused (turns white again shortly after focusing attempt ends)

Notes:

- When AF Mode is set to Auto (Face), Touch AF does not work.
- With this mode, AF operation can be started with the shutter release button and the joystick.
- The metering frame is always located at the last position it was placed, regardless of where it may have been placed using one of the 1 Point metering mode variants.
- If the Auto (Face) function is used, the AF metering method set, i.e. 1 Point, Field, or Zone is ineffective and correspondingly 'grayed out' in the menu list.
- If this function is used together with the Spot exposure method (see p. 210), the Spot metering field is coupled to the AF metering field automatically specified by face detection. In this case, the Spot metering field cannot therefore be moved.

Manual focusing - MF

For certain subjects and situations, it can be beneficial to set the focus yourself, rather than using autofocus. For example, if you want to use the same setting for several pictures and it would be more work to use metering memory lock, or if you want to keep the setting at infinity for landscape pictures, or if poor, i.e. very dark, lighting conditions do not allow any, or only slower AF operation.
To focus, turn the distance setting ring on the lens until your subject or the most important part of the subject is shown sharply. In this connection, the setting speed corresponds to the rotation speed so that they can quickly reach a completely different focusing point as needed or can make very sensitive settings.

Notes:

- When the shutter release button is tapped (to the first pressure point), the top display shows the set distance as well as the front and rear limits of the resulting depth of field range (see p. 277).
- Even if Focus Mode is set to MF, you can use the joystick at any time to start AF operation (provided, the AE/AF Lock Button function is set accordingly, see p. 219).
- Even if Focus Mode is set to AFs or AFc, you can manually 'override' the AF setting at any time.
- To make it easier to achieve precise settings or to increase the precision of a setting, in addition to section enlargement described in the next section, the Leica SL offers identification of focused subjects - 'Focus Peaking' (see p. 184).

Section enlargement as focusing aid

To check or facilitate precise setting and increase setting precision, in all focus modes AFs, AFc and MF a further aid is available to you in addition to the 'Focus Peaking' function described on p. 184: the enlarged display of a section.

Explanation: The larger the details of the subject are shown, the better you can assess their sharpness and the more accurately you can focus.

Calling up/Using the function

By pressing the BL button, you can call up enlargements of an (initially) central section of the image field.

The first press results in a 4x view, the second press in a 6x view, the third press brings back the unenlarged view.

You can choose which part of the image section that you want to look at more closely by moving the image using the joystick.

EXPOSURE METERING AND CONTROL

Exposure Metering Methods

To adjust to the prevailing lighting conditions, the situation, or your working method and compositional ideas, the Leica SL provides you with three exposure metering methods.

Setting the function

1. In the menu's CAMERA section, select Exposure Metering, and
2. select the desired setting in the sub-menu.

Note:
This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

Multi-field metering -

With this metering method, the camera automatically analyses the brightness differences in the subject and, by comparing them with programmed brightness distribution patterns, arrives at the likely position of the main subject and the corresponding best exposure. As a result, this method is particularly suitable for spontaneous, uncomplicated, and yet reliable photography, even under difficult conditions and therefore for the camera's automatic mode.

Center-weighted metering -

This metering method allocates the highest weighting to the center of the image field, but also records all other areas.
Particularly when used in conjunction with metering memory lock, it allows the exposure to be selectively adjusted to specific sections of the subject, while simultaneously taking into account the entire image field.

Spot metering -

This metering method is concentrated exclusively on a small area in the center of the image.
It allows exact measurement of small or tiny details for precise exposure - preferably in conjunction with manual setting. For backlit pictures, for example, you normally need to prevent the brighter surroundings causing underexposure of the main subject. The much smaller metering field with spot metering enables these subject details to be selectively evaluated.

Notes:

- You can move both the center-weighted and spot metering fields. This is done exactly as described on p. 204 for the AF metering fields.
- If spot metering is used together with the AF metering method 1 Point (see p. 204) or the AF function Auto (Face) (see p. 207), the relevant AF metering fields and the Spot metering field are coupled. In these cases, this also affects moving both measurements.

EXPOSURE CONTROL

In order to facilitate optimal adaptation to the respective subject or to your preferred way of working, the Leica SL provides you with the four exposure control modes automatic program, aperture priority, shutter speed priority, and fully manual setting.

Selecting modes P, A, T, M

Setting the function

1. While in recording mode, press the click wheel, and
   - the usual top panel screen display is replaced by the (large) letter representing the current exposure mode. The arrows to the left and right indicate how to change the mode.
2. Turn it to the right or left to select the desired mode.
   - Approx. 2 s after the last turn of the click wheel, the selected mode is set automatically.
3. To set the selected mode immediately, press the click wheel or the shutter release button.

Note:
Depending on the prevailing light conditions, the brightness of the displayed image can differ from that of the actual pictures taken. Particularly for long exposures on dark subjects, the viewfinder/monitor image appears considerably darker than the - correctly exposed - picture.

Click wheel and top dial operation during recording mode

In the four exposure control modes, the click wheel and the top dial operate as follows:

	Automatic program mode (see p. 216)	**Aperture priority mode** (see p. 217)	**Shutter speed priority mode** (see p. 217)	**Manual mode** (see p. 221)
Click wheel	Changes the automatically preset shutter speed/aperture combinations (Program shift, see p. 216)	Changes the aperture	No function[1]	Changes the aperture
Top dial	No function[1]	No function[1]	Changes the shutter speed	Changes the shutter speed

Operation of both the click wheel and the top dial can be customized in two ways:
- their default setting directions can be reversed, and
- their setting steps can be adjusted.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu, Rear Wheel Direction or Front Wheel Direction, and
3. select the desired function in the sub-menu.

4. Front Wheel Direction

Stop Down →: Turning clockwise increases the shutter speed, turning counterclockwise decreases it.
← Stop Down: Turning clockwise decreases the shutter speed, turning counterclockwise increases it.

5. Rear Wheel Direction

Stop Down →: Turning right decreases the aperture (higher values), turning left increases it (lower values).
← Stop Down: Turning right increases the aperture (lower values), turning left decreases it (higher values).

Note:
These settings have no effect on the click wheel's operation during menu control. They have no effect whatsoever when Auto ISO Settings in menu's SETUP section is set to On.

[1] Direct entry of exposure compensation at factory setting (On) of Direct Exp. Control (see p. 220).

Setting steps

You can select between increments of 1/2 EV or 1/3 EV. This allows a choice between stronger or subtler effects of your respective adjustments.

Setting the function

1. In the menu's SETUP section, select EV Increment, and
2. select the desired setting in the sub-menu.

Note:

This setting is also valid for exposure compensation (see p. 220).

Electronic Shutter

Exposure times between 60 s[1] and $^1/_{8000}$ s are formed with the mechanical shutter. The electronic shutter function that can be connected as an option extends the range up to $^1/_{6000}$ s.

Setting the function

1. In the menu's CAMERA section, select Electronic Shutter, and
2. switch the function On or Off.

If the function is switched on, the entire shutter speed range can be used, speeds of up to $^1/_{8000}$ s are then still formed with the mechanical shutter, faster speeds with the electronic shutter function.

[1] With automatic control (P, A, T) depending on the sensitivity used:

ISO Sensitivity	Slowest possible shutter speed
50	60 s
100	30 s
200	15 s
400	8 s
800	4 s
1600	2 s
3200	1 s
6400	$^1/_2$ s
12500	$^1/_4$ s
25000	$^1/_8$ s
50000	$^1/_{15}$ s

EXPOSURE PREVIEW

With the help of this function, you can check the effects of the exposure setting in question, i.e. the resultant picture brightness, before actually taking the picture.

Setting the function

1. In the menu's CAMERA section, select Exp. Preview, and
2. switch the function On or Off.

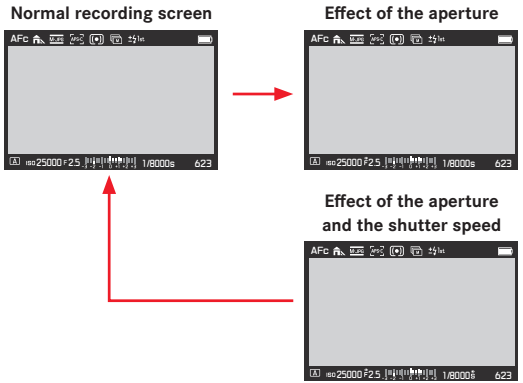
If the function is switched on, when the shutter release is pressed to the pressure point the monitor/viewfinder image changes from the normally consistent brightness to the brightness of the picture that is actually to be expected.

SIMULATING THE PICTURE EFFECT

This function simulates the effects of the aperture and shutter speed settings, enabling you to judge the results before taking a picture.

Setting the function

1. Briefly press the **FN** (stop down) button in picture mode.
   - Every time you press the **FN** button, the display switches. Icons indicating the respective setting appear above the aperture value and/or shutter speed values.



Notes:

- You can activate autofocus (see p. 201) by pressing the shutter release button while in exposure simulation mode.
- Exposure simulation mode is canceled if the camera is turned off.

AUTOMATIC PROGRAM MODE - P

For fast, fully automatic photography. The exposure is controlled by an automatic shutter speed and aperture setting.

Taking a picture in this mode

1. Select the P mode using the click wheel (see p. 212), and
2. press the shutter release button to the 1st pressure point.

If the automatically set pair of values appears to be appropriate for the intended composition:

3. Push the shutter release button all the way down to take the photo.

If not, you can change the value pair before taking the picture.

CHANGING THE AUTOMATICALLY SET SHUTTER SPEED/ APERTURE COMBINATION (PROGRAM SHIFT)

Changing the preset values using the Shift function 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.

Setting the function

For faster shutter speeds, e.g. for sports shots, turn the click wheel to the right, for larger depth of field, e.g. for landscape shots, turn it to the left (provided you are prepared to accept the slower shutter speeds that this entails).

- Shifted value pairs are marked by an S next to the P.

The overall exposure, i.e. the brightness of the image, remains unchanged.

Notes:

- The adjustment range is limited to guarantee correct exposure.
- To prevent accidental use, after each picture, and also if exposure metering is automatically turned off after 12 s, the values revert to those set by the camera.

APERTURE PRIORITY MODE - A

Aperture priority mode sets the exposure automatically according to the manually selected aperture. It is particularly suitable for pictures where the depth of field is a critical compositional element. With lower aperture values, you can reduce the depth of field range, for example to let a face 'stand out' in front of an unimportant or distracting background in a portrait or, conversely, you can use higher aperture values to increase the depth of field range so that everything from the foreground to the background is in focus in a landscape shot.

Taking a picture in this mode

1. Select the A mode using the click wheel (see p. 212),
2. and set the desired aperture value, then
3. press the shutter release button to the 1st pressure point.

If the automatically set shutter speed appears appropriate for the intended composition:

4. Push the shutter release button all the way down to take the photo.

If not, you can change the aperture value before taking the picture.

SHUTTER SPEED PRIORITY MODE - T

Shutter speed priority mode sets the exposure automatically according to the manually selected shutter speed. It is therefore particularly suitable for pictures of moving subjects, where the sharpness of the movement depicted is a critical compositional element. For example, with fast shutter speeds you can avoid undesirable blurring of the movement, i.e. "freeze" your subject or, conversely, you can use slower shutter speeds to express the dynamic nature of the movement with a deliberate "blur effect".

Taking a picture in this mode

1. Select the T mode using the click wheel (see p. 212),
2. set the desired shutter speed with the top dial, and
3. press the shutter release button to the 1st pressure point.

If the automatically set aperture value appears to be appropriate for the intended composition:

4. Push the shutter release button all the way down to take the photo.

If not, you can change the shutter speed before taking the picture.

METERING MEMORY LOCK

For composition reasons, it can be beneficial not to have the main subject in the center of the picture. In that case, the metering memory lock function - in P, T and A exposure modes, and with AF metering methods 1 Point – and Field single field and spot metering modes - enables the main subject to be metered first and the relevant settings retained until you have determined your final trimming and take the picture.
You can carry out both lock functions with the shutter release button. You can, however, divide the lock functions between the shutter release button and the joystick, or carry out both with the joystick.

Using the shutter release button

1. Aim the AF frame at the part of your subject to which you want to adjust the focus and/or exposure.
2. Press the shutter button to the first pressure point to measure the focus and/or exposure and save the relevant settings.

Note:
Does not apply to fine focus mode AFc (see tables on the next page).

3. Continue holding the shutter button half way and move the camera to determine the final trimming.
4. Push the shutter button all the way down to take the photo.

The lock function is canceled as soon as you let it go.

Using the joystick

Setting the function

1. In the menu's SETUP section, select Customize Control, and
2. in the sub-menu AE/AF Lock Button.
   - Yet another sub-menu appears.
3. In this sub-menu, select which fine focus mode you want to set the function of the joystick, i.e. for autofocus mode – AF Mode – or manual setting – MF.
   - Yet another sub-menu appears.
4. In this sub-menu, set which function/s the joystick is to carry out.

Metering and locking function/s

In the AFs Mode

	Shutter release button	Joystick
AF-L	Starts and saves both measurements	Starts and saves autofocus measurement
AE-L		Starts and saves exposure measurement
AF-L + AE-L		Starts and saves both measurements

In the AFc Mode

	Shutter release button	Joystick
AF-L	None	Starts and saves autofocus measurement
AE-L		Starts and saves exposure measurement
AF-L + AE-L		Starts and saves both measurements

In the MF Mode

	Shutter release button	Joystick
AFs	Starts and saves exposure measurement	Starts and saves autofocus measurement
AFs + AE-L		Starts and saves both measurements
AFc		Starts autofocus measurement
AFc + AE-L		Starts and saves exposure measurement, starts autofocus measurement
AE-L		Starts and saves exposure measurement

Taking a picture

1. Aim the AF frame at the part of your subject to which you want to adjust the focus and/or exposure.
2. By pressing the joystick inwards, start the function/s in the AE/AF Lock Button sub-menu and/or save the settings.

If the joystick has been assinged only with focusing or exposure metering (otherwise continue with Step 5):

3. Keep the joystick pressed down and use the AF frame to aim for the subject section on which the second metering is to be harmonized.
4. Press the shutter button to the first pressure point to start and save the second metering.
5. Keep the joystick pressed down and/or the shutter release button pressed down halfway and select the final trimming by moving the camera.
6. Push the shutter button all the way down to take the photo.

The lock function of the joystick is canceled as soon as you let go of the joystick.

EXPOSURE COMPENSATION

Some subjects are made up predominantly of excessively light or dark surfaces, for example large areas of snow or a frame-filling black steam locomotive. In P, T, and A exposure modes, it may be more useful in such cases to set an appropriate exposure compensation instead of using metering memory lock each time. The same applies if you want to ensure an identical exposure for several pictures.

Setting the function - using menu control

1. In the menu's CAMERA section, select Exposure Compensation, and
2. select the desired setting in the sub-menu.
3. Confirm the setting by pressing the rear click wheel or the joystick inwards.

Setting the function - using direct access (with gesture control)

This is done basically as described for White Balance on p. 191.

In addition to the setting in the menu, you can also carry out exposure compensation with the click wheels, which is much quicker.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu select Direct Exp. Control, and
3. switch the function On or Off.

If this function is switched on, a compensation can be set in the menu or, in the case of program or exposure priority modes, with the upper click wheel, with the rear one for aperture priority mode.

Notes:

- Compensation carried out with the click wheels is transferred to the menu item.
- A set compensation remains active until it is reset to 0, i.e. even after any number of pictures and even after turning off the camera.
- Changes to the EV Increment setting (see p. 213) lead to the cancelation of a compensation that has been set, i.e. in such cases it is automatically reset to 0.
- This menu item Exposure Compensation can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

MANUAL SETTING - M

If, for example, you want to achieve a particular effect that is only possible with a very specific exposure, or if you want to ensure that several pictures with different trimming have an absolutely identical exposure, then you can set the shutter speed and aperture manually.

Taking a picture in this mode

1. Select the M mode using the click wheel (see p. 212).
2. Set desired shutter speed with the top dial and the desired aperture with the click wheel.
   - The resulting exposure is indicated by the upper part of the light balance scale:
     - Only central mark lit up white: correct exposure
     - White marks to the left or right of the central mark: Under- or overexposure of approximately the amount displayed (in 1⁄3 EV steps, EV = exposure value)
     - Red marks to the left or right of the central mark: under- or overexposure by more than ±3 EV
3. Push the shutter release button all the way down to take the photo.

Note:

For longer exposures than 30 min, use the **B** setting, which is available by turning the top dial counterclockwise beyond the 30 m setting. With **B**, the shutter remains open as long as you keep the shutter button fully pressed.

For such long exposures, the use of a tripod is recommended and the Leica cable remote shutter button (see p. 147).

AUTOMATIC EXPOSURE BRACKETING

High contrast subjects that have both very bright and very dark areas can have very different effects depending on exposure. The automatic bracketing function enables you to take a series of three or five pictures with graduated exposure.

Setting the function

1. In the menu's CAMERA section, select Drive Mode, and
2. in the sub-menu, Exposure Bracketing.
3. Back in the CAMERA section, select Exposure Bracketing this time,
   - The relevant sub-menu contains the items Frames, Aperture, Automatic and JPG-HDR.
4. In this sub-menu, select Frames, and
5. there, the number of pictures that the intended exposure bracketing should comprise.
6. In the same sub-menu select Aperture, and
7. there, the desired exposure difference between the pictures.
8. In the same sub-menu select JPG-HDR, and
9. switch the function On or Off. With JPG-HDR (only available for the JPG file format, see p. 187) a picture is created where, due to the 'overlaying' of 3 different exposures, very light and very dark parts of the subject are reproduced better at the same time, i.e. with less overexposure in the highlights and more definition in the darkest areas. In the same sub-menu, select Automatic, and
10. switch the function On or Off.

Note:
Automatic is not available together with JPG-HDR.
Whenever a bracketing series is set, it is indicated by in the screen header.

Setting the bracketing

If On was selected in the Automatic sub-menu, the exposure bracketing is started by pressing the shutter release button once, with Off every picture must be taken separately, e.g. to adjust the time between the exposures to changing lighting conditions.

Notes:

- Depending on the exposure mode, the graduations are produced by changing the shutter speed (T/M) or the aperture (A), or both (P).
- The sequence of the pictures is: underexposure/correct exposure/overexposure
- Depending on the available shutter speed/aperture combination, the working range of the automatic bracketing function may be limited.
- The bracketing function remains active until it is reset to ±0, i.e. even after any number of pictures and even after turning off the camera.
- If an exposure compensation is set at the same time, the starting point of the bracketing series is balanced by the compensation value.
- This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

FLASH PHOTOGRAPHY

The camera determines the necessary flash power by firing one or more ranging flashes, fractions of a second before taking the actual picture. Immediately after this, at the start of exposure, the main flash is fired. All factors that influence the exposure (such as filters and changes to the aperture setting) are automatically taken into account.

Compatible flash units

The following flash units can be used with the camera. They facilitate TTL flash metering and, depending on the configuration, a varying number of the functions described in these instructions.

- Leica system flash units SF 40, SF 64, and SF 58.
- Other Leica system flash units, except the Leica SF 20.
- Other commercially available flash units with a standard flash foot and positive center contact[1] (fired by the center/X contact). We recommend the use of modern thyristor-controlled electronic flash units.
- Studio flash units (fired via synchronization socket and cable). In such cases, the Exp. Preview function must be switched Off (see p. 214).

[1] However, if flash units not specially designed for the camera are used and do not automatically adjust the white balance on the camera, the ϟWB Flash setting should be used (see p. 190).

ATTACHING A FLASH UNIT

1. Turn off the camera and flash unit.
2. Slide the foot of the flash unit all the way into the accessory shoe and, if present, use the locknut to secure it and keep it from falling out.
   This is important since changes in the position of the flash shoe could disrupt the required contacts, thus causing malfunctions.

The flash unit should be set to **TTL** mode to allow automatic control by the camera. When set to **A**, flash exposures must be controlled by manually setting an appropriate aperture on both camera and flash unit covering at least the subject distance. When set to **M**, the flash exposure must be controlled by manually setting the aperture on both camera and flash unit that matches the subject distance and/or by setting a correspondingly reduced power output level.

Notes:

- The flash unit must also be turned on, i.e. ready to use, otherwise there may be incorrect exposures and error messages on the camera.
- This menu item can be assigned to the FAVORITES menu.

SYNCHRONIZATION TIME

Flash photographs are illuminated by two light sources, the available ambient light and the light from the flash. The time at which the flash is fired normally determines where the parts of the subject illuminated exclusively or predominantly by the flash are shown in the image field.
The conventional flash firing point at the beginning of the exposure can lead to apparent contradictions, e.g. a vehicle being "overtaken" by the light trail from its own tail lights.
The Leica SL allows you to choose between this conventional flash firing point and the end of the exposure:
In the example cited, the light trail from the tail lights then follows the vehicle as expected. This flash technique gives a more natural impression of movement and dynamics.

Setting the function

1. In the menu's CAMERA section, select Flash Settings,
2. then Flash Sync in the sub-menu, and
3. select the desired setting in the corresponding sub-menu.

Notes:

- The faster the used shutter speed is and/or the slower the subject moves, the less difference there is between the two flash firing points.
- This menu item can be assigned to the FAVORITES menu.
- Do not use synchro cables that are longer than 3 m.

SELECTING THE SYNC SPEED RANGE

The Leica SL allows you to limit the shutter speed range used in the automatic program and aperture priority exposure modes, e.g. to suit your picture composition ideas. You can choose here between one automatic and several manual settings.

Setting the function

1. In the menu's CAMERA section, select Flash Settings,
2. in the sub-menu, Auto Slow Sync, and
3. in the corresponding sub-menu, either one of the two automatic settings - 1/2f min. 1/60s or 1/f min. 1/60s, or the desired slowest shutter speed.

Notes:

- 1/f min. 1/60s results in the slowest possible shutter speeds based on the rule of thumb for free-handed, blur-free pictures, e.g. $^1/_{100}$ s with a focal length of 100 mm. On the other hand, this setting rules out slower speeds than $^1/_{60}$ s all together, i.e. even when using focal lengths shorter than 60 mm. 1/2f min. 1/60s is principally the same, except that it results in twice as fast shutter speeds whenever possible, e.g. for even more safety against blurred pictures.
- This menu item can be assigned to the FAVORITES menu.

Flash mode with shutter speeds faster than synchronization time

The Leica flash units SF 58 and SF 64 have a HSS function (High Speed Synchronization) that allows flash to be used even with shutter speeds faster than synchronization time. This function is available with all camera exposure modes in the Leica SL. If the flash unit used is set accordingly, the function is activated automatically as soon as the shutter speed set at the camera or calculated by the camera is faster than synchronization time, i.e. < 1/180 s (if the shutter speed is slower, normal TTL flash mode is used even with the HSS setting). No further settings on the camera/flash unit are necessary.

Note:
The range for HSS flash is significantly lower than for TTL flash.

FLASH EXPOSURE COMPENSATION

This function can be used to selectively reduce or strengthen the flash exposure regardless of the exposure from available light, e.g. in a picture taken in the evening, to lighten the face of a person in the foreground while retaining the lighting atmosphere.

Setting the function

1. In the menu's CAMERA section, select Flash Settings,
2. then Flash Exp. Compensation and
3. select the desired setting in the corresponding sub-menu.

Notes:

- Flash Exp. Compensation is not available when flash units are attached that have their own compensation setting feature, e.g. the Leica SF 58.
- Brighter flash illumination selected using a positive compensation requires a higher flash power, and vice versa. Therefore, flash exposure compensation has a more or less significant impact on the flash range: A positive compensation reduces the range, while a negative compensation increases it.
- A flash exposure compensation setting remains active until it is reset to 0, i.e. after any number of pictures and even after turning off the camera.
- This function is subject to the EV Increment setting (see p. 213). When it is changed, a set compensation is canceled, i.e. automatically reset to 0.
- This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

VIDEO RECORDINGS

You can also use this camera to produce video recordings. The following settings are available/necessary:

File format and resolution

With the Leica SL, you have a choice between a wide variety of combined file formats/resolution settings, including two different 4K resolutions (4096 x 2160, often referred to as 'cinema 4K' and 3840 x 2160, the resolution used in UHD television sets). Except for 4096 x 2180, which is only available with a frame rate of 24 fps, all other resolutions can be combined with different frame rates. This allows them to be matched e.g. to the prevailing mains frequencies, or to ensure especially smooth rendition of moving subjects with the higher frame rates. All frame rates are of the progressive type.

Setting the function

1. In the menu's IMAGE section, select Video Format/Resolution, and
2. select the desired setting in the sub-menu.

ISO sensitivity

All the settings listed on p. 194 but with the restriction described on the next page in respect of the shutter speeds.

Note:
Vertical and horizontal lines may become visible in the image, especially when shooting dark subjects with high ISO values containing very bright, spot light sources.

Distance setting

All options described on pages 201-209.

Exposure Metering Methods

All the variants described on page 210.

Note:
Uninterrupted video recordings are possible up to a maximum length of 29 minutes.

Exposure modes

- Aperture priority mode (1/B/s)
- Manual control with shutter speeds of $^{1}/_{30}$ - $^{1}/_{4000}$ s. Set slower shutter speeds are automatically reset to $^{1}/_{30}$ s.

Note:
To ensure a consistent exposure, you should use manual shutter speed settings, otherwise changes in the subject, e.g. movements, could cause brightness fluctuations.

Color space

Video recording is usually in sRGB color space. Exception: when using Video Gamma L-Log (see relevant section).

Contrast, saturation, sharpness

All options described on p. 188, but these are set separately for video recording.

Setting the function

1. In the menu's IMAGE section, select Video Settings,
2. in the sub-menu, the desired item, and
3. in the respective sub-menus the desired settings.

Stabilization

With video recording - in addition to optical stabilization by means of appropriately equipped lenses (see p. 196) - an independent digital stabilization function is available that can be used with any lens.
This function must be set for video recordings separately from the setting for photos.
Even if only this function is available due to a lack of appropriately equipped lenses, video recordings benefit from a considerable steadier picture composition.

Setting the function

1. In the menu's IMAGE section, select Video Settings,
2. then Video Stabil. in the sub-menu, and
3. switch the function On or Off.

Gamma L-Log (Gamma compensation)

Video files recorded with this function initially have a 'flat' look with very unsaturated colors and a very small dynamic range. This is the preferred type of file for professional post-processing.

Setting the function

1. In the menu's IMAGE section, select Video Settings,
2. in the sub-menu, Video Gamma L-Log, and
3. switch the function On or Off.

Time code

The time code is a data set that is generated and recorded parallel to the image and audio data. It allows the correct time synchronization of picture and audio signals even after cutting, or after a later separate processing.
You can choose between a continuous 'running' time code (Free Run) and one for the particular recoding (Rec Run), and a setting where time measurement in every recording starts at 00:00:00 (Off).

Setting the function

1. In the menu's IMAGE section, select Video Settings,
2. then Timecode in the sub-menu,
3. select Mode in the corresponding sub-menu and
4. in the final sub-menu the desired function.

You can choose if you want to define the start yourself, i.e. how large the time offset is to be between the start of recording and the start of time code signal generation - Manual, or use the time code signal generated by the camera – Camera Time. You can also reset your settings in Manual to 0.

Setting the function

1. Perform steps 1. and 2. described above,
2. in the Time Code sub-menu, select Start Time, and
3. select the desired function in the sub-menu.
   - If Camera Time or Reset Timecode are selected, the Time Code sub-menu reappears. If Manual is selected, another sub-menu appears containing numerical groups: hh [hours], mm [minutes], ss [seconds], and Frame [frame number within the respective second].

Setting a delay

4. To set a numerical group, turn the click wheel, or press the joystick up or down.
   To switch between groups, press the click wheel, or the joystick inwards, to the left or to the right.

Video aspect ratio

If the intended review equipment has a different aspect ratio than that determined in Video Resolution (see p. 226), you can select appropriate frame lines to be displayed with this mode that help you to match your framing to the respective aspect ratio.

Setting the function

1. In the menu's SETUP section, select Capture Assistants,
2. in the sub-menu, Video Aspect Ratio, and
3. in the corresponding sub-menu, switch the respective frame line sets On or Off.
   - The format limits of a wider aspect ratio (than that of the recorded video) are indicated by horizontal green lines, those of a narrower one by vertical red lines.

Note:

You can activate any number of frame lines for simultaneous display.

Video safety area

During review with different equipment, a slight amount of the frame edges may be trimmed. To make sure this does not cut off decisive parts of the subject, you can facilitate appropriate framing with the help of four different 'safety margins'.

Setting the function

1. In the menu's SETUP section, select Capture Assistants,
2. in the sub-menu, Video Safety Area, and
3. in the corresponding sub-menu, 80%, 90%, 92.5%, or 95%.
   - The resulting safety area is indicated by a respective frame.

Notes:

- The frames are based on the actually recorded video format. They are not on any aspect ratios that may have been selected in Video Aspect Ratio (see previous section).
- The frames do not appear in the event of recording using an HDMI connection to an external recorder.

Auto ISO Video

All variants described on page 194, but they are set separately for video recordings.

Setting the function

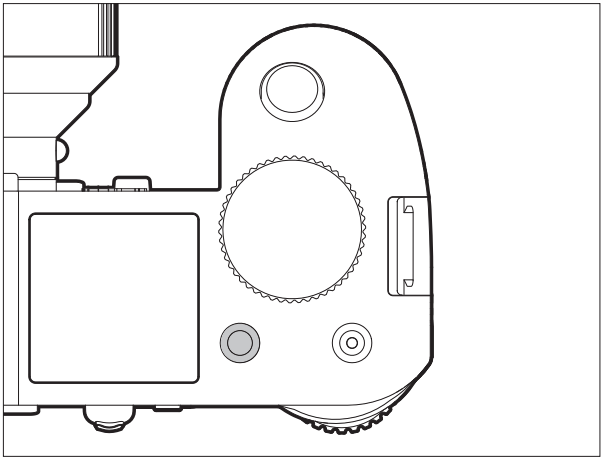
1. In the menu's SETUP section, select Auto ISO Settings,
2. select Auto ISO Photo in the sub-menu.
3. in the next sub-menu ISO Limit Values, Maximum Exposure Time or Floating ISO, and
4. the desired settings in the respective sub-menus, or switch the Floating ISO function On or Off.

Video preview mode

This mode allows checking the effects of the previously described settings, as well as setting the sound recording level (see below) before actually starting a video recording.

Switching between photo and video preview modes

Press the **LV** button briefly.



Sound recording

Video recordings are normally recorded with sound. This can be done using the built-in microphones or with external microphones connected via the camera's respective socket (see p. 155). The integral microphones record in stereo. The recording level is controlled automatically.
In order to achieve the desired volume or to improve audibility, you can adjust the sensitivity of the microphone to fit the recording situation.

Note:
The level is not controlled separately for each channel.

Setting the function

1. In the menu's IMAGE section, select Video Settings,
2. then Microphone Gain in the sub-menu, and
3. in the corresponding sub-menu, the desired level.

To reduce any noise caused by wind, a damping function is available.

Setting the function

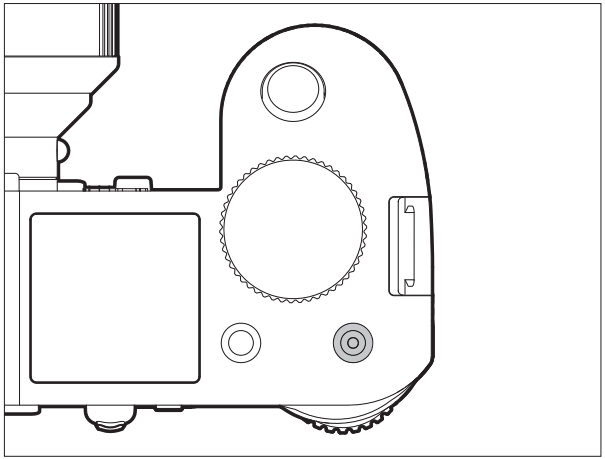
1. In the menu's IMAGE section, select Video Settings,
2. then Wind Elimination in the sub-menu, and
3. in the respective sub-menus the desired settings.

Notes:

- Both the focusing and auto focus operations cause noises which are also recorded. In order to prevent this, you should refrain from using these functions during an ongoing recording.
- Both menu items can be assigned to the FAVORITES menu.

Starting/ending the recording

A recording starts when you press the video button and ends when you press it again.



- A video recording in progress is indicated by a flashing red dot and the elapsed recording time.
  As video recordings on this camera can be made with different aspect ratios (depending on the resolution set), black strips will appear either above and below, or to the left and right of the image.

1 Total pictures remaining

Recording on an external device

The recorded video is normally saved to the inserted memory card(s). Using the HDMI connection, it can also be recorded to an external device. This is not only possible with the video recording mode, but also during video preview mode. Whereas the bit depth[1] used when saving to cards is 8 bits, the HDMI connection delivers 10 bits. The table below illustrates the available modes.

Video review	Inserted memory card(s)	HDMI connection	Video saved on		Bit-Depth
			Inserted memory card(s)	external recording device	
Preview	regardless				
Recording	yes	regardless	yes	no	8 bits
	no	yes	-	yes	10 bits

Note:

- Before recording video to inserted memory card(s), make sure they have sufficient capacity.
- Use only the HDMI cable listed by Leica for this camera that is available as an accessory (see p. 147).

[1] The higher the bit depth value, the more different color hues can be registered and reproduced, i.e. the finer the transitions between the colors will be.

Locking shutter release button

With this function, you can disable the video button. When set to On, pressing the button doesn't start video recording. For further details, see 'Locking the shutter release and video recording buttons' on p. 199.

Setting the function

1. In the menu's SETUP section, select Customize Control,
2. in the sub-menu Mode Lock Photo/Video, and
3. switch the function On or Off.

Taking pictures while recording video

With the Leica SL you can briefly interrupt ongoing video recording in order to take one or more photos. Photographs are taken using the settings in the corresponding menu items and exactly as described in the corresponding sections.

Taking a picture

1. Press the shutter release button to the 1st pressure point while recording video.
   - The number of recordable pictures is displayed in the screen footer when the shutter release button is pressed halfway.
2. Push the shutter release button all the way down to take the photo.
   - Recording video starts again when taking the photo completed.

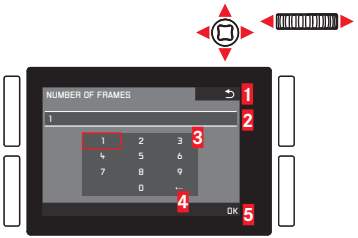
ADDITIONAL RECORDING FUNCTIONS

INTERVAL PICTURE SERIES

The Leica SL makes it possible to automatically take pictures of motion sequences over a long period of time in the form of picture series. In order to do this, you must define the start time of the series, the intervals between pictures, and the number of pictures.

Setting the function

1. In the menu's CAMERA section, select Drive Mode, and
2. in the sub-menu, Interval.
3. Back in the CAMERA section, select Interval this time,
4. in the sub-menu Number of Frames, and
5. in the corresponding keypad-submenu the number of shots the intended interval series is supposed to consist of.



1 Back "button" (for returning to the previous menu level without confirming any settings)
2 Edit line
3 Numeric pad
4 Delete "button" (for deletion of the respective last value)
5 Confirmation "button" (for both individual values as well as the finished settings)

The keypad can be operated in various ways:

Using menu control

- To move left or right, turn the click wheel or press the joystick in the desired direction.
- To move up or down, press the joystick in the desired direction.
- To confirm a value or setting, press the click wheel or the joystick inwards.

Using gesture control

- Tap the desired value and the respective setting 'buttons'.
- To set the time between the shots and the time until the series is supposed to start:

6. In the in step 4. mentioned Interval sub-menu, select Interval or Countdown, respectively, and
7. in the corresponding sub-menus, the respective times.
   - To set the values, turn the click wheel, or press the joystick up or down.
   - To switch between hours, minutes and seconds, press the click wheel or the joystick inwards or in the desired direction.
   - To confirm settings, press the **BR** button.

Creating an interval picture series

The exposure and focusing settings are no different from those of normal pictures, but it should be taken into account that the lighting conditions may change during the course of the picture series.

- The time until the first picture and the number of pictures are shown in the upper right corner of the monitor/viewfinder image.

Press the shutter release button to start the series.

- The remaining number of pictures will be displayed briefly between the pictures and a corresponding message will be displayed after the series has been completed.

Notes:

- The pictures in a series are saved as a group.
- If the camera is set to automatically turn off and no operations are carried out, it may shut off between the individual pictures and then turn on again.
- If the camera will be left unattended while taking an interval picture series, take precautions to ensure that it won't get stolen.
- An interval picture series carried out over a longer period of time at a cold location or in a place with high temperatures and humidity may result in malfunctioning.
- Under certain conditions, it may not be possible to take an interval picture series, depending on the picture interval or number that has been set.
- Use a sufficiently charged battery.
- An interval picture series will be interrupted or stopped in the following situations:
  - If the battery loses its charge
  - If the camera is turned off
    If this happens while you are photographing an interval picture series, you may proceed by turning off the camera, changing the battery or memory card(s), and then turning the camera back on. The pictures that are taken after this will be saved in their own group.
- While an interval picture series is being taken, neither a USB nor an HDMI micro cable can be connected to the camera.
- The function will remain active, even after a completed series or after the camera has been turned on and off. If you want to take normal pictures again, select the desired function in the Drive Mode sub-menu.
- In review mode, pictures from an interval series are identified with  .
- This does not make the camera suitable for use as a monitoring device.
- This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

TAKING PHOTOGRAPHS WITH THE SELF-TIMER

You can use the self-timer to take a picture with a delay of either 2 or 12 s. This is particularly useful for group photographs, where you want to appear in the picture yourself or if you want to avoid the picture being out of focus due to camera shake when releasing the shutter. We recommend that the camera is placed on a tripod.

Setting and using the function

1. In the menu's CAMERA section, select Drive Mode, and
2. in the sub-menu, the desired delay time.
3. To start the process, press the shutter release button all the way down (see also "Shutter release button", p. 198).

Note:
During the countdown, you can restart the delay time, i.e. extend it, by pressing the shutter release button again.

Procedure

With 2 s delay time:
Exposure metering is carried out first, in autofocus mode the focus is set. Only then does the delay time start.
With 12 s delay time: The delay time begins immediately after the shutter release button is pressed. Exposure metering and autofocus operation - if set - takes place 2 s before the picture is taken.

Displays

The elapsed delay time is indicated:
- On the monitor/in the viewfinder by the display Releasing in XXs and a countdown of the remaining time until the picture is taken.
- By the LED on the front of the camera. It flashes quickly during a 2 s delay. During a 12 s delay, it flashes slowly for the first 10 s, and then quickly for the last 2 s.
- If acoustic signals are turned on (see p. 181), beeps sound in the same rythm.

Aborting the function

A self-timer delay time in progress can be canceled
- by turning off the camera,
- during the first 10 s of a 12 s self-timer delay time by pressing any one of the TL/TR/BR/BL buttons.

If you no longer want to use the self-timer, select a different item in the Drive Mode sub-menu. The function is also deactivated by turning off the camera.

Note:
This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

LENS PROFILES

With Leica SL lenses and those of the Leica TL system, the lens-related data are automatically read out by the camera for the purposes of optimizing the exposure and picture data. The same applies to the use of a 6-bit coded Leica M lens with a Leica M adapter L, and Leica R lenses with contact strips with a Leica R adapter L. In all cases, this is subject to the camera recognizing the relevant lens.
If other lens types are used with adapters, such as non-6-bit coded Leica M lenses or Leica R lenses without contact strips, the relevant data must be entered manually to be able to use optimization. This is done by selecting the lens from a list.

Setting the function

1. In the menu's SETUP section, select Lens Profiles,
2. in the sub-menu select M Lenses or R Lenses, and
3. in the corresponding sub-menu, the desired lens, or whether you want to switch the relevant list Off.

Notes:

- If the camera recognizes a 6-bit coded Leica M lens or a Leica R lens with contact strip, the relevant profile is set automatically and the menu sub-items M Lenses, or R Lenses are not available (‘grayed out’).
- There are a few functional restrictions when using Leica M and R lenses with the above-mentioned adapters:
  - Only the exposure control modes A and M are available.
  - Only manual focusing is available, i.e. no autofocus-related functions.
  - With Leica R lenses, you should focus with the aperture fully open and close it only afterwards at the desired value.

REVIEW MODE

Note:
Two functions are available for the review of your recordings:
– Automatic review after each recording
– Review for unlimited time

AUTOMATIC REVIEW OF THE LAST RECORDING

In this mode, each recording is displayed immediately after it is taken. You can set the time for which it is to be displayed.

Setting the function

1. In the menu's SETUP section, select Auto Review, and
2. in the sub-menu, the desired duration or Off.

REVIEW FOR UNLIMITED TIME – ▷

Press the TR button briefly.

- The last picture taken appears along with the corresponding displays. However, if the memory card(s) does/do not contain any image files, the following message appears:
  No valid picture to play.

To switch back to photo recording mode:
Press the shutter release button.

To switch back to photo recording or video preview modes (whichever was activated before switching to review mode):
Press the LV button.

Most settings in review modes can be done either with gesture or button control. A list of the gestures that can be used, including descriptions, can be found on p. 283.

Displays

For undisturbed viewing of the recordings, only the following are displayed during review for unlimited time:

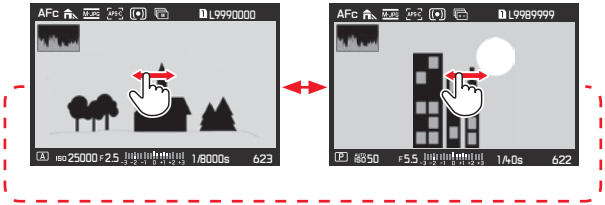
- In the header some fundamental information.
- The functions of the adjacent buttons for 3 seconds in the four corners of the monitor picture when switched on: ☆ (Rating function), i (Change of display), 🗑 (Delete function), and ☰ (Menu).
- **BR** button for button lock (if activated).
- If the memory card or the selected file cannot be read, a corresponding symbol appears in the right-hand margin of the black picture.
- If the histogram function is on, the diagram will also appear. If the clipping/zebra displays are set, excessively bright areas in the image without any detail will be marked.

Notes:

- If you have taken pictures using the continuous series, the automatic bracketing function, or the interval picture series function, the last picture in the series is shown first, or the last picture saved if all pictures in the series have not yet been transferred from the camera's internal buffer memory.
- It may not be possible to view files that were not created on this camera.
- In some cases, the image may not have the usual quality or the screen will remain blank and only display the file name.

SELECTING/SCROLLING THROUGH RECORDINGS

Using gesture control



Using physical controls

Turn the click wheel, or press the joystick to the right or left.

Swiping/turning/pressing to the right will take you to newer recordings (with higher numbers), to the left to previous ones (with smaller numbers). The recordings are shown in an endless loop. If two memory cards containing different image data are inserted, the recordings on the card in slot 1 will be shown first, then those on the card in slot 2.

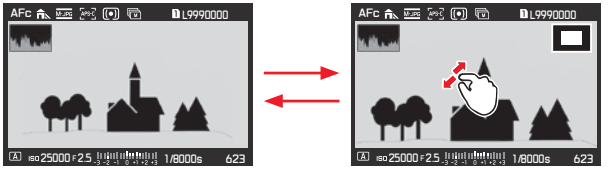
ENLARGING PHOTOS

You can enlarge a section of a photo, e.g. to study it more closely. Enlargement is possible in 4 steps until 1 pixel of the monitor displays 1 pixel of the picture.

- The rectangle inside the frame shows the approximate size of the section.

Enlarging as desired:

Using gesture control

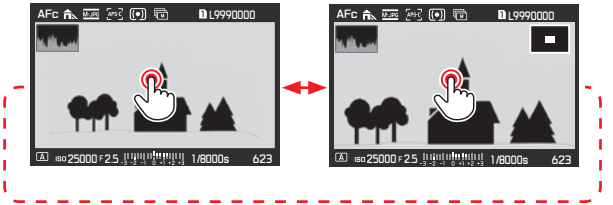


Using physical controls

Turn the top dial to the right. To reduce, turn/press to the left.

Calling up the highest possible enlargement in one step.

Using gesture control



Using physical controls

Press the joystick forwards. To return to normal size in one step, press again.

Notes:

- Enlarging cannot be performed on videos.
- The more the picture is enlarged, the more the reproduction quality deteriorates – due to the proportionately lower resolution.
- It may not be possible to enlarge pictures taken using other camera types.

MOVING AN ENLARGED SECTION

Using gesture control

Using physical controls

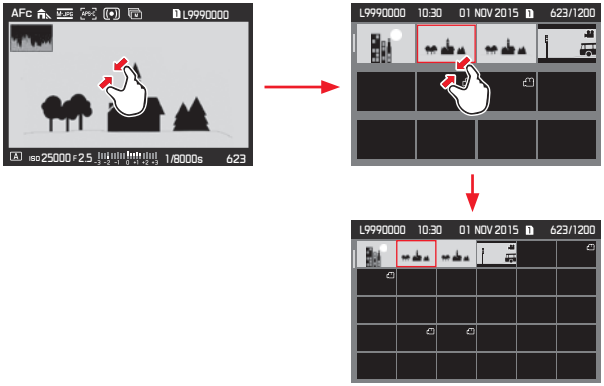
Press the joystick in the desired direction.

- The rectangle inside the frame moves to the position of the shifted section.

SIMULTANEOUS DISPLAY OF 12/30 RECORDINGS

The recordings can be reduced so that 12 or 30 are shown on the screen. This makes it easier to get an overview and to find a certain recording. The procedure is basically the same - in reverse - as when enlarging.

Using gesture control



Using physical controls

Turn the top dial to the left. One click past normal view = 12-picture view, two = 30-picture view.

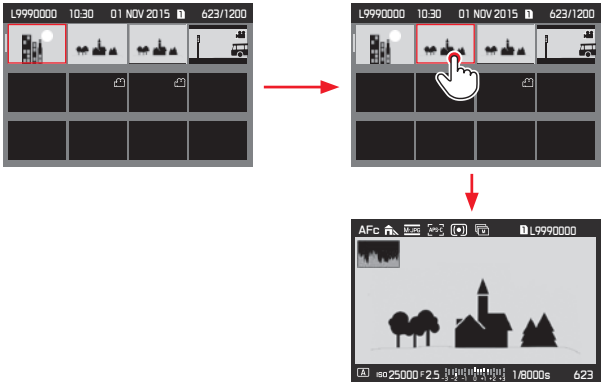
- The last picture to be shown at its normal size is marked by a red frame.

Notes:

- Enlarging cannot be performed on videos.
- When using an enlarged view or 12/30 display, the display with additional information cannot be opened.

Selecting a picture in the 12/30 view

Using gesture control



Using physical controls

1. Turn the rear click wheel - it moves line by line - or press the joystick in the desired direction.
   - The red frame moves accordingly.
2. Press the rear click wheel or the joystick inwards.
   - The selected recording will be shown at its normal size.

If two memory cards are inserted containing different image data, you can immediately switch the card sourced for the 12/30 view: Press the BR button (marked).

CREATING RECORDINGS

You can mark recordings on the memory card(s) as favorites - as desired individually or several at a time.
This makes it easy to delete the unmarked 'non-favorites' all at once (see p. 244).

Marking single recordings

Procedure

1. Select the desired recording by turning the rear click wheel or pressing the joystick in the desired direction, and
2. press the **TR** button (twice, if the button function icons are not displayed initially).
   - ★ appears in the right corner of the header.

Marking multiple recordings

Procedure

1. Set the simultaneous display of 12 or 30 recordings by turning the top dial counterclockwise.
2. Select the desired recordings by turning the rear click wheel - it moves line by line, or pressing the joystick in the desired direction.
   - The red frame moves accordingly.
3. Mark the framed recordings by pressing the **TR** button (twice, if the button function icons are not displayed initially).
   - ★ appears in the top left corner of the recordings.

In both cases, unmarking is done the same way.

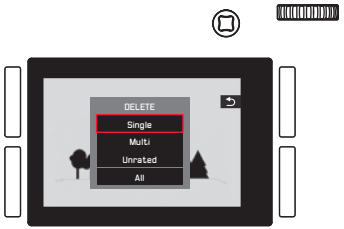
DELETING IMAGES

Recordings on the memory card can be deleted at any time - as desired individually, several at a time, or all at the same time. This can be useful, e.g. if they have already been saved to other media, if you no longer require them or if you need to free up more space on the memory card.

Note:
Deleting is possible regardless of whether a recording is being displayed at normal size or several reduced pictures are displayed (but not if the 30 recording review is activated with a red frame around the entire block).

Procedure

1. Press the **BL** button.
   - The corresponding sub-menu appears in the monitor.



Note:
You can leave the DELETE menu again without deleting anything: Press the **TR** button.

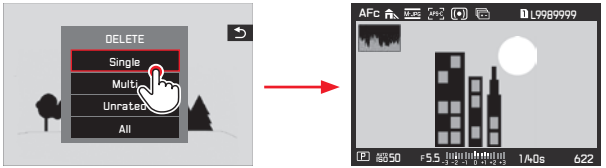
Deleting only unmarked recordings

Procedure

Tap on Single, or press the rear click wheel or the joystick inwards.

If one of the other options is marked by the red frame, and you want to use physical controls: turn the rear click wheel or press the joystick up or down.

- After deleting, the next picture appears.

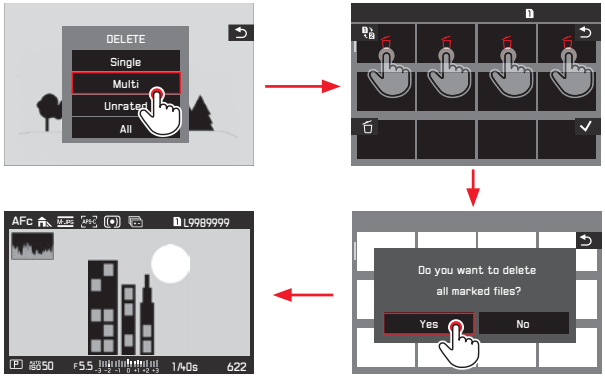


Important:
After the steps described above are carried out, the recordings will be immediately deleted without any additional confirmation queries.

Note:
Even with a visible DELETE menu you can call up the other pictures by pressing the joystick to the left or right.

Deleting multiple recordings

Using gesture control



Using physical controls

1. Select Multi by turning the rear click wheel or pressing the joystick up or down, and
2. confirm the setting by pressing rear click wheel or the joystick inwards to mark the desired recordings
   - The 12-picture view is displayed.
3. Select the desired recordings by turning the rear click wheel - it moves line by line, or pressing the joystick in the desired direction.
   - The red frame moves accordingly.
4. Mark the recordings selected for deletion by pressing the rear click wheel or the **BR** button, or the joystick inwards. Select and mark the other recordings intended for deletion in the same way. Unmarking is also done the same way.
   - The framed picture is marked with 🗑.
5. Save your settings by pressing the **BL** button.
   - A query screen appears.
6. Confirm or reject the process by first turning the rear click wheel, or pressing the joystick left or right, and then pressing one of them.
   - Deletion may take a few moments, depending on the amount of data. An intermediate screen appears during this time. After the process is completed, the normal size review screen returns.

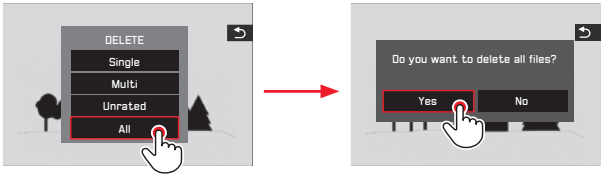
Notes:

- It is possible to leave the Multi sub-menu at any time without accepting the markings by pressing the **TR** button (marked ⮌).
- The camera can be switched to the other memory card by pressing the **TL** button (marked 🗋).

Deleting all pictures

Procedure

1. Tap on All, or press the rear click wheel or the joystick inwards. If one of the other options is marked by the red frame, and you want to use physical controls: turn the rear click wheel or press the joystick up or down.
   - A query screen appears.
2. Confirm or reject the process by first turning the rear click wheel, or pressing the joystick left or right, and then pressing one of them.
   - Deletion may take a few moments, depending on the amount of data. An intermediate screen appears during this time. After the process is completed, a blank screen with the message No valid picture to play appears.



Deleting unrated recordings

Procedure

This is done exactly as explained on the left, except for selecting Unrated instead of All.

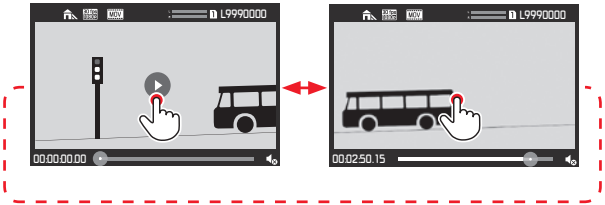
- Deletion may take a few moments, depending on the amount of data. An intermediate screen appears during this time. After the process is completed, the normal size review screen returns.

VIDEO REVIEW

If a video recording is selected, ▶ appears in the screen center.

Starting and stopping playback

Using gesture control



Using physical controls

Press the rear click wheel or the joystick inwards.

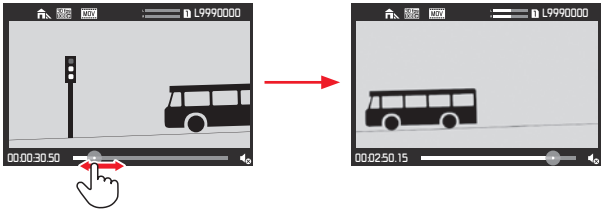
- The time display and the mark on the progress bar indicate playback progress.

To pause or stop playback, repeat the operations described above.

- The time display and the mark on the progress bar indicate the stopping point.

Continuing playback at any given point

Using gesture control

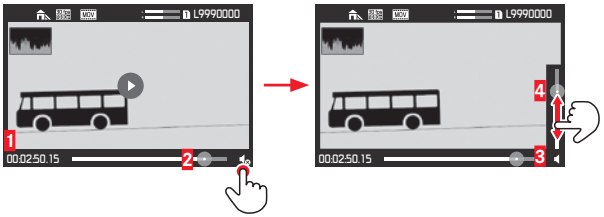


Using physical controls

Turn the click wheel or press the joystick in the desired direction.

Opening the video and audio control symbols
(only during playback)

Touch control



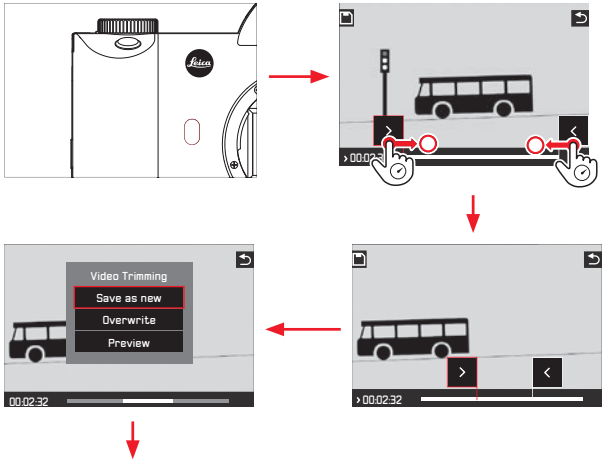
1 Elapsed time
2 Scroll bar with contact area
3 Volume
4 Volume slide bar with touch space

Using physical controls

1. Press the joystick up or down.
   - The volume setting bar appears.
2. Set the desired volume by pressing the joystick in the desired direction (up = louder, down = quieter, all the way down = Audio OFF, ◂ switches to ◂⊘).

Cutting off start and/or end sections

Using gesture control



For further operation, see the respective section on the next page.

Using physical controls

1. Press the **FN** button. This is possible both while the video is stopped or being played back.
2. Determine the cutoff points. To move them, turn the click wheel in the respective direction. To switch between start and end points, press the click wheel.
   - The selected cutoff point will be shown in red. During the process, the respective time is displayed as well as the freeze frames for the selected start and end points.
3. Press the **TL**-button (🖫) to save your settings.
   - The Video Trimming sub-menu appears.
4. For further operation, see the respective section on the next page.

Further operation

Select one of three options, either through gesture control or with the joystick/click wheel for selection and the setting for confirmation.

- Save as new
  The new video is saved and the original one is also retained.
- Overwrite
  The new video is saved and the original one deleted.
- Preview
  The new video is shown. It is neither saved, nor is the original one deleted.
  - A corresponding notification screen may appear temporarily at first due to the time required for the data to be processed. After completion, the first scene of the new video appears.

VIEWING WITH HDMI DEVICES

The Leica SL enables you to view your pictures on a TV, projector or monitor with HDMI input and thus in an optimum picture quality.

Connecting/viewing the pictures:

1. Insert the plugs on the HDMI cable into the HDMI sockets on the camera and the TV, monitor or projector.
2. Turn on the TV, projector or monitor. Once connected, the camera automatically selects the appropriate resolution for the connected HDMI device.
3. Turn on the camera.
4. Activate review mode by pressing the **TR** button.

Notes:

- Use only the HDMI cable listed by Leica for this camera, available as an accessory (see p. 147).
- If the connected TV, monitor, or projector has a lower maximum resolution than that set on the camera, it automatically switches to the maximum resolution of the connected device.
- For details of the required settings, refer to the instructions for the respective TV, projector, or monitor.
- The image reproduced on an external display does not contain any of the information shown in the camera monitor/viewfinder.
- The HDMI connection can also be used to record the video to an external (see p. 233).

ADDITIONAL FUNCTIONS

USER PROFILES

With the Leica SL, any combination of menu settings can be permanently saved, e.g. so that they can be retrieved quickly and easily at any time for recurring situations/subjects. A total of four memory slots are available for these combinations, as well as a factory default setting that can be retrieved at any time and cannot be changed. You can change the names of the saved profiles. Profiles set on the camera can be transferred onto one of the memory cards, for example for use in other camera units, while profiles stored on a card can be transferred onto the camera.

Saving settings/Creating a profile

1. Set the desired functions in the menu.
2. In the menu's SETUP section, select User Profile,
3. then Save as Profile in the sub-menu, and
4. in the corresponding sub-menu, the desired memory slot.
   - A query screen appears.
5. Confirm the operation or reject it.

Note:
This menu item can be assigned to the FAVORITES menu.

Selecting a profile

This works almost the same way as when saving settings, except that step 1. is skipped.

- After performing steps 2. and 3., if any user profiles are saved, the profile names appear in gray, with unused memory slots in green.

Then select the desired profile in the Load Profile sub-menu, i.e. either one of the saved profiles or Default Profile.

Note:
If you change one of the settings for the profile currently in use, --- appears instead of the name of the profile you were previously using in the initial menu list.

Renaming profiles

1. In the menu's SETUP section, select User Profile, and
2. in the sub-menu Rename Profile,
3. in the corresponding sub-menu, the desired profile slot, and
4. in the corresponding keypad-submenu, the desired characters for the new name.

1 Back "button" (for returning to the previous menu level without confirming any settings)
2 Edit line
3 Keypad
4 Delete "button" (for deletion of the respective last character)
5 Confirmation "button" (for both individual characters as well as the finished settings)
6 Change the character type
7 Shift key

The keypad can be operated in various ways:

Using menu control

To move left or right, turn the click wheel or press the joystick in the desired direction.
To move up or down, press the joystick in the desired direction.
To confirm a value or setting, the respective setting 'buttons'.

Using gesture control

Tap the desired value and the respective setting 'buttons'.

Transferring profiles from/to a card

You can copy either selected profile slots, or all at once to the memory card(s), whereas copying from the memory card(s) to the camera always includes all slots previously saved to the card(s).

Exporting

1. In the menu's SETUP section, select User Profiles, and
2. select Export Profiles in the sub-menu.
   - A query screen appears.
3. Confirm the operation or reject it.

Importing

1. In the menu's SETUP section, select User Profiles, and
2. select Import Profiles in the sub-menu.
   - A query screen appears.
3. Confirm the operation or reject it.

Note:
When exporting, all profile slots are transferred to the card, i.e. including any empty profiles. As a result, when importing profiles any existing profiles in the camera will be overwritten, i.e. deleted.

CHANGING FILE NAMES

You can replace the first letter of a picture file name with any other letter.

Setting the function

1. In the menu's SETUP section, select Edit File Name, and
2. enter the desired character in the relevant keypad sub-menu. This is done in exactly the same way as renaming a profile (see p. 253).

RESETTING ALL MENU SETTINGS

This function allows you to delete all previous custom settings in the menu at once, and to reset them to the factory default settings.

1. In the menu's SETUP section, select Reset Camera.
   - A query screen appears.
2. Confirm the operation or reject it.

Notes:

- When resetting to the factory settings, your settings for date, time and language are not reset.
- This reset also applies to the profiles that may have been created and saved with Load Profile (see p. 252).

COPYRIGHT PROTECTION

This camera enables you to mark your picture files by entering text or other characters.

Setting the function

1. In the menu's SETUP section, select Copyright Information, and
2. in the sub-menu, switch the function On or Off .
   - When switched On, the two other sub-menu items become accessible. When Information or Artist are set in the sub-menu, the same keypad sub-menu described previously for Rename Profile appears.
3. Selecting the desired characters is done exactly as described there.

Notes:

- Only alphabetical characters and symbols can be entered.
- A maximum of 20 characters can be entered.
- This function is only available for picture recording mode.

GPS AND GEOTAGGING (Adding location information to pictures)

The Global Position System enables the current position of the receiver to be determined worldwide. When this function is activated, the Leica SL continuously receives the corresponding signals and updates the position data. It can record this information - latitude and longitude - in the “EXIF” data.

Setting the function

1. In the menu’s SETUP section, select GPS, and
2. switch the function On or Off.

The "satellite" symbol (), only visible in the picture data display symbol in the monitor indicates the current status:

- Position last determined a maximum of 6 min ago
- Position last determined a maximum of 24 hrs ago
- Position last determined at least 24 hrs ago, or no position data available

Notes:

- GPS positioning requires as clear a path as possible to at least 3 of the GPS satellites (of the total of 24 satellites, up to 9 are available from any point on earth). We therefore recommend holding the camera with the GPS aerial pointing vertically upwards.
- Make sure that the GPS aerial is not covered with your hand or any other item, particularly metal objects.
- It may not be possible to receive good signals from GPS satellites at the following locations or in the following situations.

In such cases, either no positioning at all or only inaccurate positioning is possible.

- in closed rooms
- underground
- under trees
- in a moving vehicle
- close to high buildings or in steep valleys
- close to high voltage cables
- in tunnel
- close to mobile telephones
- with accessories attached in the flash shoe, e.g. a flash unit

- This menu item can be assigned to the FAVORITES menu.

Information for safe use:
The electromagnetic field generated by the GPS system can influence instruments and measuring equipment. Therefore, make sure the GPS function is deactivated on board an aircraft before takeoff or landing, in hospitals or in other locations where there are restrictions on wireless transmissions.

Important (legal restrictions on use):
- In certain countries or regions, the use of GPS and associated technologies may be restricted. Therefore, before traveling in other countries you should consult the relevant country's embassy or your travel agent.
- The use of GPS inside Cuba and close to its borders is prohibited by the country's laws. Contravention will lead to prosecution by the national authorities.

FORMATTING MEMORY CARD(S)

It is not normally necessary to format memory cards that have already been used. Nevertheless, it is recommended that the memory card be reformatted occasionally, as a certain amount of residual data (information accompanying pictures) can take up memory capacity.

Setting the function

1. In the menu's SETUP section, select Format,
2. in the sub-menu which of the two cards you want to format, and
3. in the following confirmation sub-menu, confirm or reject the process.

Notes:

- Formatting does not cause the data on a card to be irretrievably lost. Only the directory is deleted, which means that the existing files are no longer directly accessible. The data can be accessed again under certain circumstances using appropriate software. Only the data that is subsequently overwritten by saving new data is actually permanently deleted.
  We therefore recommend that you make habit of transferring all your pictures to a secure mass storage medium, e.g. the hard drive on your computer, as soon as possible.
- Do not turn the camera off while a memory card is being formatted.
- If a memory card has been formatted in another device, such as a computer, you should reformat it in the camera.
- If a memory card cannot be formatted, you should ask your dealer or the Leica Product Support department (for address, see p. 288) for advice.
- When formatting a memory card, even marked pictures are deleted (see p. 243).
- This menu item can be assigned to one of the soft keys for direct access, and also to the FAVORITES menu.

RESETTING RECORDING NUMBERS

The Leica SL saves the recording numbers in ascending order. Initially, the corresponding files are all stored in one folder. To structure the storage of pictures more clearly, you can create a new folder at any time so that subsequent pictures can be grouped together there.

Setting the function

1. In the menu's SETUP section, select Reset Image Numbering, and
2. in the following confirmation sub-menu, confirm or reject the process.

Notes:

- The file names (e.g. L1002345.jpg) are made up of two groups of numbers, 100 and 2345. The first three figures are the number of the relevant folder, the 4th to 7th figures are the consecutive picture number within that folder. This ensures that there are no duplicate file names after using the function and transferring the data to a computer.
- To reset the folder number to 100, format the memory card and reset the picture number immediately afterwards. This also resets the picture number (to 0001).

MISCELLANEOUS

TRANSFERRING DATA TO A COMPUTER

The camera is equipped with a USB 3.0 high-speed interface for transferring data.

Via the USB cable connection and using the camera as an external drive

With Windows operating systems:
The operating system detects the camera as an external drive and assigns it a drive letter. Transfer the picture data to your computer using Windows Explorer and save it.

With Mac operating systems:
The memory card appears as a storage medium on the desktop. Transfer the picture data to your computer using the Finder and save it.

Important:
- Use only the USB cable supplied.
- While data is being transferred, the USB connection must not be interrupted as this can cause the computer and/or the camera to crash and may even cause irreparable damage to the memory card.
- While data is being transferred, the camera must not be turned off or should not shut down due to a lack of battery capacity, as this can cause the computer to crash.
- For the same reason, the battery must never be removed from the camera while the connection is active. If the capacity of the battery runs low during data transfer, the **INFO** screen appears, with the battery capacity flashing. In this case cancel the data transfer, turn off the camera, and charge the battery.

Using card readers

Picture data can also be transferred using card readers for SD/SDHC/SDXC memory cards integrated into the computer. External card readers are also available that connect to the computer using a USB interface.

Note:
The Leica SL is equipped with an integral sensor, which detects the orientation of the camera – horizontal or vertical (both directions) – for each picture. On the basis of this information, the pictures are always displayed on a computer in a subsequent review using a relevant program as they were taken.

WIRELESS DATA TRANSMISSION AND REMOTE CONTROL OF THE CAMERA

You can control the camera remotely using a smartphone/tablet or use the smartphone/tablet as an external storage medium. In order to do this, the "Leica SL" app must first be installed on your smartphone. This app is available in the Google Play Store™ for Android™ devices as well as the Apple App Store™ for iOS™ devices.

Note:
In this section, the term "smartphone" refers to smartphones as well as tablets.

WLAN function options

The first WLAN setting to be made is whether you wish to connect to the camera with a smartphone directly - Remote Control by App, or through a browser - Web Server, or if you want to switch of any WLAN connection alltogether - Off. The connections allow remote controlled shooting as well as viewing the recordings and also saving them to the smartphone. In the case of a connection through a browser, you can even save in DNG format.

Setting the function

1. In the menu's SETUP section, select WLAN,
2. in the sub-menu, Function, and
3. select the desired function in the sub-menu.

Note:
Two types of connection to a smartphone are available (see 'Selecting the connection method').

Further operation with Remote Control by App

4. Establish a connection with a smartphone.
5. Select Camera Control in the Leica SL app.
6. Take your pictures.
   The pictures taken are saved in the camera.
   The most important settings are available in the Leica SL app.

Further operation with Web Server

- When Web Server is selected in step 3, an information screen appears, containing the necessary data for the connection.

To establish a connection between your computer or smartphone and the camera within the same WLAN network, open an internet browser and type in the URL (network address, starting with 192.168...) displayed by the camera.

Selecting the connection method

There are two ways to establish a connection between your camera and your smartphone. If you have access to an available WLAN network, e.g. via a router, the 'Client' method may work best. When using this method, both the camera and smartphone are in the same WLAN network. If no WLAN is available, establishing a direct connection (Host) may be most practical. When using this method, the camera generates an access point which your smartphone can connect to.

Setting the function

1. In the menu's SETUP section, select WLAN,
2. then Connection in the sub-menu, and
3. select Join WLAN or Create WLAN.

Further operation differs depending on which function you chose in Step 3:

Join WLAN

If you wish to connect to a WLAN, you can select it from a list of available WLAN networks.

Setting the function

4. Return to the WLAN sub-menu, and
5. select SETUP.
   - An intermediate screen appears briefly while searching for the available networks. Then, the respective sub-menu is shown. It contains the items Scan and Add Network, and lists the networks the camera has found.

Establishing a connection with a smartphone in Join WLAN mode

6. Select the desired network from the list.
   If the network you wish to connect to is not listed, you can repeat the search by selecting Scan. To establish a connection with a possibly hidden network, select Add Network, and in the respective sub-menu, enter the SSID and the encryption and connection methods.

Create WLAN

All of the settings under this menu option are preset at the factory. If you wish to change these settings for a specific reason:

Setting the function

4. Return to the WLAN sub-menu,
5. select SETUP, and
6. in the respective sub-menu SSID/Network Name, or Security, or Password.
7. In the SSID/Network Name keypad sub-menu, you can change the name of the camera within the network.
   In the Security sub-menu it is recommended to retain the preset WPA2 encryption method. Only use Open if you are sure there cannot be any unauthorized access. In the Password keypad sub-menu you can enter the desired characters. The procedure in the keypad sub-menus is exactly the same as the descriptions in the 'Renaming profiles' section on p. 245.

Establishing a connection with a smartphone in Create WLAN mode

Using iOS smartphones (with operating systems up to iOS 8.3)

Establishing a connection with QR code:

1. Launch the Leica SL app on your smartphone, and
2. select Connect by QR Code.
3. Import the QR code shown on the camera using the Leica SL app.
4. Install the "Leica SL" profile on your smartphone.
5. First select Install, then Install, and then Done.
   - A message will appear in the web browser on the smartphone.
6. If a password is needed to unlock the smartphones, then this must be entered.
7. Click the home button to close the web browser.
8. Select and activate Wi-Fi under Settings on the smartphone. Then select the SSID displayed on the camera (from the factory: Leica SL).
9. Return to the home screen and then launch the Leica SL app.

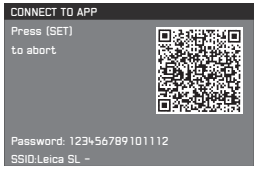
Note:

Subject to changes in subsequent versions of the operating system.

Using Android smartphones

Establishing a connection with QR code:

1. Launch the Leica SL app on your smartphone, and
2. select Connect by QR Code.
3. Read the QR code displayed on the camera with the Leica SL app.



The following steps are the same with both types of smarphones.

Establishing a connection with SSID and password:

1. Launch the Leica SL app on your smartphone.
2. There select WLAN.
3. Select the SSID displayed by the camera.
4. Enter the password shown on this device (only when connection is established for the first time).

Notes:

- When using devices or computing systems that require more reliable security than WLAN devices, appropriate measures must be taken to ensure security and protect against disruptions to the systems used.
- Leica Camera AG accepts no liability for damage arising from the use of the camera for purposes other than as a WLAN device.
- It is assumed that the WLAN function is used in the countries in which this camera is sold. If used in countries in which it is not sold, there is the risk that communications transmission conditions may be violated. Leica Camera AG assumes no responsibility for violations of this kind.
- Please also notice that data transmitted and received wirelessly may be intercepted by third parties. We highly recommend that you activate encryption in the wireless access point settings in order to ensure that the information is secure.
- Don't use the camera in places where there are magnetic fields, static electricity, or interference, such as near microwaves. Otherwise the wireless transmissions may not reach the camera.
- Using the camera near devices such as microwaves or cordless telephones that use the 2.4 GHz radio frequency wavelength may negatively affect the performance of both devices.Do not connect to wireless networks you are not authorized to use.
- When the WLAN function is activated, the device will automatically search for wireless networks. When this happens, networks that you are not authorized to use (SSID: indicates the name used to identify a network over a WLAN connection) may be displayed. Do not attempt to connect to such a network, since this would be seen as unauthorized access.

USING RAW DATA (DNG)

If you wish to use the standardized and future-proof DNG (Digital Negative) format, you will need specialized software to convert the saved raw data into optimum quality, for example the professional raw data converter Adobe® Photoshop® Lightroom®. Such picture editing software provides quality-optimized algorithms for digital color processing, delivering exceptionally low-noise photographs with incredible resolution.
During editing, you have the option of adjusting parameters such as noise reduction, gradation, sharpness etc. to achieve an optimum image quality.

INSTALLING FIRMWARE UPDATES

Leica is constantly working on developing and optimizing its products. As digital cameras have many functions that are controlled electronically, improvements and enhancements to the functions can be installed on the camera at a later date.
To do this, Leica releases what are known as firmware updates at irregular intervals which can be downloaded from our homepage. Once you have registered your camera on the Leica Camera website, you will be informed in newsletters when a firmware update is available. Leica Camera AG will notify you of all new updates.
To identify which firmware version is installed:

1. In the menu's SETUP section, select Camera Information, and
2. in the sub-menu, Firmware.

In the same sub-menu you can also call up other devices or country-specific registration marks or numbers.
Further information on registration and firmware updates for your camera, as well as any amendments and additions to the details provided in these instructions, can be found in the "Owners' Login" area at: https://owners.leica-camera.com

Note:
If you want to update the firmware of lenses in the Leica TL system, e.g. to be able to use them on SL cameras with more recent firmware status, you have to place the lens on a Leica TL system camera.

SAFETY AND CARE INSTRUCTIONS

GENERAL PRECAUTIONS

- Do not use your camera in the immediate vicinity of devices with powerful magnetic, electrostatic or electromagnetic fields (e.g. radio transmitters or high-voltage power lines, induction ranges, microwave ovens, television sets or computer monitors, video game consoles, cell phones, radio equipment). If you place the camera on or very close to such devices, their magnetic/electrostatic/electromagnetic fields could interfere with picture recordings. Strong magnetic fields, e.g. from speakers or large electric motors, can damage the saved data or the pictures. If the camera malfunctions due to the effects of magnetic/electrostatic/electromagnetic fields, turn it off, remove the battery, and then turn it on again.
- Protect the camera from contact with insect sprays and other aggressive chemicals. Petroleum spirit (cleaning solvent), thinner and alcohol may not be used for cleaning. Certain chemicals and liquids can damage the camera's housing or the surface finish. As rubber and plastics sometimes emit aggressive chemicals, they should not remain in contact with the camera for a long time.
- Ensure that sand and dust cannot get into the camera, e.g. on the beach. Sand and dust can damage the camera, lens, and memory cards. Take particular care when fitting and removing the lens and when inserting and removing a card.
- Ensure that water cannot get into the camera, e.g. when it is snowing or raining and on the beach. Moisture can cause malfunctions and even permanent damage to the camera and the memory card. If salt water spray gets onto the camera, wet a soft cloth with tap water, wring it out thoroughly, and wipe the camera with it. Then wipe down thoroughly with a dry cloth.

Important:
Use only the accessories specified and described in these instructions or by Leica Camera AG with the camera.

Monitor

- If the camera is exposed to significant temperature fluctuations, condensation can form on the monitor. Wipe it off carefully with a soft dry cloth.
- If the camera is very cold when turned on, the monitor image will initially appear slightly darker than normal. As soon as the monitor warms up, it will reach its normal level of brightness.
- The monitor is manufactured using a high-precision process. This ensures that of the total of around 1.04 MP more than 99.995% work correctly and only 0.005% remain dark or are always bright. However, this is not a malfunction and it does not impair the reproduction of the picture.

Sensor

- Cosmic radiation (e.g. on flights) can cause pixel defects.

Condensation

- If condensation has formed on or in the camera, turn it off and leave it to stand at room temperature for around an hour. Once the camera temperature has adjusted to room temperature, the condensation will disappear by itself.

Safety notes on using carrying straps

- Carrying straps are usually made of strong material. There is therefore a risk of strangulation.
- Use them only for their intended purpose as a carrying strap on a camera/on binoculars. Any other use carries the risk of injury and may possibly result in damage to the carrying strap and is therefore not permitted.
- Due to the risk of strangulation, carrying straps should not be used for cameras/binoculars during sporting activities where there is a high risk of getting caught by the carrying strap (e.g. climbing in the mountains and comparable outdoor sports).
- Keep carrying straps away from children. They are not toys and are potentially dangerous for children. Due to the risk of strangulation, it is not suitable for children to use them as carrying straps for cameras/binoculars.

CARE INSTRUCTIONS

- As any soiling also represents a growth medium for microorganisms, you should take care to keep the equipment clean.

For the camera

- To clean the camera, e.g. to remove marks and fingerprints, use only a soft, dry, lint-free cloth. Dirt in hard-to-reach corners of the camera body can be removed with a small brush. Stubborn dirt, should first be wetted with a well-thinned cleaning agent and then wiped off with a dry cloth.
- All mechanically operated bearings and sliding surfaces on your camera are lubricated. Please remember this if you will not be using the camera for a long period of time. To prevent the lubrication points becoming gummed up, the camera shutter should be operated several times every three months. It is also recommended that you repeatedly move and use all other controls.

For the Lens

- Normally, a soft hair brush is sufficient to remove dust from the outer lens surfaces. 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/104°F (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.
- The supplied lens caps also protect the lens from fingerprints and rain.

For the battery

- Rechargeable lithium ion batteries generate power through internal chemical reactions. This reaction is influenced by ambient temperature and humidity. Very high or low temperatures reduce the life of the battery.
- Always remove the battery if you will not be using the camera for a long period of time, as otherwise it could become totally discharged after several weeks, i.e. its voltage drops to a very low level.
- Lithium ion batteries should only be stored partly charged, i.e. not when fully discharged or fully charged (see the corresponding display). For very long storage periods, the battery should be charged for around 15 minutes twice a year to prevent total discharge.
- Even though lithium ion batteries are proofed against short circuits, always ensure that their contacts are protected against contact with metal objects such as paper clips or jewelry. A short-circuited battery can get very hot and cause severe burns.
- For the battery to charge, it must have a temperature of between 10°C and 30°C/50°F and 86°F (otherwise the charger does not turn on or turns off again).
- If a battery is dropped, check the casing and the contacts immediately for any damage. Using a damaged battery can damage the camera.
- Batteries have only a limited service life.
- Defective batteries should be disposed of at an appropriate collection point for proper recycling (see p. 151).
- Never throw batteries into a fire as this can cause them to explode.

For the charger

- If the charger is used in the vicinity of radio receivers it can interfere with reception; maintain a distance of at least 1 m/3 ft between the devices.
- When the charger is in use, it can make a noise (buzzing) – this is quite normal and is not a malfunction.
- When it is not in use, disconnect the charger from the mains as otherwise it uses a certain (very small) amount of power even when no battery is inserted.
- Always keep the charger contacts clean, and never short circuit them.

For the monitor

The monitor is equipped with an especially scratch-resistant glass cover. Further protection is possible by applying the protection film available as an accessory.

For memory cards

- While a recording is being saved or a memory card is being read, it must not be removed, and the camera must not be turned off or exposed to vibrations.
- For safety, memory cards should always be stored in an anti-static container.
- Do not store memory cards where they will be exposed to high temperatures, direct sunlight, magnetic fields or static discharge.
- Do not drop or bend memory cards as this can damage them and result in loss of the stored data.
- Always remove the memory cards if you will not be using the camera for a long period of time.
- Do not touch the contacts on the rear of the memory cards and keep them free of dirt, dust, and moisture.
- It is recommended to format memory cards from time to time, as fragmentation occurs when deleting, which can block some of the memory capacity.

CLEANING THE SENSOR

The camera is equipped with an automatic sensor cleaning function.
Every time the camera is switched on, the sensor unit is subjected to ultrasonic vibrations which removes most of the dust or dirt particles adhering to the sensor cover glass.
If any particles remain in spite of this (depending on their size, they can be identified by dark spots or marks on the recordings) the camera can be sent to Leica Camera AG's Customer Care department (address: see p. 288) for the sensor to be cleaned at a cost, i.e. this cleaning is not included in the guarantee.
You can also perform the cleaning yourself, as the shutter is normally open, i.e. exposing the sensor.

Notes:

- As a rule: To protect the camera against ingress of dust etc. into its interior, it is important always to have a lens or a cap attached to the camera body.
- For the same reason, when changing lenses work quickly and in an environment that is as dust-free as possible.
- As plastic parts can easily pick up a static charge and then attract more dust, lens caps should only be stored for short periods in pockets in clothing.
- As far as possible, cleaning of the sensor should be performed in a dust-free environment to prevent further soiling.
- An 8x or 10x magnifying glass is very helpful during the inspection before and after cleaning.
- Lightly adhering dust can be blown off the sensor cover glass using clean and, if necessary ionized gases such as air or nitrogen. It makes sense to use a (rubber) bellows with no brush for this purpose. Special, low pressure cleaning sprays such as "Tetenal Antidust Professional" can also be used in line with their specified usage.

Important:

- Leica Camera AG accepts no liability for damage caused by the user when cleaning the sensor.
- Do not attempt to blow dust particles off the sensor cover glass using your mouth; even tiny droplets of saliva can cause marks that are difficult to remove.
- Compressed air cleaners with high gas pressure may not be used as they can also cause damage.
- Take care to avoid touching the sensor surface with any hard objects during inspection and cleaning.

Storage

- If you are not using the camera for a longer period of time, we recommend that you:
  - Turn off the camera
  - Remove the memory cards
  - Remove the battery
- A lens works like a magnifying glass if bright sunlight shines on the front of the camera. The camera must therefore never be set aside in strong sunlight without protection. Using the lens cap and keeping the camera in the shade (or immediately putting it away in the case) help to prevent damage to the interior of the camera.
- You should preferably store the camera in a closed and padded container so that nothing can damage it and it is protected from dust.
- Store the camera in a dry, adequately ventilated place, where neither high temperatures nor high humidity will occur.
  When used in humid conditions, the camera should be completely free of all moisture before being stored away.
- Photo cases that became 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 recommended only if a desiccant such as silica gel is also used.
- To prevent the formation of fungus, do not store the camera in a leather case for extended periods of time.
- Note down the serial number of your camera, as this is extremely important in case of loss.

INDEX

APPENDIX

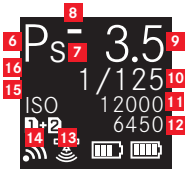
DISPLAYS

In the top panel display

Starting view
(Appears for 4 s after turning on the camera, can be switched to the standard view at any time by tapping the shutter release button)

1. Camera type
2. Battery capacity (left for camera battery, right for hand grip battery if attached)
3. Time
4. Date
5. Camera status

During operation

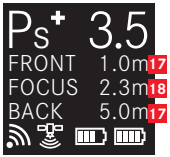


6. Exposure mode
7. Indication for shifted shutter speed/aperture combination with program mode
8. a. +/- Exposure compensation set
   b. +/o/- Progression bracketing series: overexposed/ correctly exposed/underexposed picture
9. Aperture
10. Shutter speed
11. ISO value
12. Remaining pictures
13. GPS status
14. WLAN (Wifi) active

15 -Memory card used, or warning messages
1 = When memory card is inserted in SD slot 1
2 = When memory card is inserted in SD slot 2
PC = When connected to PC via USB cable (remote connection)
NO CARD = No memory card inserted
CARD SEARCH = Memory card status (inserted/not inserted), when inserting memory card, temporarily after the camera is turned on
ERROR = Card error

16 ISO, alternates with (Key lock) and/or +/- (Bracketing or Interval) if these functions are set

With manual focusing
(When shutter release button is pressed halfway)



17 Depth of field limits

18 Focused distance

In the viewfinder/monitor

In photo recording mode

19 Focusing mode

20 White balance setting

21 File format

22 Sensor format

23 Exposure metering method

24 Picture sequence

25 Flash sync mode

26 HDR progress bar

27 Battery charge level

28 Soft key function – Switch to playback mode

29 Soft key function – Switch displayed information

30 Remaining pictures

31 Shutter speed

32 Light balance for manual exposure setting/exposure compensation value

33 Aperture

34 ISO sensitivity

35 Exposure control mode

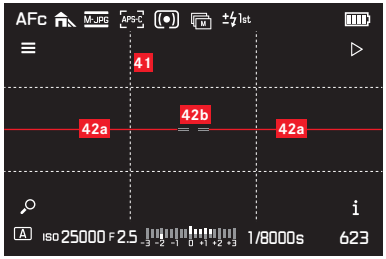
36 Soft key function – Enlarge the display

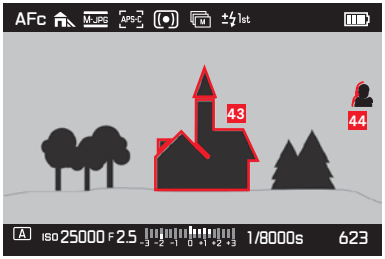
37 Soft key function – Enter main menu

38 Histogram

39 Autofocus metering zone
= AF Mode/Static & AF Field Size/1 Point
= AF Mode/Static & AF Field Size/Field or AF Mode/Auto (Face Detection)
= AF Mode/Dynamic (Tracking)

40 Clipping/Zebra displays (not shown here, see description on p. 182)





41 Auxiliary grid

42 Bubble level

- 42a Camera level (not tilted to the left or right): Green horizontal lines
  Camera tilted: Red inclined lines
- 42b Camera level (not tilted up or down): Central green lines
  Camera tilted: Red line above or below

43 Indication of in-focus edges (Peaking)

44 Focus peaking

In video recording mode

45 Focusing mode

46 White balance setting

47 Video resolution/frame rate

48 Video file format

49 Exposure metering method

50 Microphone

51 Audio level

52 Time code

53 Video recording

54 Recording time

55 Shutter speed

56 Light balance for manual exposure setting/exposure compensation value

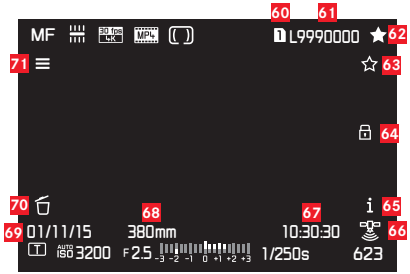
57 Aperture

58 ISO sensitivity

59 Exposure control mode

IN PLAYBACK MODE

Photo review



60 Slot number of memory card used

61 File number

62 Marking pictures as favorites

63 Soft key function – Rating the images

64 Displayed image protected

65 Soft key function – Switch displayed information

66 GPS status
- Position last determined a maximum of 6 min ago
- Position last determined a maximum of 24 hrs ago
- Position last determined at least 24 hrs ago, or no position data available

67 Time of recording

68 Focal length used

69 Date of recording

70 Soft key function – Deleting the images

71 Soft key function – Enter main menu

Video review

72 Slot number of memory card used

73 File number

74 Volume setting bar for audio playback

75 Audio playback on
(= audio playback off)

76 Playback progress bar

77 Elapsed time

78 Indication for playback of videos, time-lapse pictures and picture series
Playback paused

GESTURE CONTROL

The touch-sensitive monitor of the Leica SL can be used for gesture-based operation in certain situations/modes. During menu control, this is the case for the sub-menu scales for exposure compensation and white balance. Gesture control is especially convenient during Review Mode, where it facilitates easy scrolling and enlargement.
In all such cases, gesture control serves as an alternative to conventional operation. For details, see the relevant sections.

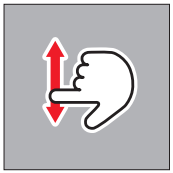
Note:
A light touch is sufficient, there is no need to press firmly.

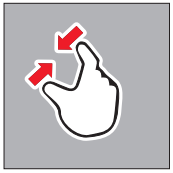
Available gestures


Tap briefly


Tap twice


Long touch, drag and release


Swipe


Push together


Pull apart

APPENDIX

CAMERA	Direct access		FAVORITES		Page
	Preset	Available	Preset	Available	
Drive Mode	Video recording button[1]	✔	✔	✔	200/222/234/236
Focus Mode	TR	✔	✔	✔	201/208
AF Mode		✔		✔	206
AF Field Size		✔		✔	204
Exposure Metering		✔		✔	210
Exposure Compensation	LV	✔	✔	✔	220
Exposure Bracketing		✔		✔	222
Interval		✔	✔	✔	234
Flash Settings		2,4		✓✔	224/225
Exp. Preview				✔	214
Focus Limit (Macro)		✔		✔	202
Electronic Shutter					213

IMAGE	Direct access		FAVORITES		Page
	Preset	Available	Preset	Available	
ISO	TL	✔		✔	294
White Balance	BL/(FN)[4]	✔	✔	✔	190
Photo File Format				✔	187
Photo Aspect Ratio				✔	186
Sensor Format				✔	186
JPG Resolution				✔	187
JPG Settings				✔	188-189
Video Format/Resolution				✔	226
Video settings				✔	226-229

[1] Only possible if key lock is switched On.

[2] Direct access to flash settings sub-menu Flash Exp. compensation.

[3] Both flash settings and the associated sub-item Flash Exp. Compensation are available for FAVORITES.

SETUP	Direct access		FAVORITES		Page
	Preset	Available	Preset	Available	
Storage Backup				✔	185
Edit File Name					254
Format		✔	✔	✔	258
Auto Review					238
Capture Assistants				✔	183-184/229
AF Setup					205
Live View				✔	182/184
Copyright Information					255
User Profile	BR[5]	✔	✔	✔	252-254
Auto ISO Settings				✔	194/229
Key Lock		✔		✔	185
Customize Control					176-177/199/207 218/220/233
Display Settings					180
Acoustic Signal					181
Power Saving					180
Lens Profiles		✔		✔	237
Optical Image Stabilization		✔		✔	196/227
EV Increment				✔	213
WLAN				✔	261
GPS				✔	256
Date & Time					178
Language					178
Reset Camera					255
Reset Image Numbering					259
Camera Information					147/152/265

[4] Both White Balance and the associated sub-item Graycard are available for direct access and FAVORITES. Preset: White Balance using BL-Taste, Graycard using FN-Button.

[5] Direct access to User Profile sub-item Load Profile.

TECHNICAL DATA

Camera type
Leica SL (Typ 601)
Lens Mount
Leica L bayonet with contact strip for communication between lens and camera
Usable lenses
Leica SL lenses, Leica TL-standard lenses, and Leica M, R, and S lenses, as well as Leica cinema lenses using the respective adapters
Sensor
35 mm (24 x 36 mm)
Photo resolution (in pixels)
35 mm-format: DNG: 6000 x 4000, L-JPG: 6000 x 4000, M-JPG: 4272 x 2848, S-JPG: 2976 x 1984
APS-C-format: DNG: 6000 x 4000, L-JPG: 3936 x 2624, M-JPG: 2736 x 1824, S-JPG: 1920 x 1280
Photo file sizes
DNG: 43 MB, JPG: different, depending on chosen size and image contents
Video recording format
MP4, MOV
Video resolutions/frame rates

MP4	MOV
4096 x 2160/24p	4096 x 2160/24p
3840 x 2160/30p	3840 x 2160/30p
3840 x 2160/25p	3840 x 2160/25p
1920 x 1080/120p	-
1920 x 1080/100p	-
1920 x 1080/60p	1920 x 1080/60p
1920 x 1080/50p	1920 x 1080/50p
1920 x 1080/30p	1920 x 1080/30p
1920 x 1080/25p	1920 x 1080/25p
1920 x 1080/24p	1920 x 1080/24p
1280 x 720/120p	-
1280 x 720/100p	-
1280 x 720/60p	1280 x 720/60p
1280 x 720/50p	1280 x 720/50p
1280 x 720/30p	1280 x 720/30p
1280 x 720/25p	1280 x 720/25p

Video-recording time
Uninterrupted video recordings are possible up to a maximum length of 29 minutes.
Storage media
SD, SDHC, SDXC cards, both UHS I (slot 1) and UHS II-standard (slot 2), Types that can be used[1]: UHS I Standard: All, UHS II Standard (recommended[2]):

SANDISK EXTREME PRO UHS 2 CLASS 3 (16/32/64 GB)
LEXAR PROFESSIONAL 1000x UHS 2 CLASS 3 (16/32/64/128/256 GB), **2000x** UHS 2 CLASS 3 (32/64 GB)
TOSHIBA EXCERIA PRO CLASS 1 (16/32/64/128 GB), CLASS3 (16/32/64/128 GB)
TRANSCEND ULTIMATE UHS 2 CLASS 3 (32/64 GB)

ISO range
Automatic setting, ISO 50 to ISO 50000
White balance
AUTO, Daylight, Cloudy, Shadow, Tungsten, HMI, Fluorescent warm, Fluorescent cool, Flash, Gray card, Gray card live view, Color temperature (in K [Kelvin]) 2000, 2200, 2400, 2700, 3000, 3300, 3600, 3900, 4200, 4600, 5000, 5500, 6000, 6600, 7200, 8000, 8700, 9500, 10300, 11500
Autofocus system
Contrast-based autofocus system
Autofocus metering methods
Single point, multi-point, spot, face detection, touch control

[1] Situation 31.7.2016

[2] Leica Camera AG conducts continuous compatibility tests with the newest card versions available on the market. Nevertheless, due to variations in the production and software of SD cards, no 100% compatibility can be guaranteed.

Exposure modes
Automatic program, aperture priority, shutter speed priority, and also manual setting
Exposure metering modes
Multi-zone, center-weighted, spot
Flash exposure compensation
±3 EV in $^{1}/_{3}$ EV or in $^{1}/_{2}$ EV increments
Exposure bracketing
3 or 5 pictures in increments of 1, 2 or 3 EV, plus JPG–HDR option
Shutter speed range
30 min to $^{1}/_{8000}$ s, B for long exposures, with electronic shutter $^{1}/_{12500}$ s to $^{1}/_{16000}$ s
Serial exposures
Approx. 11 f/s, 33 pictures (with DNG), 30 pictures (with DNG+JPG) with constant picture frequency, then depending on memory card properties.
Flash exposure compensation
±3 EV in $^{1}/_{3}$ EV or in $^{1}/_{2}$ EV increments
Flash sync speed
$^{1}/_{180}$ s
Self-timer
Selectable delay time 2 or 12 s
WLAN
Satisfies IEEE 802.11b/g/n standard (WLAN protocol), channel 1-11, encryption method: WiFi-compatible WPA™/WPA2™, access method: Infrastructure mode
Power supply
Rechargeable Lithium ion battery Leica BP-SCL4, rated voltage 7.2 V, capacity 1860 mAh (min.) (based on CIPA standard): approx. 400 pictures, charging time (after total discharge): approx. 160 min, manufacturer: Panasonic Energy (Wuxi) Co., Ltd., made in China
Battery charger
Leica BC-SCL4, input: AC 100-240 V, 50/60 Hz, automatic switching, output: DC 8.4 V, 0.85 A, Weight: approx. 90 g/3.2 oz, Dimensions: approx. 96 x 68 x 28 mm / 3.8 x 2.7 x 1.1", manufacturer: Salom Electric (Xiamen) Co., Ltd.

Body
Front and rear body shells: Aluminum, milled and anodized, baseplate: rubber, grip and rear cladding: synthetic leather
Viewfinder
electronic LCOS display, resolution: (SXGA)1400 x 1050 pixels x 3 colors, magnification 0.8x (50 mm lens, to infinite, –1 dioptr.), aspect ratio 4:3, exit pupil 20 mm, eyepiece adjustable from -4 to +2 dioptr., with eye sensor for automatically switching between viewfinder and monitor
Monitor
2.95" TFT-LCD, 720 x 480 pixels x 3 colors, Touch control possible
Interfaces
USB 3.0 Micro-B port, HDMI socket, ISO accessory shoe with center and control contacts for flash units, contact array in baseplate for hand grip available as an accessory
Operating conditions
0 to +40°C/32°F to 104°F
Tripod thread
A $^{1}/_{4}$ DIN 4503 ($^{1}/_{4}$")
Dimensions (W x H x D)
Approx. 148 x 105 x 85 mm / 5.9 x 4.2 x 3.4"
Weight
Approx. 770/850 g / 24.8/27.4 oz (with/without battery)
Scope of delivery
Carrying strap, bayonet cap, battery, charger with 2 cables (US+EU), USB 3.0 micro-b cable, cover for contact array in baseplate, lens/monitor cleaning cloth
Software
Leica SL App for remote control and transfer of recordings, free download in Apple® App-Store®/Google®Play Store®, Leica Image Shuttle for remote control

Subject to changes in design and production.

LEICA PRODUCT SUPPORT

The Product Support department at Leica Camera AG can answer any technical questions relating to Leica products, including support for the supplied software in writing, on the phone or by email. They are also the contact point for purchasing advice and to order instructions. Alternatively, you can send us your questions using the contact form on the Leica Camera AG homepage.

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LEICA CUSTOMER CARE

For servicing your Leica equipment or in the event of damage, the Leica Camera AG Customer Care department or the repair service provided by authorized Leica agents in your country are available (see the Guarantee Card for a list of addresses).

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