



LEICA D-LUX 4

Instructions

LEICA D-LUX 4

Dear Customer

May we take the opportunity of thanking you for having purchased this LEICA D-LUX 4. Please read the instructions carefully and keep them for future reference.

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Precautions

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

Declaration of Conformity

Trade Name: LEICA
Model No.: D-LUX 4
Responsible party / Support Contact: Leica Camera AG,
Oskar-Barnack-Strasse 11,
D-35606 Solms,
Tel.: +49 (0) 64 42-208-0,
Fax: +49 (0) 64 42-208-333,
www.leica-camera.com,
info@leica-camera.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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Note:

This equipment 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 equipment 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 equipment 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 separation 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.



LEICA D-LUX 4



A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.



THE FOLLOWING APPLIES ONLY IN CANADA

This Class B digital apparatus complies with Canadian ICES-003.

THE FOLLOWING APPLIES ONLY IN GREAT BRITAIN

The rating plate is on the underside of the digital camera.

Caution for AC mains lead

For your safety, please read the following text carefully. This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse. If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below. If in any doubt please consult a qualified electrician.

IMPORTANT


The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black or blue. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured brown or red.

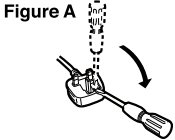
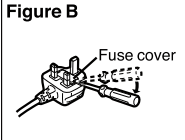
WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL  OR COLOURED GREEN OR GREEN/YELLOW. THIS PLUG IS NOT WATERPROOF KEEP DRY.

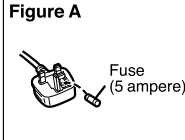
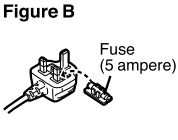
Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

- | | |
|--|--|
| Figure A
 | Figure B
 |
|--|--|

Open the fuse cover with a screwdriver.
- | | |
|--|--|
| Figure A
 | Figure B
 |
|--|--|

Replace the fuse and close or attach the fuse cover.



Safety instructions

Before using for the first time, read the following safety instructions and carefully observe them when using the device.

Maintaining personal safety



Attention. To reduce the risk of fire, electric shock and disturbances, use only recommended accessories and do not expose the device to rain or humidity. Do not remove the cover or the rear cover. Please consult Leica Customer Service for repair work.

Caution. Note the copyright. Recording commercially pre-recorded tapes/discs or other published/dispatched material (in part also for private use) can infringe copyright.

Please note:

- It is possible that the menu options of your LEICA D-LUX 4 may deviate from the material illustrated here.
- The SD Logo is a trade mark.
- LEICA is a registered trade mark of Leica Microsystems IR GmbH.
- Elmarit is a registered trade mark of Leica Camera AG.
- Other names, companies and product descriptions printed herein are trade marks of the companies concerned.

Preventing damage to the device



Camera

- Handle the camera with care.
- Do not shake or knock the camera, as the lens or the LCD monitor may be damaged.
- Do not touch the lens or sockets with dirty hands.
- Protect the camera from sand, dust and water.
- Wipe any salt-water splashes on the camera first with a cloth lightly moistened with warm tap water, then dry with a clean dry cloth.



LCD monitor

The monitor has been designed in line with highly developed precision technology. However, isolated dark or light pixels can appear on the display. These pixel errors are normal and do not appear on the pictures.

- Do not exert pressure on the monitor.
- When camera is cold the picture on the monitor appears somewhat darker to begin with.



Lens

- Do not exert any pressure on the lens.
- Do not put camera down with the lens pointing towards the sun, otherwise the device may malfunction.



Condensation

Condensation can occur under certain conditions. If so, switch off camera and leave for about two hours. Wipe condensation off lens/monitor using a clean dry cloth.

- Be careful as condensation causes stains on the lens, fungi and camera malfunction.



Memory cards

- Do not expose cards to high temperatures, direct sunlight, electromagnetic radiation or place where static electricity is generated. Do not bend or drop the cards. Otherwise recorded data might be damaged or deleted.
- If not in use, place the card in its storage case.
- Keep the terminals away from dirt, sand, liquids or other foreign objects.



Battery (Lithium-Ion battery pack)

- Only charge batteries using the supplied charger unit.
- Only use the specified battery.
- Keep the terminals away from dirt, sand, liquids or other foreign objects.
- Never expose battery to direct sunlight for prolonged time (i.e. in a car).
- Do not touch the terminals with metal objects.
- Never throw batteries into the fire, expose to intense heat or take apart.
- After contact with battery fluid, wash clothes or hands thoroughly with tap water. Rinse eyes with plenty of tap water, and do not rub them. Then consult a doctor.



Charger unit

- Ensure adequate ventilation whilst charging to prevent overheating and risk of fire hazard.
- The charger unit operates at 110 V AC to 240 V AC. Select mains cable to suit the socket.
- The socket should be near the device and be within easy reach.



If device is not used for some time

- Store battery in a cool and dry place of 15-25 °C (59-70 °F).
- Remove battery and memory card from camera.
- Do not store battery in camera while fully charged, as it will discharge and lose its capacity.
- Charge it at least once a year.
- Store camera with a drying agent / dehumidifying agent (silica gel, obtainable from specialist retailers).



Picture data

- Recorded data may be damaged or lost if the camera fails/malfunctions due to inappropriate handling. Leica will not be liable for any damage suffered due to loss of recorded data.



Using tripods

- Make sure the tripod is stable when this unit is attached to it.
- You may not be able to remove the card or the battery when using a tripod.
- Make sure that the screw on the tripod is not at an angle when attaching or detaching the camera. You may damage or strip the thread on the camera, the camera body and/or the rating label if you are turning it too tightly.
- Read the operating instructions for the tripod carefully.

■ Camera:

Handling the camera

- Remove camera from pocket when sitting down.
- Do not put camera into full pockets or paper bags.
- Never drop, knock or put pressure on the camera.
- Do not attach other items to the wrist strap, as they might knock against the camera, the display or lens and cause damage.
- You will find carrying cases for your camera at your Leica dealer.

Fault and interference prevention

If a fault develops on the camera:

1. Switch off camera
2. Remove battery
3. Insert battery
4. Switch on camera

- Keep the camera as far away as possible from electro-magnetic equipment such as:
 - Televisions
 - Microwave ovens
 - Video games
 - Radio transmitters
 - High voltage lines, etc.

These components may disrupt and/or negatively affect the camera's pictures and sound. Data loss, damaged data or distorted pictures can also result.

- Do not use accessory cables other than those that are delivered with the product.
- Do not pull cables.
- Do not extend the cords or the cables.

Cleaning

Always remove battery from device before cleaning or disconnect the the power plug from the outlet!

- Never spray camera with insecticides or volatile chemicals.
- When cleaning, never use petrol, thinners, alcohol, kitchen detergents, etc, otherwise these could damage the surface of the housing or the coating may peel off.
- Do not allow camera to come into contact with rubber or plastic products for too long.
- Do not use household cleaners or pre-treated cloths. Only clean housing using a moist cloth, then dry with a dry cloth.

■ LCD-Monitor:

- Do not exert strong pressure on the LCD monitor. This can result in colour stains on the monitor and in malfunctioning.

■ Memory card:

Storing memory cards

Damaged cards could result in loss of data!

- Never bend or drop the card.
- Protect card from dirt, dust, sunshine, high temperatures and electromagnetic radiation.

■ Battery/Charger unit:

Rechargeable lithium-ion battery. Power generation is based on the chemical reaction in the interior of the cell. This reaction is affected by ambient temperature and humidity. Too high or too low a temperature will shorten service life of the battery.

- Always remove the battery after use and store in the case supplied. Never drop the battery.
- Before inserting battery, check battery and contacts for damage. Discontinue using damaged batteries.
- Be sure to insert battery correctly. Danger of explosion if inserted incorrectly.
- If possible, take spare batteries with you.
- Low temperatures will shorten service life of batteries.
- If you are away for any length of time, take the charger unit with you.
- Dispose of batteries that are beyond repair in accordance with local regulations.
- The battery has a limited life.
- Do not throw batteries in the fire – they could explode.
- Do not allow metal objects to come into contact with battery contacts. This could pose a fire risk.
- Charger units placed next to a radio could impair radio reception. Keep charger at least 1 metre (3.28 ft) away from radio.
- The charger may make a humming noise when in use. This is not faulty operation.
- After charging, disconnect mains cable from mains to stop power consumption completely.
- Keep the contacts of the charger unit and battery clean.



Legal notice



QuickTime

QuickTime and the QuickTime Logo are trade marks or registered trade marks of Apple Computer Inc. and are used under licence.



Disposal



The high-quality materials of this device can be reused. The device must be disposed separately from general household refuse and can be left at municipal collection points free of charge. Please consult your local authority for further information.



Batteries are not part of general household refuse. As a consumer, you are under a legal requirement to deposit batteries at collection points provided. Tape over the contacts to prevent short circuiting.

The following signs are displayed on batteries that contain harmful substances:

- Pb = battery contains lead
- Cd = battery contains cadmium
- Hg = battery contains mercury
- Li = battery contains lithium



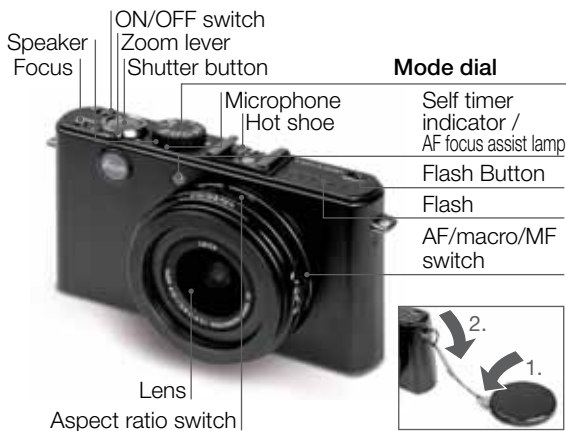
Names of the components



Record mode



Playback mode



Snapshot mode
for automatic recording



Program mode
for automatic exposure recording



Aperture priority
for aperture priority recording



Shutter priority
for shutter priority recording



Manual exposure
for manual exposure recording



Custom 1
for previous registered settings 1



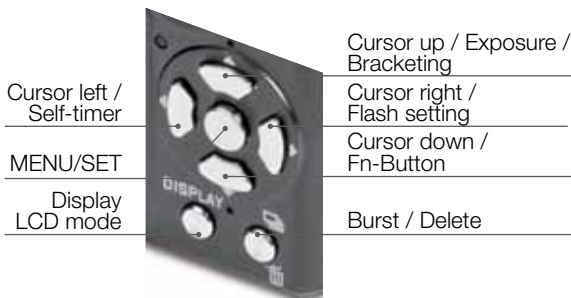
Custom 2
for previous registered settings 2



Motion picture mode
for movie recording



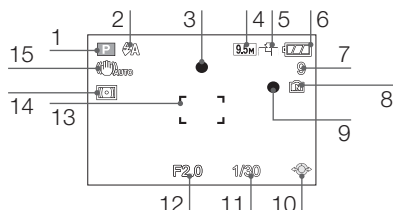
Scene mode
for scene based recording





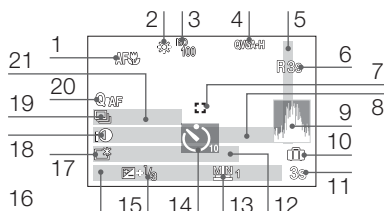
About the LCD monitor

Recording



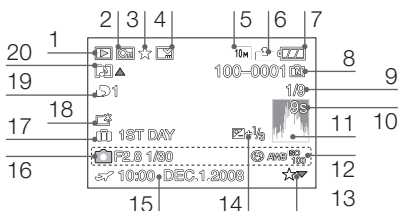
- | | | |
|------------------|------------------------|---------------------|
| 1 Recording mode | 6 Battery indication | 11 Shutter speed |
| 2 Flash mode | 7 Nr. of rec. pictures | 12 Aperture value |
| 3 Focus | 8 Built in memory | 13 AF area |
| 4 Resolution | 9 Recording state | 14 Metering mode |
| 5 Quality | 10 Joystick navigation | 15 Image stabilizer |

Recording with settings



- | | | |
|-----------------------|-----------------------|-----------------------------|
| 1 Macro mode | 8 Name | 15 Exposure compensation |
| 2 White balance | 9 Histogram | 16 Curr. date, time & dest. |
| 3 ISO sensitivity | 10 Travel date | 17 Power LCD mode |
| 4 Picture quality | 11 Elapsed rec. time | 18 Intelligent exposure |
| 5 Focus range | 12 Age/Location | 19 Continuous mode |
| 6 Available rec. time | 13 Min. shutter speed | 20 Quick AF |
| 7 Spot AF area | 14 Self-timer mode | 21 Travel day |

Playback



- | | | |
|----------------------|---------------------------|----------------------------|
| 1 Playback mode | 8 Folder/File number | 15 Rec. date, time & dest. |
| 2 Protected picture | 9 Pic. No./Total pictures | 16 Aperture/shutter speed |
| 3 Favourites | 10 Motion pic. rec. time | 17 Travel day |
| 4 Stamped with text | 11 Histogram | 18 Power LCD mode |
| 5 Resolution | 12 Recording information | 19 Nr. of DPOF prints |
| 6 Quality | 13 Favourites settings | 20 Audio playback |
| 7 Battery indication | 14 Exposure compensation | |



About the LCD monitor

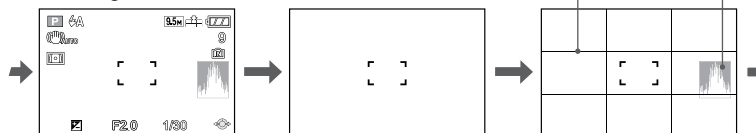
Changing the display

Not possible during menu screen



Press repeatedly

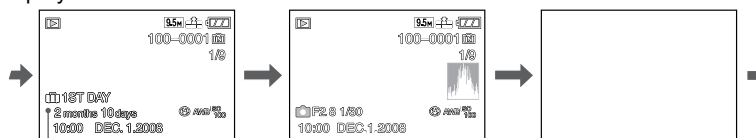
In recording mode



The guide lines help to align the subject.

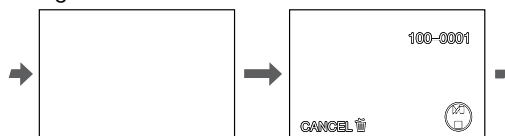
The histogram displays the brightness.

In playback mode



If [TRAVEL DATE] and/or [AGE] is set, the number of days passed since the travel date/birthday.

During slide shows

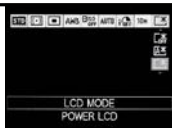


Brightening the monitor

Not possible in:
- Playback mode



Press and hold



Select LCD MODE Press again



Normal brightness



Automatic brightness



The monitor becomes easier to see (brighter, e.g. for outdoors)

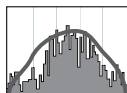


About the histogram

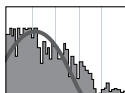
A histogram is a graph that displays brightness along the horizontal axis (black to white) and the amount of pixels at each brightness level on the vertical axis.

It allows you to easily check a picture's exposure.

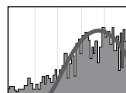
Examples of histogram:



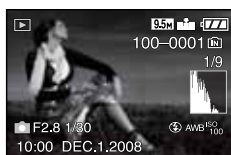
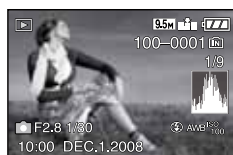
Properly Exposed



Underexposed





Overexposed



Dark area, mid-tone, and bright area are balanced out evenly, making it suitable to take a picture.

The picture will become underexposed. Pictures with mostly dark areas, such as a night scenery, will also have a histogram like this.

The picture will become overexposed. Pictures with mostly white areas will also have a histogram like this.

- HINT**
- When you take pictures with the flash or in dark places, the histogram is displayed in orange because the recorded picture and the histogram do not match each other.
 - The histogram in recording mode is an approximation.
 - The histogram of a picture may not match in recording mode and playback mode.
 - The histogram displayed in this camera does not match histograms displayed by picture editing software used in PCs etc.
 - The histogram does not appear in motion picture mode  and during playback .

1. Scope of delivery

Check if the following parts are included. If any parts are lost, contact your Leica dealer.

Article	Type	Art.-No.
Battery	(USA) ¹	BP DC4-U
"	(EU) ¹	BP DC4-E
Battery Case	-	423-068.801-012
Charger	(USA) ²	BC DC4-U
"	(EU) ²	BC DC4-E
Mains Lead	(EU) ³	EU
"	(UK/HK) ³	UK
"	(AUS) ³	AUS
Strap	-	424-026.006-000
USB Cable	-	424-025.004-000
AV Cable	-	424-025.005-000
Lens Cap	-	423-081.501-004
Lens Cap String	-	423-081.501-005
Capture One 4 DVD	Software	

^{1,2,3} One item only, depending on the specified country.

- The card is optional. You can record or playback on the built-in memory when you are not using a card.
- SD Memory Card, SHCD Memory Card and MultiMediaCard are indicated as **card** in the manual.

2. Original accessories

These accessories match your Leica camera and enhance it even further.

Article	Type	Art.-No.
AC Adaptor	(USA) ⁴	ACA-DC4-US
"	(UK/HK) ⁴	ACA-DC4-UK/HK
"	(AUS) ⁴	ACA-DC4-AUS
Mains Lead	(UK/HK)	UK
"	(US)	US
"	(AUS)	AUS
Flash Unit	CF 22	18 694
Bright-Line Frame Viewfinder	-	18 696
Handgrip	-	18 697
Component Cable	CV1 / CV1-J (Japan)	18 692 / 18 693
Leather Case	black/brown	18 690 / 18 689

⁴ AC Adaptor is not available in Russia, Singapore and Taiwan.

- On how to use the accessories, please refer to the manual that comes with each accessory.

3. Charging the battery

The battery is not charged when the camera is shipped.

- Disconnect the charger.
- The battery/camera becomes warm after using/charging.
- The battery can be charged at any time, e.g. even if it is not fully discharged.
- Never modify the charger.
- Charge the battery with the dedicated charger indoors only.
- Battery cannot be charged in the camera even if the optional AC adaptor is attached.
- The green indicator flashes when the battery temperature is too high -> longer charging time!



Connect adapter
(if outside USA)



Insert the battery
Ensure battery is inserted correctly.



Charge until green
indicator turns off
(after about 120 min.)



Detach the battery

Battery life according to CIPA standard:
~ 380 Recordable pictures

4. Inserting the battery

Ensure that the camera is turned OFF.

- Remove the battery after use.
- Never insert/remove battery while camera is ON.
- Do not leave any metal items (such as clips) near the contact areas of the power plug. Otherwise, a fire and/or electric shocks may be caused by short-circuiting or the resulting heat generated.



Open the cover



Insert the battery
Push until it clicks



Close the cover
Lock the release lever

HINT Battery status indication

- The battery indication is displayed on the LCD monitor. The indication turns red and flashes if the remaining battery power is exhausted. Recharge the battery or replace it with a fully charged battery.
- When the operating time of the camera becomes extremely short even after properly charging the battery, the life of the battery may have expired. Buy a new battery.

5. Inserting the card

Ensure that the unit is turned OFF. Without an inserted card, a limited amount of pictures can be stored in the internal memory.



Open the cover



Insert the card
Push until it clicks.






Close the cover
Lock the release lever

- Never touch the connection terminals of the card. To remove the card, press until it clicks. Pull the card out upright.
- The data in the built-in memory or on the card may be damaged or lost due to Electromagnetic radiation, static electricity or breakdown of the camera or the card. We recommend storing important data on a computer etc.
- Do not format the card on your computer or other equipment. Format it in the camera only to ensure proper operation.
- Keep the Memory Card out of reach of children to prevent swallowing.

Type of card	Characteristics
SD Memory Card (8 MB to 2 GB) Formatted FAT12/FAT16*	<ul style="list-style-type: none"> • Fast recording and writing speed. • Write-Protect switch provided.
SDHC Memory Card (4 GB to 32 GB) Formatted FAT32*	
MultiMediaCard	<ul style="list-style-type: none"> • Still pictures only

*Format in compliance with the SD standard.

The following operations can be performed using this unit:

- When a card has not been inserted: Pictures can be recorded in the built-in memory and played back.
- When a card has been inserted: Pictures can be recorded on the card and played back.
-  When using the built-in memory ( access indication)
- When using the card ( access indication)


HINT Card and camera precautions

Do not turn this camera off, remove its battery or card or disconnect the AC adaptor when the access indication is lit (when pictures are being read or deleted or the built-in memory or the card is being formatted). Furthermore, do not subject the camera to vibration or impact. The card or the data on the card may be damaged, and the camera may no longer operate normally.

6. Setting Language, Time and Date

- Make sure, the camera is not in [PLAYBACK] mode.
- To change the clock settings press [MENU/SET], select [CLOCK SET].
- Insert a fully charged battery for at least 24 hrs, to store the clock settings for 3 months, even when the battery is removed.
- If the clock is not set, date cannot be printed on pictures correctly.



Switch camera ON, set  mode



Press [MENU/SET]











Press repeatedly
Select and set the
desired item












Press [MENU/SET]
Turn the camera OFF
after setting the clock

You can also set a travel date:

- 01 Select [TRAVEL DATE] from the [SETUP] menu, and then press .
- 02 Press  to select [SET] and then press [MENU/SET].
- 03 Press   to set the departure date and then press [MENU/SET].
- 04 Press    to set the return date and then press [MENU/SET].
 - If you do not want to set the return date, press [MENU/SET] again.
- 05 Press [MENU/SET] to close the menu.
 - The number of days that have passed since the departure date is displayed for about 5 seconds if the camera is turned on etc. after setting the travel date or when the travel date is set.
 - When the travel date is set,  appears on the lower right of the screen.

You can also set a world time:

- 01 Select [WORLD TIME] from the [SETUP] menu, and then press .
- 02 Press  to select [HOME] and then press [MENU/SET].
- 03 Press  to select the home area, and then press [MENU/SET].
- 04 Press  to select [DESTINATION] and then press [MENU/SET] to set.
- 05 Press  to select the destination area, and then press [MENU/SET] to set.
- 06 Press [MENU/SET] to close the menu.
 - If daylight saving time  is used, press  (The time advances by one hour.) Press  again to return to the original time.
 - The travel destination icon  appears when playing back pictures taken at the travel destination.

Built-in memory

- Memory size: Approx. 50 MB.
- Recordable motion pictures: QVGA (320 x 240 pixels) only.
- The built-in memory can be used as a temporary storage device.
- You can copy the recorded pictures to a card.
- The access time for the built-in memory may be longer than the access time for a card.



Snapshot mode

The camera sets scene detection, stabilizer, intelligent ISO, face detection, quick AF, intelligent exposure and digital red-eye correction automatically.

1. Switch camera ON and set mode

The status indicator lights up for about 1 sec.



Switch camera ON, set mode

2. Select mode and aim the camera at your subject

- Hold the camera firmly with both hands



Select mode



Aim the AF area at your main subject

3. Focus the subject

not focused:



focused:



Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36.

4. Scene detection

If the camera identifies a specific type of scene, the respective icon is displayed in the upper left corner.



Scene detected
i.e. intelligent portrait

- i-Portrait
- i-Scenery
- i-Macro
- i-Night Portrait ¹
- i-Night Scenery ²

¹ only if flash is set to

² only if flash is set to

The mode can automatically detect five scenes. If none of these scene modes matches your subject, the camera will record with standard settings.

- If one of the portrait scenes is detected, the camera will automatically detect the person's face and will adjust the focus and exposure. Under backlight conditions, the exposure is automatically corrected so that the brightness of the faces will be optimal.
- To take pictures of another specific type of scene, it is recommended to take pictures in the appropriate scene mode. See **SCN** mode on page 30.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully



View picture
The picture is shown for a short time.

P


Program mode

Compared to the snapshot mode, many more menu items are available for greater freedom of composition. Please see page 44 for more information on the [SETUP] menu and page 48 for more information on the [REC] menu.

1. Switch camera ON and set mode

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode

2. Select mode and aim the camera at your subject

- Hold the camera firmly with both hands



Select  mode



Aim the AF area at your main subject

3. Set flash or proceed with step 4

Set the flash to match the situation.



Open the flash



Select a mode
Press repeatedly.

- For more information on the flash, please see page 42.

4. Focus the subject

- To change settings, enter [Q.MENU] and select [AF MODE].

not focused:  

focused:    

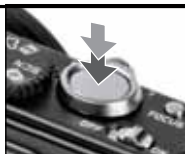


Focus on subject,
press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully




View picture

The picture is shown for a short time.

A


Aperture priority

Set higher aperture values for sharp focus backgrounds or lower aperture values for soft focus backgrounds. Use a tripod at slow shutter speeds. Please see page 44 for more information on the [SETUP] menu and page 48 for more information on the [REC] menu.

- 1. Set ON/OFF switch to ON, mode switch to  and mode dial to **A****

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode





Select **A** mode

- 2. Set aperture value and aim the camera at your subject**

- Set lower aperture values to soften the background.
- Set larger aperture values to sharpen the background.
- The correct shutter speed is generated automatically.



Tilt   to set aperture value



Aim the AF area at your main subject
The current aperture value is displayed

- 3. Set flash or proceed with step 4**

Set the flash to match the situation.



Open the flash



Select a mode
Press repeatedly.

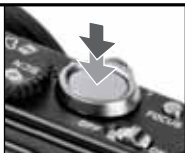
- For more information on the flash, please see page 42.

- 4. Focus the subject**

- To change settings, enter [Q.MENU] and select [AF MODE].

not focused:  

focused:    



Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully





View picture

The picture is shown for a short time.

S


Shutter priority

Set faster shutter speeds for fast moving objects or lower shutter speeds for trail effects on the picture. Use a tripod at slow shutter speeds. Please see page 44 for more information on the [SETUP] menu and page 48 for more information on the [REC] menu.

- 1. Set ON/OFF switch to ON, mode switch to  and mode dial to **

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode





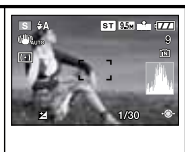
Select  mode

- 2. Set shutter speed and aim the camera at your subject**

- Set slower shutter speeds to create trail effects.
- Set faster shutter speeds for fast moving objects.
- The correct aperture value is generated automatically.



Tilt   to set shutter speed



Aim the AF area at your main subject
The current shutter speed is displayed

- 3. Set flash or proceed with step 4**

Set the flash to match the situation.



Open the flash



Select a mode
Press repeatedly.

- For more information on the flash, please see page 42.

- 4. Focus the subject**

- To change settings, enter [Q.MENU] and select [AF MODE].

not focused:  

focused:    



Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.





Press shutter fully



View picture


The picture is shown for a short time.

Determine the exposure by manually setting the aperture value and the shutter speed. Use a tripod at slow shutter speeds. Please see page 44 for more information on the [SETUP] menu and page 48 for more information on the [REC] menu.

- 1. Set ON/OFF switch to ON, mode switch to  and mode dial to **

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode



Select  mode

- 2. Set shutter speed, aperture value and aim the camera at your subject**

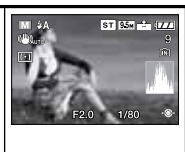
- Press shutter button halfway to view the exposure assistance.



- Set shutter and aperture values to attain the 0 position.



Tilt     to set shutter speed and aperture value



Aim the AF area at your main subject
The current values are displayed

- 3. Set flash or proceed with step 4**

Set the flash to match the situation.



Open the flash



Select a mode
Press repeatedly.

- For more information on the flash, please see page 42.

- 4. Focus the subject**

- To change settings, enter [Q.MENU] and select [AF MODE].

not focused:  

focused:    

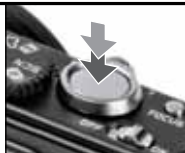


Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully



View picture

The picture is shown for a short time.



Motion picture mode

The focus setting, zoom and aperture are fixed to the settings when recording starts. Audio is recorded simultaneously with the built-in microphone.

1. Switch camera ON and set mode

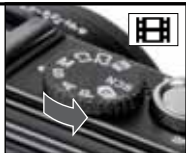
The status indicator lights up for about 1 sec.



Switch camera ON, set mode

2. Select mode and aim the camera at your subject

- Hold the camera firmly with both hands



Select mode



Aim the AF area at your main subject

3. Select aspect ratio and quality or proceed with step 4

- Set or as aspect ratio.



Set aspect ratio

1. Press [MENU/SET].
2. Press \blacktriangledown to choose [PICTURE MODE].
3. Press \blacktriangleright and choose Quality with $\blacktriangle/\blacktriangledown$.
4. Press [MENU/SET].

Aspect Ratio	Quality	Resolution	fps
If you select aspect ratio.			
	VGA ¹	640 x 480 pixels	30
	QVGA-H	320 x 240 pixels	30
	QVGA-L		10
If you select aspect ratio.			
	HD ¹	1280 x 720 pixels	24
	WVGA ¹	848 x 480 pixels	30

¹ Cannot be recorded in the built-in memory.

HINT - When motion pictures recorded with this camera are played back on other equipment, the quality of the picture and sound may deteriorate and it may not be possible to play them back. Also recording information may not be displayed correctly.

- or in [AF MODE], Direction detection function, [Mode2] and [AUTO] of the optical image stabilizer function cannot be used.

- The file format being recorded by the camera is QuickTime Motion JPEG.

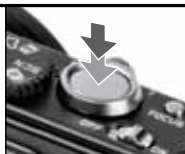
4. Focus the subject

- The available recording time is displayed on the top right, the elapsed recording time on the bottom right.

not focused:



focused:



Focus on subject,
press shutter halfway

- For more information, on how to focus a subject, please see page 36.

5. Start / Stop recording

- If the writing speed of the Memory Card is too slow, recording may stop.
- Movies can be recorded continuously up to 2 GB.
- Use a 10 MB/s or greater card when recording in high quality modes.



Start recording
Press shutter button
fully



Stop recording
Press shutter button
fully again

Watch recorded movie

1. Switch camera ON and set mode

The status indicator lights up for about 1 sec.



Set  mode



Switch ON

2. Select movie

- QuickTime is available at:
www.apple.com/quicktime/download



Press   to select movie



Press  for play-back



Movie control



Volume control


While playing back movies, you can Play/Pause (1), Stop (2), Fast Rewind (3), Fast Forward (4) them by pressing the respective button (3 & 4 work frame-by-frame if movie is paused). The volume level can be lowered (5) or increased (6) using the zoom-lever.

Taking pictures with scene modes that match specific situations. If selected, the camera sets the optimal exposure and hue to obtain the desired picture.

1. Switch camera ON and set mode

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode

2. Select SCN mode and aim the camera at your subject

- Hold the camera firmly with both hands








Select SCN mode



Aim the AF area at your main subject

3. Select the desired scene mode or proceed with step 4

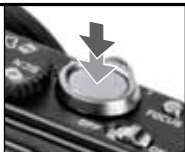
1. Press [MENU/SET], to open the menu.
2. Press  to enter the [SCENE MODE].
3. Choose a scene by pressing    .
4. Confirm by pressing [MENU/SET].

4. Focus the subject

not focused:



focused:

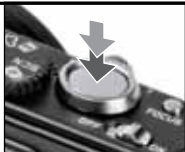


Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully



View picture

The picture is shown for a short time.

- HINT** - You can get explanations to each of the scenes by pressing the [DISPLAY] button while you are in the SCN mode menu. Press [DISPLAY] again to exit.
- Depending on the chosen scene mode, some of the following settings may be fixed: The white balance cannot be changed, the flash is forced OFF, the histogram is displayed orange, the AF assist lamp is disabled, the self timer cannot be set, [SENSITIVITY] and [COL.MODE] cannot be set.

**[PORTRAIT]**

Impressive portrait with rich flesh tone. Use at maximum [T] for best results.

- The initial setting for [AF MODE] is

**[SOFT SKIN]**

Detects flesh tone areas like human faces and adds soft effect. Use at maximum [T] for best results.

- If a part of the background etc. is a colour close to skin colour, this part is also smoothed.
- This mode may not be effective when there is insufficient brightness.
- The initial setting for [AF MODE] is

**[SELF PORTRAIT]**

We recommend using a wide angle setting [W] and 2 sec. self-timer setting when taking a self portrait.

1. Press the shutter button halfway to focus. The self-timer indicator lights up when you are brought into focus. Making sure you hold the camera still, press the shutter button fully to take the picture.
2. When the self-timer indicator is flashing, the subject is not focused. Make sure to press the shutter button halfway again to focus.
3. The picture automatically appears on the LCD monitor for reviewing.
4. If the picture is blurred due to the slow shutter speed, we recommend using the 2 second self-timer.

- The focus range is about 30 cm (0.99 feet) to 70 cm (2.29 feet).
- You can take a picture of yourself with audio. If you do this, the self-timer indicator will light up while recording the audio.
- The zoom magnification is initially automatically moved to Wide [W].
- The self-timer can only be set to off or 2 seconds. If it is set to 2 seconds, this setting will remain until the camera is turned off, the scene mode is changed or [REC] mode or [PLAYBACK] mode is selected.
- The stabilizer function mode is fixed to [MODE2].
- The initial setting for [AF MODE] is

**[SCENERY]**

For taking pictures of distant and vast landscapes. Auto focus priority is set from 5m to ∞.

**[SPORTS]**

Faster shutter speed is selected to freeze the action. Recommended when taking pictures in bright daylight.

- This mode is suitable for taking pictures of subjects at distances of 5 m (16.4 feet) or more.
- [INTELLIGENT ISO] is activated, and maximum ISO becomes ISO800.

**[NIGHT PORTRAIT]**

Portrait with night scenery. Hold the camera firmly and the subject should keep still for at least 1 second.

- Use the flash, you can set to
- Since the shutter speed becomes slower, use a tripod and the self-timer for taking pictures.
- Rotate the zoom lever to Wide [W] and be about 1.5 m (4.92 feet) from the subject when taking a picture.
- The focus range is 1.2 m (3.94 feet) to 5 m (16.4 feet).
- The shutter may remain closed (max. about 1 sec.) after taking the picture because of signal processing. This is not a malfunction.
- Noise may become visible when you take pictures in dark places.
- The initial setting for [AF MODE] is



[NIGHT SCENERY] For taking a picture with night scenery, shutter will be set to max. 8 sec. Be sure to use a tripod and self timer.

- When the camera is set to [STABILIZER] and there is very little camera shake, or if [STABILIZER] is set to [OFF], shutter speed may slow down up to 8 seconds.
- The focus range is 5 m (16.4 feet) to ∞.
- The shutter may remain closed (max. about 8 sec.) after taking the picture because of signal processing. This is not a malfunction.
- Noise may become visible when you take pictures in dark places.



[FOOD] For taking pictures of food. Take a picture without flash for the best result.

- The focus range becomes the same as macro mode. (Macro / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.



[PARTY] For taking a picture indoors you can get more natural colour under the indoor light source.

- Use the flash, you can set to or .
- Use a tripod and the self-timer for taking pictures.
- Rotate the zoom lever to Wide [W] and be about 1.5 m (4.92 feet) from the subject when taking a picture.
- The initial setting for [AF MODE] is .



[CANDLE LIGHT] For taking pictures expressing the atmosphere of the candle lit subject. Be sure to use a tripod and self timer.

- This is more effective when taking pictures without using the flash.
- The focus range becomes the same as macro mode. (Macro / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.
- The initial setting for [AF MODE] is .



[BABY 1/2] Suitable for taking pictures of your baby. Age can be displayed with pictures if you set the birthday.

It is possible to set different birthdays and names for [BABY1] and [BABY2]. You can select to have these appear at the time of playback, or have them stamped on the recorded image using [TEXT STAMP].



Birthday/Name setting:

1. Press to select [AGE] and then press .
2. Press to select [SET] and then press [MENU/SET].
3. Use to enter the birthday.
4. Press [MENU/SET] to finish.
5. Start from step 1. and select [NAME] if you like to add the name.

To cancel [AGE] and/or [NAME]:

Select the [OFF] setting in step 2 of the 'Birthday/Name setting' procedure.

- When you use the flash, the light from it is weaker than usual.
- When birthday or name is set, [AGE] or [NAME] is automatically set to [ON].
- If [ON] is selected when the birthday or name has not been registered, the setting screen appears automatically.
- If [AGE] or [NAME] is set to [OFF] even when the birthday or name has been set, the age or name will not be displayed.
- If the camera is turned on with [BABY1]/[BABY2] set, the age and name are displayed at the lower left of the screen for about 5 seconds, along with the current date and time.
- If the age is not properly displayed, check the clock and birthday settings.
- The birthday setting and name setting can be reset with [RESET].


- The focus range becomes the same as macro mode. (Macro ) / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.
- [INTELLIGENT ISO] is activated, and maximum ISO becomes ISO400.
- The initial setting for [AF MODE] is .



[PET]

Suitable for taking pictures of your pet. Age can be displayed with pictures if you set the birthday.

The [PET] scene works like the [BABY 1/2] scene, please refer to [BABY 1/2] scene for further information.

- The initial setting for the AF assist lamp is [OFF].
- [INTELLIGENT ISO] is activated, and maximum ISO becomes ISO800.
- The initial setting for [AF MODE] is .



[SUNSET]


For taking pictures of sunset glow. Sunset colour can be reproduced vividly.





[HIGH SENS.]

Higher ISO sensitivity is set to reduce blurry images of moving subjects especially when shooting indoors.

Aspect ratio and resolution setting:



Press   to select aspect ratio and resolution and then press [MENU/SET].

- [QUALITY] is automatically fixed to .
- You can take pictures suitable for 4" x 6" / 10 x 15 cm printing.
- The focus range becomes the same as macro mode. (Macro ) / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.



[HI-SPEED BURST]

Continuous mode shooting allows you to capture a crucial moment by shooting pictures continuously.



1. Press   to select aspect ratio and resolution and then press [MENU/SET].
2. Take pictures. Pictures are taken as long as the shutter button is pressed.

Maximum frame rate

approx. 6 pictures/second

Number of recordable pictures

approx. 35 (built-in memory) / approx. 35 to 100 (card). Maximum is 100.

- The frame rate changes according to the recording conditions.
- The possible number of continuous recording pictures is limited by the picture-taking conditions and the type and/or status of the card used.
- The possible number of continuous recording pictures increases immediately after formatting.
- [QUALITY] is automatically fixed to .
- You can take pictures suitable for 4" x 6" / 10 x 15 cm printing.
- The focus range becomes the same as macro mode. (Macro ) / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.
- The focus, zoom, exposure, white balance, shutter speed and ISO sensitivity are fixed to the settings for the first picture.
- The ISO sensitivity automatically switches to between ISO500 and ISO800. However, the ISO sensitivity is increased to make the shutter speed become high-speed.

**[FLASH BURST]**

Up to 5 pictures are taken continuously with flash. It is convenient to take continuous still pictures in dark places.

1. Press **▲▼** to select resolution / aspect ratio and press **[MENU/SET]**.
2. Up to 5 pictures are taken as long as the shutter button is pressed.

- The frame rate changes according to the recording conditions.
- **[QUALITY]** is automatically fixed to **■**.
- You can take pictures suitable for 4" x 6" / 10 x 15 cm printing.
- The focus range is (Wide **[W]**) / 50 cm (1.64 feet) - (Tele **[T]**) to ∞.
- The focus, zoom, exposure, shutter speed, ISO sensitivity, and flash level are fixed to the settings for the first picture.
- The ISO sensitivity automatically switches to between ISO100 and ISO3200.

**[STARRY SKY]**

For taking pictures of extremely dark subjects like a sky with many stars. Please be sure to always use a tripod.

1. Press **▲▼** to select the shutter speed and then press **[MENU/SET]**.
2. Take pictures.



- Press the shutter button fully to display the countdown screen. Do not move the camera after this screen is displayed. When countdown finishes, **[PLEASE WAIT...]** is displayed for the same length of time as the set shutter speed for signal processing.
- Press **[MENU/SET]** to stop taking the picture while the countdown screen is displayed.
- The shutter opens for 15, 30 or 60 seconds.
- The optical image stabilizer function is fixed to **[OFF]**.
- ISO sensitivity is fixed to ISO100.

**[FIREWORKS]**

For taking picture of fireworks. Press shutter when the fireworks fully spread. We recommend using a tripod.

- This mode is most effective when the subject is 10 m (32.8 feet) or more away.
- The shutter speed becomes the following:
 - When **[OFF]** is set on the image stabilizer function: Fixed to 2 seconds
 - When **[MODE1]** or **[MODE2]** is set on the optical image stabilizer function: 1/4th of a second or 2 seconds (The shutter speed becomes 2 seconds only when the camera has determined that there is little camera shake such as when using a tripod etc.)
- You can change the shutter speed by compensating the exposure.
- The AF area is not displayed.
- ISO sensitivity is fixed to ISO100.

**[BEACH]**

For taking pictures on a beach. Prevents under exposure of subject under strong sunlight.

- The initial setting for **[AF MODE]** is **■**.
- Do not touch the camera with wet hands.
- Sand or seawater will cause the camera to malfunction. Make sure that sand or seawater does not get into the lens or the terminals.
- Problems caused by sand or seawater are not covered by the product warranty.



[SNOW]

For taking pictures of snow. Exposure and WB are set for reproducing the snow as white as it actually looks.



[AERIAL PHOTO]

For taking pictures through an airplane window. Please turn off camera when taking off or landing.

We recommend using this technique if it is difficult to focus when taking pictures of clouds etc. Aim the camera at something with high contrast, press the shutter button halfway to fix the focus and then aim the camera at the subject and press the shutter button fully to take the picture.



[PIN HOLE]

Picture is taken darker and with soft focus around the subjects.

1. Press **▲▼** to select resolution / aspect ratio and press [MENU/SET].

2. Take pictures.

- [QUALITY] is automatically fixed to **...**
- You can take pictures suitable for 4" x 6" / 10 x 15 cm printing.
- The ISO sensitivity is fixed to ISO1600
- The focus range becomes the same as macro mode. (Macro **👁**) / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.



[FILM GRAIN]

Picture is taken with a grainy texture to resemble film graininess.

1. Press **▲▼** to select resolution / aspect ratio and press [MENU/SET].

2. Take pictures.

- [QUALITY] is automatically fixed to **...**
- You can take pictures suitable for 4" x 6" / 10 x 15 cm printing.
- The ISO sensitivity is fixed to ISO1600
- The focus range becomes the same as macro mode. (Macro **👁**) / 5 cm (0.17 feet) - (Wide [W]) / 50 cm (1.64 feet) - (Tele [T]) to ∞.



Taking pictures - advanced functions I

Self-timer

You can set a delay of 2 or 10 seconds. Press the shutter button halfway to focus.



Press to select 2 or 10 sec. delay.

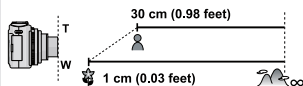


Press shutter button fully to start

- The number of recordable pictures is 3 in [BURST] and 5 in [FLASH BURST] in SCN mode.
- The self timer cannot be set to 2 sec. in [A] mode.
- The self timer cannot be set to 10 sec. in [SELF PORTRAIT] in SCN mode.
- The self timer does not work in [HI] mode; [HI-SPEED BURST] in SCN mode.

Macro mode

Take pictures of subjects as close as 1 cm.



Set switch to macro-mode.

- Use a tripod and the self timer in macro mode.
- Focus priority is to subjects near the camera.
- Set flash to .

In macro mode, **AF** is displayed. To cancel, set switch to AF or MF again.

Auto focus [AF]

The focus range is 50 cm (1.64 feet) to ∞ .



Set switch to auto focus AF.

The AF might have problems focusing objects:

- too fast or bright
- without contrast
- behind windows
- in darkness or jitter
- too close

Photographing a subject outside the auto focus area

1. Aim the AF area at the subject, and then press the shutter button halfway to fix the focus and exposure.
2. Hold the shutter button halfway while moving the camera as you compose the picture.



- Alternatively the AF/AE Lock button can be used to lock the focus and exposure. To unlock, press AF/AE Lock button again. See also [AF/AE LOCK] on page 53.
- Retry the actions in step 1. until you are satisfied with the result, before pressing the shutter button fully.

■ Manual focus [MF]

During manual focus, the [MF ASSIST] (if set to [MF1] or [MF2] in [SETUP] menu) and the focus range are displayed.

- MF assistance disappears after 2 sec of no joystick operation.
- Focus range disappears after 5 sec of no joystick operation.

MF assist is reset to its original position by:

- switching the focus to AF
- using One shot AF
- changing picture size or aspect ratio
- turning the camera off



Set switch to manual focus MF.



Tilt ▲▼ to focus

Manual focus MF

1. Focus by tilting the joystick ▲▼.
2. Tilt it a little more in the same direction.
3. Tilt the joystick in the opposite direction to finely focus on the subject.

Changing/moving the zoom area

1. While MF assist is displayed, press ▲▼◀▶.
2. Press [MENU/SET] to confirm.



Set switch to manual focus MF.



Press [FOCUS] to prefocus the subject

One shot AF

You can focus on the subject with auto focus by selecting [MF] with Focus selector switch and then pressing the [FOCUS] button. This is convenient for prefocus.

- This allows the camera to be focused in advance on an arbitrary point. It is useful when it is difficult to achieve a sharp focus using autofocus or the subject is fast-moving.

See page 45 for further information on the [MF ASSIST] mode.








- You can also use manual focus while in motion picture mode, but the focus cannot be adjusted during recording.
- If you focus on the subject in Wide and then rotate the zoom lever to Tele, the focus may not be adequate. In this case, focus on the subject again.
- The MF assistance does not appear when using the digital zoom.
- The distance to the subject displayed on the screen in manual focus is an approximation of the focus position. Use the MF assistance screen for a final check of the focus.
- After cancelling power save mode, focus on the subject again.



Taking pictures - advanced functions II

■ Auto bracketing

3 pictures are automatically recorded in the selected exposure range.

- The flash is set to .
- The function is cancelled after turning off the camera.
- The auto bracketing does not work in  and  mode.
- , ,  and  in SCN mode.



Select
[AUTO BRACKET]
Press repeatedly



Set compensation
range
Press repeatedly

Auto bracketing and multi aspect cannot be set at the same time.

■ Multi aspect

Pressing the shutter button once automatically takes three pictures with 4:3, 3:2 and 16:9 aspect ratios.

- Press [DISPLAY] to switch between auto bracket and multi aspect.
- The function is cancelled after turning off the camera.



Select
[AUTO BRACKET]
and press [DISPLAY]



Select [ON]

Multi aspect and auto bracketing cannot be set at the same time.

■ Exposure compensation

Use this function when you cannot achieve an appropriate exposure due to the difference in brightness between the subject and the background.

- The set exposure value is stored even if the camera is switched off.



Select
[EXPOSURE]
Press repeatedly



Compensate
Press repeatedly

■ Flash output

Adjust the flash output when the subject is small, or the reflectivity is very high or low.

- The flash output value appears on the upper left of the screen.
- The flash output setting is memorised even if the camera is turned off.




Select
[FLASH]
Press repeatedly

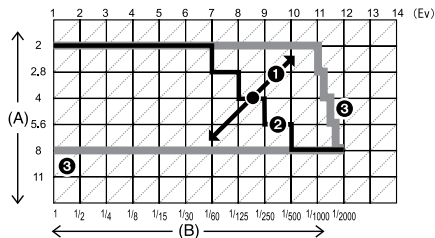


Set output
Press repeatedly

■ Program shift

Change the preset aperture value and shutter speed combination without changing the exposure.

1. Press the shutter button half way.
2. Adjust program shift with the joystick.
3. The program shift icon , aperture value and shutter speed are displayed.
4. To cancel program shift, use the joystick or turn the camera off.



A: Aperture value

B: Shutter speed

1: Program shift amount

2: Program shift line chart

3: Program shift limit

- If the exposure is not adequate when the shutter button is pressed halfway, the aperture value and shutter speed turn red.
- Program shift is cancelled and the camera returns to normal program AE mode if more than 10 seconds pass after program shift is activated. However, the program shift setting is memorised.
- Depending on the brightness of the subject, program shift may not be activated.



Taking pictures - advanced functions III

■ Continuous mode







Pictures are taken continuously while the shutter button is pressed.






Press and hold



Select burst mode

	[OFF]		
Frame rate (pic/sec)	-	2.5 ¹	approx. 2
Number of recordable pictures		-	max. 3
		-	max. 8
	RAW	-	max. 3
	RAW 	-	
	RAW 	-	
			max. 3

¹ The frame rate is constant regardless of the speed of the card.

- The frame rate values given above apply when the shutter speed is 1/60 or faster and when the flash is not activated.
- When the continuous mode setting is set to Unlimited, the frame rate becomes slower halfway. The exact timing of this depends on the type of card, the resolution and the quality. You can take pictures until the capacity of the built-in memory or the card is full.
- The focus is fixed when the first picture is taken.
- When the frame rate is set to , the exposure and white balance are fixed at the settings used for the first picture for the subsequent pictures as well. When the frame rate is set to , they are adjusted each time you take a picture.
- When the self-timer is used, the number of recordable pictures in continuous mode is fixed to 3.
- If you are following a moving subject while taking pictures in a place (landscape) indoors, outdoors etc. where there is a large difference between the light and shade, it may take time until the exposure is stable. If continuous is used at this time, the exposure may not become optimal.
- The frame rate (pic/sec) may become slower depending on the recording environment such as in dark places, if the ISO sensitivity is high etc.
- Continuous mode is not cancelled when the camera is switched off.
- If you take pictures in continuous mode with the built-in memory, it will take time to write the picture data.
-  is set for the flash when continuous mode is set.
- When continuous mode is set, auto bracket, multi aspect and [MULTI FILM] settings will be cancelled.
- The number of exposures in continuous mode is fixed to 3 pictures when external flash is used.

i

Aperture values and shutter speeds

Depending on the mode, these aperture values and shutter speeds can be set.

1. S Shutter priority

Available shutter speed (Sec) - (Per 1/3 EV)				Aperture Value
8	6	5	4	
3.2	2.5	2	1.6	F2.0 to 8.0
1.3	1	1/1.3	1/1.6	
1/2	1/2.5	1/3.2	1/4	
1/5	1/6	1/8	1/10	
1/13	1/15	1/20	1/25	
1/30	1/40	1/50	1/60	
1/80	1/100	1/125	1/160	
1/200	1/250	1/320	1/400	
1/500	1/640	1/800	1/1000	
1/3000	1/1600	1/2000	-	

2. A Aperture priority

Available Aperture Value - (Per 1/3 EV)			Shutter Speed (Sec)
F8.0			
F7.1	F6.3	F5.6	8 to 1/2000
F5.0	F4.5	F4.0	
F3.5	F3.2	F2.8	
F2.5	F2.2	F2.0	

3. M Manual exposure

Available Aperture Value (Per 1/3 EV)	Available Shutter Speed (Sec) (Per 1/3 EV)
F2.0 to F8.0	60 to 1/2000

- The aperture values given in the table above are values when the zoom lever is rotated to Wide [W].
- Depending on the zoom setting, some of the aperture values cannot be selected.



Using the flash

To open the flash use the flash open button. To close press the flash down until it clicks.

■ Select a flash mode



Press repeatedly

- The flash setting is fixed to while the flash is closed.
- Available flash settings depend on the record mode.
- For red-eye reduction, the flash is fired twice. The subject should not move until the second flash is fired.
- The set flash mode is stored even if the camera is switched off.
- In **SCN** mode the setting returns to initial setting if you change the scene mode.

Shutter speed (sec.)



AUTO

1/30 to 1/2000

Flash is fired automatically when the recording conditions make it necessary.



AUTO/Red-eye reduction

1/30 to 1/2000

Use this when you take pictures of people in low light conditions.



Forced ON

1/30 to 1/2000

Permanently on. Use this when your subject is back-lit or under fluorescent light.



Slow sync/ Red-eye reduction

1 to 1/2000

Use this if you take pictures of people in front of a dark background.



Forced ON/ Red-eye reduction

1/30 to 1/2000

Red-eye reduction only in **SCN** mode [PARTY] / [CANDLE LIGHT]



Forced OFF

The flash is not fired in any situation.

■ Available flash range at ISO sensitivity:

	Wide [W]:	Tele [T]:
[AUTO]	80cm – 8.3m	30cm – 5.9m
[ISO80]	80cm – 2.3m	30cm – 1.6m
[ISO100]	80cm – 2.6m	30cm – 1.8m
[ISO200]	80cm – 3.7m	30cm – 2.6m
[ISO400]	80cm – 5.3m	40cm – 3.7m
[ISO800]	80cm – 7.4m	60cm – 5.3m
[ISO1600]	1.15m – 10.6m	90cm – 7.5m
[ISO3200]	1.15m – 14.9m	1.3m – 10.7m

In [HIGH SENS.] in **SCN** mode, the ISO sensitivity automatically switches between [ISO1600] and [ISO6400] and the available flash range also differs.

Available flash settings by recording mode

	SA	SA	S	SO	SO	SO
A	○ ¹	—	—	—	—	○
P	○	○	○	○	—	○
A	○	○	○	○	—	○
S	○	○	○	—	—	○
M	○	○	○	—	—	○
□	—	—	—	—	—	○
□	○	●	○	—	—	○
□	○	●	○	—	—	○
□	○	●	○	—	—	○
□	—	—	—	—	—	●
□	●	—	○	—	—	○
□	—	—	—	●	—	○
□	—	—	—	—	—	●
□	●	—	○	—	—	○
□	—	—	—	●	○	○
□	—	—	—	○	●	○
□ ¹	○	●	○	—	—	○
□ ²	○	●	○	—	—	○
□	●	—	○	—	—	○
□	—	—	—	—	—	●
□	●	—	○	—	—	○
□	—	—	—	—	—	●
□	—	—	●	—	—	—
□	—	—	—	—	—	●
□	—	—	—	—	—	●
□	—	—	●	—	—	○
□	●	—	○	—	—	○
□	—	—	—	—	—	●
□	●	—	○	—	—	○
□	●	—	○	—	—	○

- If you bring the flash too close to an object, the object may be distorted or discoloured by the heat or lighting from the flash.
- When you take a picture beyond the available flash range, the exposure may not be adjusted properly and the picture may become bright or dark.
- While the flash is being charged, the flash icon flashes red, and you cannot take a picture. When [AUTO LCD OFF] is set, the LCD monitor turns off and the status indicator lights up.
- The white balance may not be properly adjusted if the flash level is insufficient for the subject.
- When the shutter speed is fast, the flash effect may not be sufficient.
- It may take time to charge the flash after repeatedly taking pictures. Take a picture after the access indication disappears.
- The red-eye reduction effect differs between people. Also, if the subject was far away from the camera or was not looking at the first flash, the effect may not be evident.

○ Available
 — Not available
 ● Initial scene setting

¹ When SA is selected, SA, SA or SO is set depending on the type of subject and brightness.



The SETUP Menu

1. Enter the SETUP menu



Select setting ...

2. [CLOCK SET]



Changing the date and time.



[WORLD TIME]

= Destination

= Home

Set the time in your home area and travel destination.



[TRAVEL DATE]

[TRAVEL SETUP] - [LOCATION]

[TRAVEL SETUP]

[OFF] - [SET]

Set the departure and return date of your travel.

[LOCATION]

[OFF] - [SET]

Add location information by entering text.



[BEEP]

[OFF] - - -

[BEEP LEVEL]

- -

Set beep level to desired volume.

[BEEP TONE]

- -

Choose desired beep tone.

[SHUTTER VOL.]

- -

Set shutter to desired volume.

[SHUTTER TONE]

- -

Choose desired shutter tone.



[VOLUME]

Adjust the speaker volume in 7 steps.



[CUST. SET MEM.]

Up to 4 current camera settings can be registered as custom settings.

Recording mode only.



[Fn BUTTON SET]

Assign [REC] Menu to button. It is convenient to register [REC] Menu that is used often.

**[MONITOR]**

Adjust the brightness of the LCD display in 7 steps.

**[LCD MODE]** [OFF] - -

[OFF] = The LCD works in its normal mode.

[AUTO POWER LCD] = Brightness is auto-adjusted.

[POWER LCD] = The LCD is brighter and easier to see.

- The LCD monitor automatically returns to normal brightness after 30 seconds when recording in [POWER LCD] mode. Press any button to make the LCD monitor bright again.

- The number of recordable pictures decreases in [AUTO POWER LCD] and [POWER LCD] mode.

**[GUIDE LINE]** [REC. INFO.] - [PATTERN]

[REC. INFO.] [OFF] - [ON]

Displays the recording information and guidelines.

[PATTERN] -

Brings different guide lines to the LCD monitor to assist you in framing, composition, and aligning.

- The [PATTERN] setting is fixed to in the snapshot mode.

**[HISTOGRAM]** [OFF] - [ON]

Shows the histogram that allows you to easily check a picture's exposure.

**[HIGHLIGHT]**

When the auto review or review function is activated, white saturated areas appear flashing in black and white.

- If there are any white saturated areas, compensate the exposure towards negative. This might result in a better picture.

- There may be white saturated areas if the distance between the camera and the subject is too close when taking pictures with the flash.

**[MF ASSIST]** [OFF] - [MF1] - [MF2]

In manual focus, the assistance screen appears on the centre of the screen to facilitate focusing on the subject.

[OFF] = The screen works in its normal mode.

[MF1] = The centre of the screen is enlarged.

[MF2] = The centre of the screen is enlarged over the whole screen.

**[ECONOMY]** -

[POWER SAVE] [OFF] - [2MIN.] - [5MIN.] - [10MIN.]
Turns off the camera automatically after the selected time.

[AUTO LCD OFF] [OFF] - [15 SEC.] - [30 SEC.]
Turns off the LCD display automatically after the selected time.

- The status indicator lights while the LCD monitor is turned off. Press any button to turn on the LCD monitor again.



[AUTO REVIEW] [OFF] - [1 SEC.] - [2 SEC.] - [HOLD] - [ZOOM]

Set the length of time that the picture should be displayed after taking it.

[OFF] = *The recorded picture is not shown.*

[1 SEC.] - [2 SEC.] = *The recorded picture is show this long.*

[HOLD] = *The recorded picture is shown until any button is pressed.*

[ZOOM] = *The picture is displayed for 1 second and then enlarged 4x and displayed for 1 more second.*



[NO.RESET]

Reset the file and/or folder number to 0001.

- A number between 100 and 999 can be assigned. When the folder number reaches 999, the number cannot be reset. We recommend formatting the card after saving the data on a PC or elsewhere.

- To reset the folder number to 100, format the built-in memory or the card first and then use this function to reset the file number. A reset screen for the folder number will then appear. Select [YES] to reset the folder number.




[RESET] [REC. SETTINGS] - [SETUP PARAMETERS]

Resets the recording- or setup settings to their initial settings.

- The folder number and the clock settings are not changed.

- When the [RESET] setting is selected during recording, the operation that resets the lens is also performed. You will hear the lens operating, this is normal and not indicative of malfunctioning.



[USB MODE]  -  - 

Set how to transfer pictures from the camera:

 [SELECT ON CONNECTION] = *Select PictBridge or PC.*

 [PictBridge(PTP)] = *Transfer to a PictBridge capable printer.*

 [PC] = *Transfer to a computer.*

- The connection is either established via the "USB Mass Storage" communication system in [PC] mode or via the "PTP (Picture Transfer Protocol)" communication system in [PictBridge(PTP)] mode.



[VIDEO OUT] [NTSC] - [PAL]

Set to match the colour television system in each country.

- This will work when an AV cable is connected. See page 75.



[TV ASPECT]  - 

Set to match the type of TV.

- This will work when an AV cable is connected. See page 75.



[m/ft] [m] - [ft]

Choose meter or feet scaling.



[SCENE MENU] [OFF] - [AUTO]

Set the screen that will appear when a scene mode has been selected:

[OFF] = *The recording screen in the selected scene mode appears.*

[AUTO] = *The scene mode menu appears.*

**[VERSION DISP.]**

See which version of firmware is on the camera.


**[FORMAT]**

The built-in memory or card is formatted. Formatting irretrievably deletes all the data so check the data carefully before formatting.

- Use a battery with sufficient battery power or the AC adaptor when formatting. Do not turn the camera off during formatting.
- If a card has been inserted, only the card is formatted. To format the built-in memory, remove the card.
- If the card has been formatted on a PC or other equipment, format it on the camera again.
- It may take longer to format the built-in memory than the card.
- If the built-in memory or the card cannot be formatted, consult your nearest Service Centre.

**[LANGUAGE]**

Set the language to be displayed on the screen.

- If you set a different language by mistake, select  from the menu icons to set the desired language.

**[DEMO MODE]**

[JITTER, SUBJ. MOVE DEMO] - [AUTO DEMO]

View camera-, subject-shake and feature demonstration.

1. Enter the REC menu



Select setting



2.



[FILM MODE]

You can select the colour tone of the pictures from 9 types in the same way as you would select different films for film cameras.

- [STANDARD]¹ = Standard setting.
- [DYNAMIC]¹ = Saturation and contrast of the colours are increased.
- [NATURAL] = Brighter red, green and blue.
- [SMOOTH]¹ = Contrast is lowered for softer and clearer colour.
- [VIBRANT] = Higher saturation and contrast than dynamic.
- [NOSTALGIC] = Lower saturation and contrast.
- [STANDARD BW]¹ = Standard setting.
- [DYNAMIC BW] = The contrast is increased.
- [SMOOTH BW] = Softens the picture without losing the skin texture.
- [MY FILM 1] = Saved settings are used.
- [MY FILM 2] = Saved settings are used.
- [MULTI FILM] = The picture can be recorded in max. three film modes.

¹ This item cannot be set in mode.

Adjusting film mode settings:

1. Press to select a film mode.
2. Press to select an item and to adjust.
- Settings are memorized even if the camera is switched off.
3. Press to select [MEMORY] and press [MENU/SET].
4. Press to select [MY FILM 1] or [MY FILM 2] and press [MENU/SET].
5. Press [MENU/SET] to close the menu.

CONTRAST	+	Increases difference between bright and dark.
	-	Decreases difference between bright and dark.
SHARPNESS	+	The picture is sharply defined.
	-	The picture is softly focused.
SATURATION	+	The colours in the picture become vivid.
	-	The colours in the picture become natural.
NOISE REDUCTION	+	The noise reduction effect is enhanced.
	-	The noise reduction effect is reduced.

Adjusting multi film settings:

- Press ◀▶ to select a [MULTI FILM] and press ▼.
- Press ▲▼ to select multi films 1 to 3 and ◀▶ to set the film modes.
 - One press of the shutter button automatically records the picture to a selected number of films (up to a maximum of three films).
 - In film mode, the camera may do something equivalent to pull processing or push processing to create a picture with particular characteristics. The shutter speed may become very slow at this time.
 - Noise may become visible when you take pictures in dark places.



[PICTURE SIZE] [10M] - [7M] - [5M] - [3M] - [2M] - [0.3M]

Set the desired resolution. The higher the numbers, the finer the detail of the pictures will appear even when they are printed.

4:3	Aspect Ratio	3:2	Aspect Ratio	16:9	Aspect Ratio
10M	3648 x 2736	95M	3776 x 2520	5M	3968 x 2240
7M	3072 x 2304 ¹	65M	3168 x 2112 ¹	6M	3328 x 1872 ¹
5M	2560 x 1920	45M	2656 x 1768	45M	2784 x 1568
3M	2048 x 1536	3M	2112 x 1408 ¹	25M	2208 x 1248 ¹
2M	1600 x 1200 ¹	25M	2048 x 1360	2M	1920 x 1080
0.3M	640 x 480				

¹ This item cannot be set in **A** mode.

- If you change the aspect ratio, set the resolution again.
- The extended optical zoom does not work in [HIGH SENS.], [HI-SPEED BURST], [FLASH BURST] or [FILM GRAIN] in **SCN** mode so the resolution for **7M** is not displayed.
- **7M** is an abbreviation of 'Extended optical Zoom'.
- Pictures may appear mosaic depending on the subject and the recording conditions.



[PICTURE MODE] Accessible in motion picture mode only

Set the number of pixels. The higher the numbers, the finer the detail of the movie will appear when they are played back.

Aspect Ratio	Quality	Resolution	fps
If you select 4:3 aspect ratio.			
	VGA ¹	640 x 480 pixels	30
	QVGA-H	320 x 240 pixels	30
	QVGA-L		10
If you select 16:9 aspect ratio.			
	HD ¹	1280 x 720 pixels	24
	WVGA ¹	848 x 480 pixels	30

¹ Cannot be recorded in the built-in memory.



[QUALITY] - - RAW - -

Set the compression rate at which the pictures are to be stored.

[FINE] = Giving priority to the picture quality.

[STANDARD] = Giving priority to the number of recordable pictures.

RAW [RAW]¹ = RAW format for high quality computer editing.

[RAW+JPEG] = RAW + FINE

[RAW+JPEG] = RAW + STANDARD

¹ Fixed to maximum resolution for each aspect ratio.

- RAW pictures take longer to be recorded to the built-in memory.

- Deleting a RAW file from the camera, deletes the corresponding JPEG image as well.

- Advanced picture editing is possible if RAW files are used.

- Extra Optical Zoom, [DIGITAL ZOOM], [MULTI ASPECT], [AUDIO REC.] cannot be set when the quality is set to [RAW], [RAW+JPEG] or [RAW+JPEG].



[INTELLIGENT ISO] [OFF] - [ON]

The camera automatically sets the optimum ISO sensitivity and shutter speed to minimize the camera shake of the subject.

- The maximum ISO sensitivity will be set to the value set in [ISO LIMIT SET] when set to [ON]. When the [ISO LIMIT SET] is set to [AUTO], it will be set automatically within the range up to [ISO800] depending on the brightness.



[SENSITIVITY] [AUTO] - [80] - [100] - [200] - [400] - [800] - [1600] - [3200]

ISO is a measure of sensitivity to light. The higher the sensitivity is set (more image noise), the less light is needed to take a picture, so the camera becomes more suitable for recording in dark places.

- When setting to [AUTO], the ISO sensitivity is automatically adjusted to the maximum value set with [ISO LIMIT SET].

- The setting is not available when [INTELLIGENT ISO] is set.



[ISO LIMIT SET] [AUTO] - [200] - [400] - [800] - [1600] - [3200]

Most appropriate sensitivity within the set range will be set depending on the brightness of the subject. The upper ISO sensitivity limit can be set.

- The higher the value for the ISO sensitivity is set, the more camera shake is reduced but the amount of picture noise is greater.

- It will work when the [SENSITIVITY] is set to [AUTO] or [INTELLIGENT ISO] is set to [ON].



[WHITE BALANCE] - - - - - - -

Select a setting that matches the recording conditions to adjust the colour rendition for a more natural picture.

- | | |
|------------------------|----------------------------|
| Automatic adjustment | Incandescent light |
| Outdoors, clear sky | Present white balance 1 |
| Outdoors, cloudy sky | Present white balance 2 |
| Outdoors, in the shade | Present colour temperature |
| Flash only | |

Auto white balance:

White balance is set automatically. If multiple light sources are present or there is nothing of a white colour, auto white balance may not work properly. In these cases, set the white balance to a mode other than **AWB**.

Adjusting white balance manually:

1. Select or and then press .
2. Aim the camera at a sheet of white paper. The frame in the centre must be filled with white paper and press [MENU/SET].

White balance fine adjusting :

1. Select [WHITE BALANCE] and then press .
 - Press again if , or is selected.
2. Press (Green), (Magenta), (Amber), (Blue) to adjust white balance and press [MENU/SET].

Setting the colour temperature:

1. Select and then press .
2. Press to set 2500K or 10000K and press [MENU/SET].
 - The optimal white balance will differ depending on the type of fluorescent lighting being recorded under so use **AWB**, or .
 - The set white balance is stored even if the camera is turned off.
 - The white balance fine adjustment setting is displayed in the picture when using the flash.
 - Select the centre point if the white balance is not finely adjusted.
 - Each white balance item can be fine adjusted independently.
 - The white balance fine adjustment level in returns to zero when you reset the white balance using , or .



[METERING MODE] - -

Type of optical measurement to measure brightness can be changed.

Multiple

The camera measures the most suitable exposure by judging the allocation of brightness automatically. This method is recommended.

Centre weighted

This is the method used to concentrate on the subject in the centre of the screen while still registering the whole screen.

Spot

This is the method to measure the subject in the spot metering area.

- When is selected and [AF MODE] is set to , the camera will adjust the exposure to suit the person's face.



[AF MODE]



This allows the focusing method that suits the positions and number of the subjects to be selected.

- Face detection ¹ Focusing is set to detected faces.
- AF Tracking Focuses on moving subjects.
- Multi-area Focuses on up to 5 focus areas per AF area.
- 1-area High-Speed ² Quick focus on the centre area.
- 1-area Focus on the centre of the screen.
- Spot Focus on a small area of the screen.

Setting up AF Tracking:

1. Bring the subject to the AF tracking frame and press [AF/AE LOCK].
 - AF area will continuously focus on the subject's movement once the subject is recognised. (Dynamic tracking)
 - AF tracking is turned off when [AF/AE LOCK] is pressed again.
2. Take the picture.
 - If it fails to lock, AF area will flash red, and disappear.
 - [AF MODE] will be set to when the AF tracking or dynamic tracking fails.
 - It is not possible to set in [STARRY SKY], [FIREWORKS], [PIN HOLE] or [FILM GRAIN] in SCN mode, or in the motion picture mode.
 - Dynamic tracking function may not work if the subject is too small, moving fast, the camera is shaking, the location is dark or the subject is the same colour as the background, or there is similar colour.

AF area selection:

You can select the AF area by pressing [FOCUS] when , , or is selected. It is also possible to switch to AF area selection screen by pressing when AF mode is selected with .

- You can set from the quick menu.

If , or is selected:











1. Press to move the AF area.
 - You can set to arbitrary position of the screen. (It cannot be set to edge of the screen)
2. Press [MENU/SET] to set.

If is selected:

1. Press to select the AF area.
2. Press [MENU/SET] to set.
 - The spot metering area can also be moved to match the AF area when using .
 - The following operations will return the AF area to the previous position. When the mode dial is set to snapshot mode . When the power save mode is activated. When the camera is turned off.

¹ Under certain picture-taking conditions, the facial recognition function may fail to work. [AF MODE] is switched to .

- When the face is not facing the camera.
- When the face is at an angle.
- When the face is extremely bright or dark.
- When there is little contrast on the faces.

- When the facial features are hidden behind sunglasses, etc.
 - When the face appears small on the screen.
 - When there is rapid movement.
 - When the subject is not a human being.
 - When the camera is shaking.
 - When digital zoom is used.
- ² You can focus on the subject more quickly than in other AF modes.
- ² The picture may stop moving for a moment before being brought into focus when you press the shutter button halfway. This is not a malfunction.
- The camera is focusing on all the AF areas when multiple AF areas (max. 5 areas) light up at the same time. If you want to determine the focus position to take pictures, switch the AF mode to ,  or .
 - If the AF mode is set to , the AF area is not displayed until the picture is brought into focus.
 - Switch the AF mode to  or  if it is difficult to focus using .
 - The camera may misinterpret subjects other than a person as the face. In this case, switch the AF mode to any mode other than  and then take a picture.
 - The AF mode cannot be set in [FIREWORKS] in SCN mode.
 - It is not possible to set  in the following cases. [NIGHT SCENERY], [FOOD], [STARRY SKY] and [AERIAL PHOTO] in SCN mode. In  mode.



[PRE AF]

QAF - CAF

The camera will adjust focus automatically depending on the settings.

QAF Adjusts the focus automatically when camera shake is minor.

CAF Adjusts the focus at all times (continuous AF operation).


- The battery will be consumed faster than usual.
- Press the shutter button halfway again when it is difficult to focus on the subject.
- It may take time to focus on the subject if you rotate the zoom lever from Wide to Tele or suddenly change subjects from a distant one to a nearby one.



[AF/AE LOCK]


[AF] - [AE] - [AF/AE]

This is a technique for setting the focus and the exposure in advance when the subject is outside the focus area or when the contrast is too high and the appropriate exposure cannot be achieved.

[AF] Only the focus is locked,  is displayed.

[AE] Only the exposure is locked,  is displayed.



[AF/AE] Focus and exposure are locked,  is displayed.

- AE lock is not possible in  mode.
- AE lock is not possible if AF lock fails when [AF/AE] is selected.
- Exposure is set even if the brightness of the subject changes in [AE].
- The subject can be focused again by pressing the shutter button halfway even when AE is locked.



[I.EXPOSURE] [OFF] - [LOW] - [STANDARD] - [HIGH]

Contrast and exposure will be adjusted automatically when there is a big difference in brightness between the background and subject, to record the image the way you saw it.

- [LOW], [STANDARD], or [HIGH] represents the maximum range of effect.
- When it is set to [LOW], [STANDARD] or [HIGH],  is displayed.
- When ISO sensitivity is set to [ISO80] or [ISO100], the ISO sensitivity might become higher than when the [I.EXPOSURE] is set.
- Depending on the conditions the effect may not be achieved.
-  in the screen turns to yellow when [I.EXPOSURE] is in effect.





[MULTI. EXPO.] [OFF] - [LOW] - [STANDARD] - [HIGH]

Using this function, you can achieve the kind of effect that is obtained when an image is exposed two or three times.

1. Select [START] and press [MENU/SET].

2. Decide on the composition and take the first picture.



- After taking the picture, press the shutter button halfway to take the next picture.
- Press   to select the item and then press [MENU/SET] for one of the following operations.

[NEXT]: Advance to the next picture.

[RETAKE]: Return to the first picture.

[EXIT]: Record the first picture and exit the session.

3. Decide on the composition, and take the second picture.



- After taking the picture, the first and second pictures taken will be superimposed over each other and displayed.
- After taking the picture, press the shutter button halfway to take the next picture.
- Press   to select the item and then press [MENU/SET] for one of the following operations.


[NEXT]: Advance to the next picture.

[RETAKE]: Return to the first picture.

[EXIT]: Record the first picture and exit the session.

4. Decide on the composition, and take the third picture.

- After taking the picture, the images of the first, second and third pictures taken will be superimposed over one another and displayed.
- Press   to select [RETAKE] and then press [MENU/SET] to return to the third picture.

5. Press  to select [EXIT] and then press [MENU/SET].

- You can also press the shutter button halfway to finish.
- The images up to the third picture taken are recorded, and the multiple exposure picture-taking session will be completed.

Optionally set [AUTO GAIN] in step 1 and set it.

[ON]: Brightness is adjusted accordingly to each pictures.

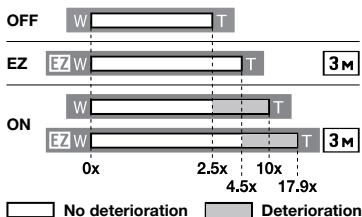
[OFF]: Exposure is compensated to the superimposed picture.

- Image is not recorded until completion.
- The recording information displayed for pictures taken with multiple exposures is the recording information for the last picture taken.
- If [MENU/SET] is pressed while taking pictures, the photographed images are recorded, and the multiple exposure picture-taking session will be completed.
- Continuous mode, [AUTO BRACKET], [MULTI ASPECT], Extra optical zoom and Digital zoom cannot be used.



[DIGITAL ZOOM] [OFF] - [ON]

This can enlarge subjects even more than the optical zoom or extended optical zoom.



Set zoom

Extended optical zoom mechanism

To use the extended optical zoom mechanism, for example, set the resolution to (3 million pixels). The 10.1 million pixel CCD area is cropped to the centre 3 million pixel area, allowing a picture with a higher zoom effect without loss of quality.

- Digital zoom cannot be set in mode.
- The indicated zoom magnification is an approximation.
- The on-screen zoom indication may momentarily stop. You can enter the digital zoom range by continuously rotating the zoom lever to tele [T].
- The magnification level differs depending on [PICTURE SIZE] and [ASPECT RATIO] setting.
- The optical zoom is set to wide [W] when the camera is turned on.
- If you use the zoom function after focusing on the subject, focus on the subject again.
- The lens barrel extends or retracts according to the zoom position. Take care not to interrupt the motion of the lens barrel while the zoom lever is rotated.
- When using the digital zoom, [STABILIZER] may not be effective.
- When using the digital zoom, we recommend using a tripod and the self-timer for taking pictures.



[STABILIZER] [OFF] - [AUTO] - [MODE1] - [MODE2]

Using one of these modes, camera shake during picture taking is detected, and the camera automatically compensates the camera shake, enabling shake-free images to be taken.

[OFF] = Stabilizer is switched off.

[AUTO] = The optimum compensation depending on the conditions.

[MODE1] = Camera shake is constantly compensated in [REC] mode.

[MODE2] = Camera shake is compensated only when the shutter button is pressed.

- The stabilizer function may not be effective when there is a lot of camera shake, when the zoom magnification is high, in digital zoom range, when taking pictures while following a moving subject and when the shutter speed becomes slower.
- The setting is fixed to [MODE2] with [SELF PORTRAIT] in **SCN** mode and to [OFF] in [STARRY SKY] in **SCN** mode.
- It cannot be set to [OFF] in the mode.
- In mode, [AUTO] or [MODE2] cannot be set.

MIN

[MIN. SHTR SPEED] [1/250] - [1/125] - [1/60] - [1/30] - [1/15] - [1/8] - [1/4] - [1/2] - [1]

You can set [MIN. SHTR SPEED] to a low limit to allow correct exposures of low-light-situations.

Min. shutter speed setting	1/250	◀ ▶	1
Brightness	Darker		Brighter
Camera shake	Less		More

- This should usually be set to [1/8] to take pictures. When you select a minimum shutter speed other than [1/8], **MIN** appears on the screen.
- Setting [MIN. SHTR SPEED] to faster speed might make the picture darker. If correct exposure cannot be achieved, **MIN** will flash in red when the shutter button is pressed halfway.



[AUDIO REC.] [OFF] - [ON]

Audio can be recorded simultaneously with the image. You can record the conversation during the shooting or the situation as a memo.

[OFF] = Audio will not be recorded.

[ON] = Audio will be recorded for 5 sec. after the picture was taken.

- If you press [MENU/SET] during audio recording, the audio recording is cancelled.
- Audio is recorded from the built-in microphone on the camera.

AF* [AF ASSIST LAMP] [OFF] - [ON]

Illuminating the subject makes it easier for the camera to focus when recording in low light conditions that make focusing difficult.

[OFF] = AF focus assist lamp does not turn on.

[ON] = AF focus assist lamp lights up if the shutter button is pressed halfway.

- The effective range of the AF assist lamp is 1.5 m (4.92 feet).
- When you do not want to use the AF assist lamp (e.g. when taking pictures of animals in dark places), set the [AF ASSIST LAMP] to [OFF]. In this case, it will become more difficult to focus the subject.



[FLASH SYNCHRO] [1ST] - [2ND]

2nd synchro activates the flash just before the shutter closes. Recommended when taking pictures of moving objects using a slow shutter speed.

[1ST] = Normal mode taking pictures with the flash.

[2ND] = The light source appears behind the subject.

- Set it to [1ST] normally.
- [2ND] is displayed in the flash icon on the LCD monitor if you set [FLASH SYNCHRO] to [2ND].
- When a fast shutter speed is set, the effect of [FLASH SYNCHRO] may deteriorate.
- [FLASH SYNCHRO] can be used with an external flash.




[EXT. VIEWFINDER] [OFF] - [ON]

When using the external viewfinder (optional), you can switch the screen to a suitable display.

[OFF] = *The camera LCD is used for picture review.*

[ON] = *The camera LCD is disabled. Review pictures externally.*

- *Display on the LCD monitor is switched by pressing [DISPLAY] for a few times.*
- *The screen is normally off. However elements such as the focus icon and the flash charging icon are lit.*
- *Set to [OFF] when not using the external viewfinder.*
- *The default setting for AF mode is .*



[CLOCK SET]

To set the year, month, day and time. It functions in exactly the same way as [CLOCK SET] in the [SETUP] menu.

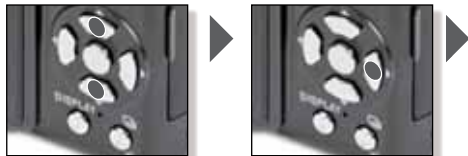
Register up to 4 sets of camera settings as custom sets. Set to the mode dial to the desired mode and select the desired menu settings in advance.

1. Enter the SETUP menu



Select setting

2. Apply custom settings

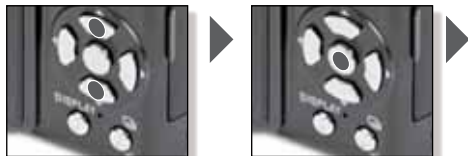


Select
[CUST. SET MEM.]

Press ► to enter

Custom settings **C1** and **C2**

C1	C2
C1	C2-1
	C2-2
	C2-3



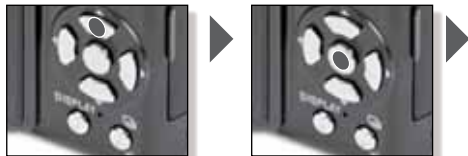
Select C1, C2-1, C2-2
or C2-3 custom setting

Press [MENU/SET] to
confirm.

- **C1** offers one custom setting.
- **C2** offers three custom settings.

The following items cannot be set, as they affect other recording modes:

- [CLOCK SET]
- [TRAVEL DATE]
- [SCENE MENU]
- [RESET]
- [NO.RESET]
- [BABY1]/[BABY2] or [PET]
birthday / name in **SCN** mode.



Press ▲ to select [YES]

Press [MENU/SET] to
confirm.




Press [MENU/SET] to
close the menu.

You can select one of your own custom settings saved with [CUST. SET MEM.] to suit the picture-taking conditions.

1. Switch camera ON and set mode

The status indicator lights up for about 1 sec.



Switch camera ON, set  mode

2. Select C1 or C2 mode and aim the camera at your subject

- Hold the camera firmly with both hands



Select C1 or C2 mode



Aim the AF area at your main subject

3. If C2 mode is selected, choose desired setting

- Press [DISPLAY] to switch between menu settings and selection screen.



Press   to select setting and press [MENU/SET]



Press [MENU/SET] to enter the settings

4. Focus the subject

- To change settings, enter [Q.MENU] and select [AF MODE].

not focused:  

focused:    



Focus on subject, press shutter halfway

- For more information on how to focus a subject, please see page 36, on different AF settings, page 52 and on the [Q.MENU], page 62.

5. Take the picture

- Depending on the setting, pictures taken vertically are played back rotated.
- Use a tripod if the shake alert appears.
- When pressing the shutter button, the monitor may become bright or dark.



Press shutter fully



View picture
The picture is shown for a short time.



Playing back pictures and motion pictures

1. Switch camera ON and set mode

The first picture is displayed in [NORMAL PLAY] mode.



Switch ON

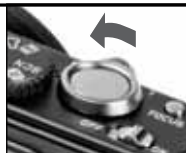


Set mode

2. Browse files

Size selection:

- 1 picture per screen (initial mode)
- 12 pictures per screen
- 30 pictures per screen
- by recording date (calendar mode)



Select display mode
Press repeatedly

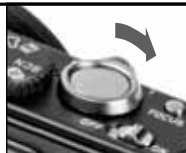


Press to browse pictures

3. Enlarging pictures

Possible enlarging factors:

1x - 2x - 4x - 8x - 16x



Select zoom factor
Press repeatedly



Press to move the position

For different playback modes, please see [PLAYBACK MODE] on page 63.

Playing back motion pictures

- QuickTime is available at:
www.apple.com/quicktime/download



Press to select motion picture



Press for playback



Movie control



Volume control

While playing back movies, you can Play/Pause (1), Stop (2), Fast Rewind (3), Fast Forward (4) them by pressing the respective button (3 & 4 work frame-by-frame if movie is paused). The volume level can be lowered (5) or increased (6) using the zoom-lever.



Deleting files

Deleting files



Press

Select how to delete files:

- Delete Single
- Delete Multi
- Delete All

1. Select [SINGLE], [MULTI] or [ALL] by pressing ▲▼ and press [MENU/SET].
2. - [SINGLE] mode deletes the current picture or motion picture.
 - In [MULTI] mode select pictures or motion pictures by pressing ▲▼◀▶ and mark them by pressing [DISPLAY]. Selected pictures are marked with 🗑️.
 - In [ALL] mode, all pictures or motion pictures are deleted. You can decide to keep or not to keep pictures marked favourite ★.
3. Press [MENU/SET] to confirm.
4. Choose deletion method and confirm deleting with [MENU/SET].

- Do not turn the camera off while deleting (while 🗑️ is displayed). Use a battery with a sufficient power or the AC adaptor (DMW-AC5PP; optional).
- If you press [MENU/SET] while deleting pictures using [DELETE SINGLE], [DELETE MULTI], [DELETE ALL] or [ALL DELETE EXCEPT ★], the deleting will stop halfway.
- Depending on the number of pictures to be deleted, it may take some time to delete them.
- If pictures do not conform to the DCF standard or are protected, they will not be deleted even if [DELETE ALL] or [ALL DELETE EXCEPT ★] is selected.

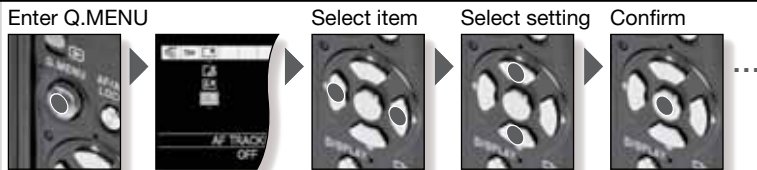
Creating still pictures from movies:

1. Press ▲ at the frame you want a picture from.
2. Select frame-by-frame by pressing ◀▶, or press [MENU/SET] to view the 9 frames playback screen:
 - Press ▲▼ to advance 3 frames.
 - Press ◀▶ to advance 1 frames.
 - Turn the zoom lever towards wide [W] to change the fps setting.





WVGA / VGA / QVGA-H	30 - 15 - 10 - 5 fps
HD	24 - 12 - 6 fps
QVGA-L	15 - 5 fps

- To end 9 frames playback screen, press [MENU/SET].
3. Press the shutter button.
 4. Press ▲ and confirm saving with [MENU/SET].

For further information on any of these settings, please see the corresponding item in either the [SETUP] or [REC] Menu.



The quick menu [Q.MENU] allows accessing settings in each of the recording modes much quicker. The Quick menu displays the most important changeable items according to the current recording mode:

[REC MENU]	[SETUP MENU]
 <p>A Snapshot mode [AF TRACKING] [PICTURE SIZE]</p>	[LCD MODE]
 <p>P Program mode A Aperture priority S Shutter priority M Manual exposure [FILM MODE] [METERING MODE] [AF MODE] [WHITE BALANCE] [INTELLIGENT ISO] [SENSITIVITY] [I. EXPOSURE] [PICTURE SIZE]</p>	[LCD MODE]
 <p>SCN Scene mode [STABILIZER] [AF MODE] [WHITE BALANCE] [PICTURE SIZE]</p>	[LCD MODE]
 <p>M Motion picture mode [STABILIZER] [METERING MODE] [AF MODE] [WHITE BALANCE] [PICTURE MODE]</p>	[LCD MODE]



The PLAYBACK MODE Menu

1. Enter the PLAYBACK MODE menu





Select setting



2. [NORMAL PLAY]

View pictures and motion pictures in the normal playback mode.

1. Select picture by pressing .

- Playback motion pictures or audio (if available) by pressing .
- Mark pictures or motion pictures as favourite by pressing . [FAVORITE] in the [PLAYBACK] menu must be set to [ON].

2. To finish the normal playback, set the mode switch to record .

12 [DUAL PLAY]

You can display two recorded pictures on the screen to compare them.






1. Enter [DUAL PLAY] by pressing [MENU/SET].

- Cannot be selected if there is no or only one picture.

2. Select pictures.

- Press  for upper picture and   to select the picture.
- Press  for lower picture and   to select the picture.
- Set zoom to tele [T] to enlarge the picture.
- Set zoom to wide [W] to reduce the picture.

3. Press [MENU/SET] to exit and view the selected picture in normal play.

- When the magnification is changed, the zoom position indication is displayed for about 1 second, and then you can move the position of the enlarged part by pressing    .
- You cannot display the same picture twice on the dual display at the same time.
- During dual play the selected picture can be deleted by pressing .
- When [ROTATE DISP.] is set to [ON], pictures which were recorded with the camera held vertically or pictures which were rotated will be displayed vertically.



[SLIDE SHOW] [ALL] - [CATEGORY SELECTION] - [FAVORITE]

View pictures in a slide show with music. You can choose between different playback methods. This mode is recommended if you have connected the camera to a TV. Not for motion pictures.

1. Enter [SLIDE SHOW] by pressing [MENU/SET].

2. Select a playback method by pressing ▲▼.

- [ALL] = Plays all the recorded pictures.

- [CATEGORY SELECTION] = Plays pictures recorded in a special category. Categories you have pictures in are displayed darker. After a while the number of pictures in the selected category is displayed next to COUNT.

- [FAVORITE] = Plays all the recorded pictures marked as favorite.

3. Press [MENU/SET] to confirm the selected playback method.

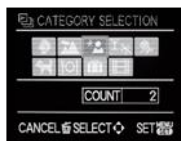
4. If required, set slide show settings by pressing ▲▼, or proceed with step 5.

- [EFFECT] = Select screen effect or music.

- [SETUP] = Set duration, repeat and audio.

5. Start slide show by pressing [MENU/SET].

6. To finish the slide show, press ▼.



- Motion pictures cannot be played back as a slide show.

- It is not possible to add new music effects.

Slide show [SETUP] settings:

[EFFECT] [NATURAL], [SLOW], [SWING], [URBAN], [OFF], [AUTO]

- Each of these effects uses different audio and screen effects.

- In [URBAN] pictures might be displayed in black and white.

- [AUTO] can be used only if [CATEGORY SELECTION] has been selected. The pictures are played back with the default effects of each category.

[SETUP] [DURATION] = Set 1, 2, 3 or 5 seconds duration.

[REPEAT] = Set repeat [ON] or [OFF].

[MUSIC]/[AUDIO] = Set music/audio [ON] or [OFF].

- [DURATION] can be set only when [EFFECT] is set to [OFF].

- [AUDIO] will be displayed only when [EFFECT] is set to [OFF].



[CATEGORY PLAY]

View pictures recorded by scene mode or other categories.

1. Enter [CATEGORY PLAY] by pressing [MENU/SET].

2. Select a category.

Categories you have pictures in are displayed darker. After a while the number of pictures in the category is displayed next to COUNT.

3. Start slide show by pressing [MENU/SET].

4. Browse pictures by pressing ◀▶.

- Playback motion pictures or audio (if available) by pressing ▲.

- Mark pictures or motion pictures as favourite by pressing ▼. [FAVORITE] in the [PLAYBACK] menu must be set to [ON].

5. To finish the normal playback, set the mode switch to record

- It may take time to search the picture files if there are a lot on the card or the built-in memory.

- If you press while searching, the searching will stop halfway.

- Pictures are sorted into the categories shown below.

[PORTRAIT], [SOFT SKIN], [SELF PORTRAIT], [NIGHT PORTRAIT], [BABY1/2]

[SCENERY], [SUNSET], [AERIAL PHOTO]

[NIGHT PORTRAIT], [NIGHT SCENERY], [STARRY SKY]

[SPORTS], [PARTY], [CANDLE LIGHT], [FIREWORKS], [BEACH], [SNOW], [AERIAL PHOTO]

[BABY1/2]

[PET]

[FOOD]

[TRAVEL DATE] - Clipboard pictures are not displayed.

[MOTION PICTURE] - Still pictures are not displayed.



[FAVORITE PLAY]

Playing back pictures and motion pictures marked as favorite. [FAVORITE] in the [PLAYBACK] menu must be set to [ON] and there must be favourite pictures.

1. Select picture by pressing ◀▶.

- Playback motion pictures or audio (if available) by pressing ▲.

2. To finish the normal playback, set the mode switch to record



The PLAYBACK Menu

1. Enter the PLAYBACK menu Select setting



2. **CAL** [CALENDAR]

View pictures by recording date in the calendar view.

1. Enter the [CALENDAR] by pressing **▶**.
2. Select month by pressing **▲▼**.
3. Select day by pressing **◀▶**.
4. Press [MENU/SET] to view day.
5. Press **▲▼◀▶** to select and [MENU/SET] to view picture OR press **⏏** to view month again.



- If there are multiple pictures with the same recording date, the first picture recorded on that day is displayed.
- If you take pictures after setting the travel destination in [WORLD TIME], the pictures are displayed by the dates at the travel destination.



- [TITLE EDIT] [SINGLE] - [MULTI]

You can add text to pictures. After text has been registered, it can be included in prints using [TEXT STAMP]. Not for movies/protected pictures.

1. Enter [TITLE EDIT] by pressing **▶**.
2. Select [SINGLE] or [MULTI] by pressing **▲▼** and press [MENU/SET].
3. - In [SINGLE] mode select picture by pressing **◀▶** and confirm with [MENU/SET].
- In [MULTI] mode select pictures by pressing **▲▼◀▶** and mark them by pressing [DISPLAY] confirm selection with [MENU/SET]. Selected pictures are marked with **☑**.
4. Press **▲▼◀▶** to select character and [MENU/SET] to enter up to 30 characters.
5. Choose EXIT and press [MENU/SET].
6. Continue editing from step 2 or press **⏏** to return to the PLAYBACK menu.



**[TEXT STAMP] [SINGLE] - [MULTI]**

You can print the recording date/time, age, travel date or title onto the recorded pictures. Not for movies/protected pictures.

1. Enter [TEXT STAMP] by pressing **▶**.
2. Select [SINGLE] or [MULTI] by pressing **▲▼** and press [MENU/SET].
3. - In [SINGLE] mode select picture by pressing **◀▶** and confirm with [MENU/SET].
- In [MULTI] mode select pictures by pressing **▲▼◀▶** and mark them by pressing [DISPLAY] confirm selection with [MENU/SET]. Selected pictures are marked with **☐**.
4. Press **▲▼◀▶** to select data to be printed.
5. Press [MENU/SET] to confirm.
6. If pictures greater than **3M** shall be printed, press **▲** and resize them by pressing [MENU/SET].
7. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.

[W/OTIME] Year, month and day are printed.

[WITHTIME] Year, month, day and time are printed.

[AGE] If set, the age is printed.

[TRAVEL DATE] If set, the travel date is printed.

[TITLE] Prints text from [BABY1/2], [PET] or [TITLE EDIT].

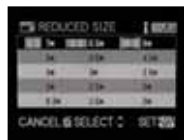
- When text is printed onto 0.3M pictures, it is difficult to read.

- Text and dates cannot be printed on the pictures taken with other equipment.

**[RESIZE] [SINGLE] - [MULTI]**

Reduce the resolution of a picture. The final resolution depends on the aspect ratio setting. Not for movies/protected pictures.

1. Enter [RESIZE] by pressing **▶**.
2. Select [SINGLE] or [MULTI] by pressing **▲▼** and press [MENU/SET].
3. - In [SINGLE] mode select picture by pressing **◀▶** and confirm with [MENU/SET].
- In [MULTI] mode select resize rates by pressing **▲▼** confirm selection with [MENU/SET]. Select pictures by pressing **▲▼◀▶** and mark them by pressing [DISPLAY]. Selected pictures are marked with **☐**.
4. - In [SINGLE] mode select the new resolution by pressing **◀▶** and confirm with [MENU/SET].
- In [MULTI] mode confirm by pressing [MENU/SET].
5. Press **▲** and confirm saving with [MENU/SET].
6. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.



- The picture quality of the resized picture will deteriorate.

- Resizing pictures recorded with other equipment might be impossible.



[TRIMMING]

You can enlarge and then clip the important part of the recorded picture. Not for movies/protected pictures.

1. Enter [TRIMMING] by pressing **▶**.
2. Select picture by pressing **◀▶** and confirm with [MENU/SET].
3. Zoom into the picture by using the tele [T], to zoom out again use wide [W].
4. Press **▲▼◀▶** and select the part to be trimmed.
5. Press [MENU/SET] to confirm trimming.
6. Press **▲** and confirm saving with [MENU/SET].
7. Press **⏪** to return to the PLAYBACK menu.



- The picture quality of the resized picture will deteriorate.
- Trimming pictures recorded with other equipment might be impossible.



[LEVELING]

Minute tilting of the image can be adjusted.

1. Enter [LEVELING] by pressing **▶**.
2. Select a picture by pressing **◀▶** and confirm with [MENU/SET].
3. Adjust tilting by pressing **◀▶** and confirm with [MENU/SET].
4. Press **▲** and confirm saving with [MENU/SET].
5. Press **⏪** to return to the PLAYBACK menu.

- Quality of image may deteriorate when levelling is performed.
- The number of pixels may decrease compared to original image when levelling is performed.
- Levelling may not be performed on images recorded with other equipment.



[ASPECT CONV.]

4:3 - **3:2** - **16:9**

You can convert pictures with a **16:9** aspect ratio into a **3:2** or **4:3** aspect ratio. Not for movies/protected pictures.

1. Enter [ASPECT CONV.] by pressing **▶**.
2. Select **4:3** or **3:2** aspect ratio by pressing **▲▼**.
3. Select a **16:9** picture by pressing **◀▶** and confirm with [MENU/SET].
4. Press **◀▶** to select the horizontal position and press [MENU/SET] to confirm conversion.
5. Press **▲** and confirm saving with [MENU/SET].
6. Press **⏪** to return to the PLAYBACK menu.



- After converting the aspect ratio, the resolution may become larger.
- Converting pictures recorded with other equipment might be impossible.

**[ROTATE]**

In this mode you can rotate pictures manually in 90° steps.

1. Enter [ROTATE] by pressing ►.
2. Select a picture by pressing ◀▶ and confirm with [MENU/SET].
3. Press ▲▼ to select the rotation direction and press [MENU/SET] to confirm.
4. Press 🏠 to return to the PLAYBACK menu.

- Rotating pictures recorded with other equipment might be impossible.

**[ROTATE DISP.] [OFF] - [ON]**

This mode allows you to automatically display pictures vertically if they were recorded holding the camera vertically.

1. Enter [ROTATE DISP.] by pressing ►.
2. Select [ON] or [OFF] by pressing ▲▼.
3. Press [MENU/SET] to return to the PLAYBACK menu.

- When you play back pictures on a PC, they cannot be displayed in the rotated direction unless the OS or software is compatible with Exif. Exif is a file format for still pictures which allows recording information etc. to be added.

**[FAVORITE] [OFF] - [ON] - [CANCEL]**

If you set favourite marks for pictures, you can use additional playback functions.

1. Enter [FAVORITE] by pressing ►.
2. Select [ON] by pressing ▲▼ and press [MENU/SET].
3. Press [MENU/SET] again to exit the PLAYBACK menu.
4. Select a picture by pressing ◀▶ and mark it favourite by pressing ▼. To unmark it, press ▼ again.
5. Continue editing from step 4.

How to cancel all your FAVOURITE settings:

1. Enter [FAVORITE] by pressing ►.
2. Select [CANCEL] by pressing ▲▼ and press [MENU/SET].
3. Press ▲ and confirm canceling with [MENU/SET].
4. Press [MENU/SET] again to exit the PLAYBACK menu.

- Marking pictures recorded with other equipment might be impossible.

**[DPOF PRINT] [SINGLE] - [MULTI] - [CANCEL]**

A system to select which picture to print, how many copies of each picture and with/without date stamp. Ask your photo printing store.

1. Enter [DPOF PRINT] by pressing **▶**.
2. Select [SINGLE] or [MULTI] by pressing **▲▼** and press [MENU/SET].
3. - In [SINGLE] mode select picture by pressing **◀▶** and confirm with [MENU/SET].
- In [MULTI] mode select pictures by pressing **▲▼◀▶** and mark them by pressing [MENU/SET].
4. Enter number of prints by pressing **▲▼**.
Selected pictures are marked with **📄**.
5. To add date information press [DISPLAY]
Selected pictures are marked with **📅**.
6. Confirm with [MENU/SET].
7. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.

How to cancel all your DPOF PRINT settings:

1. Enter [DPOF PRINT] by pressing **▶**.
 2. Select [CANCEL] by pressing **▲▼** and press [MENU/SET].
 3. Press **▲** and confirm canceling with [MENU/SET].
 4. Press [MENU/SET] again to exit the PLAYBACK menu.
- With a printer supporting PictBridge, the date print settings of the printer may take precedence so check if this is the case.
 - Printing pictures recorded with other equipment might be impossible.
 - If the file is not based on the DCF standard, the DPOF print setting cannot be set.

**[PROTECT] [SINGLE] - [MULTI] - [CANCEL]**

You can set protection for pictures you do not want to be deleted by mistake.

1. Enter [PROTECT] by pressing **▶**.
2. Select [SINGLE] or [MULTI] by pressing **▲▼** and press [MENU/SET].
3. - In [SINGLE] mode select picture by pressing **◀▶** and confirm with [MENU/SET]. To unlock it, press [MENU/SET] again.
- In [MULTI] mode select pictures by pressing **▲▼◀▶** and mark them by pressing [MENU/SET]. To unlock it, press [MENU/SET] again. Selected pictures are marked with **🔒**.
4. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.

How to cancel all your PROTECT settings:

1. Enter [PROTECT] by pressing **▶**.
 2. Select [CANCEL] by pressing **▲▼** and press [MENU/SET].
 3. Press **▲** and confirm canceling with [MENU/SET].
 4. Press [MENU/SET] again to exit the PLAYBACK menu.
- Even if you protect pictures in the built-in memory or a card, they will be deleted if the built-in memory or the card is formatted.
 - Even if you do not protect pictures on an SD Memory Card or an SDHC Memory Card, they cannot be deleted when the card's Write-Protect switch is set to [LOCK].



[AUDIO DUB.]

You can add audio information after taking a picture.

1. Enter [AUDIO DUB.] by pressing **▶**.
2. Select a picture by pressing **◀▶** and add audio information by pressing [MENU/SET].
3. If there is already audio recorded, press **▲** and confirm overwriting with [MENU/SET].
4. To stop recording, press [MENU/SET] again.
5. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.

- Audio dubbing pictures recorded with other equipment might be impossible.




[COPY]





Copy recorded data from the internal memory to a card or vice versa. Do not switch off the camera during copy process to prevent data loss.

1. Enter [COPY] by pressing **▶**.
2. Select copy destination by pressing **▲▼** and press [MENU/SET].

 Copy built-in memory to card. Proceed at step 4.

 Copy pictures one by one from the card to the built-in memory.

3. Select a picture by pressing **◀▶** and press [MENU/SET].
4. Press **▲** and confirm copying with [MENU/SET].
5. Continue editing from step 2 or press **⏪** to return to the PLAYBACK menu.

- If you copy picture data from the built-in memory to a card which does not have sufficient free space, the picture data will only be partially copied. We recommend using a card which has more free space than the built-in memory (about 50 MB).
- When  is selected and a picture exists with the same name (folder number/file number) as the picture to be copied in the copy destination, a new folder is created and the picture is copied.
- When  is selected and a picture exists with the same name (folder number/file number) as the picture to be copied in the copy destination, that picture is not copied.
- It may take time to copy the picture data.
- Only pictures recorded with a Leica digital camera will be copied. You may not be able to copy them if they were edited with a PC.
- DPOF settings on the original picture data will not be copied. Set the DPOF settings again after copying is finished.



Connecting to a computer

- Transfer recorded pictures to a PC/Mac.
- If you use "Windows 98/98SE", Leica recommends using an optional card reader for SD memory cards instead of connecting the camera directly to the computer.
- A USB driver for "Windows 98/98SE" can be found on the Leica Camera Homepage (for connecting camera directly to a computer).
- Use the optional AC adaptor or a battery with sufficient power.
- Turn the camera off before inserting the AC adaptor cable.
- Do not use any other USB connection cable except the one supplied.
- Before inserting or removing a card, turn the camera off and disconnect the USB connection cable. Otherwise, data may be destroyed.

1. Connect camera to PC

Insert the USB connection straight in or straight out to avoid deforming the terminals.



Switch ON



Apply USB cable to the camera

2. Working with data on the Computer

Motion picture playback on a Computer:

You can use the Apple 'QuickTime' software which can be downloaded for free.

<http://www.apple.com/quicktime/download>

This software is installed as standard on an Apple Macintosh computer.

Move the pictures you like to acquire or the folder containing the pictures to any different folder on the computer, by using a drag-and-drop operation.

3. Disconnecting camera... from a Mac

Before disconnecting camera, drag respective icon to Trash.

from a PC

Use 'Safely Remove Hardware' in the task tray of your PC before disconnecting the camera or removing the card.



[Windows]

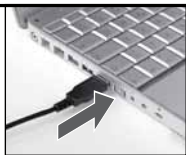
The drive appears in the [My Computer] folder with the drive letter (e.g.: E).
If you are connecting the camera for the first time, the required driver is installed automatically.



[Apple Macintosh]

The drive is displayed as an icon on the screen as follows:

- No card inserted: [DLUX4]
- With card inserted: [NO_NAME] or [Untitled]



Apply USB cable to the computer



Do not disconnect while ACCESS is displayed.

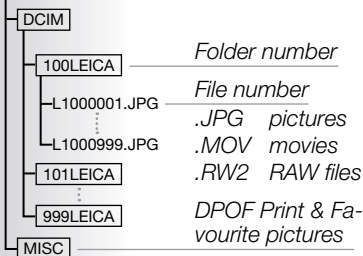
If you have not set [PC] connection by default in the [SETUP] - [USB MODE] menu, press ▲▼ to select PC and press [MENU/SET].

If you have chosen [PictBridge] in [SETUP] - [USB MODE], a message may be displayed. Select CANCEL and then set [SETUP] - [USB MODE] to [PC].

Folder structure:

Folders are displayed the following way:

- SD memory card
- MultiMediaCard



- Up to 999 pictures / folder
- To reset the file / folder number, select [NO.RESET] in the [SETUP] menu
- The numbering can change after replacing a card with a card from a different camera.

About a PTP connection (PictBridge)

If the OS is 'Windows XP', 'Windows Vista' or 'Mac OS X', you can also connect the camera when [USB MODE] is set to [PICT BRIDGE]. The camera is then listed as an image device.

- Pictures can only be read on the camera.
- When there are 1000 or more pictures on a card, they may not be imported.
- You cannot switch between the internal memory and the card while the camera is connected.
- Do not rotate the mode dial while the camera is connected.
- Pictures edited or rotated with a computer may be displayed in black in certain playback modes.
- Read the instructions of your computer.
- If the remaining battery power becomes low while the camera and the computer are communicating, the status indicator blinks and the alarm beeps. Stop the communication at once on the computer. Otherwise, data may be destroyed.



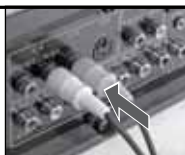
Connecting to a TV

- By connecting the camera to a TV via the supplied AV connection cable, you can watch pictures and motion pictures on the TV screen.
- You can view pictures on TVs in other countries (regions) which use the NTSC or PAL system when you set [VIDEO OUT] in the [SETUP] menu.
- Read the operating instructions for the TV.
- Audio will be output as monaural.
- There are some playback menus that cannot be used while the optional component cable is connected.

1. Connect with the supplied AV cable

Insert the AV connection straight in or straight out to avoid warping the terminals.

Remove the card if you like to playback from the built-in memory,



Connect AV cable to the TV

Yellow = Video
White = Audio



Set mode

2. Connect with the optional component cable

Insert the COMPONENT connection straight in or straight out to avoid warping the terminals.

Remove the card if you like to playback from the built-in memory,



Connect component cable to the TV

Red = Video red
Blue = Video blue
Green = Video green
White = Audio left
Red = Audio right




Set mode


3. Disconnect camera from the TV

Switch off camera and TV and disconnect cables.

- HINT** - Depending on the [ASPECT RATIO], black bands may be displayed on the top and bottom or the left and right of the pictures.
- Do not use any other AV cables except the supplied one.
 - Read the operating instructions for the TV.
 - When you play back a picture vertically, it may be blurred.
 - When pictures are displayed, they may not be displayed properly depending on the type of TV.

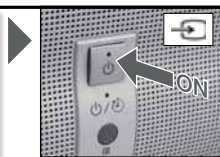
Set the required video output settings in the [SETUP] menu:

 [VIDEO OUT] [NTSC] - [PAL]
Set to match the colour television system in each country.
[NTSC] = Video output is set to NTSC system.
[PAL] = Video output is set to PAL system.

 [TV ASPECT] 16:9 - 4:3
Set to match the type of TV.
16:9 [16:9] = When connected to a 16:9 screen.
4:3 [4:3] = When connected to a 4:3 screen.



Connect AV cable to the AV OUT/
DIGITAL socket on
the camera



Switch ON, select
external input



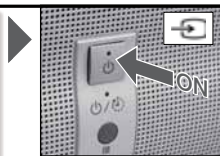
Switch ON

Choose desired
playback method.
See page 63.

Follow the on-
screen information



Connect compo-
nent cable to the
COMPONENT
OUT socket on the
camera



Switch ON, select
external input



Switch ON

Choose desired
playback method.
See page 63.

Follow the on-
screen information



Connecting to a printer

- By connecting the camera directly to a printer supporting PictBridge via the USB connection cable, you can select the pictures to print and start printing on the camera's screen.
- Set print settings, such as the print quality on the printer, beforehand.
- Use the optional AC adaptor or a battery with sufficient power. If the battery power becomes low while the camera and the printer are connected, the status indicator flashes and the alarm beeps. If this happens during printing, stop printing at once. If not printing, disconnect the USB connection cable.
- Turn the camera off before inserting the AC adaptor cable.
- Do not use any other USB connection cable except the supplied one.
- Before inserting or removing a card, turn the camera off and disconnect the USB connection cable. Otherwise, data may be destroyed.

1. Connect camera to a printer

Insert the USB connection straight in or straight out to avoid bending/damaging terminals.

If you like to print from the built-in memory, remove the card.



Switch ON



Select any mode

2. Select pictures to print

Follow the on-screen information.

RAW files cannot be printed.

The camera is receiving an error message from the printer when the indication lights orange during printing.



One picture

or



Multiple pictures




3. Disconnect camera from the printer

Do not disconnect while this icon is displayed.



- HINT** - You cannot switch between the built-in memory and the card while the camera is connected to the printer. Disconnect the USB connection cable, insert (or remove) the card and then connect the USB connection cable to the printer again.
- Do not rotate the mode dial while the camera is connected.
 - Read the instructions of your printer.

Paper sizes

	Printer settings prioritized	10 x 15 cm	100 x 150 mm
L/3.5" x 5"	89 x 127 mm	4" x 6"	101.6 x 152.4 mm
2L/5" x 7"	127 x 178 mm	8" x 10"	203.2 x 254 mm
POSTCARD	100 x 148 mm	LETTER	216 x 279.4 mm
A4	210 x 297 mm	CARD SIZE	54 x 85.6 mm
A3	297 x 420 mm	16:9	101.6 x 85.6 mm

- Paper sizes not supported by the printer will not be displayed.



Connect USB cable to the camera



Switch ON and connect USB cable to the printer

If you have not set [PictBridge] connection by default in the [SETUP] - [USB MODE] menu, press **▲▼** to select PictBridge and press [MENU/SET].

Follow the on-screen information



Select print style



Confirm

Select [PRINT START] and [MENU/SET]

[MULTI SELECT]

Select pictures by pressing **▲▼◀▶** and mark them by pressing [DISPLAY]. Selected pictures are marked with . Press [MENU/SET] to finish selection.

[SELECT ALL]

Prints all the stored pictures.

[DPOF PICTURE]

Prints the pictures set in [DPOF] only.

[FAVORITE]

Prints the pictures set as favorites only.

Before you start to print you can apply the following settings:

[PRINT WITH DATE]

Select whether the date is printed [ON] or not [OFF].

[NUM.OF PRINTS]






Set up to 999 prints. Not displayed if [DPOF PICTURE] is set.

[PAPER SIZE]

Set the paper size. Only sizes supported by the printer.

[PAGE LAYOUT]

Supported layouts of the printer.

-  Printer settings prioritized
-  1 picture per page, no frame
-  1 picture per page, with frame
-  2 pictures per page
-  4 pictures per page



Correcting faults / Troubleshooting

If the fault cannot be rectified, reset camera by executing [RESET] in the [SETUP] menu.

Battery and power source

The camera cannot be operated even when it is turned on.

- Is battery correctly inserted?
- Is battery sufficiently charged?

The LCD monitor turns off while the camera is turned on.

- Is [AUTO LCD OFF] or [EXT. VIEWFINDER] mode activated?
- Is battery sufficiently charged?

The camera turns off immediately after it is turned on.


- Is battery sufficiently charged?
- Do not leave the camera on unused.

The [CHARGE] lamp flashes.

- If the battery temperature is too high or low, it might take longer to charge, or charging remains incomplete.
- Are the chargers and/or the batteries terminals clean?

Recording

The picture cannot be recorded.

- Is the [REC] mode selected ?
- Is mode dial correctly set?
- Is there sufficient space on card or built-in memory?

The recorded picture is whitish.

- Is there dirt/are fingerprints on the lens? If yes, wipe the lens gently with a soft dry cloth.

The area around where the pictures were taken becomes dark.

- Was the picture taken with flash at close range, while the lens was set to wide angle?

The recorded picture is too bright or dark.

- Is the exposure correctly compensated?
- Set [MIN. SHRT SPEED] set to slow.
- Is [PIN HOLE] scene mode set?

2 or 3 pictures are taken at one time.

- Set auto bracket, [HI-SPEED BURST] or [FLASH BURST] in **SCN** mode or [BURST] in [REC] to off.

The subject is not focused properly.

- The focus range varies with the recording mode. Set other recording mode.
- Subject is beyond the focus range.
- Was the camera or the subject moving slightly?

Recorded picture is blurred. Optical image stabilizer is not effective.

- Location too dark?
- Was camera held firmly in both hands?
- Use tripod and self-timer if necessary.

Taking pictures using auto bracket is not possible.

- Is the number of recordable pictures 2 or less?

The recorded picture looks rough.

- Is ISO sensitivity too high or the shutter time too long?

Noise appears on the picture.

- Too little ambient light?
- Set [NOISE REDUCTION] in [FILM MODE] towards + or set very item except [NOISE REDUCTION] towards -.

- Is [HIGH SENS.] or [HI-SPEED BURST] in the **SCN** mode set? Because of high sensitivity processing, the recorded picture deteriorates slightly, but this is not a malfunction.

The brightness or the hue of the recorded picture is different from the actual scene.

- If recording under fluorescent light, the brightness or the hue may change slightly. This occurs due to the characteristics of fluorescent light. It is not a malfunction

A reddish vertical line (smear) appears on the LCD monitor during picture-taking.

- This is a characteristic of CCDs, appearing on bright subjects. Some unevenness may occur, but this is not a malfunction.
- Streaks are recorded with motion pictures, though not with stills.
- Take care not to expose the screen to sunlight or any other source of strong light.

Motion picture recording stops in the middle.

- Do not use a MultiMediaCard for recording.
- Certain SD Memory Cards interrupt the memory process.

The subject cannot be locked. (AF track fails)

- If the subject has different colours at the periphery, set the AF area to those colours specific to the subject by aligning that area with the AF area.

Lens

Recorded image may be warped, or nonexistent colour is surrounding the subject.

- It is possible that the subject may be warped slightly, or the borders get coloured, depending on the zoom magnification. Also, the peripherals of the image might look warped because the perspective is enhanced when the wide angle is used. This is not a malfunction.

LCD monitor

The LCD monitor turns off although the camera is turned on.

- Is power-saving function activated?
- Is battery sufficiently charged?

The LCD monitor becomes darker or brighter for a moment.

- This can occur when shutter is pressed, and will not affect pictures.
- This can occur if the automatic aperture system works. This is not a malfunction.

The LCD monitor flickers in-doors.

- This occurs in spaces with fluorescent lighting. This is not a malfunction.

LCD monitor is too bright or too dark.

- Is monitor brightness correctly set?
- [POWER LCD] is activated?

Black, red, blue and green spots appear on LCD monitor.

- This is normal and does not affect picture quality.

Image noise appears on LCD monitor.

- Can occur in dark locations and does not affect picture quality.

Flash

Flash is not fired.	<ul style="list-style-type: none">• <i>Is the flash closed?</i>• <i>Is the flash setting set to OFF?</i>• <i>Flash function is deactivated in auto bracket or if [BURST] in [REC] menu is set.</i>
Flash is fired twice.	<ul style="list-style-type: none">• <i>Red-eye effect is switched on. The first flash reduces red eyes.</i>

Playback



The picture being played back is rotated and displayed in an unexpected direction.	<ul style="list-style-type: none">• <i>[ROTATE DISP.] is set to [ON].</i>• <i>You can rotate pictures with the [ROTATE] function.</i>
The picture is not played back.	<ul style="list-style-type: none">• <i>Has [CATEGORY PLAY] or [FAVOURITE PLAY] been set for playback? Change to [NORMAL PLAY].</i>
Folder number and file number are displayed as [-] and screen turns black.	<ul style="list-style-type: none">• <i>Was picture edited on a computer?</i>• <i>Is picture from another camera?</i>• <i>Was battery removed after picture had been taken or was its capacity low?</i>
In calendar view, pictures are displayed with a different date as they have been taken.	<ul style="list-style-type: none">• <i>Is camera clock set properly?</i>• <i>Was picture edited on a computer?</i>• <i>Is picture from another camera?</i>
White round spots like soap bubbles appear on the recorded picture.	<ul style="list-style-type: none">• <i>These are caused by reflections on particles in the air if you use the flash in dark places. This is not a malfunction. The number of spots and their position differ in every picture.</i>
[THUMBNAIL IS DISPLAYED] appears on the screen.	<ul style="list-style-type: none">• <i>Is picture from another camera? It may be displayed with a deteriorated picture quality.</i>
A clicking sound is recorded in the motion pictures.	<ul style="list-style-type: none">• <i>The automatic aperture adjustment makes a clicking sound that may be recorded during motion picture recording. This is not a malfunction.</i>

Television, PC and printer



























Picture does not appear on TV.	<ul style="list-style-type: none">• <i>Is camera correctly connected to television?</i>• <i>Is television input correctly set?</i>• <i>Is camera menu correctly set?</i>• <i>Is the camera connected to a computer or printer? Connect the TV only.</i>
The display areas on the TV screen and the camera's LCD monitor are different.	<ul style="list-style-type: none">• <i>Check the [TV ASPECT] setting.</i>• <i>Depending on the TV model, the pictures may be extended horizontally or vertically or they may be displayed with their edges cut off.</i>
Motion pictures cannot be played back on the TV.	<ul style="list-style-type: none">• <i>Is camera connected correctly to television?</i>• <i>Are you using the AV cable supplied?</i>• <i>Are you using the optional component cable?</i>

The picture is not displayed fully on the TV.	<ul style="list-style-type: none"> • Check the [TV ASPECT] setting.
Picture cannot be transferred when camera is connected to computer.	<ul style="list-style-type: none"> • Is camera connected correctly to computer? • Is card correctly recognized by computer? Set to [PC] in [USB MODE].
The card / built-in memory is not recognized by the computer.	<ul style="list-style-type: none"> • Disconnect the USB connection. Reinsert card into camera and reconnect.
Picture cannot be printed when camera is connected to a printer.	<ul style="list-style-type: none"> • Is PictBridge supported by printer? Set to [PictBridge(PTP)] in [USB MODE].
The ends of the pictures are cut at printing.	<ul style="list-style-type: none"> • Is printer correctly set up? • Cancel the printer's borderless print or trimming functions.

Other details

An unreadable language was selected by mistake.	<ul style="list-style-type: none"> • Press [MENU/SET], select the [SETUP] menu icon  and then select the  icon to set the desired language.
Sometimes a red light appears when the shutter is half pressed.	<ul style="list-style-type: none"> • The AF assist lamp glows red in dark locations in order to simplify the focus setting.
The AF assist light does not turn on.	<ul style="list-style-type: none"> • Is [AF ASSIST LAMP] on the [REC] menu set to [ON]? • The AF assist lamp does not turn on in bright places.
The camera becomes warm.	<ul style="list-style-type: none"> • This is normal and does not affect picture quality.
A clicking is heard from the lens.	<ul style="list-style-type: none"> • This is normal and does not affect picture quality.
Clock time is reset.	<ul style="list-style-type: none"> • This is normal after prolonged periods when camera has not been in use.
Zoomed pictures are slightly distorted and areas around the subject contain false colours.	<ul style="list-style-type: none"> • At some magnification levels, the pictures are slightly distorted or other areas are coloured, but this is not a malfunction.
Zooming stops instantaneously.	<ul style="list-style-type: none"> • With extended optical zoom, the zooming action will stop temporarily near wide. This is not a malfunction.
The file numbers are not recorded consecutively.	<ul style="list-style-type: none"> • File numbers can vary when a procedure is executed after a certain operation.
File numbers are recorded in ascending order.	<ul style="list-style-type: none"> • Saved folder numbers are lost if the battery is removed/inserted whilst camera is switched on.
[AGE] is not displayed correctly.	<ul style="list-style-type: none"> • Check the clock and birthday settings.
The lens barrel is retracted.	<ul style="list-style-type: none"> • The lens barrel retracts about 15 seconds after switching from [REC] mode to [PLAY-BACK] mode.

Function	Conditions under which the function cannot be set
[AUTO POWER LCD]	<ul style="list-style-type: none"> • mode
[POWER SAVE]	<ul style="list-style-type: none"> • When using the AC adaptor • When connecting to a PC or a printer • When recording or playing back motion pictures • During a slide show • [AUTO DEMO]
[AUTO LCD OFF]	<ul style="list-style-type: none"> • When using the AC adaptor • While the menu screen is displayed • While the self-timer is set • While recording motion pictures • When connecting to a PC or a printer
[AUTO REVIEW]	<ul style="list-style-type: none"> • mode
Extended Optical Zoom	<ul style="list-style-type: none"> • and in SCN mode • mode
[DIGITAL ZOOM]	<ul style="list-style-type: none"> • and in SCN mode • When Intelligent ISO is set
[HISTOGRAM]	<ul style="list-style-type: none"> • mode • During multi playback • During playback zoom • [CALENDAR]
[FLASH]	<ul style="list-style-type: none"> • When auto bracket has been set • [BURST] • and in SCN mode • mode • [MULTI FILM] in [FILM MODE] is set
Flash output adjustment	<ul style="list-style-type: none"> • and in SCN mode • mode
[SELFTIMER]	<ul style="list-style-type: none"> • in SCN mode • mode
[EXPOSURE]	<ul style="list-style-type: none"> • mode • in SCN mode
[AUTO BRACKET] / [MULTI ASPECT]	<ul style="list-style-type: none"> • and in SCN mode • mode
[BURST]	<ul style="list-style-type: none"> • in SCN mode • mode
[PICTURE SIZE]	<ul style="list-style-type: none"> • and in SCN mode • mode
[QUALITY]	<ul style="list-style-type: none"> • and in SCN mode • mode
[INTELLIGENT ISO]	<ul style="list-style-type: none"> • mode • mode • SCN mode • mode

[SENSITIVITY]	<ul style="list-style-type: none"> • SCN mode •  mode • When Intelligent ISO is set
[ISO LIMIT SET]	<ul style="list-style-type: none"> • SCN mode •  mode
[WHITE BALANCE]	<ul style="list-style-type: none"> •  and  in SCN mode
[WB ADJUST.]	<ul style="list-style-type: none"> •  and  in SCN mode
[AF TRACKING]	<ul style="list-style-type: none"> •  and  in SCN mode •  mode • [STANDARD] BW, [DYNAMIC] BW and [SMOOTH] BW in [FILM MODE] is set
[QUICK AF]	<ul style="list-style-type: none"> •  and  in SCN mode •  mode
Continuous AF	<ul style="list-style-type: none"> •  and  in SCN mode • When manual focus is set
[I.EXPOSURE]	<ul style="list-style-type: none"> • SCN mode •  mode
[MIN. SHTR SPEED]	<ul style="list-style-type: none"> •  mode •  mode •  mode • SCN mode •  mode • When Intelligent ISO is set • [MULTI. EXPO.]
[AUDIO REC.]	<ul style="list-style-type: none"> • [AUTO BRACKET] • [MULTI ASPECT] • [BURST] •  and  in SCN mode •  mode • [MULTI FILM] in [FILM MODE] is set
[AF ASSIST LAMP]	<ul style="list-style-type: none"> •  and  in SCN mode
[AF/AE LOCK]	<ul style="list-style-type: none"> •  mode • SCN mode
[FLASH SYNCHRO]	<ul style="list-style-type: none"> • SCN mode •  mode
Playback Zoom	<ul style="list-style-type: none"> • When playing back motion pictures • Still pictures with audio (when playing back audio)
[TITLE EDIT]	<ul style="list-style-type: none"> • Motion pictures • Protected pictures
[TEXT STAMP]	<ul style="list-style-type: none"> • Pictures recorded without setting the clock • Motion pictures • Still pictures with audio • Pictures stamped with [TEXT STAMP]

[RESIZE]	<ul style="list-style-type: none"> • Motion pictures • Still pictures with audio • Pictures stamped with [TEXT STAMP]
[TRIMMING]	<ul style="list-style-type: none"> • Motion pictures • Still pictures with audio • Pictures stamped with [TEXT STAMP]
[LEVELING]	<ul style="list-style-type: none"> • Motion pictures • Still pictures with audio • Protected pictures
[ASPECT CONV.]	<ul style="list-style-type: none"> • Pictures taken with 3:2 or 4:3 • Motion pictures • Still pictures with audio • Pictures stamped with [TEXT STAMP]
[ROTATE]	<ul style="list-style-type: none"> • Motion pictures • Protected pictures
[ROTATE DISP.]	<ul style="list-style-type: none"> • Multi playback • [CALENDAR]
[FAVORITE]	<ul style="list-style-type: none"> • When [QUALITY] in set to RAW
PRINT WITH DATE	<ul style="list-style-type: none"> • Pictures stamped with [TEXT STAMP] • When [QUALITY] in set to RAW
[AUDIO DUB.]	<ul style="list-style-type: none"> • Motion pictures • Protected pictures

Functions that cannot be combined, while the component cable is connected:

- [POWER LCD], [HISTOGRAM], [TITLE EDIT], [TEXT STAMP], [RESIZE], [TRIMMING], [LEVELING], [ASPECT CONV.], [AUDIO DUB.], [COPY].
- [MULTI] settings of [DPOF PRINT], [PROTECT] and [DELETE MULTI].
- Creation of still pictures from motion pictures.

i

Message displays

In some cases confirmation or error message appear on the screen. The most important messages are as follows:

[THIS MEMORY CARD IS LOCKED]

The write-protect switch on the SD Memory Card or the SDHC Memory Card is set at [LOCK]. Unlock it to record pictures.

[NO VALID PICTURE TO PLAY]

Take a picture/insert a card with a picture.

[THIS PICTURE IS PROTECTED]

Delete the picture after cancelling the protection setting.

[THIS/SOME PICTURE/S CANNOT BE DELETED]

Pictures that are not DCF compliant cannot be deleted. If you wish to delete these pictures, format the card after saving the necessary data on a computer or equivalent backup media.

[NO ADDITIONAL SELECTIONS CAN BE MADE]

- You have exceeded the permitted number of pictures that can be selected with [MULTI] - [DELETE MULTI], [FAVORITE], [TITLE EDIT], [TEXT STAMP], [RESIZE].
- More than 999 favorites were input.

[CANNOT BE SET ON THIS PICTURE]

[TITLE EDIT], [TEXT STAMP] or [DPOF PRINT] cannot be set for pictures not based on the DCF standard.

[NOT ENOUGH SPACE ON BUILT-IN MEMORY]/[NOT ENOUGH MEMORY ON THE CARD]

There is no space left in the built-in memory or on the card. Pictures from the built-in memory can be copied to the card until the card is full.

[SOME PICTURES CANNOT BE COPIED]/[COPY COULD NOT BE COMPLETED]

- A file from the card is copied to the built-in memory with a name already existing. The file/s is not based on the DCF standard.

- Moreover, pictures recorded or edited by other equipment may not be copied.

[BUILT-IN MEMORY ERROR FORMAT BUILT-IN MEMORY?]

If you have formatted the built-in memory on a computer instead of the camera. Format the built-in memory on the camera again, save data before doing so.

[MEMORY CARD ERROR FORMAT THIS CARD?]

Card format not recognized by the camera. Reformat card with the camera, save data before doing so.

[PLEASE TURN CAMERA OFF AND THEN ON AGAIN] / [SYSTEM ERROR]

This message appears if the camera is not operating properly. Turn camera off and on, if the message remains, contact your dealer or Service Centre.

[MEMORY CARD PARAMETER ERROR]

Use a card compatible with this unit. Use only SDHC Memory Cards if using cards with 4 GB or more capacity.

[MEMORY CARD ERROR PLEASE CHECK THE CARD]

Turn camera off and reinsert the card. An error occurred accessing the card.

[READ ERROR PLEASE CHECK THE CARD]

Turn camera off and reinsert the card. An error occurred reading the data.

[WRITE ERROR PLEASE CHECK THE CARD]

Turn camera off and reinsert the card. An error occurred writing the data.

[MOTION RECORDING WAS CANCELLED DUE TO THE LIMITATION OF ...]

When you set picture quality to HD, WVGA or VGA, we recommend using a '10MB/s' SD Memory Card or higher. Depending on the type of the SD Memory Card, the recording process could otherwise be interrupted.

[A FOLDER CANNOT BE CREATED]

A folder cannot be created, as no more memory numbers are available. Format the camera after saving the data. If you execute [NO.RESET] in the [SETUP] menu after formatting, the folder number is reset to 100.

[PICTURE IS DISPLAYED FOR 4:3/16:9 TV]

- The AV cable is connected to the camera. Press [MENU/SET] to delete this message. Select [TV ASPECT] in the [SETUP] menu if you want to change the TV aspect.
- The USB connection cable is connected to the camera only, connect the other end of the USB connection cable to a PC or a printer.

[PRINTER BUSY]/[PLEASE CHECK THE PRINTER]

Check the printer, as the camera is not able to print.

Working with RAW data

If you have selected the RAW format, you require highly specialized software to convert the saved raw data into optimum quality, for example the professional Capture One 4 raw data converter from Phase One. This software can be found on the DVD-ROM (F) that is supplied with the LEICA D-LUX 4. Capture One 4 provides quality-optimized algorithms for digital colour processing, simultaneously allowing you to produce low-noise pictures with outstanding resolution.

During editing, you have the option of adjusting parameters such as white balance, noise reduction, gradation, sharpness etc. to achieve an optimum image quality.

Installing Capture One 4

To start the installation, you must register your copy of the software on the Phase One homepage.

Notes:

- *Have the required license code to hand – this is printed on the paper sleeve containing the DVD-ROM.*
- *The software can only be used for the 30-day trial period without the license code.*

1. *The first time you start Capture One, select “Activation”, and*
2. *enter the license code in the relevant field.*

Note: *You also require a valid e-mail address to activate the software.*

3. *Follow the subsequent instructions.*

During activation, a profile is created for the user on the Phase One license server. This allows you to re-activate a license after previously deactivating it, for example if you want to install the software on a different computer.

Notes:

- *If you need help, click on the “Help” button to open up a window containing the Capture One manual, where you can find a description of the activation and deactivation process. The first time you start Capture One, it opens in English. You can change the language setting to the language of your choice by selecting “Edit – Preferences” in the menu.*
- *If you require support when using Capture One, call up the following page: <http://www.phaseone.com/Support/> and log in with your “Phase One Profile” that was created when activating the software.*

System requirements

Microsoft® Windows® XP Professional or Home Edition with Service Pack 2 / Vista; Mac OS X 10.4.11 or later

On some Windows versions, it is possible that the operating system will issue a warning about a missing Windows signature. Ignore this message and continue with the installation.

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Number of recordable pictures

- The number of recordable pictures and the available recording time are an approximation. (These vary depending on the recording conditions and the type of card.)
- The number of recordable pictures and the available recording time varies depending on the subjects.

Aspect ratio		4:3												
Picture size		10M 3648x2736				7M 3072x2304				5M 2560x1920				
Quality		RAW	RAW	RAW		RAW	RAW			RAW	RAW			
Card	Built-in memory	4	2	3	9	20	3	3	14	28	3	3	20	40
	32 MB	2	1	1	5	11	1	2	7	16	1	2	11	23
	64 MB	5	3	4	11	24	3	4	16	34	4	4	24	48
	128 MB	10	7	8	24	49	7	8	35	69	8	9	50	99
	256 MB	19	14	16	48	97	15	17	68	135	16	18	98	190
	512 MB	39	27	32	97	190	30	34	135	270	32	35	195	380
	1 GB	79	56	65	195	380	61	69	270	540	65	71	390	770
	2 GB	160	110	130	390	770	120	140	550	1090	130	145	790	1530
	4 GB	310	220	260	770	1520	240	270	1090	2150	260	280	1560	3010
	8 GB	640	450	530	1580	3100	490	560	2200	4380	530	580	3180	6130
	16 GB	1290	920	1070	3180	6250	1000	1120	4490	8820	1070	1170	6410	12350
	32 GB	2590	1840	2150	6390	12540	2010	2260	9010	17700	2150	2340	12870	24780

Aspect ratio		4:3											
Picture size		3M 2048x1536				2M 1600x1200				0.3M 640x480			
Quality		RAW	RAW			RAW	RAW			RAW	RAW		
Card	Built-in memory	3	3	32	62	3	4	51	97	4	4	240	400
	32 MB	2	2	18	36	2	2	29	56	2	2	145	230
	64 MB	4	4	38	75	4	4	61	115	4	4	290	480
	128 MB	8	9	78	150	9	9	125	230	10	10	600	970
	256 MB	17	18	150	290	18	19	240	460	19	19	1170	1900
	512 MB	34	37	300	590	36	37	480	910	38	39	2320	3770
	1 GB	70	74	600	1180	73	75	970	1830	77	78	4640	7550
	2 GB	140	150	1220	2360	145	150	1920	3610	155	155	8780	12290
	4 GB	270	290	2410	4640	390	300	3770	7090	310	310	17240	24130
	8 GB	560	600	4910	9440	590	610	7670	14440	630	630	35080	49120
	16 GB	1140	1210	9880	19000	1190	1230	15440	29070	1270	1270	70590	98840
	32 GB	2290	2420	19820	38120	2390	2480	30970	58310	2540	2560	141620	198270

Aspect ratio		KP2												
Picture size		SS 3776x2520					SS 3168x2112				4S 2656x1768			
Quality		RAW	RAW	RAW		RAW	RAW			RAW	RAW			
Built-in memory		4	2	3	10	21	3	3	14	30	3	3	21	42
Card	32 MB	2	1	2	5	11	1	2	8	36	2	2	12	24
	64 MB	5	3	4	12	25	3	4	17	73	4	4	25	50
	128 MB	10	7	8	25	51	8	9	36	140	8	9	52	100
	256 MB	21	14	17	51	100	16	18	72	280	17	19	100	200
	512 MB	41	29	34	100	200	32	36	140	570	34	37	200	400
	1 GB	83	59	69	200	400	64	72	280	1150	69	75	410	800
	2 GB	165	120	140	410	810	130	145	580	2270	140	150	820	1610
	4 GB	330	230	270	810	1600	250	290	1140	4630	270	300	1630	3170
	8 GB	670	480	560	1650	3270	520	590	2330	9320	560	610	3310	6460
	16 GB	1360	960	1130	3330	6580	1050	1190	4700	9320	1130	1230	6670	13000
	32 GB	2730	1940	2260	6690	13210	2120	2380	9440	18700	2270	2470	13390	26080

Aspect ratio		KP2							
Picture size		3 2112x1408				25 2048x1360			
Quality		RAW	RAW			RAW	RAW		
Built-in memory		3	4	33	65	3	4	36	69
Card	32 MB	2	2	19	37	2	2	20	40
	64 MB	4	4	40	78	4	4	43	83
	128 MB	9	10	82	155	9	10	88	165
	256 MB	18	19	160	310	18	19	170	330
	512 MB	36	39	320	610	37	39	330	650
	1 GB	73	78	640	1230	74	78	680	1310
	2 GB	145	155	1270	2450	150	155	1360	2560
	4 GB	290	310	2510	4820	290	310	2680	5020
	8 GB	590	630	5110	9820	600	630	5450	10230
	16 GB	1200	1270	10290	19760	1210	1280	10980	20590
	32 GB	2410	2560	20650	39650	2430	2560	22020	41300

Aspect ratio		16:9												
Picture size		3968x2232				3328x1872				2784x1568				
Quality		RAW												
Built-in memory		4	3	3	11	22	3	4	15	32	3	4	22	45
Card	32 MB	2	1	2	6	12	1	2	9	18	2	2	13	26
	64 MB	5	3	4	13	27	4	4	19	38	4	5	27	54
	128 MB	11	8	9	27	55	8	10	39	79	9	10	56	110
	256 MB	22	15	18	54	105	17	19	77	150	18	20	110	210
	512 MB	44	31	36	105	210	34	38	155	300	37	40	210	430
	1 GB	89	63	74	210	430	69	78	310	610	74	81	440	860
	2 GB	180	125	150	440	870	140	155	620	1220	150	160	890	1700
	4 GB	350	250	290	870	1720	270	310	1230	2410	290	320	1740	3350
	8 GB	720	510	600	1770	3500	560	630	2500	4910	600	650	3550	6820
	16 GB	1460	1030	1210	3580	7050	1130	1270	5040	9880	1210	1320	7160	13720
	32 GB	2930	2080	2420	7180	14160	2270	2550	10110	19820	2430	2650	14360	27530

Aspect ratio		16:9							
Picture size		2208x1248				1920x1080			
Quality		RAW	RAW			RAW	RAW		
Built-in memory		4	4	36	71	4	4	47	92
Card	32 MB	2	2	21	41	2	2	27	53
	64 MB	4	5	43	85	5	5	57	105
	128 MB	10	10	86	170	10	10	115	220
	256 MB	19	21	170	330	20	21	220	430
	512 MB	39	41	340	670	40	42	450	860
	1 GB	79	83	690	1340	81	85	900	1720
	2 GB	160	170	1390	2670	165	165	1800	3410
	4 GB	310	330	2740	5240	320	330	3540	6700
	8 GB	640	680	5580	10670	660	680	7220	13640
	16 GB	1290	1360	11230	21480	1320	1380	14530	27450
	32 GB	2590	2740	22530	43100	2660	2780	29150	55070

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Recording time

- Motion pictures can be recorded continuously up to 2 GB. The maximum available recording time for up to 2 GB only is displayed on the screen.
- The number of recordable pictures and the available recording time displayed on the screen may not decrease in order.
- The camera does not support recording motion pictures on MultiMediaCards.
- The extended optical zoom does not work in [HIGH SENS.] or [HI-SPEED BURST] in SCN mode so the picture size for **EZ** is not displayed.

Picture size	HD	WVGA	VGA	QVGA-H	QVGA-L	
Built-in memory	-	-	-	-		
Card	32 MB	6 sec	14 sec	17 sec	56 sec	2 min 35 sec
	64 MB	16 sec	33 sec	39 sec	1 min 58 sec	5 min 20 sec
	128 MB	37 sec	1 min 10 sec	1 min 22 sec	4 min 00 sec	10 min 50 sec
	256 MB	1 min 15 sec	2 min 15 sec	2 min 40 sec	7 min 50 sec	21 min 10 sec
	512 MB	2 min 30 sec	4 min 30 sec	5 min 20 sec	15 min 40sec	42 min 00 sec
	1 GB	5 min 00 sec	9 min 20 sec	10 min 50 sec	31 min 20 sec	1h 24 min
	2 GB	10 min 30 sec	19 min 00 sec	22 min 10 sec	1 h 4 min	2 h 51 min
	4 GB	11 min 10 sec	37 min 30 sec	43 min 40 sec	2 h 5 min	5 h 36 min
	8 GB	20 min 40 sec	1 h 16 min	1 h 28 min	4 h 15 min	11 h 23 min
	16 GB	1 h 24 min	2 h 33 min	2 h 59 min	8 h 35 min	22 h 55 min
	32 GB	2 h 50 min	5 h 8 min	5 h 59 min	17 h 13 min	46 h 00 min



Technical specifications

Technical specifications may be subject to change. Information for your safety.

Camera:

Power source:	DC 5.1 V
Power consumption:	1.5 W (recording), 0.8 W (playback)
Camera effective pixels:	10,100,000 pixels
Image sensor:	1/1.63" CCD, total pixel number 11,300,000 pixels, Primary colour filter
Lens:	Optical 2.5x zoom, f=5.1 mm to 12.8 mm (35 mm equivalent: 24 mm to 60 mm) F2.0 to F2.8
Digital zoom:	Max. 4x
Extended optical zoom:	Max. 4.5x
Focus:	Normal / Macro / Face detection / AF Tracking / 11-area-focusing / 3-area-focusing (Hi-speed) / 1-area-focusing (Hi-speed) / 1-area-focusing / Spot-focusing
Focus range:	50cm (1.64 feet) (Wide)/1m (3.28 feet) (Tele) to ∞
Macro / Intelligent auto:	1 cm (0.4in) (Wide)/30cm (0.98 feet) (Tele) to ∞
Shutter system:	Electronic & mechanical shutter
Motion picture recording:	When the aspect ratio setting is 4:3 640 x 480 pixels (30 fps, when using a Card) 320 x 240 pixels (30 fps, 10 fps) When the aspect ratio setting is 16:9 848 x 480 pixels (30 fps, when using a Card) 1280 x 720 pixels (24 fps, when using a Card) With audio
Continuous recording:	2.5 pic/sec (normal), approx. 2 pic/sec (unlimited)
Number of recordable pictures:	Max. 8 pictures (Standard), max. 4 pictures (Fine), Depends on remaining capacity of card (unlimited), (Performance in burst recording is only with SD Memory Card/ SDHC Memory Card. MultiMediaCard performance will be less.)
Hi-speed continuous frame rate:	Approx. 6 pic/sec (2M (4:3), 2.5M (3:2) or 2M (16:9) is selected as the picture size.)
Number of recordable pictures:	When using the built-in memory: Approx. 35 pictures (immediately after formatting) When using a Card: Max. 100 pictures (differs depend- ing on the type of Card and the recording conditions)
ISO sensitivity:	AUTO/80/100/200/400/800/1600/3200 [HIGH SENS.] mode: 1600 to 6400

Shutter speed:	60 s to 1/2000th s [STARRY SKY] mode: 15 s, 30 s, 60 s
White balance:	Auto white balance/Daylight/Cloudy/Shade/Halogen/White set1/White set2/White balance K set
Exposure (AE):	Program AE (P)/Aperture priority AE (A)/Shutter priority (S)/Manual exposure (M) Exposure compensation (1/3 EV Step, -2 EV to +2 EV)
Metering mode:	Multiple/ Centre-weighted/Spot
LCD-Monitor:	3" low-temperature polycrystalline TFT LCD (Approx. 460,800 dots) (field of view ratio about 100%)
Flash:	Built-in pop up flash Flash range: [ISO AUTO] approx. 80 cm (2.62 feet) to 8 m (26.2 feet) (Wide) AUTO, AUTO/Red-eye reduction, Forced flash ON (Forced ON/Red-eye reduction), Slow sync./Red-eye reduction, Forced flash OFF
Microphone/Speaker:	Monoaural
Recording media:	Built-in Memory (Approx. 50 MB)/SD Memory Card/SDHC Memory Card/MultiMediaCard (Still pictures only)
Picture size	
Still picture:	When the aspect ratio setting is 4:3 3648x2736 pixels, 3072x2304 pixels, 2560x1920 pixels, 2048x1536 pixels, 1600x1200 pixels, 640x480 pixels When the aspect ratio setting is 3:2 3776x2520 pixels, 3168x2112 pixels, 2656x1768 pixels, 2112x1408 pixels, 2048x1360 pixels When the aspect ratio setting is 16:9 3968x2240 pixels, 3328x1872 pixels, 2784x1568 pixels, 2208x1248 pixels, 1920x1080 pixels
Motion pictures:	When the aspect ratio setting is 4:3 640x480 pixels (When using a Card), 320x240 pixels When the aspect ratio setting is 16:9 1280x720 pixels (When using a Card) 848x480 pixels (When using a Card)
Quality:	Fine/Standard/RAW/RAW+Fine/RAW+Standard
File format for photos	
Still picture:	JPEG (based on 'Design rule for Camera File system', based on 'Exif 2.21' standard)/DPOF corresponding
Pictures with audio:	JPEG (based on 'Design rule for Camera File system', based on 'Exif 2.21' standard)&'QuickTime' (pictures w. audio)
Motion pictures:	'QuickTime Motion JPEG' (motion pictures with audio)
Interface	
Digital:	USB 2.0 (High Speed)
Analogue video/audio:	NTSC/PAL Composite (Switched by menu), Component Audio line output (monoaural)
Terminal	
[COMPONENT OUT]:	Dedicated jack (10 pin)
[AV OUT/DIGITAL]:	Dedicated jack (8 pin),
[DC IN]:	Dedicated jack (2 pin)

Dimensions (WxHxD):	Approx. 108.7 mm x 59.5 mm x 27.1 mm [4 1/4" x 2 1/3" x 1 1/16"] (excluding the projecting parts)
Weight:	Approx. 228 g/8.0 oz (excluding card and battery) Approx. 264 g/9.31 oz (with card and battery)
Operating temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating humidity:	10 % to 80 %

Battery charger:

Information for your safety

Input:	110V to 240V ~50/60Hz, 0.2A
Output:	CHARGE OUTPUT 4.2V = 0.8A
Equipment mobility:	Movable

Battery Pack:

Information for your safety

Voltage/Power:	3.7V
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Leica service addresses

The Leica Academy

Not only do we provide top performing products of high quality from observation to playback. For many years we have been providing practical seminars and training courses at the Leica Academy as a special service. Here, a knowledge of the world of photography, projection and enlargement is brought home to both beginners and advanced photography enthusiasts. Course content – delivered by a trained team of experts in modern equipped classrooms located in the German town of Solms as well as the Altenberg estate nearby – varies from general photography to interesting special fields, offering a wealth of suggestions, information and advice for practice. For more information and the current seminar program, including photography trips, please contact:

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Leica on the Internet

For current information on products, innovation, events and the Leica corporation, log on to our homepage at:

<http://www.leica-camera.us>
<http://www.leica-camera.co.uk>

Leica Information Service

The Leica Information Service will answer questions relating to use of the Leica range post, telephone or e-mail:

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Leica Customer Service

Leica Camera AG Customer service for servicing your Leica equipment as well as damage repair is at your disposal (see warranty card for address list).

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my point of view

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