KONICA MINOLTA

DiMAGE A200

E INSTRUCTION MANUAL

9222-2747-11 P-A409/10-2004/109678

BEFORE YOU BEGIN

Thank you for purchasing this Konica Minolta digital camera. Please take the time to read through this instruction manual so you can enjoy all the features of your new camera.

Check the packing list before using this product. If any items are missing, immediately contact your camera dealer.

DiMAGE digital camera
Lithium-ion battery NP-800
Lithium-ion battery charger BC-900
Wireless remote control RC-D1
Neck strap NS-DG8000
Lens shade DLS-3
Lens cap LF-1349
Accessory shoe cap SC-10
AV cable AVC-500
USB cable USB-3
Ulead VideoStudio CD-ROM
DiMAGE Viewer CD-ROM
DiMAGE Instruction Manuals CD-ROM
Quick Reference Guide
Konica Minolta International Warranty Certificate

This product is designed to work with accessories manufactured and distributed by Konica Minolta. Using accessories or equipment not endorsed by Konica Minolta may result in unsatisfactory performance or damage to the product and its accessories.

Only use the battery specified in this manual that are manufactured and distributed by Konica Minolta. Beware of counterfeit batteries; the use of these batteries will damage the product and may cause fire.

Konica Minolta is a trademark of Konica Minolta Holdings, Inc. DiMAGE is a trademark of Konica Minolta Photo Imaging, Inc. Apple, Macintosh, and Mac OS are registered trademarks of Apple Computer Inc. Microsoft and Windows are registered trademarks of the Microsoft Corporation. The official name of Windows is Microsoft Windows Operating System. Pentium is a registered trademark of the Intel Corporation. Microdrive is a trademark of Hitachi Global Storage Technologies. QuickTime is a trademark used under license. Adobe is a registered trademark of Adobe Systems Incorporated. All other brand and product names are trademarks or registered trademarks of their respective owners.

FOR PROPER AND SAFE USE

NP-800 Lithium-ion batteries

This camera operates on a powerful lithium-ion battery. Misuse or abuse of the lithium-ion battery can cause damage or injury through fire, electric shock, or chemical leakage. Read and understand all warnings before using the battery.

⚠ DANGER

- Do not short, disassemble, damage, or modify the battery.
- Do not expose the battery to fire or high temperatures over 60°C (140°F).
- Do not expose the battery to water, or moisture. Water can corrode or damage the internal battery safety devices and cause the battery to overheat, ignite, rupture, or leak.
- Do not drop or subject the battery to strong impacts. Impacts can damage the internal battery safety devices and cause the battery to overheat, ignite, rupture, or leak.
- Do not store the battery near or in metallic products.
- Do not use the battery with any other products.
- Only use the specified charger. An inappropriate charger may cause damage or injury through fire or electric shock.
- Do not use a leaking battery. If fluid from the battery enters your eye, immediately rinse the eye with plenty of fresh water and contact a doctor. If fluid from the battery makes contact with your skin or clothing, wash the area thoroughly with water.
- Only use or charge the battery in an environment with ambient temperatures between 0° and 40°C (32° and 104°F). Only store the battery in an environment with ambient temperatures between –20° and 30°C (–4° and 86°F) and a humidity of 45% to 85% RH.

⚠ WARNING

- Tape over the lithium-ion battery contacts to avoid short-circuiting during disposal; always follow local regulations for battery disposal.
- If charging is not completed after the specified period elapses, unplug the charger and discontinue charging immediately.

General product warnings and cautions

Read and understand the following warnings and cautions for safe use of the digital camera and its accessories.

⚠WARNING

Using the remote control battery improperly can cause it to leak harmful solutions, overheat, or explode which may damage property or cause personal injury. Do not ignore the following warnings.

- Only use the remote-control battery specified in this manual.
- Do not install the battery with the polarity (+/-) reversed.
- Do not use the battery which shows wear or damage.
- Do not expose the battery to fire, high temperatures, water, or moisture.
- Do not attempt to recharge, short, or disassemble the battery.
- Do not store the battery near or in metallic products.
- Tape over the battery contacts to avoid short-circuiting during disposal; always follow local regulations for battery disposal.

- Only use the camera battery specified in this manual.
- Only use the specified charger or AC adapter within the voltage range indicated on the unit. An inappropriate adapter or current may cause damage or injury through fire or electric shock.
- Only use the charger power cord in the sales region for which it was designed. An inappropriate current may cause damage or injury through fire or electric shock.
- Do not disassemble the camera or charger. Electric shock may cause injury if a high voltage circuit inside the product is touched.
- Immediately remove the battery or unplug the AC adapter and discontinue use if the camera is dropped or subjected to an impact in which the interior, especially the flash unit, is exposed. The flash has a high voltage circuit which may cause an electric shock resulting in injury. The continued use of a damaged product or part may cause injuries or fire.

- Keep the batteries, memory card, or small parts that could be swallowed away from infants. Contact a doctor immediately if an object is swallowed.
- Store this product out of reach of children. Be careful when around children not to harm them with the product or parts.
- Do not fire the flash directly into the eyes. It may damage eyesight.
- Do not fire the flash at vehicle operators. It may cause a distraction or temporary blindness which may lead to an accident.
- Do not use the monitor while operating a vehicle or walking. It may result in injury or an accident.
- Do not use these products in a humid environment, or operate them with wet hands. If liquid enters these products, immediately remove the battery or unplug the product, and discontinue use. The continued use of a product exposed to liquids may cause damage or injury through fire or electric shock.
- Do not use these products near inflammable gases or liquids such as gasoline, benzine, or paint thinner. Do not use inflammable products such as alcohol, benzine, or paint thinner to clean these products. The use of inflammable cleaners and solvents may cause an explosion or fire.
- When unplugging the AC adapter or charger, do not pull on the power cord. Hold the plug when removing it from an outlet.
- Do not damage, twist, modify, heat, or place heavy objects on the AC adapter or charger cord. A damaged cord may cause damage or injury through fire or electric shock.
- If these products emits a strange odor, heat, or smoke, discontinue use. Immediately remove the battery taking care not to burn yourself as the battery may become hot with use. The continued use of a damaged product or part may cause injuries or fire.
- Take the product to a Konica Minolta service facility when repairs are required.
- Handling the cord on this product may expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling.

⚠ CAUTION

- Do not use or store these products in a hot or humid environment such as the glove compartment or trunk of a car. It may damage the camera, charger, and battery which may result in burns or injuries caused by heat, fire, explosion, or leaking battery fluid.
- If the battery is leaking, discontinue use of the product.
- The camera, charger, and battery temperature rises with extended periods of use. Care should be taken to avoid burns.
- Burns may result if the memory card or battery is removed immediately after extended periods of use. Turn the camera off and wait for it to cool.
- Do not fire the flash while it is in contact with people or objects. The flash unit discharges a large amount of energy which may cause burns.
- Do not apply pressure to the LCD monitor. A damaged monitor may cause injury, and the liquid from the monitor may cause inflammation. If liquid from the monitor makes contact with skin, wash the area with fresh water. If liquid from the monitor comes in contact with the eyes, immediately rinse the eyes with plenty of water and contact a doctor.
- When using the AC adapter and charger, insert the plug securely into the electrical outlet.
- The rim of the lens hood can cause injury. Take care not to accidentally strike anyone with the camera when the lens hood is attached.
- Do not use electronic transformers or travel adapters with the charger. The use of these devices may cause a fire or damage the product.
- Do not use if the AC adapter or charger cord is damaged.
- Do not cover the AC adapter or charger. A fire may result.
- Do not obstruct access to the AC adapter or charger; this can hinder the unplugging of the units in emergencies.
- Unplug the AC adapter or charger when cleaning or not in use.

TABLE OF CONTENTS

Before you begin....3
For proper and safe use....4
Names of parts....13
Getting up and running....16
- Attaching the camera strap....16
- Removing the lens cap....16
- Attaching the lens hood....17
- Charging the battery....18
- Installing and changing the battery....19
- Battery condition indicator....20
- Auto power save....20
- External power supplies (sold separately)....21
- Inserting and changing a memory card....22
- Turning on the camera....24
- Handling the camera....24
- Diopter adjustment....25
- LCD monitor setup....26
- Display-mode button....27
- Setting the date and time....28
- Setting the menu language....29

Basic recording....30
- Setting the camera to record images automatically....30
- Basic recording operation....30
- Focus lock....32
- Automatic monitor amplification....32
- Focus signals....33
- Special focusing situations....33
- Using the built-in flash....34
- Flash range - automatic operation....34
- Camera-shake warning....35
- Anti-shake system....36

Basic playback....37
- Single-frame playback and histogram display....38
- Viewing images and histogram....39
- Rotating images....39
- Deleting single images....39
- Changing the Quick View & playback display....40
- Enlarged playback....41

Advanced recording 42
Recording mode display 42
Display-information button 43
Focus-mode button 44
Focus signals 44
Manual focus and Flex Digital Magnifier 45
Changing AF-area modes 46
Spot AF areas 47
Flex Focus Point 48
Macro mode 49
Exposure lock 50
Exposure-mode dial 50
Program - P 51
Program shift - Pa/Ps 51
Auto recording 52
Aperture priority - A 54
Shutter priority - S 55
Shutter-speed range and camera sensitivity (ISO) 55
Manual exposure - M 56
Bulb exposures 57
Digital Subject Programs 58
Exposure and flash compensation 59
White balance 60
Custom white balance calibration 62
Using the function button 64
Camera sensitivity - ISO 66
Flash range and camera sensitivity 67
Attaching an accessory flash unit 67
Color mode 68
About Adobe RGB 69
Flash modes 70
Metering modes 72
Filter 73
Color-saturation compensation 74
Contrast compensation 74
Using the drive-mode button 76
Self-timer 77
Recording with remote control 78
Setting up the camera for remote control 78
Using the remote control 79
Bracketing 80
Continuous advance 82

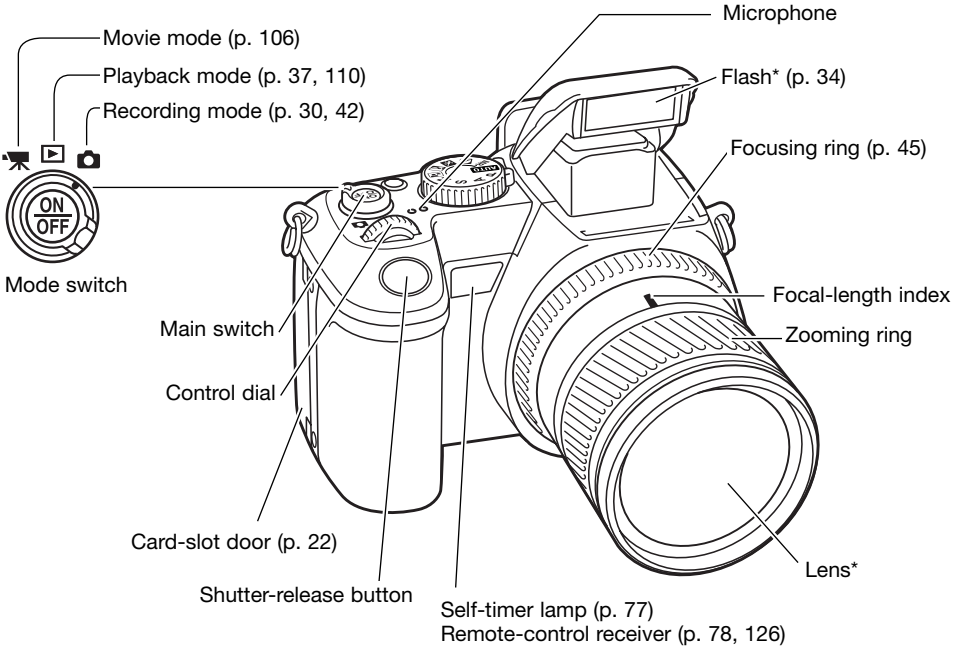
Recording menu....84
Navigating the recording-mode menu....84
Image size and image quality....86
About RAW image quality....88
Notes on image size and resolution....89
Spot AE area....90
Flash control....90
AEL button....92
Recording-mode reset....93
Sharpness....94
Date imprinting....95
Instant playback....96
Full-time AF....97
Direct Manual Focus....97
Memory - storing camera settings....98
Memory recall....99
DSP (Digital Subject Program) setup....100
Noise reduction....100
Monitor amplification....101
Digital zoom....102
A short guide to photography....103
About exposure and flash compensation....104
What is an Ev?....105
Light sources and color....105
Movie mode....106
Movie recording....106
Navigating the movie menu....107
Image size and frame rate....108
Movie mode....108
Movie reset....109
Notes on movie recording....109

Advanced playback....110
Viewing movies....110
Capturing a movie frame....111
Navigating the playback menu....112
Frame-selection screen....114
Delete....115
Format....116
View folder....116
Lock....117
Movie editing....118
Slide Show....120
Magnification setup....120
About DPOF....121
DPOF setup....121
Date imprint....122
Index print....122
Cancel print....123
Copy and E-mail Copy....123
Viewing images using the remote control....126
Changing the battery....127
Viewing images on a television....128
Setup menu....129
Opening the setup menu....129
Navigating the setup menu....130
Date and time setup....131
LCD brightness....132
Lens accessory....132
Video output....132
Transfer mode....133
Anti-shake....133
Delete confirmation....133
Language....134
Shortcut help....134
File number memory....136
Folder name....136
Select folder....137
New folder....137
Reset default....138
Audio signals/Focus signals....140
Shutter FX....141
Volume....141
Auto power save....141

Data-transfer mode 142
System requirements 142
Connecting the camera to a computer 143
Connecting to Windows 98 / 98 second edition 144
Automatic installation 144
Manual installation 145
Auto power save (data-transfer mode) 147
QuickTime system requirements 147
VideoStudio system requirements 147
Memory card folder organization 148
Disconnecting the camera from the computer 150
Windows 98 / 98 second edition 150
Windows Me, 2000 Professional, and XP 150
Macintosh 151
Changing the memory card (data-transfer mode) 152
Removing the driver software - Windows 153
PictBridge 154
Notes on printing errors 155
Navigating the PictBridge menu 156
Troubleshooting 160
When using filters 162
About the lithium-ion battery charger cord 163
About PC Flash Adapter PCT-100 163
Wide-angle Converter ACW-100, Telephoto Converter ACT-100, Close-up Lens CL-49-200 164
Care and storage 164
Camera care 164
Cleaning 165
Storage 165
Operating temperatures and conditions 165
Memory card care and handling 166
Batteries 166
LCD monitor care 167
Copyright 167
Before important events or journeys 167
Questions and service 167
Technical specifications 168
Filter examples 171

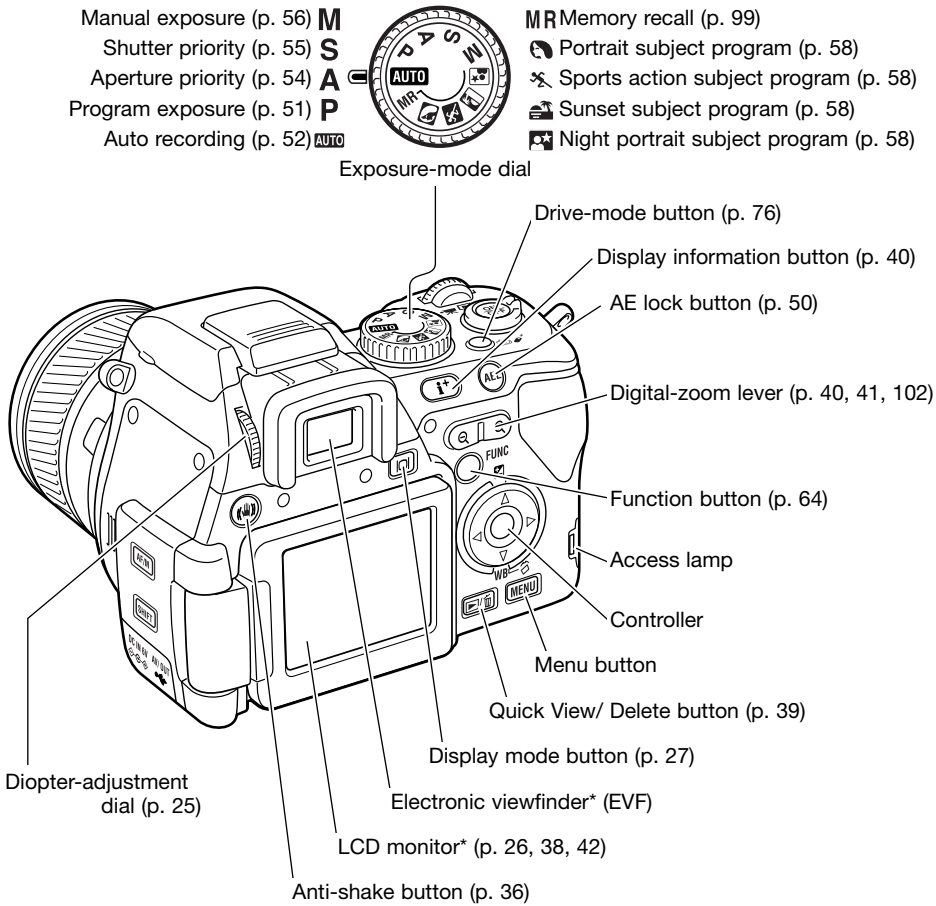
NAMES OF PARTS

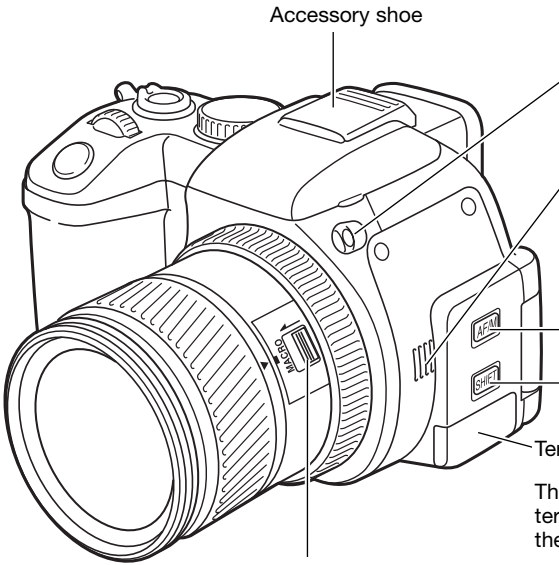
* This camera is a sophisticated optical instrument. Care should be taken to keep these surfaces clean. Please read the care and storage instructions in the back of this manual (p. 164).

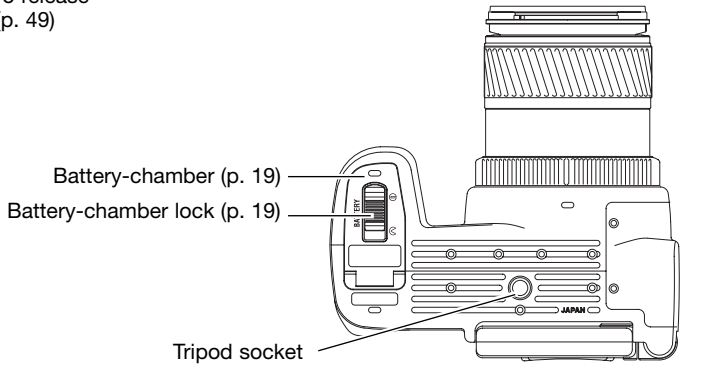


Camera Notes

The focal-length scale on the zooming ring is given in 35mm focal-length equivalents. The DiMAGE Viewer software supplied with the camera can display the actual focal length used to capture the recorded image as well as the equivalent focal length in 35mm photography.


Manual exposure (p. 56) M
Shutter priority (p. 55) S
Aperture priority (p. 54) A
Program exposure (p. 51) P
Auto recording (p. 52) AUTO
MR Memory recall (p. 99)
Portrait subject program (p. 58)
Sports action subject program (p. 58)
Sunset subject program (p. 58)
Night portrait subject program (p. 58)
Exposure-mode dial
Drive-mode button (p. 76)
Display information button (p. 40)
AE lock button (p. 50)
Digital-zoom lever (p. 40, 41, 102)
Function button (p. 64)
Access lamp
Controller
Menu button
Quick View/ Delete button (p. 39)
Display mode button (p. 27)
Electronic viewfinder* (EVF)
LCD monitor* (p. 26, 38, 42)
Anti-shake button (p. 36)
Diopter-adjustment dial (p. 25)


Accessory shoe
Strap eyelet (p.16)
Speaker
AF/M
Focus-mode button (p. 44)
SHIFT
Shift button
Terminal cover
The USB port. AV-out terminal, and DC terminal are located behind the cover. (p.21, 128, 143)
MACRO
Macro release (p. 49)


Battery-chamber (p. 19)
Battery-chamber lock (p. 19)
Tripod socket
JAPAN

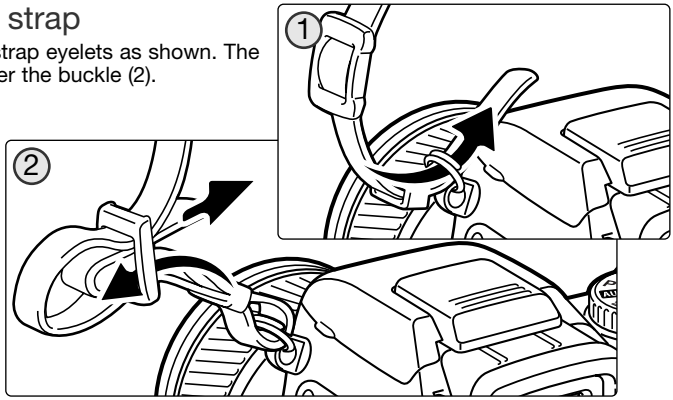
GETTING UP AND RUNNING

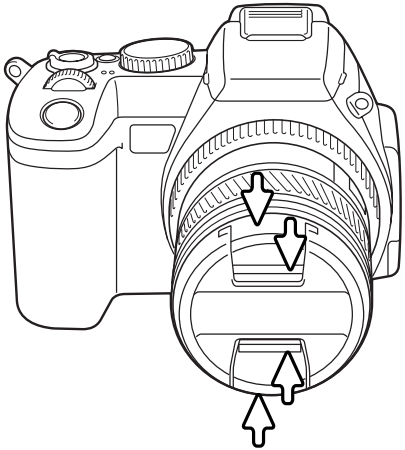
This section covers the preparation of the camera. This includes the changing of batteries and memory card as well as the use of external power supplies.

Attaching the camera strap

Attach the camera strap to the strap eyelets as shown. The tip of the strap should pass under the buckle (2).

Always keep the camera strap around your neck in the event that you drop the camera.

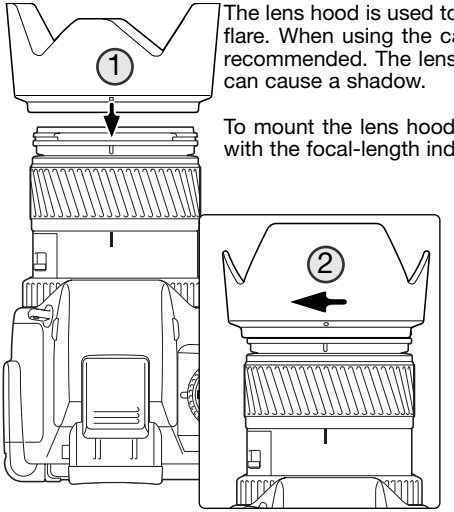




Removing the lens cap

Using your thumb and index finger, pinch the inside or outside tabs of the lens cap to remove. When the camera is not in use, always replace the lens cap.

Attaching the lens hood



The lens hood is used to control stray light from entering the lens and causing flare. When using the camera under bright light, the use of the lens hood is recommended. The lens hood should not be used with the built-in flash as it can cause a shadow.

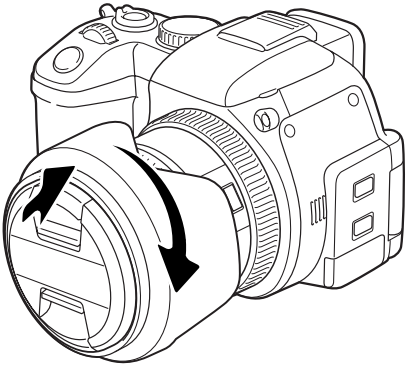
To mount the lens hood, align the rectangular dimple on the rim of the hood with the focal-length index on the top of the lens barrel (1).

Slide the hood onto the end of the lens and turn it 90° clockwise until it clicks and the circular dimple is aligned with the focal-length index (2). When mounted correctly, the large petals of the lens hood should be to the top and bottom. Never force the lens hood. If it does not fit, check its orientation. To detach the lens hood, turn it 90° counterclockwise and remove.

The lens hood can be reverse mounted when the camera is not is use.

With one of the large petals to the top, slide the hood onto the end of the lens. Turn it 90° clockwise until it it clicks into place.

The lens hood can be attached or removed with the lens cap on the camera. To detach the lens hood, turn it 90° counterclockwise and remove.



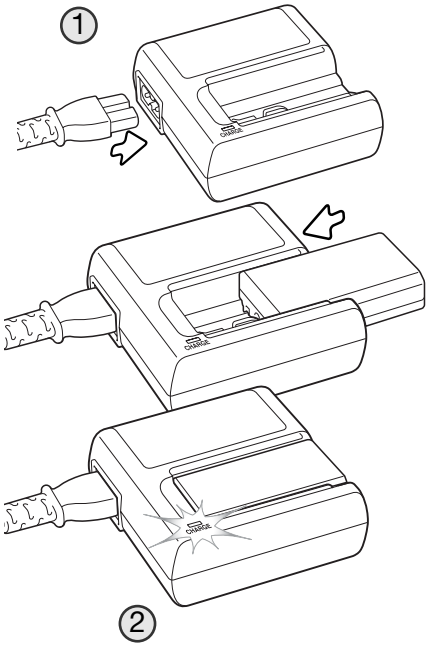
Charging the battery

Before the camera can be used, the lithium-ion battery must be charged. Before charging the battery, read the safety warnings on page 4 of this manual. Only recharge the battery with the supplied battery charger. The battery should be recharged before each shooting session. See page 166 for battery care and storage.

Plug the power cord into the side of the charger unit (1). Plug the other end of the cord into a live household outlet. The included AC cord is designed for the current of the sales region. Only use the cord in the region it was purchased. For more on the AC cable, see page 163.

With the battery contacts down and toward the charger, slide the battery into the unit. If the battery does not slide all the way into the charger, check its orientation.

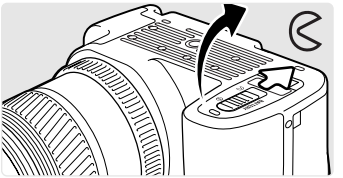
The indicator lamp (2) glows to show the battery is charging. The lamp goes out when the battery is charged. Charging time is approximately 90 minutes.



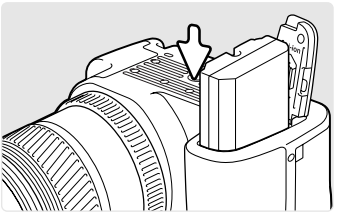
When the battery has been charged, remove it from the charger. Unplug the power cord from the outlet.

Installing and changing the battery

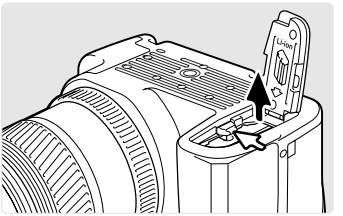
This digital camera uses one NP-800 lithium-ion battery. Before using the battery, read the safety warnings on pages 4 of this manual. When replacing batteries, the camera should be off.



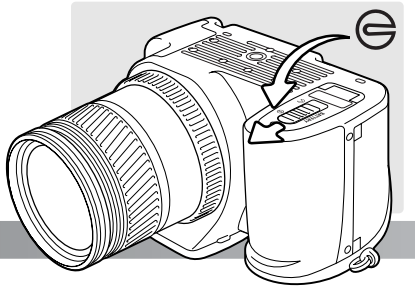
Open the battery-chamber door by sliding the battery-chamber lock to the open position.



Insert the battery with the battery contacts first. Insert the battery so that it slides past the battery latch in the chamber. Push the battery into the chamber until the latch clicks into place.



To remove a battery, slide the battery latch to the side of the battery chamber; the battery will spring out.



Close the battery-chamber door and slide the battery-chamber lock to the close position.

Battery condition indicator

This camera is equipped with an automatic battery-condition indicator. The monitor indicator will change from white to red when battery power is low.

Full-battery indicator - the battery is fully charged. This indicator is displayed when the camera is on.

Low-battery indicator - the battery is partially charged. The monitor will turn off while the flash is charging to save power.

Low-battery warning - battery power is very low. The battery should be recharged as soon as possible. This warning automatically appears and remains on the monitors until the battery is recharged. The monitor will turn off while the flash is charging to save power. If power falls below this level when the camera is on, the battery-exhausted message appears just before the camera shuts down. If the battery warning is displayed, movie recording, movie editing, and UHS continuous advance cannot be used.

Auto power save

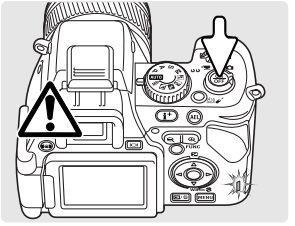
To conserve battery power, the camera will turn off the monitors and unnecessary functions if an operation is not made within three minutes (auto power save). To restore power, press the shutter-release button partway down or press the main switch. The length of the auto-power-save period can be changed in section 3 of the setup menu (p. 141).

If an operation is not made within thirty minutes, the camera will shut down (auto power off). Press the main switch to restore power.

External power supplies (sold separately)

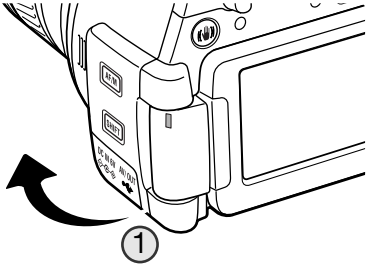
The AC Adapter AC-11 allows the camera to be powered from an electrical household outlet. The AC Adapter is recommended when the camera is interfaced with a computer or during periods of heavy use. The included adapter power cord is designed for the current requirements of the sales region.

The External High-power Battery Pack Kit EBP-100 is a portable power source and significantly extends the operating time of the camera. The kit contains a high-power lithium-ion battery, holder, and charger. The battery, holder, and charger are also available separately.



Always turn off the camera and confirm the access lamp is not lit before changing between power supplies.

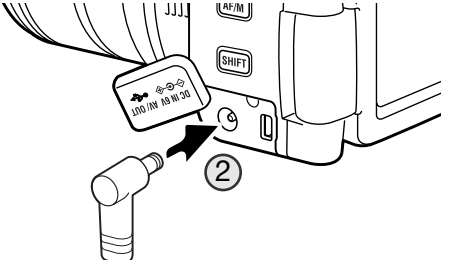
Connect the power cord to the AC adapter unit.



Remove the terminal cover from the right (1). The cover is attached to the body to prevent loss.

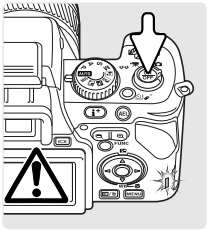
Insert the mini plug of the AC adapter or battery pack into the DC terminal (2).

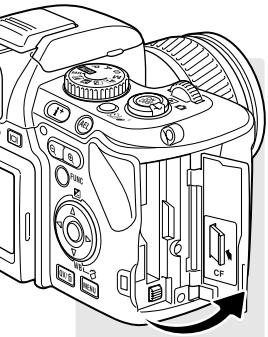
Insert the AC adapter plug into an electrical outlet.



Inserting and Changing a memory card

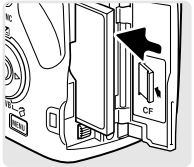
Always turn off the camera and confirm the access lamp is not lit before inserting or removing a memory card, otherwise the card may be damaged, and data lost.



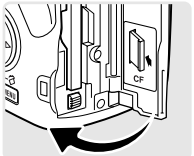


A memory card must be inserted for the camera to operate. If a card has not been inserted, a no-card warning will be displayed on the monitors. Type I and II CompactFlash cards and Microdrives are compatible with this camera. For memory card care and handling, see page 166.

Open the card-slot door in the direction indicated.



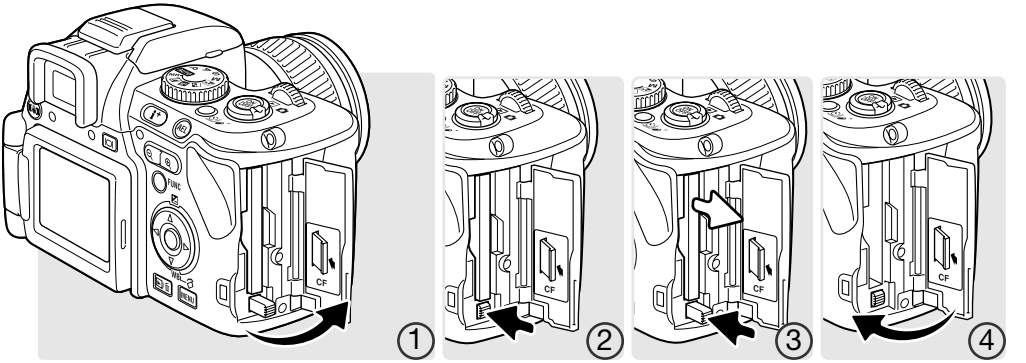
Insert a memory card all the way into the card slot. Insert the card so the face is toward the front of the camera. Always push the card in straight. Never force the card. If the card does not fit, check that it is oriented correctly.



Close the card-slot door.

Accessory

The CompactFlash Adapter for SD Memory Cards SD-CF1 allows SD (Secure Digital) Memory Cards or MultiMediaCards to be used with this camera.



To eject a card, open the card-slot door (1), and press and release the card-eject lever to extend it (2).

Press the card-eject lever to eject the card (3). The card can now be pulled out. Take care when removing the card as it becomes hot with use. The card-eject lever should remain inside the camera body. If it extends, push it into the camera.

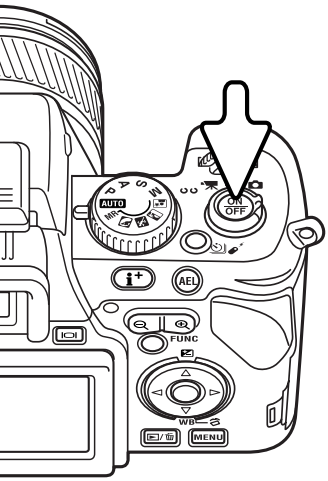
Insert a new memory card and close the card-slot door (4).

If the “Unable to use card. Format?” message appears, the card should be formatted with the camera. Using the left/right keys of the controller, select “Yes” to format the card. “No” closes the window without formatting the card; remove the unformatted card from the camera. Formatting erases all data on the memory card permanently. Depending on the memory card, formatting can take several minutes. A memory card can also be formatted in section 1 of the playback menu (p. 116). A memory card used in another camera may have to be formatted before being used.

If the card-error message appears, press the central button of the controller to close the window; check the Konica Minolta web site for the latest compatibility information:

North America: http://www.konicaminolta.us/
Europe: http://www.konicaminoltasupport.com

Turning on the camera



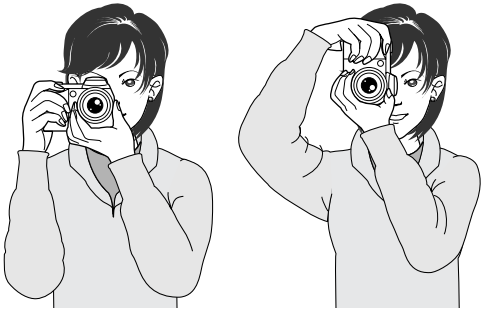
Press the main switch to turn on the camera. An audio signal sounds to indicate the power is turned on. The audio signal can be turned off with the setup menu (p. 140).

If the camera shuts down immediately after it is turned on, the battery power is low. See page 18 on how to charge the battery.

Press the main switch to turn the camera off.

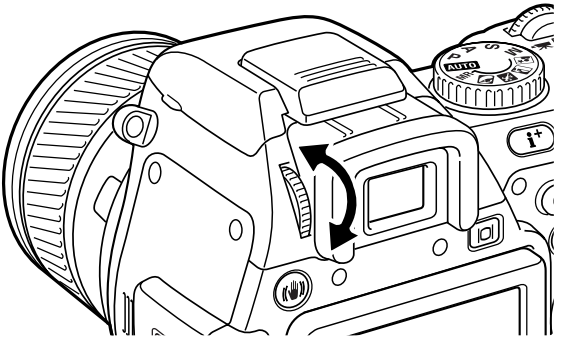
Handling the camera

While using the electronic viewfinder (EVF) or LCD monitor, grip the camera firmly with your right hand while supporting the body with the palm of your left hand. Keep your elbows at your side and your feet shoulder-width apart to hold the camera steadily. See page 26 for LCD monitor setup.



Diopter adjustment

The EVF has a built-in diopter that can be adjusted between –5 to +2. While looking through the EVF, turn the diopter-adjustment dial until the viewfinder image is sharp.



Konica Minolta History

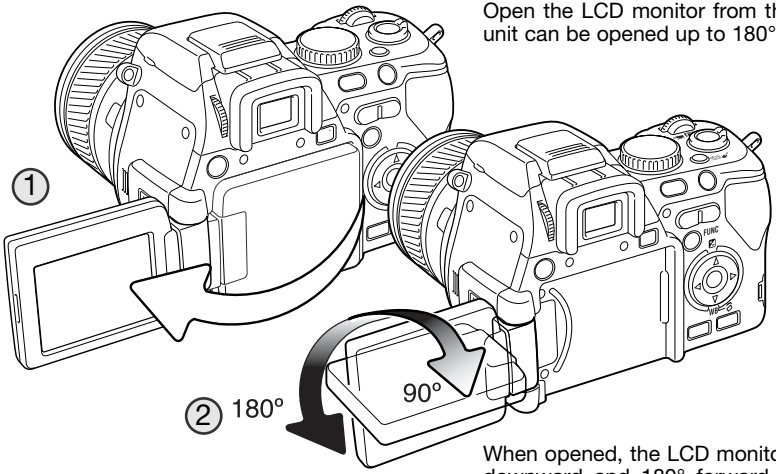
On February 20th, 1962, John Glenn became the first American to orbit the Earth. On board his Friendship 7 spacecraft was a Minolta Hi-matic camera to record that historic event. The 4 hour, 55 minute, and 23 second flight orbited the Earth three times at an average speed of 28,000 kph (17,500 mph).

Mr. Glenn visited our Sakai camera factory in Japan on May 24th, 1963 to plant a palm tree to celebrate the occasion. The palm tree is still in the courtyard of the factory and stands over eight meters tall (26ft).

The camera? It was not lost. It is on display at the Smithsonian Institution's National Air and Space Museum in Washington D.C. This and other objects from John Glenn's Friendship 7 Mercury flight can be found in galley 210, "Apollo to the Moon."

LCD monitor set up

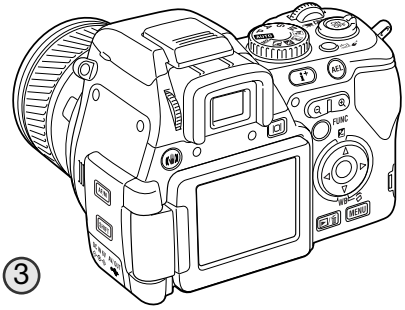
This camera has a swiveling LCD monitor.



Open the LCD monitor from the right. The monitor unit can be opened up to 180° to the left (1).

When opened, the LCD monitor can be rotated 90° downward and 180° forward (2). Never force the monitor beyond this; the hinge will be damaged.

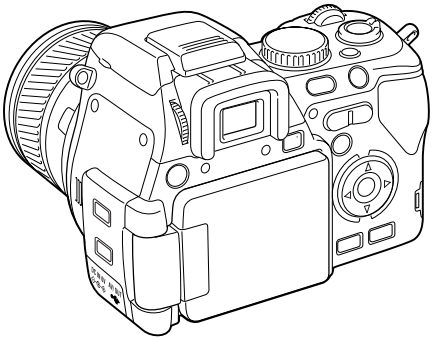
There is a clickstop every 90°.



When the monitor is rotated 180° forward, the image is rotated automatically so that it is oriented correctly. If the monitor image appears up-side-down, check it has been rotated completely.

To set the monitor against the body, open the monitor unit to the left (1), rotate it 180° forward (2), and fold the monitor against the back of the camera (3).

When not in use, store the LCD monitor in its original position to protect the screen from damage.

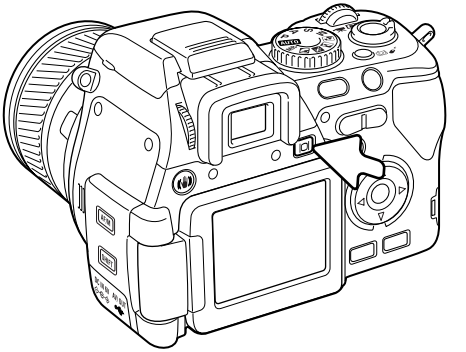


When the LCD monitor unit is closed with the screen facing the body, the EVF activates.

Display mode button

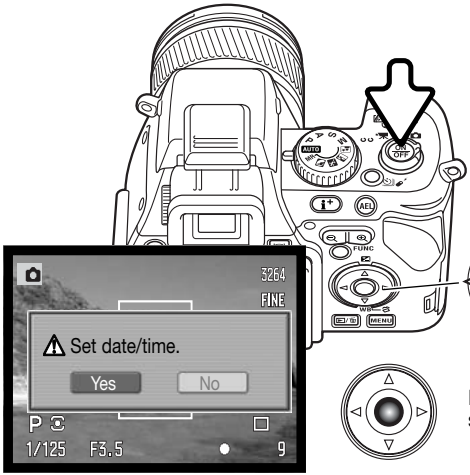
Images can be viewed either with the EVF or LCD monitor.

Pressing the display mode button switches the active display between the EVF and monitor. Under bright light, the EVF allows easier viewing.



Setting the date and time

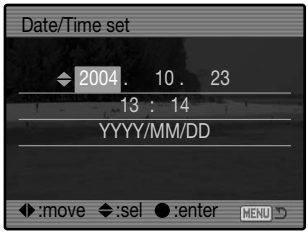
After initially inserting a memory card and battery, the camera's clock and calendar must be set. When images are recorded, the image data is saved with the date and time of recording.



If the clock and calendar have not been set, a message is displayed each time the camera is turned on. This message is also displayed if the clock and calendar reset when the camera is stored without a battery for a long time.

Use the left/right keys of the controller to select "Yes." "No" cancels the operation.

Press the center of the controller to open the date/time setup screen.



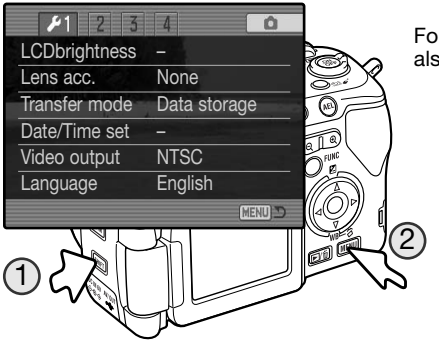
Date/Time setting screen

Use the left and right keys to select the item to be changed.

Use the up and down keys to adjust the item.

Press the central button to set the clock and calendar. The setup menu will be displayed.

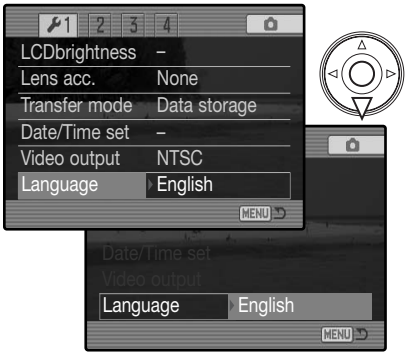
Setting the menu language



For customers in certain areas, the menu language must also be set.

While holding down the shift button (1) press the menu button (2) to open the setup menu.

Navigating the menu is simple. The up/down and left/right keys of the controller move the cursor and change settings on the menu. The center button of the controller selects menu options and sets adjustments.



Use the down controller key to highlight the language menu option.

Press the right key to highlight the menu language.

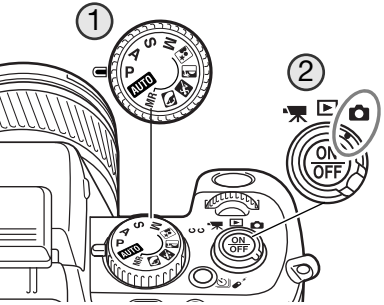
Press the central button of the controller to open the language screen.

Use the four-way key off the controller to highlight the new menu language.

Press the central button of the controller to set the language.

BASIC RECORDING

Setting the camera to record images automatically

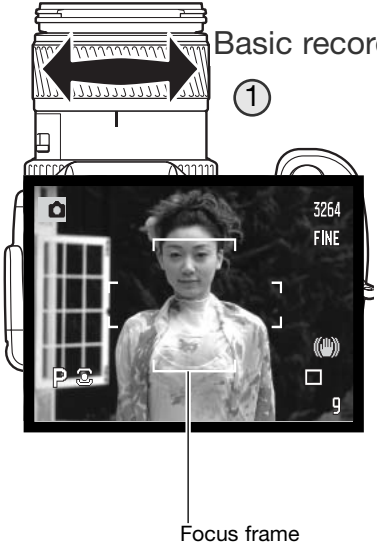


Set the exposure dial to the program (P) position (1). Confirm the mode switch is in the recording position (2).

All camera operations are now fully automatic. The autofocus, exposure, and imaging systems will work together to make photography effortless.

The Auto exposure mode acts like the program mode, except that the many of the recording functions are reset each time it is selected, see page 52 for more information.

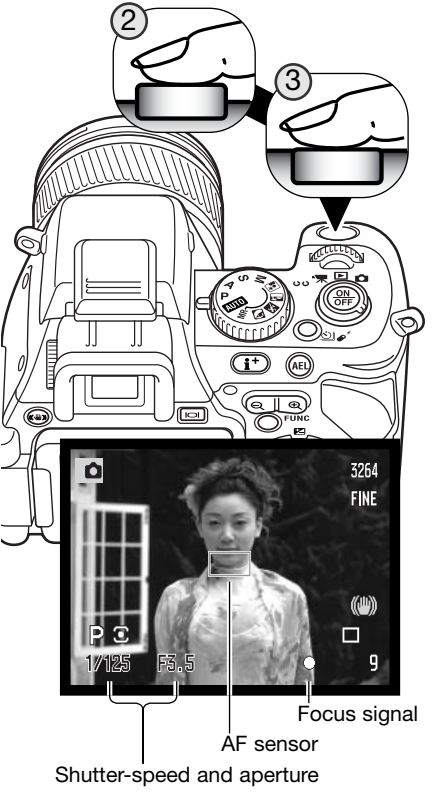
Basic recording operation



Use the zooming ring to frame the subject (1). The effect of the zoom is immediately displayed in the viewfinder (EVF) and LCD monitor.

Place the subject within the focus frame. For off-center subjects, use the focus-lock function (p. 32).

The subject must be within the focus range of the lens: 0.5m (1.6ft) - inf.. For subjects closer than 0.5m (1.6ft), use the macro function (p. 49).



Press the shutter-release button partway down (2) to lock the focus and exposure.

When the focus is set, an AF sensor is displayed in the live image to indicate the point of focus. The focus signals (p. 33) on the monitors will confirm that the image is in focus. If the focus signal is red, the camera was unable to focus on the subject. Repeat the previous steps until the signal is white. The shutter speed and aperture value will change from white to black indicating the exposure is locked.

Press the shutter-release button all the way down (3) to take the picture. The access lamp blinks indicating the image data is being written to the memory card. Never remove a card while data is being transferred.

Focus lock

The focus-lock function is used when the subject is off-center and outside the focus frame. Focus lock may also be used when a special focusing situation prevents the camera from focusing on the subject.

Place the subject within the focus frame. Press and hold the shutter-release button partway down.

- The focus signals will indicate that the focus is locked. The shutter speed and aperture value will change from white to black indicating the exposure is locked.
- When the focus is set, an AF sensor is displayed on the live image to indicate the point of focus.

Without lifting your finger from the shutter-release button, recompose the subject within the image area. Press the shutter-release button all the way down to take the picture.

Automatic monitor amplification

In extremely low-light conditions when the camera-sensitivity gain has reached its limit, the automatic monitor-amplification function will intensify the EVF and LCD monitor image. The live image will be brighter. This will have no effect on the final image. This function can be turned off in section 3 of the recording menu (p. 101).

Focus signals

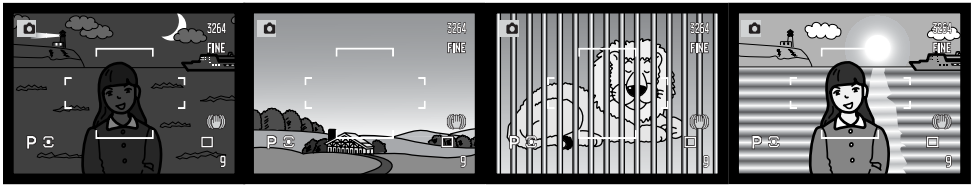
This digital camera has a quick, accurate autofocusing system. The focus signals in the lower right corner of the EVF and LCD monitor indicate the focus status. For more information on autofocus modes, see p. 44.

	White focus indicator - focus confirmed.
	Red focus indicator - the subject is too close or a special situation is preventing the AF system from focusing. The shutter can be released.

If the AF system cannot focus on a certain subject, focus lock can be used with an object at the same distance as the main subject or the camera can be focused manually (p. 45).

Special focusing situations

The camera may not be able to focus in certain situations. If the autofocus system cannot focus on a subject, the focus icon will turn red. In this situation the focus-lock function can be used to focus on another object at the same distance as your main subject, and then the image can be recomposed to take the picture.



The subject is too dark.

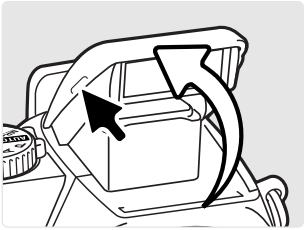
The subject in the focus frame is low in contrast.

Two subjects at different distances overlap in the focus frame.

The subject is near a very bright object or area.

Using the built-in flash

In low-light conditions or indoors, the flash is needed to illuminate the subject and reduce blurring through camera shake. The flash can also be used as a fill light in direct sunlight to soften harsh shadows. Always remove the lens hood when using the built-in flash; the hood may cast a shadow if mounted.



To use the flash, simply pull up the unit by the tabs on each side. The flash position must be set manually, and once up, the flash unit will always fire regardless of the amount of ambient light. The following indicators will appear in the upper left corner of the EVF and LCD monitors to show the flash status.

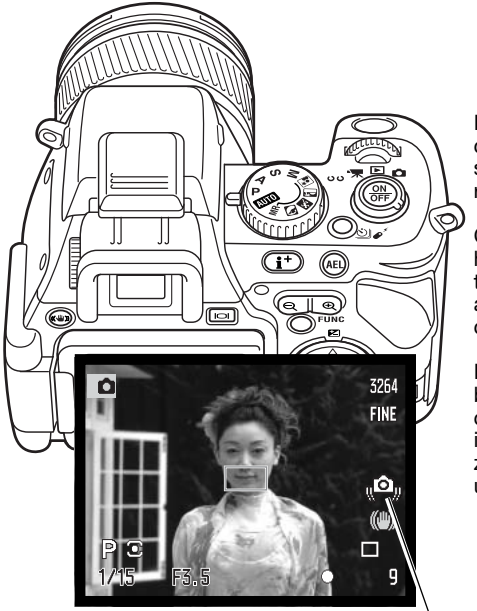
	The red flash indicator appears when the flash is charging.
	The white flash indicator appears when the flash is ready to fire.
	After taking a picture, the OK indicator appears briefly if the flash properly exposed the subject.

Flash range - automatic operation

The camera will automatically control the flash output. For well-exposed images, the subject must be within the flash range. Because of the optical system, the flash range is not the same at the lens' wide-angle position as it is at the telephoto position.

Wide-angle position	0.5m ~ 3.8m (1.6 ft. ~ 12.5 ft.)
Telephoto position	0.5m ~ 3.0m (1.6 ft. ~ 9.8 ft.)

Camera-shake warning



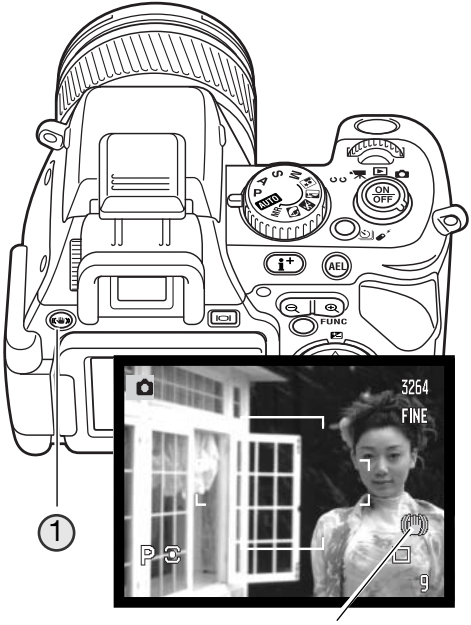
If the shutter speed falls below the point where the camera can be safely hand held, the camera-shake warning appears on the monitors regardless if Anti-shake is active.

Camera shake is slight blurring caused by subtle hand motion and is more pronounced at the telephoto position of the lens than at the wide-angle. Although the warning appears, the shutter can still be released.

If the warning appears when the shutter-release button is pressed partway down, place the camera on a tripod, use the flash, Anti-shake, increase the camera sensitivity (ISO) (p. 66), or zoom the lens towards the wide-angle position until the warning disappears.

Camera-shake indicator

Anti-shake system



The Anti-shake system minimizes the affect of camera shake. Anti-shake is employed when the shutter speed falls below a certain limit depending on the focal length in use. The effectiveness of Anti-shake depends on the shutter speed in use and the degree of shaking. The system may not work with moving subjects or when the camera is panned.

When the system is active, the Anti-shake indicator appears. Anti-shake can be turned off and on by pressing the Anti-shake button (1).

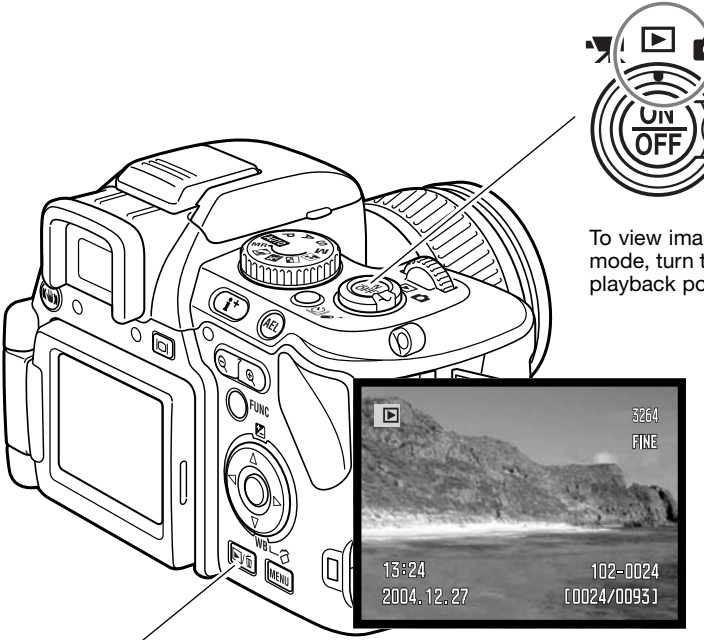
Frame the subject as described in the basic operation section and press the shutter-release button partway down. Confirm the image has stabilized on the monitor and press the shutter-release button all the way down to take the picture.

Anti-shake is not effective with a tripod mounted camera; turn off the Anti-shake function to conserve power.

If the camera is overheating because of operating and ambient temperatures, the Anti-shake system indicator turns red and the system will turn off automatically. Allow the camera to cool before using Anti-shake.

BASIC PLAYBACK

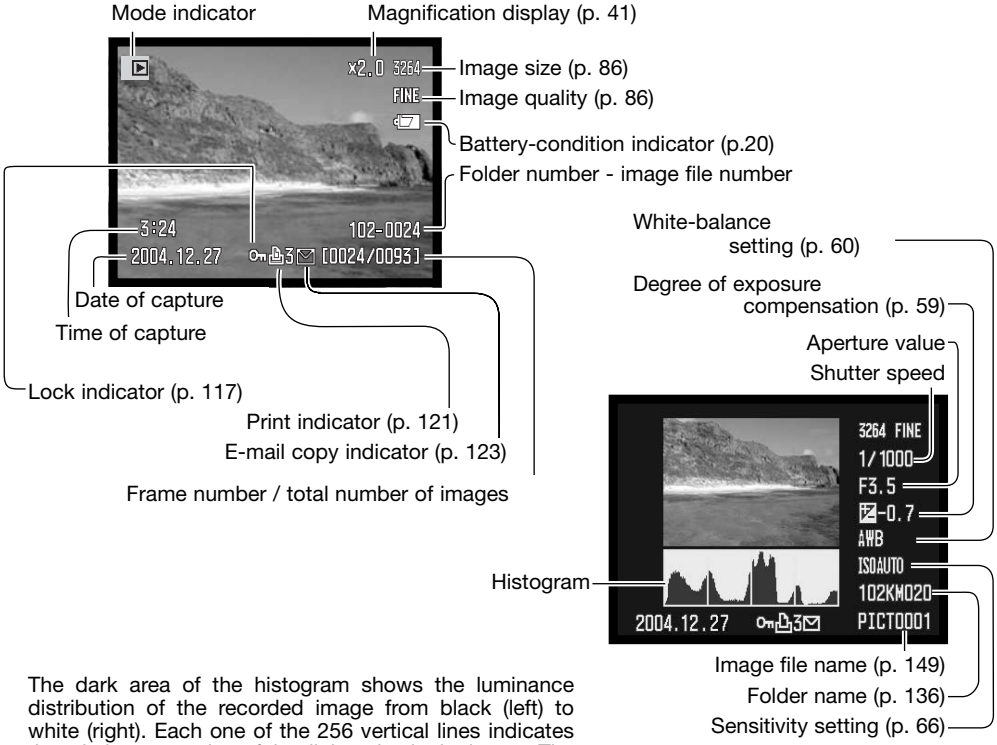
Images can be viewed in the Quick View or playback modes. This section covers the basic functions in both modes. The playback mode has additional menu functions, see page 112.



To view images from the playback mode, turn the mode switch to the playback position.

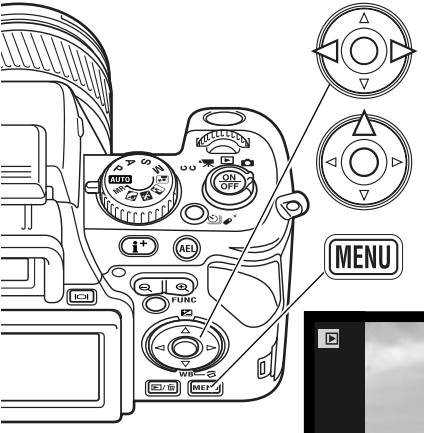
To view images from the recording or movie recording modes, press the Quick View / delete button.

Single-frame playback and histogram display



The dark area of the histogram shows the luminance distribution of the recorded image from black (left) to white (right). Each one of the 256 vertical lines indicates the relative proportion of that light value in the image. The histogram can be used to evaluate exposure and contrast, but displays no color information. Areas of the image approaching the shadow and highlight luminance limit blink in the image thumbnail.

Viewing images and histogram



When in the Quick View or playback mode, use the left/right keys of the controller to scroll through the images on the memory card.

To view the histogram of a still image, press the up key. Press the down key to return to single-frame playback.

To return to a recording mode from Quick View, press the menu button.

Rotating images

Press the down key of the controller to rotate a displayed image 90° left, 90° right, or horizontally.

Deleting single Images

The displayed image can be deleted. Once deleted, an image cannot be recovered.

To delete a displayed image, press the Quick View/delete button; a confirmation screen will appear.

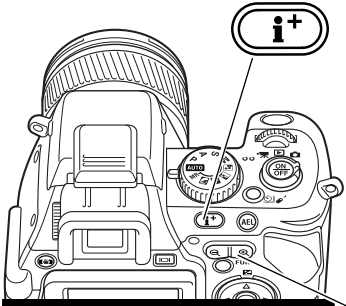
Use the left/right keys to highlight “Yes.” “No” will cancel the operation.

Press the controller to execute the command on the confirmation screen. The camera will return to playback mode.

Confirmation screen

Changing the Quick view & playback display

The display information button controls the display format. Each time the button is pressed, the display changes between full display and image only.

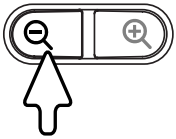


Index playback

Full display

Image only

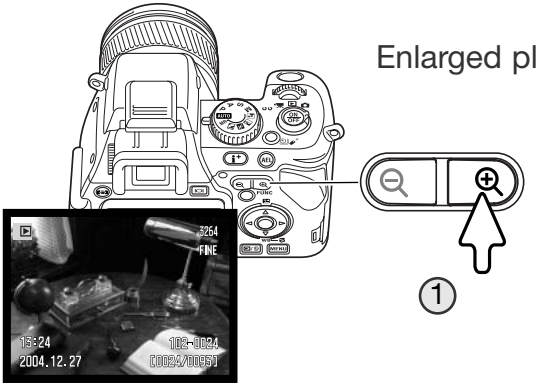
Index playback



To view the recorded images in a 9-frame index, press the left side of the digital-zoom lever.

In index playback, the four-way keys of the controller moves the yellow border to the adjacent image. When the image is highlighted with the border, the date of recording, E-mail copy indicator, the lock and printing status, and the frame number of the image are displayed at the bottom of the screen. The highlighted image can be deleted using the QuickView/delete button (p. 39). When either side of the digital-zoom lever is pressed, the highlighted image will be displayed in the single-frame playback mode.

The control dial displays the next 9 frames.



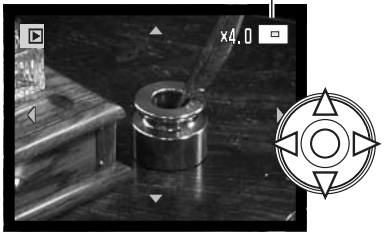
Enlarged playback

In single-frame playback, a still image can be enlarged up to 10X for closer examination. The starting magnification can be selected from 2X, 4X, and 10X in section 2 of the playback menu (p. 120). RAW images cannot be enlarged.

Press the right (+) side of the digital-zoom lever (1) to enlarge the image. The degree of magnification is displayed on the monitors. To reduce the magnification, press the left (-) side of the lever; magnification can be reduced to 1.1X. Holding down the shift button on the left side of the body and pressing the digital-zoom lever changes the magnification in larger increments.

Control dial can be used to scroll through the image files. If the subsequent image has same orientation and size, it will be displayed with the same magnification.

Scroll arrow



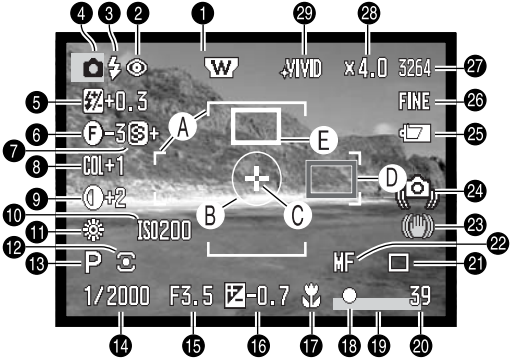
Use the four-way key to scroll the image. Holding down the shift button on the left side of the body and pressing the four-way key scrolls the image faster. The locator shows the area of the image being viewed.

Pressing the menu button or reducing the magnification below X1.1 cancels the enlarged playback. Press the display information button (i+) to hide or show the display indicators.

ADVANCED RECORDING

This section contains detailed information on the camera's recording functions and operation. Read the sections pertaining to your interest and need.

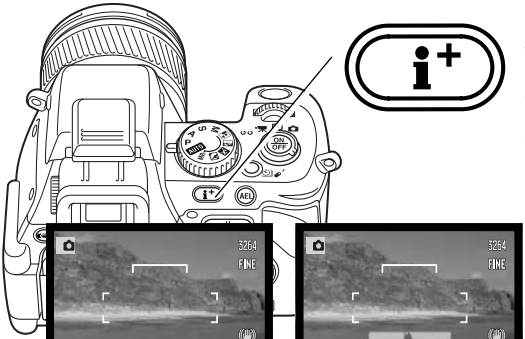
Recording mode display



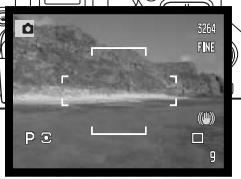
1. Lens-accessory indicator (p. 132)
2. Flash-mode indicator (p. 70)
3. Flash signal (p. 34)
4. Mode indicator
5. Flash-compensation display (p. 59)
6. Filter display (p. 73)
7. Sharpness display (p. 94)
8. Color-saturation-compensation display (p. 74)
9. Contrast-compensation display (p. 74)
10. Camera-sensitivity (ISO) display (p. 66)
11. White-balance indicator (p. 60)
12. Metering-mode indicator (p. 72)
13. Exposure-mode indicator (p. 50)
14. Shutter-speed display
15. Aperture display
16. Exposure-compensation display (p. 59)
17. Macro-mode indicator (p. 49)
18. Focus signal (p. 33)
19. Date-imprinting indicator (p. 95)
20. Frame counter (p. 87)
21. Drive-mode indicator (p. 76)
22. Focus-mode indicator (p. 44)
23. Anti-shake indicator (p. 36)
24. Camera-shake indicator (p. 35)
25. Battery-condition indicator (p. 20)
26. Image-quality indicator (p. 86)
27. Image-size display (p. 86)
28. Magnification display (p. 102)
29. Color-mode indicator (p. 68)

A. Focus frame
B. Spot metering area (p. 72)
C. Flex Focus Point (p. 48)
D. AF sensor (red) (p. 31)
E. Spot AF area (white) (p. 47)

Display information button

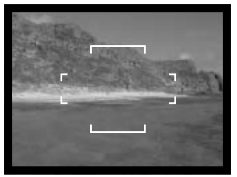


The display information button controls what information is displayed with the live image. Each time the button is pressed, the display cycles to the next format: standard display, real-time histogram, focus frame, and live image only.



Standard display

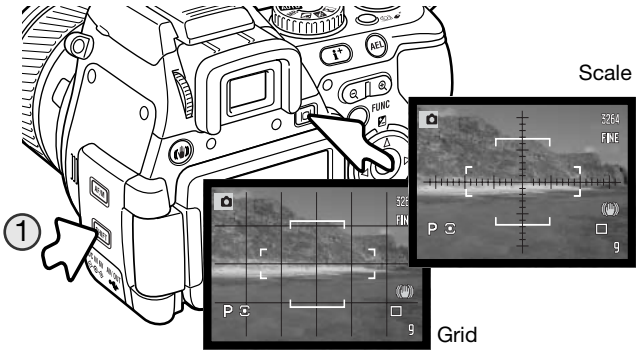
Real-time histogram



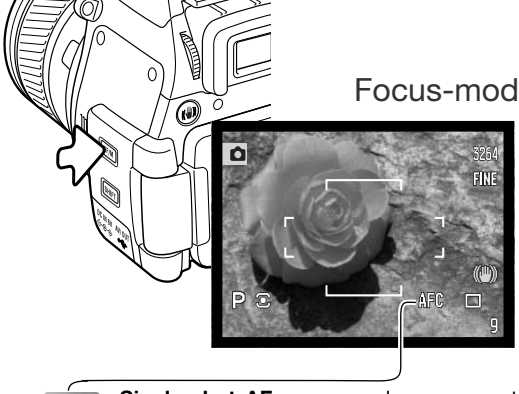
Focus frame only

Live image only

The real-time histogram shows the approximate luminance distribution of the live image. This histogram will not be accurate when the monitor image is amplified (p. 32, 101), or the built-in or a compatible flash unit (p. 91) is used. The histogram of a recorded image may not show the same distribution as the real-time histogram.



To display a grid or scale over the display formats, press and hold the shift button (1) and press the display information button to cycle through the options: grid, scale, and off.



Focus-mode button

Single-shot AF (Autofocus), continuous AF, and manual focus is set with the focus-mode button. Press the button to select the appropriate focus mode.

The continuous AF and manual focus-mode indicators will be displayed in the lower right corner of the monitors.

Single-shot AF - a general purpose autofocusing mode. Its operation is described in the basic recording section.

Continuous AF - used for photographing moving subjects. When the shutter-release button is pressed partway down, the autofocus system will activate and continue to focus until the exposure is made. When using continuous AF with the wide focus area (p. 46), the AF sensors used to indicate the point of focus will not be displayed.

The continuous AF mode may have difficulty focusing on fast subjects. In this situation, use manual focus to focus on a point in the subject's path and release the shutter-release button just before the subject reaches that point; there is a slight delay between the time the shutter-release button is pressed and the shutter opens.

Manual focus - To manually focus the camera. See the following section for operation.

Focus signals

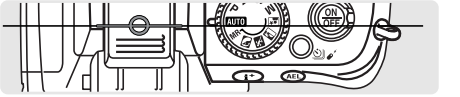
Single-shot AF - focus confirmed and locked.

Continuous AF - focus confirmed.

Red focus indicator - the subject is too close or a special situation is preventing the AF system from focusing. The shutter can be released.

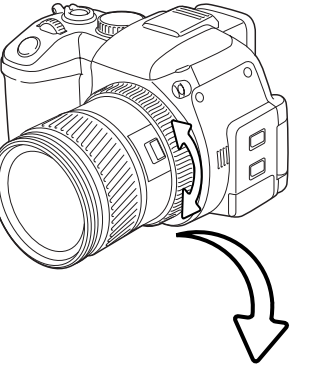
Manual focus and Flex Digital Magnifier

The manual focus mode can be set with the focus-mode button (p. 44). Always use the monitor image to confirm focus. The approximate object distance from the CCD is displayed near the frame counter.



Approximate location of the CCD plane

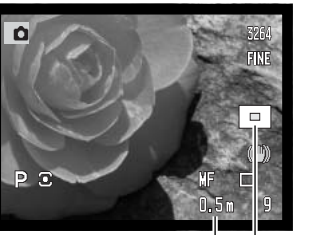
The Flex Digital Magnifier is a focusing aid for manual focus. The live image within the magnification area is automatically magnified to judge sharpness as the focusing ring is turned. The Flex Digital Magnifier is disabled when using the digital zoom.



Turn the focusing ring to focus the camera. The image within the magnification area is enlarged. The locator shows which portion of the image is displayed. When the shutter-release button is pressed partway down, or the camera is not focued for several seconds, the entire image area is displayed.

During manual focus, the magnification area or magnified image can be moved. Press the central button of the controller, then use the four-way keys to move the area; the magnification area will turn blue. The magnified image area can be scrolled using the four-way keys.

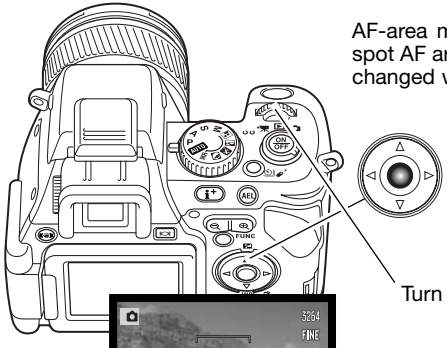
Holding down the shift button on the side of the body and pressing the central button of the controller centers the area.



Object distance

Locator

Changing AF-area modes

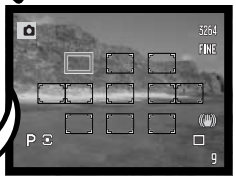


AF-area modes can be selected between the wide focus frame, spot AF area, and Flex Focus Point. The AF-area modes cannot be changed when using the digital zoom.

Press the center button of the controller; the active focus frame turns blue.

Turn the control dial to cycle through the AF-area modes.

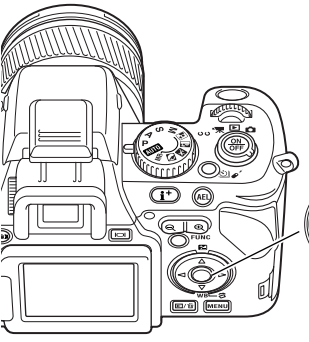
Wide focus area - a general purpose focus area. Its operation is described in the basic recording section (p. 30).



Spot AF areas - eleven selectable focus areas (p. 47).

Flex Focus Point - a cross-hair focus point that can be placed anywhere in the image area (p. 48).

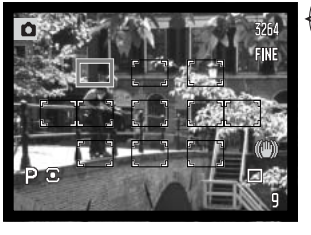
Use the four-way keys of the controller to select the spot AF area or move the Flex Focus Point. Press the center of the controller or press the shutter-release button partway down to set the AF-area; the selected AF area turns white. See instructions in the following pages.



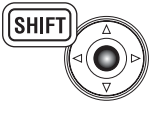
Spot AF Areas

One of the eleven spot AF areas can be selected. Spot AF areas cannot be used with the digital zoom or movie recording.

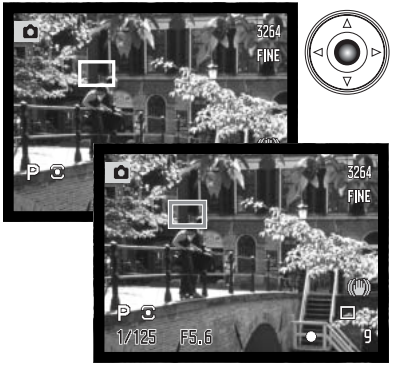
Press the central button of the controller and select the spot AF area mode using the control dial as described on the previous page.



When the spot AF area mode is selected, eleven spot AF areas are displayed. The active AF area is blue. Use the controller's four-way keys (1) to select a new area.



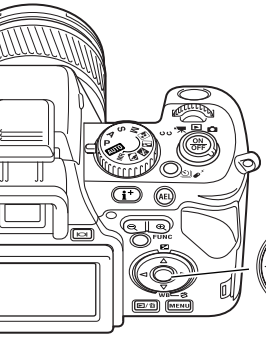
Pressing the center button of the controller while pressing the shift button resets the AF area to the center.



Press the central button of the controller to select the area; the other ten areas disappear. Only when a focus area has been selected, can the controller be used for other camera operations.

Pressing the shutter-release button partway down also completes the operation; the spot AF area turns red briefly to confirm focus.

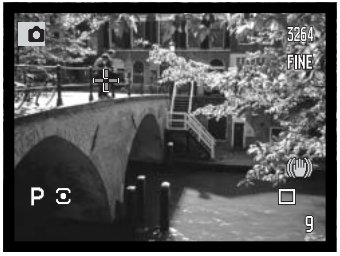
Once a focus area is selected, it remains active even after the picture has been taken. Press the center of the controller to select another area.



Flex Focus Point

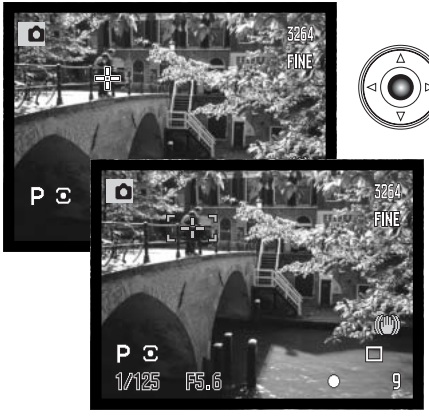
The Flex Focus Point (FFP) is a powerful tool for off-center subjects. It can be moved to any point in the image area. The FFP cannot be used with the digital zoom or movie recording.

Press the central button of the controller and select the FFP mode using the control dial as described on page 46.



When the FFP mode is selected, a blue crosshair is displayed. Use the controller's four-way keys to move the Flex Focus Point in the live image. Pressing the shift button while using the four-way key moves the point faster.

Pressing the central button of the controller while pressing the shift button returns the focus point to the center of the image area.



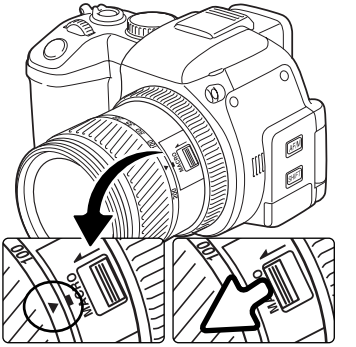
Press the central button of the controller to fix the position; the Flex Focus Point turns white.

Pressing the shutter-release button partway down also completes the operation; the FFP turns red briefly to confirm focus.

Press the center of the controller to move the Flex Focus Point to another location.

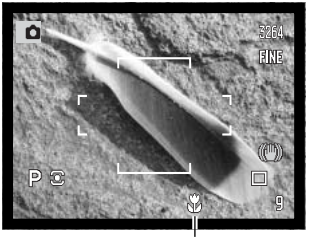
Macro mode

The macro mode is used for close-up photographs of small objects. The built-in flash cannot be used with macro mode. The use of a tripod is recommended.



Align one of the arrows on the zooming ring with the index next to the macro switch and slide the switch forward. The lens must be zoomed to the wide-angle or telephoto position for the macro switch to engage. The zooming ring is locked at the wide-angle position. At the telephoto position, the zooming ring can move slightly to make fine adjustments to image size.

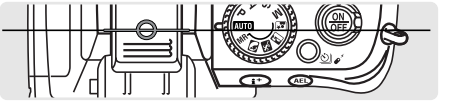
The macro indicator is displayed in the lower right corner of the monitors. Make sure the subject is within the macro focusing range:



Macro-mode indicator

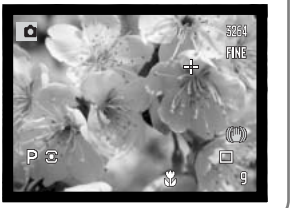
Wide-angle position	0.3 ~ 0.6m (12 ~ 24 in.)
Telephoto position	0.25 ~ 0.6m (10 ~ 24 in.)

Approximate location of the CCD plane



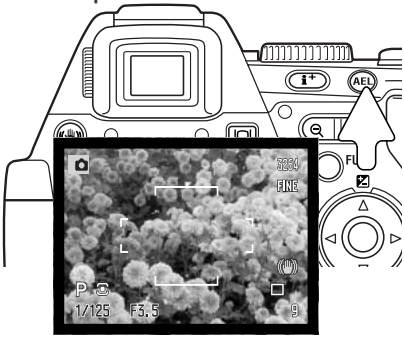
Shooting tips

Because of the high image magnification, hand holding cameras during close-up photography is very difficult. When possible, use a tripod.



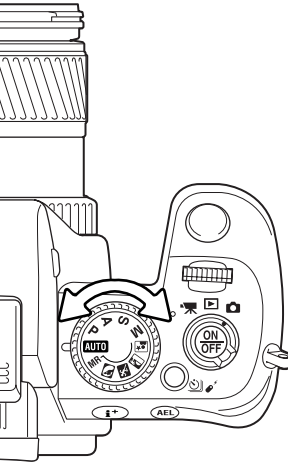
Use the Flex Focus Point to specify the area to be in focus. Because depth of field (the area in focus) is narrow in close-up photography, using focus lock with off-center subjects can cause minor errors which are exaggerated at high magnifications.

Exposure lock



The AE lock button locks the automatic exposure system. This function allows the exposure to be set by a gray card or reference target outside the scene. When using flash in the P or A exposure modes, slow-shutter sync is active (p. 71). The operation of the AE lock button can be customized in section 1 of the recording menu (p. 92).

Press and hold the AE lock button to lock the exposure; the shutter speed and aperture monitor displays turns black; releasing the button cancels the setting. Frame the subject and press the shutter-release button partway down to lock focus.



Exposure-mode dial

The exposure-mode dial is used to select traditional exposure modes as well as subject programs that optimize camera settings to specific shooting conditions. Camera settings saved in the camera can also be recalled with this dial. Simply turn the dial to the appropriate position.

- **M** Manual exposure (p. 56)
- **S** Shutter priority (p. 55)
- **A** Aperture priority (p. 54)
- **P** Program exposure (p. 51)
- **AUTO** Auto recording (p. 52)
- **MR** Memory recall (p. 99)
- Portrait subject program (p. 58)
- Sports action subject program (p. 58)
- Sunset subject program (p. 58)
- Night portrait subject program (p. 58)

Exposure-mode indicator

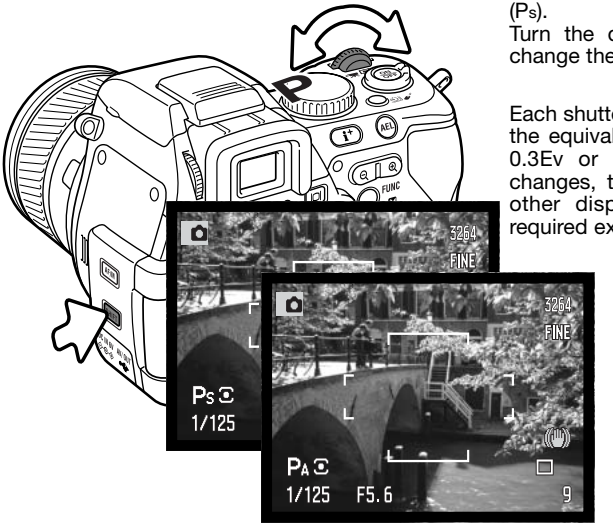
Program - P

Program exposure is set with the exposure-mode dial (p. 50). The program AE uses luminance and focal-length information to calculate exposures. This allows the photographer to shoot without worrying about exposure settings. The shutter speed and aperture values of the exposure are displayed on the monitors. If the brightness level of the scene is outside the exposure control range of the camera, the shutter-speed and aperture displays turn red on the monitors.

Program shift - Ps/Pa

Program-shift function allows adjustment to the shutter-speed/aperture combination determined by the camera. The built-in flash cannot be used with program shift. The camera gives priority to the flash exposure; once the flash is raised, any changes made with program shift are canceled.

As described in the basic recording operation (p. 30), press the shutter-release button partway down until the shutter speed and aperture value are displayed.



Turn the control dial to change the shutter speed (P_S).
Turn the dial while pressing the shift button to change the aperture (P_A).

Each shutter speed and aperture combination gives the equivalent exposure. The values are shifted in 0.3Ev or 1/3 stop increments. If the lighting changes, the shifted value remains fixed and the other display changes to compensate for the required exposure.

Auto recording

Auto recording is set with the exposure-mode dial. Auto recording is the same as the program exposure mode (p. 51), except that when the camera is on, if the exposure mode dial is turned to or from the auto position, the auto exposure mode is reset. Turning the camera off will not reset the mode. The following functions are reset:

Anti-shake	On	p. 36
Focusing screen	Off	p. 43
Display format	Standard	p. 43
Focus mode	Single-shot AF	p. 44
Focus-area mode	Wide focus frames	p. 46
Exposure compensation	0.0	p. 59
Flash compensation	0.0	p. 59
White balance	Auto	p. 60
Camera sensitivity (ISO)	Auto	p. 66
Color mode	Natural (sRGB)	p. 68
Flash mode	Fill flash	p. 70
Metering mode	Multi-segment	p. 72
Filter	0	p. 73
Color-saturation compensation	0	p. 74
Contrast compensation	0	p. 74
Drive mode	Single-frame advance	p. 76
Image size	3264 x 2448	p. 86
Image quality	Fine	p. 86
Spot AE area	Center spot	p. 90
Flash control	Auto	p. 90
Flash output (Manual)	1/4	p. 90
AEL button	AE hold	p. 92
Sharpness	Normal	p. 94

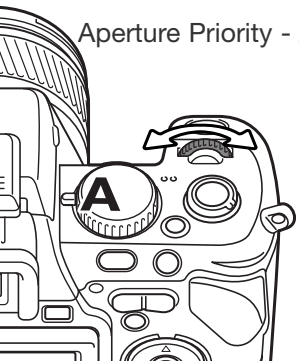
Date imprinting	Off	p. 95
Instant playback	Off	p. 96
Full-time AF	Off	p. 97
Direct Manual Focus (DMF)	Off	p. 97
Noise reduction	On	p. 100
Monitor amplification	Auto	p. 101
Monitor amplification - Manual exp.	Exposure priority	p. 101
Digital zoom	Interpolate	p. 102

Konica Minolta History

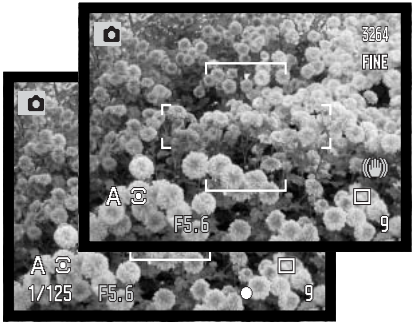
Innovation and creativity has always been a driving force behind our products. The Electro-zoom X was purely an exercise in camera design. It was unveiled at Photokina in Germany in 1966.

The Electro-zoom X was an electronically controlled aperture-priority mechanical SLR with a built-in 30 - 120mm f/3.5 zoom lens giving twenty 12 X 17mm images on a roll of 16mm film. The shutter-release button and battery chamber are located in the grip. Only a few prototypes were built making it one of our rarest cameras.

Aperture Priority - A



Aperture priority is set with the exposure-mode dial (p. 50). The photographer selects the aperture and the camera sets the appropriate shutter speed to ensure the correct exposure. When A mode is selected, the aperture display on the monitors turns blue.



Turn the control dial to change the aperture. Press the shutter-release button partway down to activate the exposure system; the corresponding shutter speed is displayed.

The aperture values can be changed by 0.3Ev or 1/3 stop increments between f/2.8 and f/11 at the lens' wide-angle position and f/3.5 to f/11 at the lens' telephoto position. If the aperture value is beyond the shutter-speed range, the shutter-speed display turns red on the monitors.

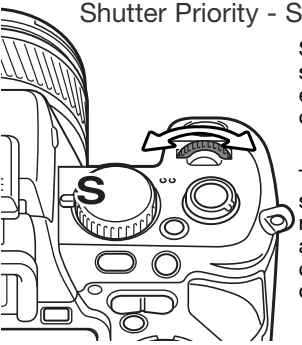
With the camera sensitivity (ISO) set to auto (p. 66), the shutter speed may not change when the aperture is adjusted because the shutter speeds can be adjusted in fine steps.

Camera Notes

When photographing scenes with very bright objects such as the sun at large apertures (f/2.8 or f/3.5), streaking may be apparent in the image. Black areas caused by a loss of data may result. In these situations, stop down the aperture or use neutral density filters to minimize the effect.

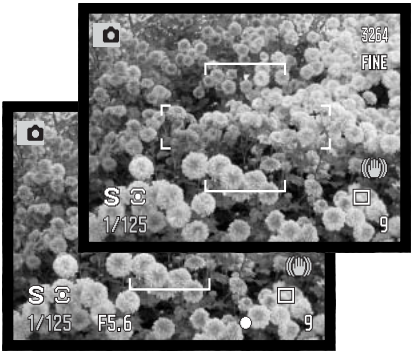
Do not point the camera toward the sun for prolonged periods of time. The intensity of the sun could damage the CCD. Between exposures, turn off the camera or cover the lens.

Shutter Priority - S



Shutter priority is set with the exposure-mode dial (p. 50). The photographer selects the shutter speed and the camera sets the appropriate aperture to ensure correct exposure. When S mode is selected, the shutter speed display on the monitors turns blue.

Turn the control dial to change the shutter speed. Press the shutter-release button partway down to activate the exposure system; the corresponding aperture will be displayed.



The shutter speeds can be changed by 1/3 stop increments from 1/1600 second, see below. If the shutter speed is beyond the aperture range, the aperture display turns red on the monitors.

When using flash, the shutter speed should be set to the flash duration of flash unit to prevent underexposure. A maximum shutter speed of 1/1000s is recommended when using the built-in flash and 1/250s when using a compatible Minolta flash unit.

The camera-shake warning does not appear in S mode.

Shutter-speed range and Camera sensitivity (ISO)

The maximum shutter speed or bulb exposure depends on the camera sensitivity (ISO) setting.

ISO is changed with the function button. For more about camera sensitivity, see page 66.

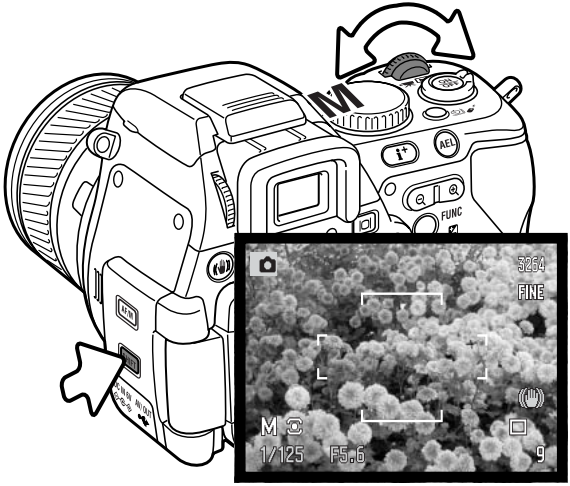
ISO setting	Shutter speed
50	30 seconds
100	30 seconds
200/AUTO	15 seconds
400	8 seconds
800	4 seconds

Manual Exposure - M

Manual exposure mode allows individual selection of shutter speeds and apertures. This mode overrides the exposure system giving the photographer total control over the final exposure. Manual exposure is set with the exposure-mode dial (p. 50).

The shutter speeds and aperture values can be changed in 1/3 stop increments. The shutter speed range in manual exposure mode is 30 to 1/1600 second including bulb (p. 57). With auto ISO, the camera sensitivity is set to ISO 100. The maximum shutter speed changes with sensitivity, see page 55.

As changes are made to the exposure, the effect will be visible on the monitors. The shutter-speed and aperture display turns red on the monitors if the image is extremely under or overexposed. If the monitors are black, increase the exposure until the image is visible; decrease the exposure if the monitors are white. The recording menu can be used to constantly display a live image regardless of the exposure setting (p. 101)



To set the shutter speed, turn the control dial. To set the aperture, press and hold the shift button and turn the control dial; the left/right keys of the controller can also be used to change the aperture when shooting vertical pictures.

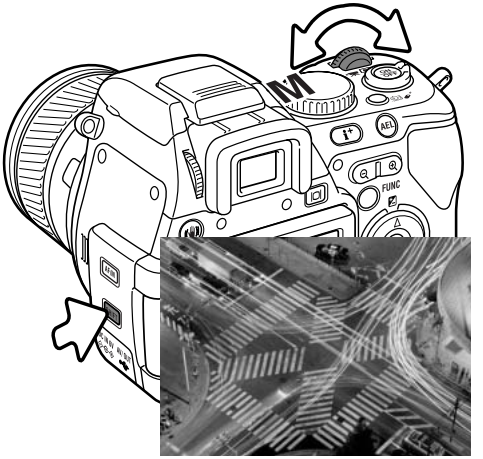
To use manual shift, press and hold the AE lock button while turning the control dial; both the shutter speed and aperture are changed without affecting the total exposure.

When using flash, the shutter speed should be set to the flash duration of flash unit to prevent underexposure. A maximum shutter speed of 1/1000s is recommended when using the built-in flash and 1/250s when using a compatible Minolta flash unit.

The camera-shake warning does not appear in M mode.

Bulb exposures

Bulb photographs can be taken in the manual-exposure mode (M). The maximum exposure time depends on the camera sensitivity setting, see page 55. The use of a tripod and a Wireless Remote Control RC-D1 is recommended for bulb exposures. The camera's exposure system cannot be used to calculate bulb exposures. The use of a separate light meter is recommended.

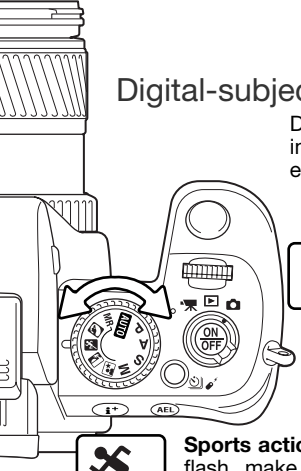


Use the control dial to decrease the shutter-speed until "bulb" is displayed.

Press and hold the shift button and turn the control dial to set the appropriate aperture required for the exposure.

To take the picture, press and hold the shutter-release button for the duration of the exposure. Releasing the shutter button will end the exposure.

The monitors will be blank during the exposure. The shutter sound effect will signal the end of the exposure. The monitors will remain blank for up to 30 seconds while noise-reduction processing is applied to the image.



Digital-subject-programs

Digital subject programs optimize the camera's exposure, white-balance, and image-processing systems for specific conditions and subjects. Simply turn the exposure mode dial to select the appropriate subject program.

Portrait - optimized to reproduce warm, soft skin tones and a slight defocusing of the background. Most portraits look best at a telephoto setting; the longer focal length does not exaggerate facial features and the shallower depth of field softens the background. Use the built-in flash with strong direct sunlight or backlight to reduce harsh shadows.

Sports action - used to capture fast action by maximizing shutter speeds. When using a flash, make sure the subject is within the flash range (p. 67). The flash range can be extended by changing the camera sensitivity (p. 66). A monopod is more flexible and compact than a tripod when shooting events.

Sunset - optimized to reproduce rich, warm sunsets. When the sun is above the horizon, do not point the camera toward the sun for prolonged periods of time. The intensity of the sun could damage the CCD. Between exposures, turn off the camera or cover the lens.

Night portrait - for deep, subtle night scenes. When used with flash, the subject and background exposures are balanced. Use a tripod to eliminate blurring from camera shake. The flash can only be used with close subjects such as with a portrait of a person. When using the flash, ask your subjects not to move after the burst; the shutter will still be open for the background exposure.

Not all recording functions can be used when using Digital Subject Programs.

Exposure and flash compensation

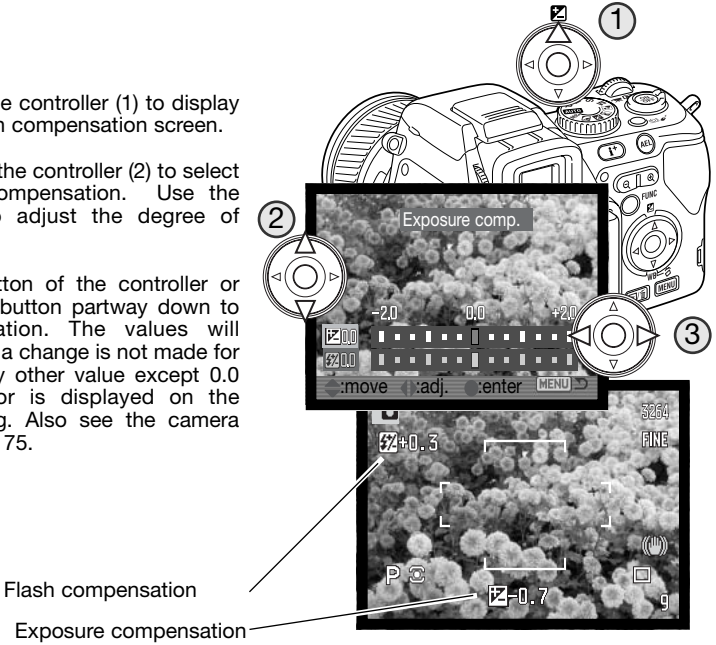
The ambient light and flash exposure can be adjusted before the image is captured to make the final picture lighter or darker. Exposure can be adjusted by as much as ±2Ev in 1/3 increments (p. 105). The exposure and flash compensation will remain in effect until it has been reset. For more on exposure and flash compensation, see page 59.

Adjustments to exposure must be set before the image is captured. When setting exposure or flash compensation, the change in Ev is shown on the monitors. After the setting is made, the shutter-speed and aperture displays will indicate the actual exposure.

Press the up key of the controller (1) to display the exposure and flash compensation screen.

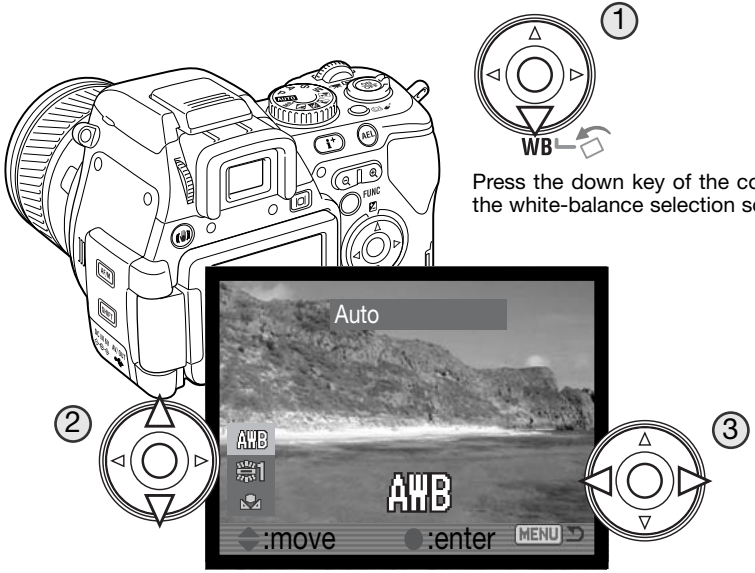
Use up/down keys of the controller (2) to select exposure or flash compensation. Use the left/right keys (3) to adjust the degree of compensation.

Press the central button of the controller or press shutter-release button partway down to complete the operation. The values will automatically be set if a change is not made for a few seconds. If any other value except 0.0 was set, an indicator is displayed on the monitor as a warning. Also see the camera notes on page 69 and 75.



White balance

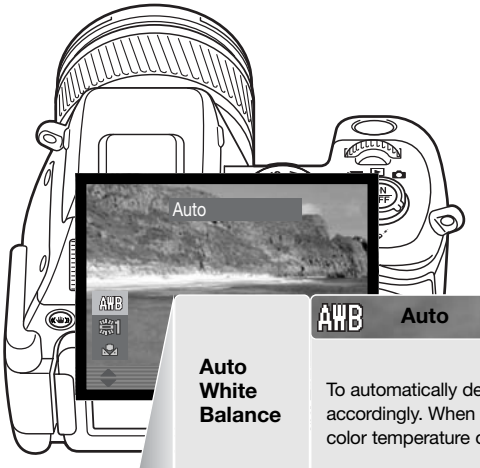
White balance is the camera's ability to make different types of lighting appear natural. Any changes are immediately visible on the monitors.



Press the down key of the controller (1) to display the white-balance selection screen.

Use the up/down keys of the controller (2) to select between auto, preset, or custom white balance. The left/right keys (3) change the preset and custom white balance settings. Press the shutter-release button partway down or press the central button of the controller to complete the operation. Also see the camera notes on page 69.

When preset or custom white balance is set, an indicator appears on the monitors.



Auto White Balance

AWB Auto

To automatically detect the type of light and adjust the white balance accordingly. When the built-in flash is used, the white balance is set for the color temperature of the flash.

Preset white balance

Daylight **Shade**

Cloudy **Tungsten**

Fluorescent 1, 2 **Flash**

To set the white balance to a specific light source. Fluorescent 1 is for standard fluorescent lighting, and fluorescent 2 is for daylight fluorescent lighting. For information on light sources, see page 105.

Custom white balance

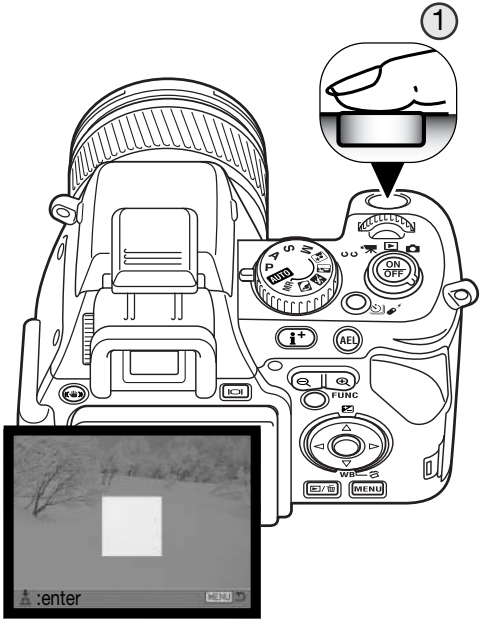
Set Custom set **1 2 Custom recall 1, 2**

To apply or calibrate custom white-balance. Up to two custom white balance settings can be registered and recalled. See the next page for further instructions.

Custom White-Balance calibration

Custom-white-balance function allows the camera to be calibrated to a specific lighting condition. Two settings can be stored in the camera and used repeatedly. Custom white balance is especially useful with mixed-lighting conditions or when critical control over color is needed.

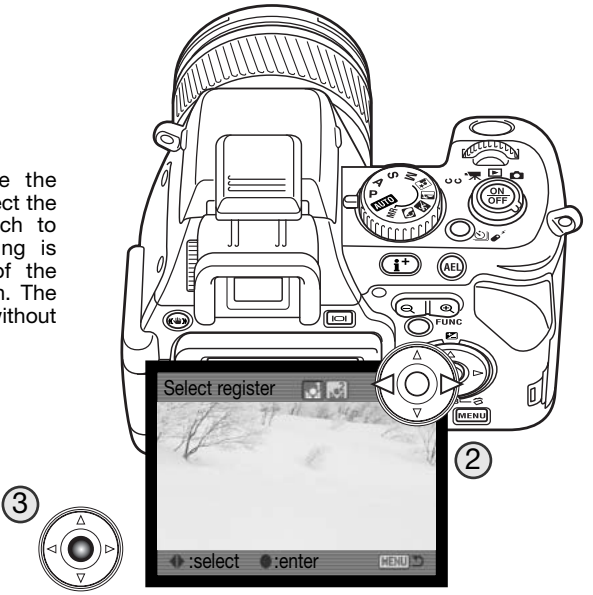
Select the custom set option on the white-balance selection screen, see previous page.



The measuring area is displayed on the calibration screen. Select a white object and fill the measuring area with it.

Press the shutter-release button all the way down (1) to calibrate the camera.

On the register-selection screen use the left/right keys of the controller (2) to select the custom white-balance register in which to store the setting; any previous setting is replaced. Press the central button of the controller (3) to complete the operation. The menu button cancels the operation without saving the setting.



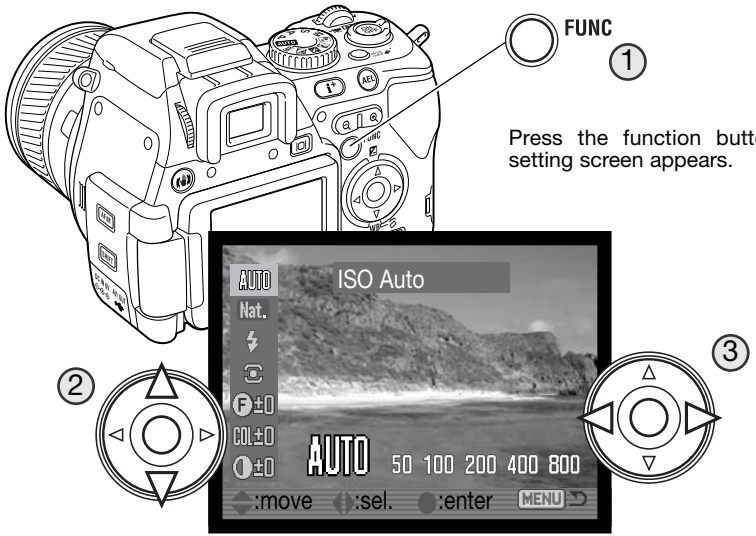
If an error occurs during calibration, a message appears on the monitors. Press the controller to cancel the message and press the menu button to cancel the register-selection screen; the custom white-balance indicator will be yellow to indicate the error. Recalibrate using a suitable reference target. A calibration error may occur under extremely bright light sources, especially with flash units. Use a gray card as the calibration target to reduce the intensity of the illumination.

Shooting tips

When making the calibration, the color of the object used is critical. The object should be white. A colored object will cause the calibration to compensate for the object color rather than the color temperature of the ambient light. A blank piece of white paper is an ideal surface and can easily be carried in a camera bag.

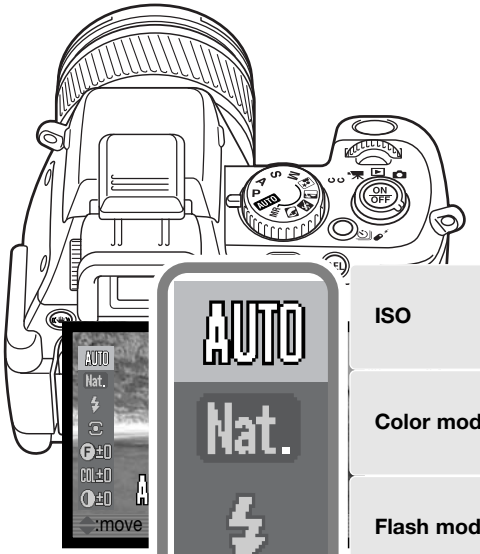
Using the function button

The camera sensitivity, color mode, flash mode, metering mode, filter, color saturation, and contrast settings are controlled by the function button. Only filter, color saturation, and contrast can be set in the movie recording mode.



Use the up/down keys of the controller to highlight the function (2), and the left/right keys to change the setting (3). Press the center of the controller or the shutter-release button partway down to complete the operation.

Pressing the menu button cancels the operation. Also see the camera notes on page 69 and 75.



ISO	Changes camera sensitivity (p. 66).
Color mode	To select color or B&W images, color space, or portrait (p. 68).
Flash mode	To set the flash mode of the built-in flash (p. 70).
Metering mode	Changes the metering pattern (p. 72).
Filter	Changes the overall color of an image (p. 73).
Color Saturation	Changes the color saturation of an image (p. 74).
Contrast Compensation	Changes the contrast of an image (p. 74).

Camera Sensitivity - ISO

Five settings can be selected for camera sensitivity: Auto, 50, 100, 200, 400, and 800; the numerical values are based on an ISO equivalent. ISO is the standard used to indicate film sensitivity: the higher the number, the more sensitive the film.

Camera sensitivity is selected with the function button and the controller (p. 64).

The auto setting automatically adjusts the camera sensitivity to the light conditions between ISO 50 and 200. When any other setting than auto is used, “ISO” and the set value is displayed on the monitors.

Photographers can select a specific sensitivity setting. Like grain in silver-halide film that increases with speed, noise increases with sensitivity in digital imaging; an ISO setting of 50 will have the least noise and 800 will have the most.

A change in ISO also affects the flash and shutter-speed range. See the next page for more on the flash range, and page 55 for the shutter-speed range.

As the ISO value doubles, the camera sensitivity doubles; changing the ISO between 100 and 200, 200 and 400, or 400 and 800 changes the camera sensitivity by one stop or 1 Ev (p. 105). A change between 100 and 800 changes the camera sensitivity by a factor of 8 or three stops. High ISO settings (400, 800) can allow the photographer to hand hold the camera in low-light conditions without the need of a flash.

Manual camera sensitivity indicator

Flash range and camera sensitivity

For correct flash exposures, the subject must be within the flash range. The flash range can be extended by changing the camera sensitivity. When the camera sensitivity is set to auto, the ISO is set between ISO 50 and 200.

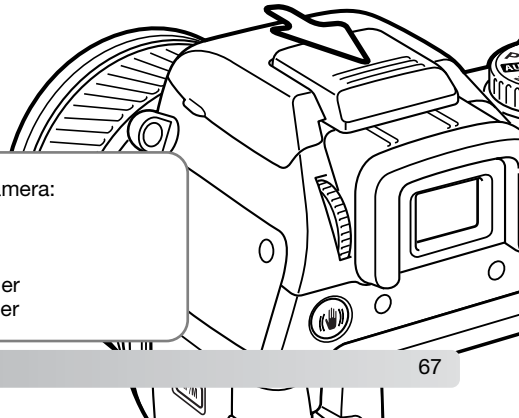
The flash range is measured from the CCD. Because of the optical system, the flash range is not the same at the lens' wide-angle position as it is at the telephoto position.

ISO setting	Flash range (wide angle)	Flash range (telephoto)
50	0.5m ~ 1.9m / 1.6 ft. ~ 6.2 ft.	0.5m ~ 1.5m / 1.6 ft. ~ 4.9 ft.
100	0.5m ~ 2.7m / 1.6 ft. ~ 8.9 ft.	0.5m ~ 2.1m / 1.6 ft. ~ 6.9 ft.
200/AUTO	0.5m ~ 3.8m / 1.6 ft. ~ 12.5 ft.	0.5m ~ 3.0m / 1.6 ft. ~ 9.8 ft.
400	0.5m ~ 5.4m / 1.6 ft. ~ 17.7 ft.	0.5m ~ 4.2m / 1.6 ft. ~ 13.8 ft.
800	0.5m ~ 7.6m / 1.6 ft. ~ 24.9 ft.	0.5m ~ 6.0m / 1.6 ft. ~ 19.7 ft.

Attaching an accessory flash unit

To extend the versatility of the camera, an accessory flash unit (sold separately) can be used. Always remove the accessory flash when the camera is not in use, and replace the accessory-shoe cap to protect the contacts.

Slide the accessory-shoe cap off as shown. Mount the flash unit on the accessory shoe by sliding it forward until it stops.



System Accessories

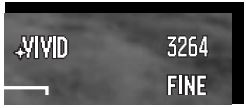
The following flash units are compatible with this camera:

- Maxxum/Program Flash 2500(D)
- Maxxum/Program Flash 3600HS(D)
- Maxxum/Program Flash 5600HS(D)
- Macro Ring Flash 1200 with Macro Flash Controller
- Macro Twin Flash 2400 with Macro Flash Controller

Color mode

The color mode controls whether a still image is color or black and white as well as the color space. This must be set before the image is recorded. Color mode is selected with the function button and the controller (p. 64). The live image on the monitors reflect the selected color mode. The color mode has no effect on image file size.

When a color mode other than the natural color is set, an indicator is displayed on the monitors.



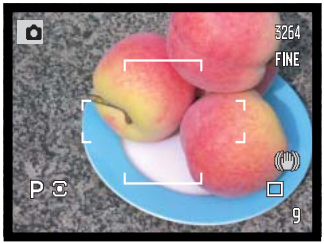
Vivid Color - increases the saturation of the colors in the scene. The increased saturation affects the RAW image data. Employs the sRGB color space. See the color example on page 2.

Natural Color - reproduces the colors in the scene faithfully. This mode uses no monitor indicator when active. Employs the sRGB color space.See the color example on page 2.

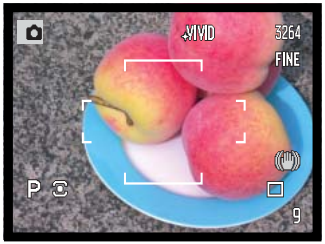
Portrait - optimizes color for portraiture. Employs the sRGB color space.

Embedded Adobe RGB - like Natural Color, this color mode reproduces the colors in the scene faithfully, but uses the extended gamut of the Adobe RGB color space. The color space is embedded in the image file. See the color example on page 2.

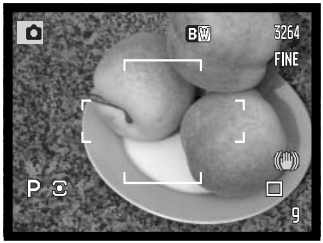
Black & White - produces monochrome images. Images can be toned using the Filter setting (p. 73). See the color example on page 2.



Natural Color and Embedded Adobe RGB - reproduces the colors in the scene faithfully.



Vivid Color - increases the saturation of the colors in the scene.



Black & White - produces monochrome images.

About Adobe RGB

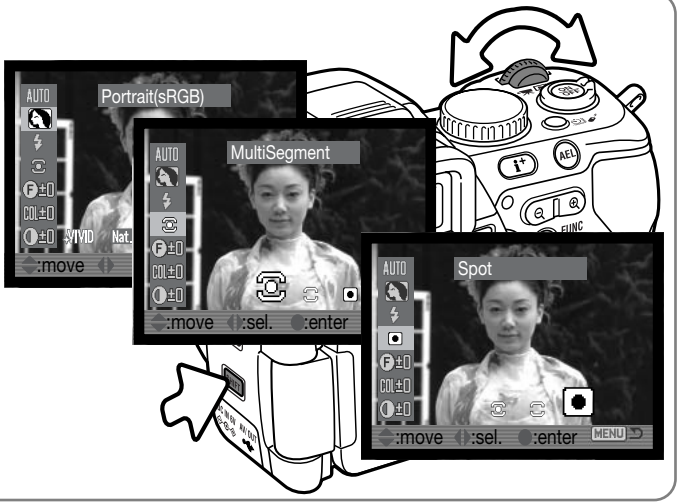
Embedded Adobe RGB employs the Adobe RGB color space. Adobe RGB has a larger color gamut than the more common sRGB. The size of the gamut limits the colors that can be reproduced; the larger the gamut, the more colors. If the image will be printed out with a high-quality printer, the use of the Adobe RGB color mode is recommended over the sRGB color modes of Natural Color, Vivid Color, or Portrait.

Adobe RGB embeds an ICC profile in JPEG image data. Color matching must be used when opening Adobe-RGB image files. When using the DiMAGE Viewer, the color matching function must be active and the color space set to Original Color Space (Adobe RGB) in the color preferences window, see color matching in the advanced setup section in the DiMAGE Viewer manual. DiMAGE Viewer version 2.2 or later is required to open embedded Adobe RGB images taken with this camera.

Embedded Adobe RGB color mode cannot be used with RAW images.

Camera Notes

The control dial and the shift button can be used to set functions instead of the controller. Press and hold the shift button and turn the control dial to move the cursor vertically in the selection screen. Turn the control dial to move the cursor horizontally.



Flash modes

Flash mode is selected with the function button and the controller (p. 64). For the flash to fire, the built-in unit must be manually lifted. The flash fires in the selected mode regardless of the amount of ambient light. The auto-white-balance setting gives priority to the flash's color temperature. If preset or custom white-balance settings are used, priority is given to the active setting's color temperature.

The active flash mode is shown by an indicator on the monitors when the flash is lifted.

Fill flash

Fill-flash can be used as the main or supplementary light. In low-light conditions, the flash will act as the main source of illumination and overpower the ambient light. Under strong sunlight or in backlit situations, the fill-flash can reduce harsh shadows.

Fill-flash with red-eye reduction

Fill-flash with red-eye reduction is used when taking photographs of people or animals in low-light conditions. The red-eye effect is caused by light reflected from the retina of the eye. The camera will fire two pre-flashes before the main flash burst to contract the pupils of the subject's eyes.

SLOW Slow shutter sync. with red-eye reduction

With slow shutter sync, the flash and ambient light exposures are balanced; red-eye reduction is used. Use slow shutter sync. to reveal background details in dark locations. Ask your subject not to move after the flash burst; the shutter may still be open for the background exposure. Because exposures can be long, the use of a tripod is recommended.

REAR Rear flash sync

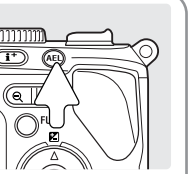
Rear flash sync is used with long exposures to make trailing lights or blurring appear to follow rather than proceed the subject. The effect is not apparent if the shutter speed is too fast and stops the subject's motion.

When the shutter is released, a pre-flash will fire. This pre-flash does not exposure the subject, but is used in the calculation of the flash exposure. The flash will fire again just before the shutter closes.

Camera Notes

Slow shutter sync can also be set using the AE lock button in P and A exposure modes.

With the subject in the AF area, press and hold the AE lock button to lock the exposure. Press the shutter-release button partway down to lock the focus. Compose the image on the monitor, then press the shutter-release button all the way down to take the picture. The operation of the AE lock button can be changed in section 1 of the recording menu.



Metering modes

Metering modes changes the metering pattern. If the luminance levels of the scene are outside the metering range, the metering indicator turns red.

Metering mode is selected with the function button and the controller (p. 64).

Multi-segment - uses 256 segments to measure luminance and color. This data is combined with distance information to calculate the camera exposure. This advanced metering system will give accurate worry-free exposures in almost all situations.

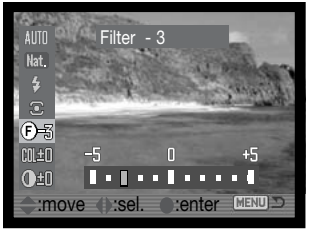
Center weighted - a traditional metering method in film cameras. The system measures light values over the entire image area with emphasis given the center region.

Spot - uses a small area within the image to calculate the exposure. When this mode is selected, a small circle will appear in the middle of the live image indicating the measuring area. The spot allows precise exposure measurements of a particular object without being influenced by extremely bright or dark areas within the scene. When using spot metering with the Flex Focus Point (p. 48), the spot circle can move with the focus point. This function is selected in section 1 of the recording menu (p. 90).

Spot metering display

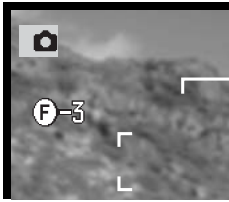
When the metering mode is set, an indicator appears on the monitors.

Filter



The overall color of a scene can be adjusted. The Filter effects differ between the color mode in use, see the color examples on page 171. The Filter effects are set with the function button and the controller (p. 64). When changing the setting, an icon and numeral will indicate the filter in effect.

If the Filter is set to any other setting than zero, an indicator and value will remain on the displays as a warning.



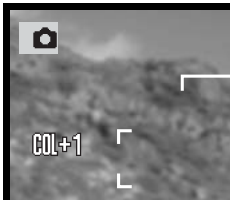
When used with Natural Color, Vivid Color, Portrait, or Embedded Adobe RGB, the Filter can be adjusted in eleven levels (±5). A positive adjustment acts like a warming filter. A negative adjustment makes the image cooler.

When used with the black-and-white color mode, the Filter can tone the neutral monochrome image in eleven steps. The Filter effect cycles from neutral to red, to green, to magenta, to blue, and returning to neutral. The zero position is neutral. Black and white filter settings have no effect on RAW images.

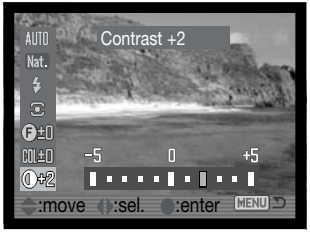
Color-saturation compensation

The color saturation of a scene can be adjusted within eleven levels (±5). Colors can be accented, positive value, or subdued, negative value. Color saturation is set with the function button and the controller (p. 64).

When set to any value other than zero, an indicator and value will be displayed on the monitors as a warning.

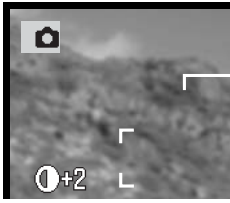


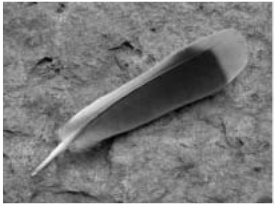
Contrast compensation



The contrast of a scene can be adjusted within eleven levels (±5). Contrast can be increased, positive value, or decreased, negative value. Contrast is set with the function button and the controller (p. 64).

If contrast is set to any other value than zero, the indicator and value remain on the displays as a warning.





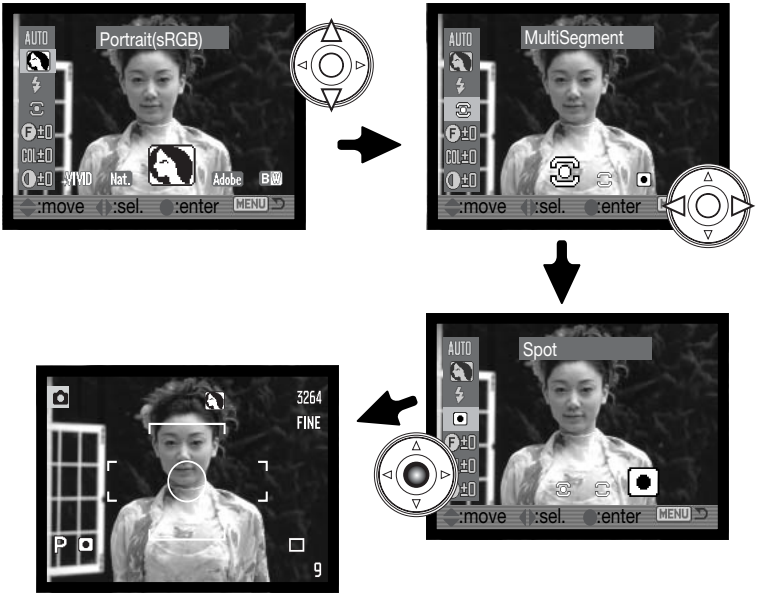
Contrast decreased

Contrast normal

Contrast increased

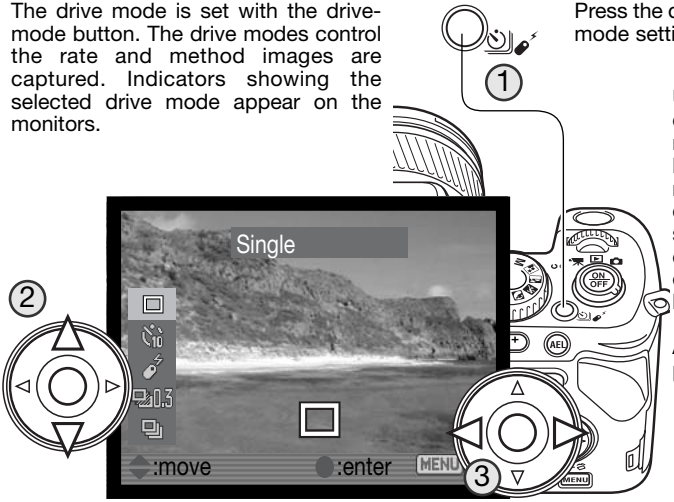
Camera Notes

Multiple settings can be made on the function-setting screen or exposure/flash compensation screen. Simply use the up/down keys to move to other functions before pressing the central button to complete the operation.



Using the drive-mode button

The drive mode is set with the drive-mode button. The drive modes control the rate and method images are captured. Indicators showing the selected drive mode appear on the monitors.



Press the drive-mode button (1); the drive-mode setting screen appears.

Use the up/down keys of the controller to highlight the the new drive mode (2). Use the left/right keys to select the drive mode options (3). Press the center of the controller or press shutter-release button partway down to complete the operation. Pressing the menu button cancels the operation.

Also see the camera notes on page 69.

Single-frame advance	To take a single image each time the shutter-release button is pressed (p. 30).
Self-timer	To delay the release of the shutter by 2 or 10 seconds. Used for self-portraits (p. 77).
Remote control	To operate the camera with the remote control unit (p. 78).
Bracketing	To take a series of three images with differing exposure, or white balance (p. 80).
Continuous advance	To take a series of three images when the shutter-release button is pressed and held (p. 82).

Self-timer

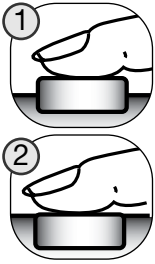
Used for self-portraits, the self-timer will delay the release of the shutter after the shutter button is pressed. A ten second and two second self-timer is available.

Self-timer is set with the drive-mode button and the controller (p. 76).

Two-second self-timer

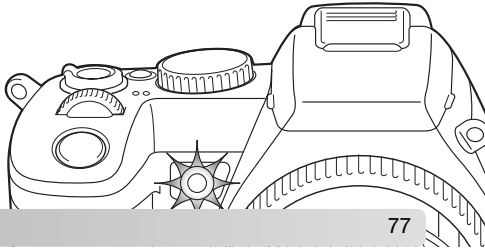
Ten-second self-timer

When the self-timer is set, the indicator appears on the monitors.



With the camera on a tripod, compose the picture as described in the basic recording section (p. 30). Focus lock (p. 32), spot AF area (p. 47) or the Flex Focus Point (p. 48) can be used with off-center subjects. Press the shutter-release button partway down (1) to lock the exposure and focus. Press the shutter-release button all the way down (2) to begin the countdown. Because focus and exposure are determined when the shutter-release button is pressed, do not stand in front of the camera when taking a self-timer image. Always confirm the focus with the focus signals before beginning the countdown (p. 33).

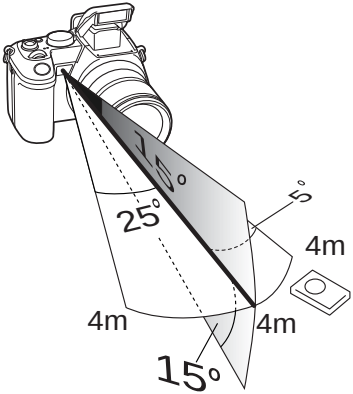
The self-timer lamp on the front of the camera and the audio signals indicate the countdown. The lamp will glow steadily just before the shutter fires. To stop the countdown, press the menu button or change the position of the flash (lift it or push it down).
When using the ten-second self-timer, the drive mode is reset to single-frame advance after the exposure. The audio signal can be turned off in section 3 of the setup menu (p. 140).



Recording with remote control

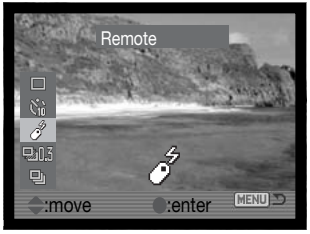
The camera can be operated up to approximately 4m (13.1 ft.) away with the Wireless Remote Control RC-D1 supplied with the camera. This section covers how to setup the camera for remote control and recording operation for still and movie images. See page 126 for playback operation, and page 127 on how to replace the battery.

Setting up the camera for remote control



The remote control should be operated within the range shown. The remote control signal can be blocked if the zoom lens is extended, or an accessory such as the lens hood, or a wide-angle or telephoto converter is attached. Backlight, and fluorescent or bright lighting may prevent the remote control from working.

The self-timer lamp blinks to indicate the camera has received a signal from the remote control unit.

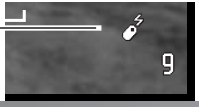


To record still images, set the mode switch to the recording position and select the remote control drive mode with the drive-mode button (p. 76).

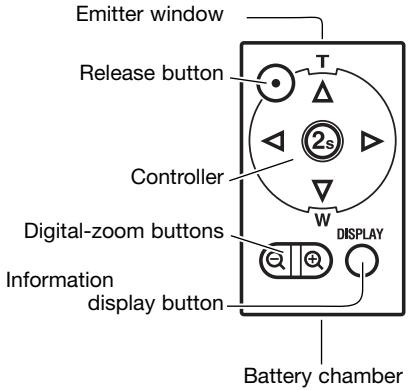
To record movies, set the mode switch on the camera to movie recording position.

The remote control mode remains active after the picture is taken. To cancel it, select another drive mode.

When the remote-control drive mode is set, the indicator appears on the monitors.



Using the remote control



With the camera on a tripod, position the subject within the focus frame.

Point the remote control's emitter window toward the camera's self-timer lamp/remote-control receiver.

Pressing the information display button changes the display format, see page 43.

Digital zoom (p. 102) is activated by the digital-zoom buttons.

Press the release button or the center (2s) button of the controller to take the picture. The central button delays the release of the shutter for approximately two seconds; the self-timer lamp and the audio signal indicates the countdown. The self-timer lamp glows steadily just before the shutter releases. The release button fires the shutter without a delay. If the flash is used, the shutter is released after the flash has charged.

The focus and exposure are set when the release button or the central button of the controller is pressed.

When recording movies or bulb exposures, pressing the release button or the central button of the controller once starts the exposure; pressing the button a second time ends it.

Bracketing

This drive mode makes a three image bracket of a scene. Bracketing is a method of taking a series of images of a static subject in which each image has a slight variation in exposure or white balance.

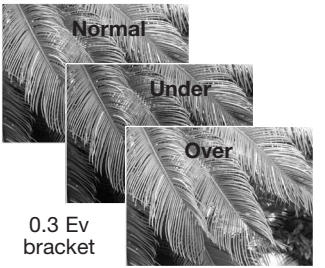
Bracketing mode is set with the drive-mode button and the controller (p. 76).

Exposure bracket - the order of the exposure bracket series is normal exposure (as indicated by the camera), underexposure, and overexposure. The exposure bracket increment can be selected between 0.3Ev and 0.5Ev. If the memory card is filled or the shutter button is released before the series has completed, the camera will reset and the entire bracket must be made again.

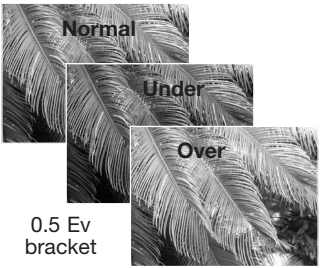
White-balance bracket - the bracket series is the current setting, cooler, and warmer. The bracket is smaller with WB bracket(L)/WB1 than with WB bracket(H)/WB2. See the white balance section on page 60.

Compose the picture as described in the basic recording section (p. 30).

To make an exposure bracket, press and hold the shutter-release button all the way down (1); three consecutive images are captured.

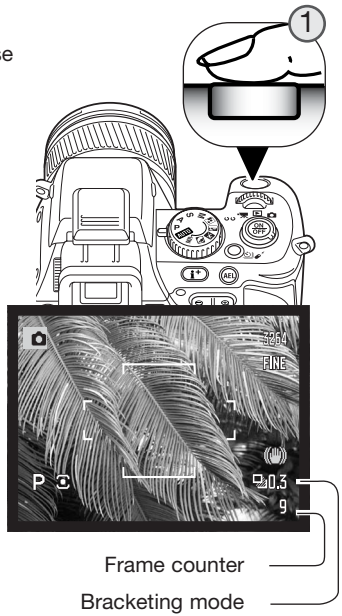


0.3 Ev bracket



0.5 Ev bracket

To make a white-balance bracket, press and release the shutter button. Three consecutive images are made from a single exposure.



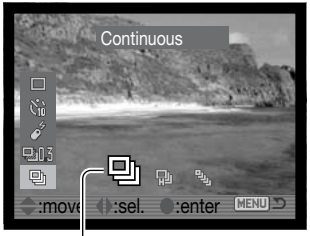
The bracketing drive mode indicator is displayed when set. The remaining number of frames in the series is displayed next to the indicator during the bracket.

To make a flash bracket, raise the camera flash; the ambient exposure is not bracketed. When using flash, single-frame advance is employed and the shutter-release button must be pressed for each exposure.

When exposure brackets are made in S exposure mode, the aperture controls the bracket. In A and M modes, the shutter speed controls the bracket; in M mode, pressing the AE lock button during the bracket changes the exposure control to the aperture.

Continuous Advance

Continuous-advance mode allows a series of images to be captured while holding down the shutter-release button. Continuous advance acts like a motor drive on a film camera. RAW & JPEG image quality cannot be used. RAW cannot be used with UHS continuous advance.



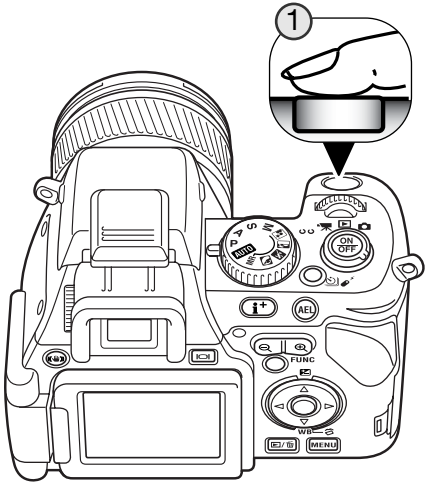
Continuous-advance mode is set using the drive-mode button and the controller (p. 76).

Continuous advance - captures a maximum of five images at 2fps. When used with continuous autofocus, the camera adjusts the focus during the series. The live image is briefly displayed between frames.

High-speed continuous advance - captures a maximum of five full-size images at 2.3fps. Focus is locked with the first frame regardless of the focusing mode. The monitor turns off during the series.

UHS continuous advance - captures forty 640 X 480 size images at 10fps regardless of the image-quality setting. Focus is locked with the first frame regardless of the focusing mode. The digital zoom and flash cannot be used. Shutter speeds must be 1/30 second or faster. Very bright light sources within the image may cause streaking. Black areas caused by a loss of data may be apparent. When the red low-battery warning is displayed, this drive mode cannot be used.

When a continuous-advance drive mode is set, an indicator appears on the monitors.

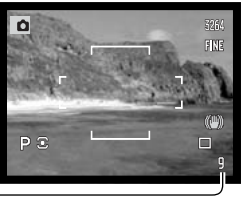


Compose the picture as described in the basic recording section (p. 30). Press and hold the shutter-release button all the way down (1) to begin taking pictures. The camera continues to record images until the maximum number has been taken or the shutter button is released.

The built-in flash can be used with standard and high-speed continuous advance, but the rate of capture is reduced because the flash must recharge between frames.

Camera Notes

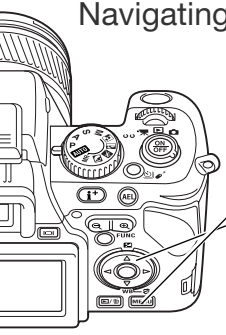
When a large amount of image data is captured in a short period, the camera's internal buffer memory becomes full; the frame counter turns yellow on the monitors. Time must be given for this data to be written to the memory card. Wait for the indicator to turn white before capturing more images.



RECORDING MENU

In recording mode, press the menu button to activate the menu. The menu button also closes the menu after making settings. The four-way key of the controller is used to move the cursor in the menu. Pressing the central button of the controller will enter a setting.

Navigating the recording menu



Activate the recording menu with the menu button. Tab 1 at the top of the menu will be highlighted.

Use the left/right keys of the controller to highlight the appropriate menu tab; the menus will change as the tabs are highlighted.

When the desired menu section is displayed, use the up/down key to scroll through the menu options. Highlight the option whose setting needs to be changed.

Press the right controller key to display the settings; the current setting is indicated by an arrow. To return to the menu options, press the left key.

Use the up/down keys to highlight the new setting. If “Enter” is displayed, press the central button of the controller to open the next screen.

Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed. Changes can continue to be made. To return to the recording mode, press the menu button.

To set image resolution (p. 86).

To set file type and compression (p. 86).

To select the spot metering area location with FFP (p. 90).

To set automatic or manual flash control (p. 90).

To customize the operation of the AEL button (p. 92).

To reset the recording-mode functions (p. 93).

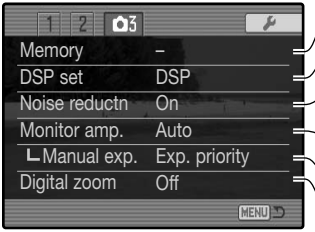
To increase or decrease image sharpness (p. 94).

To imprint date or time on a recorded image (p. 95).

To play back images after they are recorded (p. 96).

To activate full-time AF (p. 97).

To activate Direct Manual Focus (p. 97).



To save camera settings (p. 98).

To use Digital Subject Programs for memory recall (p. 100).

To apply noise reduction to long exposures (p. 100).

To activate automatic monitor amplification (p. 101).

To set M exposure mode monitor preferences (p. 101).

To set the digital zoom (p. 102).

Image size and image quality

Image size and quality are set in section 1 of the recording menu (p. 84). Changes are displayed in the top right corner of the monitors.

3264	3264 X 2448
3264	3264 X 2176 3:2
2560	2560 X 1920
2080	2080 X 1560
1600	1600 X 1200
640	640 X 480

RAW	RAW image
RAW+	RAW & JPEG image
X.FIN	Extra fine JPEG image
FINE	Fine JPEG image
STD.	Standard JPEG image

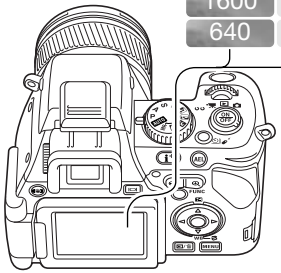


Image size affects the number of pixels in each image. The greater the image size, the larger the file size. Choose image size based on the final use of the image - smaller images are more suitable for web sites whereas larger sizes produce higher quality prints. The 3264 X 2176 option uses a 3:2 image ratio than the usual ratio of 4:3. When this is selected, the top and bottom of the monitor image is masked.

Image quality controls the file type and rate of compression. RAW is a high-quality image file. The extra fine, fine, and standard settings produce JPEG files at various rates of compression. The higher the image quality, the lower the rate of compression and the larger the file sizes. If economical use of the memory card is important, use the standard mode. The RAW & JPEG option creates two image files at one time, a 3264 X 2448 RAW file and a fine quality JPEG file with an image size selected with the menu. The image files are saved with the same file name, but with different extensions (p. 148). It can require more than 10 seconds to save RAW files; the frame counter turns yellow and no images can be captured during this period.

Only full-size images can be taken with RAW image quality. RAW images require special processing before they can be used, refer to the DiMAGE Viewer software manual. Some camera functions cannot be used with the RAW image-quality setting. See page 88 for more information.

The number of images that can be stored on a memory card is determined by the size of the card and the file size of the images. One memory card can contain images with differing sizes and qualities. The actual file size is determined by the scene; some subjects can be compressed further than others.

Approximate file sizes.						
	3264x2448	3264x2176	2560x1920	2080x1560	1600x1200	640x480
RAW	11.4MB	–	–	–	–	–
Extra fine	6.1MB	5.5MB	3.8MB	2.5MB	1.5MB	300KB
Fine	3.9MB	3.4MB	2.4MB	1.6MB	1.0MB	210KB
Standard	2.0MB	1.7MB	1.2MB	850KB	520KB	130KB
Approximate number of images that can be stored on a 128MB memory card.						
RAW	10	–	–	–	–	–
Extra fine	19	22	32	49	79	390
Fine	31	35	50	78	122	558
Standard	62	69	97	150	229	781

Camera Notes

The frame counter indicates the approximate number of images that can be stored on the memory card at the camera's image quality and size settings. If the settings are changed, the frame counter adjusts accordingly. Because the counter uses approximate file sizes, the actual image taken may not change the counter or may decrease it by more than one. When the frame counter displays zero, it indicates no more images at the image size and quality settings can be captured. Changing those settings may allow more images to be saved to the card.

About RAW image quality

In the RAW image-quality mode, the image size is set at full and cannot be changed. The image size will not be displayed on the monitors. The digital zoom, enlarged playback, data imprinting, and print functions cannot be used.

Unlike the other image-quality modes, RAW image data is unprocessed and requires image processing before it can be used. To view the RAW data, the DiMAGE Viewer software is required. This software can reconstruct the image and apply the same image processing controls as the camera. RAW data is saved as a 12-bit file; the DiMAGE Viewer software can convert this data into 24-bit or 48-bit TIFF files.

A RAW image is stored with a file header that contains white-balance information, changes made to contrast, saturation, and color, any image processing applied in a subject-program setting, and changes to sharpness. The changes in camera sensitivity are applied to the RAW data; ISO values can be manually set to control noise (p. 66).

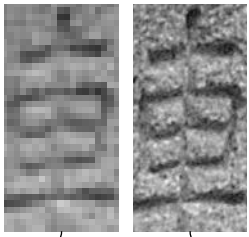
The camera's image-processing controls apply the affect of the color modes to the live image on the monitors, but the stored data may not be influenced by the setting. The black and white color mode has no effect on the final image; a raw image taken in the black-and-white color mode can be restored to a color picture. However, black and white filter effects (p. 73) are not applied to a RAW image. The saturation difference between the Natural Color and Vivid Color modes is preserved in the RAW data. For more on color modes, see page 68.

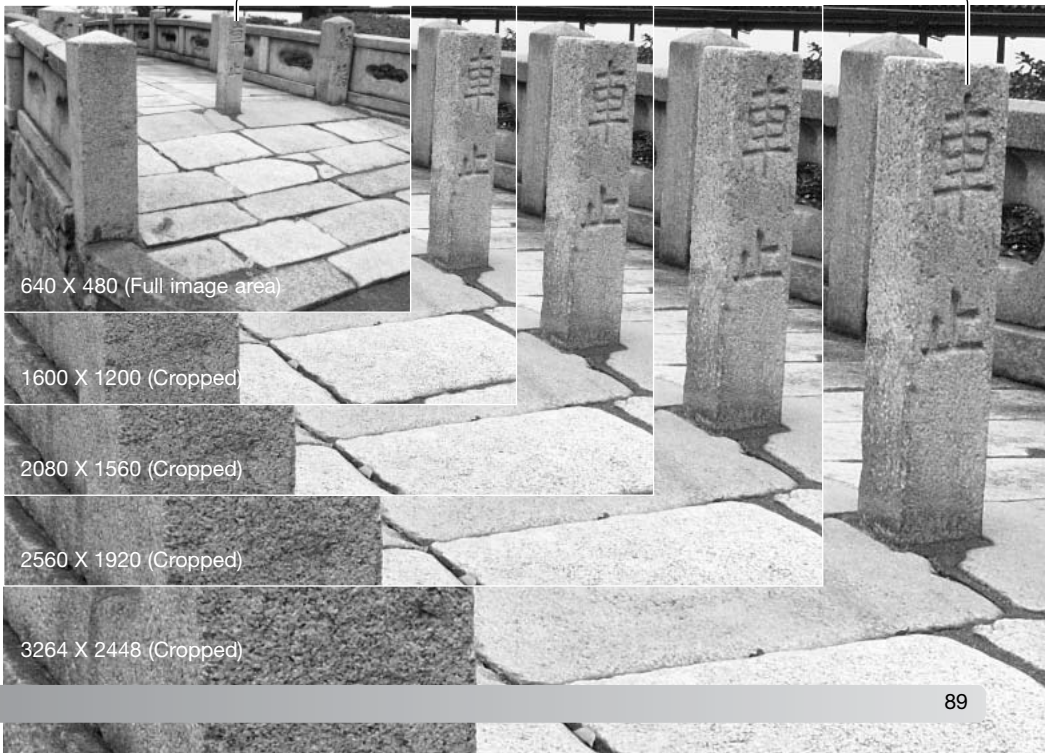
Konica Minolta history

In the center of the Sakai plant in Japan is Okina bridge. In the 15th century, Sakai was a prosperous free city, and Okina bridge spanned the moat at one of the entrances into the walled town. For centuries, this bridge carried pilgrims on their way to two of Japan's sacred places: the mountain monastery of Koyasan and the great Shinto shrine, Kumano Taisha. The bridge in the courtyard dates from 1855, see photo on the next page. In 1968, Minolta offered to preserve the bridge when the city government announced they would fill in the moat for a planned highway. The bridge now spans a specially constructed goldfish pond. The writing on the stone bollard at the front of the bridge prohibits vehicles from crossing.

Notes on Image size and resolution

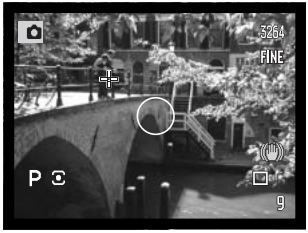
Image size changes the number of pixels in the image. When displayed at the same resolution, images appear to have the same amount of detail, but the dimensions of the image increases with the number of pixels; except for the 640 X 480 image, the other pictures are too large to be displayed on this page. When the images are enlarged to the same dimensions, the difference in the recorded image size affects the resolution of details.





Spot AE area

When using spot metering (p. 72) with the Flex Focus Point (p. 48), the position of the spot metering area can be specified at the center of the live image or linked to the Flex Focus Point; the spot moves after the position of the FFP is moved. This is set in section 1 of the recording menu (p. 84).



Center spot

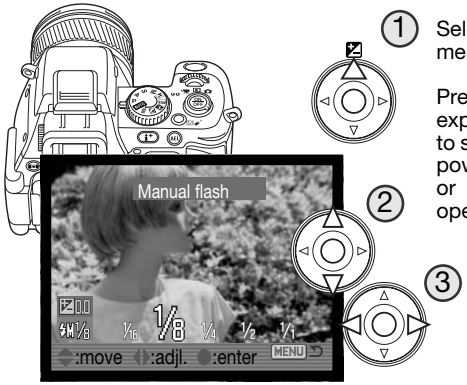
With Flex Focus Point

Flash control

Automatic and manual flash control are available. Flash control is changed in section 1 of the recording menu (p. 84).

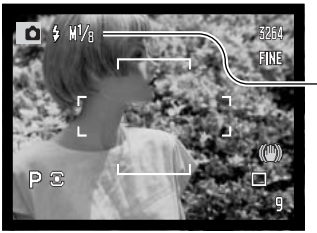
Automatic - automatically calculates flash exposure using a pre-flash.

Manual flash control - fires the flash at full power, 1/2, 1/4, 1/8, or 1/16 power. Manual flash control cannot be used with red-eye reduction or with external flash units. Because no pre-flash is used, it can be used to fire slave flash units.



1 Select the manual-flash option on the menu. Close the menu.

Press the up key of the controller (1) to display the exposure-compensation screen. Use the up/down keys (2) to select the manual flash, and left/right keys (3) to select the power ratio. Press the shutter-release button partway down or press the center of the controller to complete the operation.



The power ratio and the manual flash indicator is displayed on the monitors when the flash is raised.

Power ratio

The chart lists approximate guide numbers for manual flash calculations. The following equations are useful in determining the guide number (GN), aperture (ƒn), or flash-to-subject distance required for exposures.

Guide no. (for distance in meters / feet)					
Manual flash	Camera sensitivity (ISO)				
	64	100	200	400	800
1/1 (Full)	5.5 / 18	8 / 26	11 / 36	16 / 52	22 / 72
1/2	4 / 13	5.6 / 18	8 / 26	11 / 36	16 / 52
1/4	2.8 / 9	4 / 13	5.6 / 18	8 / 26	11 / 36
1/8	2 / 6.5	2.8 / 9.2	4 / 13	5.6 / 18	8 / 26
1/16	1.4 / 4.6	2 / 6.6	2.8 / 9.2	4 / 13	5.6 / 18

$\frac{GN}{ƒn.} = dist.$

GN = ƒn. X dist.

$\frac{GN}{dist.} = ƒn.$

Flash Notes

Maxxum/Program Flash 2500(D), 3600HS(D), 5600HS(D), Macro Ring Flash 1200, and Macro Twin Flash 2400 are compatible with this camera. When using the Maxxum/Program flash units, if the flash illumination is uneven at the camera's wide-angle lens position, attach the wide-angle adapter to the flash units. When the auto-zoom function is used with the Maxxum/Program 3600HS(D) and 5600HS(D) flash units, the flash's zoom setting will be wider than the lens setting.

When using the Macro Ring Flash 1200 or Macro Twin Flash 2400 in macro mode (p. 49), light fall off toward the edges of the frame may be noticeable at the wide-angle macro lens position.

AEL button

When the AEL button is pressed and held, the exposure is locked. The exposure remains locked after an image has been captured until the AEL button has been released (hold setting) or pressed again (toggle setting). How the button operates can be changed in section 1 of the recording menu (p. 84).

AE hold - The default setting. Press and hold the AEL button to lock the exposure. The exposure remains locked until the AEL button is released.

AE toggle - Press and release the AEL button to lock the exposure. To cancel the exposure lock, press the AEL button again.

These menu options do not affect the operation of the manual shift function (p. 56).

Recording mode reset

The recording mode functions can be reset in section 1 of the recording menu (p. 84). When selected, a confirmation screen will appear; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Anti-shake	On	p. 36
Focus mode	Single-shot AF	p. 44
AF-area mode	Wide focus frames	p. 46
Exposure compensation	0.0	p. 59
Flash compensation	0.0	p. 59
White balance	Auto	p. 60
Flash mode	Fill flash or redeye reduction[1]	p. 70
Metering mode	Multi-segment	p. 72
Filter	0	p. 73
Color-saturation compensation	0	p. 74
Contrast compensation	0	p. 74
Drive mode	Single-frame advance	p. 76
Flash control	Auto	p. 90
Sharpness	Normal	p. 94

1. The flash mode is reset to whichever of the two modes was last set.

Button shortcuts can be used to reset the recording mode (p. 134).

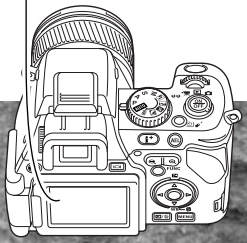
Sharpness

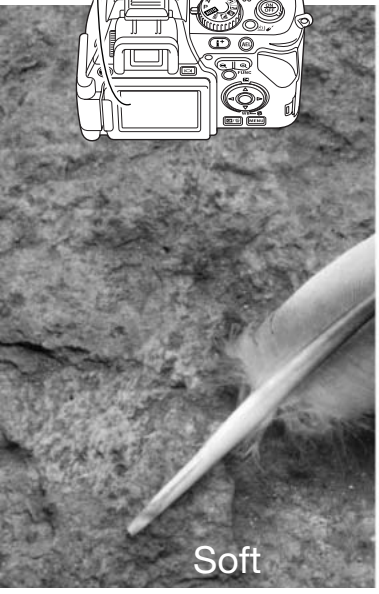
The sharpness of the image can be altered. This must be set before the image is recorded. Sharpness is set in section 2 of the recording menu (p. 84). If any setting other than normal is selected, the sharpness indicator is displayed on the monitors.

Hard (+) - Increases the sharpness of the image, accentuating details.

Normal - No filter applied.

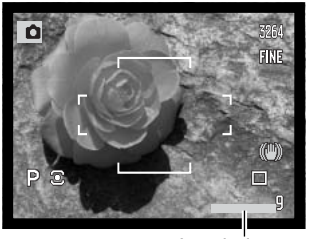
Soft (–) - Softens the details of the image.



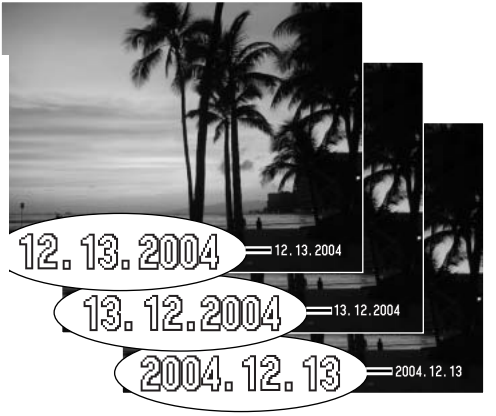


Date imprinting

The date and time of recording can be printed directly on a still image. The imprinting function must be activated before the image is taken. Once activated, the date will continue to be imprinted until the function is reset; a yellow bar is displayed behind the frame counter on the monitors to indicate the function is active. Date imprinting cannot be used with RAW and RAW & JPEG image quality.



Imprinting indicator

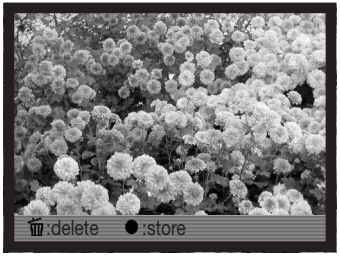


Date imprinting is selected in section 2 of the recording menu (p. 84). Date imprinting has two menu options. The YYYY/MM/DD option prints the date. The MM/DD/hr:min option prints the month, day, and time of recording.

The date and time is imprinted in the lower right corner of the image when viewed horizontally. It is printed directly on the photograph writing over the image information. The date can be imprinted in three formats: year / month / day, month / day / year, and day / month / year. The date format is set in the date/time setting screen in section 1 of the setup menu (p. 131).

Instant playback

After an image is captured, it can be displayed on the monitors for one, two, five, or ten seconds before being saved. Instant playback is activated and the length of the playback period is set in section 2 of the recording menu (p. 84).



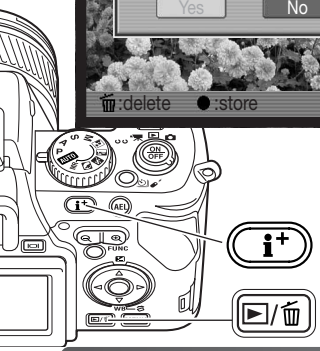
If the central button of the controller is pressed during the instant playback period, the displayed image(s) are saved immediately and the playback canceled.

Pressing the display information button switches between displaying the image with and without the guidance bar.

To delete an image during the instant playback, press the Quick View/delete button. A confirmation screen will appear.

Use the left/right keys of the controller to highlight “YES.” “NO” will cancel the operation.

Press the central button of the controller to delete the image. When a UHS continuous, high-speed continuous, standard continuous, or bracketed series of images is captured, the entire series will be erased.

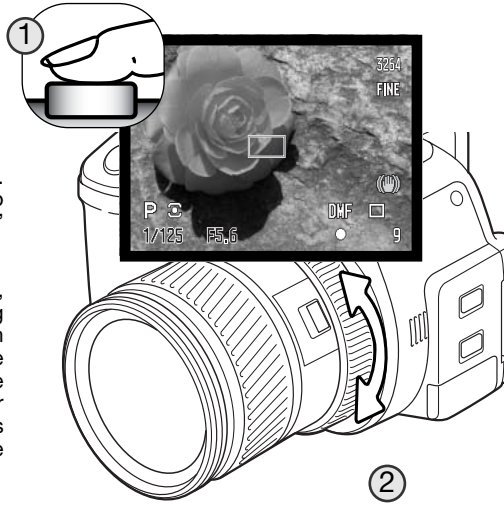


Full-time AF

Full-time AF continually focuses the camera when using spot AF areas and the FFP so the monitor image is always sharp. This also reduces the autofocusing time when taking pictures. Full time AF is set in section 2 of the recording menu. The full-time AF can be turned off to conserve power.

Direct manual focus

Direct manual focus allows manual adjustments to be made after the AF system has locked onto the subject. Direct manual focus is activated in section 2 of the recording menu (p. 84). Direct manual focus is canceled when continuous AF or manual focus (p. 44) is in use.



As described in the basic recording operation section (p. 30), press the shutter-release button partway down to lock the focus (1); the focus signal will turn white. “DMF” will be displayed next to the drive-mode indicator.

While holding the shutter-release button partway down, the camera can be manually focused with the focusing ring (2); the Flex Digital Magnifier (p. 45) activates and an area indicated by the AF sensor is enlarged. Always use the monitor image to confirm focus. The approximate focusing distance is displayed in the lower right corner next to the frame counter. The Flex Digital Magnifier is canceled when the shutter button is released or the camera is not focused for several seconds.

Memory - storing camera settings

Five sets of camera settings can be saved in section 3 of the recording menu. This saves time under frequently repeating conditions by eliminating the need to set the camera. Except for functions like subject programs, date imprinting and instant playback, most recording-mode camera settings will be saved including the position of the Flex Focus Point, the selected spot AF area, the display format and changes made with the function button or drive-mode button. Setting are displayed before being saved.

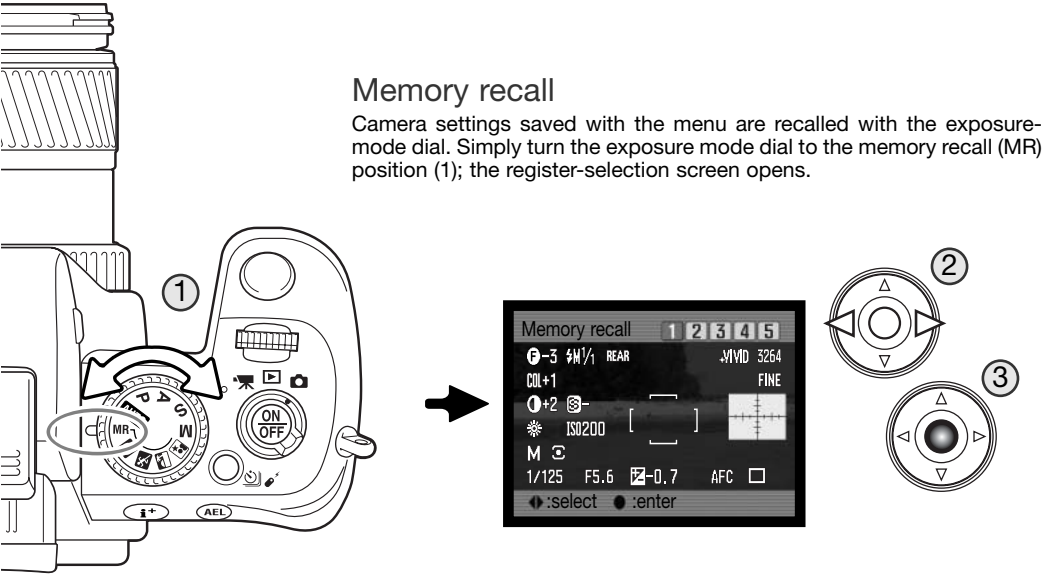
To save the current camera settings, select “Save” in the memory option in section 3 of the recording menu. The register-selection screen opens and the current camera settings are displayed.

On the register-selection screen, use the left/right keys of the controller (1) to select the memory register in which to store the settings; any previous settings are replaced. Press the central button of the controller (2) to complete the operation. The menu button cancels the operation without saving the settings.

Camera settings cannot be deleted from memory by turning the camera off. They are erased with the reset function in section 3 of the setup menu.

Memory recall

Camera settings saved with the menu are recalled with the exposure-mode dial. Simply turn the exposure mode dial to the memory recall (MR) position (1); the register-selection screen opens.



On the register-selection screen use the left/right keys of the controller (2) to select the memory register in which the settings are stored; as the registers are selected the camera settings are displayed on the screen. Press the central button of the controller (3) to apply the settings to the camera. Turning the exposure-mode dial to another position cancels the operation without recalling the settings.

To recall another set of settings in a different register, turn the exposure-mode dial to another position and then back to MR to open the memory-recall screen. Saved memory settings can also be assigned to the digital-subject-program positions on the exposure dial with section 3 of the recording menu. See page 100 for more information.

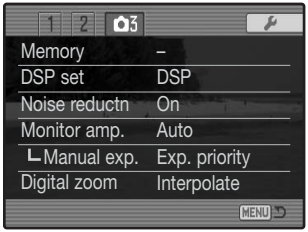
DSP (digital subject program) setup

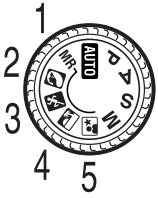
The memory registers used for camera settings can be assigned to the Digital Subject Program positions on the exposure-mode dial. This is set in section 3 of the recording menu (p. 84). Two options are available:

DSP - the Digital Subject Programs are active on the exposure-mode dial.

Memory recall - the memory register are assigned to the Digital Subject Program positions as indicated in the illustration.

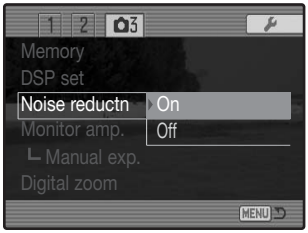
For more about Digital Subject Programs, see page 58. To save camera settings turn to page 98.





Noise reduction

This function reduces the affect of dark noise caused by long exposures. Noise reduction is applied to exposures of 1/2 second or longer. Processing is applied to each image after it is captured. The monitor remains blank during processing for a maximum of 30 seconds. Noise reduction uses dark-frame subtraction. Noise reduction can be applied when operating temperatures are high regardless of the shutter speed. Noise reduction can be turned off in section 3 of the recording menu.



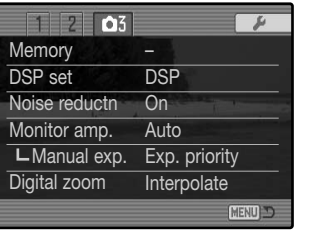
Monitor amplification

The monitor amplification options control the display of the live image. Monitor amplification has two settings:

Auto - in low-light conditions when the camera-sensitivity gain has reached its limit, the automatic monitor-amplification function will intensify the monitor image.

If the real-time histogram (p. 43) is used, it will reflect the amplified image and not the final values of the exposure.

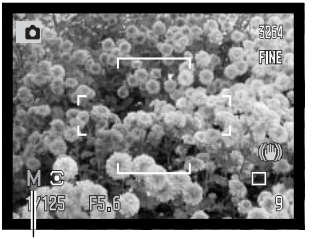
Normal - the monitor image is not amplified in low light.



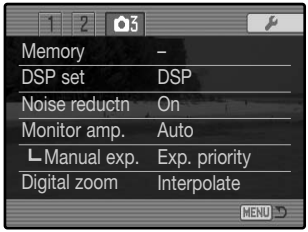
When using the manual (M) exposure mode (p. 56), two other options are available:

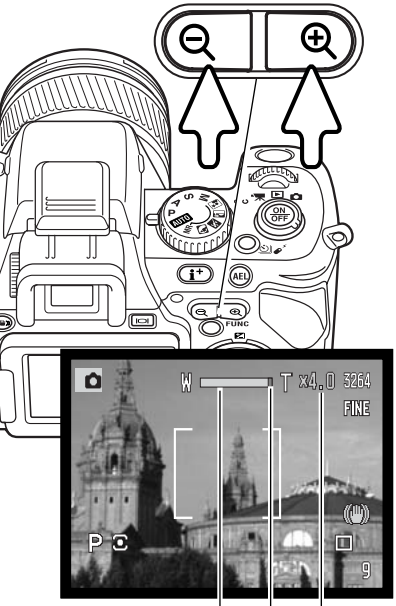
Exposure priority - the live image reflects the set exposure. Automatic monitor amplification is disabled.

Display priority - the live images is displayed regardless of the exposure settings. This allows the image to be composed on the monitor when using a flash as the main light source. When selected, the manual exposure mode indicator turns red on the monitor.



Display-priority indicator





Digital zoom

The digital zoom extends the power of the optical zoom. The maximum magnification depends on the digital zoom setting and the position of the optical zoom. The digital zoom cannot be used with RAW or RAW&JPEG image quality, UHS continuous advance, or the Flex Digital Magnifier. The digital zoom is activated in section 3 of the recording menu (p. 84).

On: 2X digital magnification. The final image size depends on the image-size setting on the camera. 3264 X 2448, 2560 X 1920, 2080 X 1560, and 1600 X 1200 size images are resized to 1600 X 1200. 3264 X 2176 images are resized to 1600 X 1064. The pixel dimension of 640 X 480 size images do not change.

Interpolate: up to 4X digital magnification. Images are interpolated to the set image size.

Off: The digital zoom is disabled.

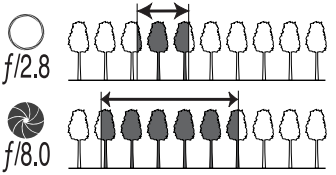
Press the right (+) side of the digital-zoom lever to zoom in, and left (-) side to zoom out. When the digital zoom activates, image magnification is displayed on the monitor. When zooming, the digital zoom scale is displayed briefly. A single central AF area is used.

A SHORT GUIDE TO PHOTOGRAPHY

Photography can be a rewarding pursuit. It is a broad and disciplined field that can take years to master. But the pleasure in making photographs and the joy of capturing a magical moment cannot be compared. The guide is an introduction to some basic photographic principles.

The lens aperture controls not only exposure, but also depth of field; the area between the closest object in focus and the furthest object in focus. The larger the aperture value, the greater the depth of field and the longer the shutter speed needed to make the exposure. The smaller the aperture value, the shallower the depth of field and the faster the shutter speed needed to make the exposure. Usually landscape photographs use a large depth of field (large aperture value) to keep the foreground and background in focus, and portraits use a shallow depth of field (small aperture value) to separate the subject from the background.

Depth of field also changes with focal length. The smaller the focal length, the greater the depth of field; the longer the focal length, the shallower the depth of field.



The shutter controls not only exposure, but also the ability to stop motion. Fast shutter speeds are used in sport photography to stop action. Slow shutter speeds can be used to show the flow of motion such as water cascading over a waterfall. The use of a tripod is recommended with slow shutter speeds.

The change in shutter speed is not apparent in the live image. For critical work, take a test photograph and view the result in Quick View (p. 37).

About exposure and flash compensation

Sometimes the camera's exposure meter is deceived by certain conditions. Exposure compensation can be used in these situations. For example, a very bright scene, such as a snowy landscape or a white sandy beach, can appear too dark in the captured image. Before taking the picture, adjusting the exposure by +1 or +2 EV will result in an image with normal tonal values.

Calculated camera exposure

–1.0Ev

–2.0Ev

In the example above, the dark water caused the camera to overexpose the image making it bright and washed-out. By compensating the exposure, detail is brought out in the leaves, and the stones and water appear richer.

When using fill-flash to reduce harsh shadows caused by bright illumination or direct sunlight, flash compensation can change the ratio between the highlights and shadows. The fill-flash will affect the darkness of the shadows without affecting the area illuminated by the main light source. By decreasing the flash output with a negative Ev setting, the shadows receive less light and are harder, but subtle details in the shadows that would not appear without the flash are apparent. Increasing the flash output by using a positive Ev setting softens and nearly eliminate shadows.

Positive compensation **No compensation** **Negative compensation** **No flash**

What is aN EV?

Ev stands for exposure value. A change of one Ev adjusts the exposure calculated by the camera by a factor of two.

+2.0 Ev	4X as much light
+1.0 Ev	2X as much light
0.0 Ev	Calculated exposure
–1.0 Ev	1/2 as much light
–2.0 Ev	1/4 as much light

Light sources and color

The human eye adapts itself extremely well under different conditions. The paper of this manual you are reading looks white regardless of the type of lighting. Photographic systems are much less flexible. As the light source changes, so does the overall color of a scene - fluorescent office ceiling lights create a green cast to pictures, regular household tungsten light bulbs make everything red. Like your eyes, the camera's white-balance controls adjust for different lighting to make natural looking pictures.

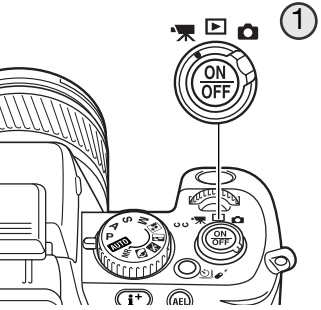
The most common source of light, our sun, changes color depending on the time of day and the atmospheric conditions. The sun is of course very warm near the horizon and very blue at noon. The daylight preset white-balance setting is for beautiful sunny days. When the weather is overcast, the color is cooler. When the main light source is skylight, light from the blue sky rather than the direct light of the sun, the resulting color is very blue. The shade preset white-balance is designed for this condition.

Artificial lighting is more consistent but will show variations. Tungsten lamps become warmer as their wattage decreases. Fluorescent lamps come in classifications that define their color.

Some artificial lighting have a discontinuous spectrum that create very unnatural color in a photograph. White balance cannot correct high-energy vapor lighting: sodium-vapor (yellow highway lights), or mercury vapor. For portraits under these lighting conditions, the flash can be used to overpower the ambient light. With landscapes containing these types of lights, set the white balance to the preset daylight setting.

A white-balance bracket can be made to record a series of images with slight changes in color (p. 80).

MOVIE MODE



Movie recording

This camera can record digital video with sound. Set the mode switch to the movie-recording position (1). Before recording, the monitor frame counter shows the maximum time in seconds that can be recorded. The length of the movie clip depends on the image size and frame rate, and the space available on the memory card. The maximum recording time is 15 minutes; low light levels can shorten this time. Image size and frame rate is selected with the movie menu (p. 108). Movie recording is not possible when the red low-battery warning is displayed.

Place the subject in the center of the live image and press the shutter-release button partway down to set the focus. Use the focus signal to confirm focus.

Image size
Frame rate
Focus signal
Total recording time for the next movie clip

Press the shutter-release button all the way down and release to start recording. The camera will continue to record until the recording time is used or the shutter-release button is pressed again.

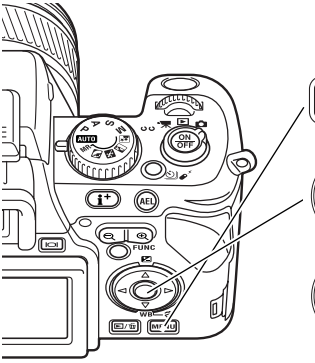
Remaining time
Recording indicator

Camera Notes

When making movie recordings, be careful not to touch or cover the microphone. The quality of the recording is proportional to the subject to microphone distance. For best results, hold the camera approximately 20cm (8in) from your mouth.

Navigating the movie menu

In movie mode, press the menu button to activate the menu. The menu button also closes the menu after making settings. The four-way key of the controller is used to move the cursor in the menu. Pressing the central button of the controller will enter a setting.



Activate the recording menu with the menu button. Tab 1 at the top of the menu will be highlighted.

Use the up/down key to scroll through the menu options. Highlight the option whose setting needs to be changed.

Press the right controller key to display the settings; the current setting is indicated by an arrow. To return to the menu options, press the left key.

Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to continue.

Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed. Changes can continue to be made. To return to the movie mode, press the menu button.

Image size and frame rate

Movies can be recorded at three sizes: 800x600, 640x480, and 320x240. The larger the image size, the higher the image quality and the larger the file sizes. Image size is set in the movie menu.

Movies can be recorded at two frame rates: 15 fps and 30 fps; 800x600 movies can only be recorded at 15 fps. The higher the frame rate, the smoother the moving image and the larger the file sizes. Frame rate is set in the movie menu.

Approximate recording rate			
	800x600	640x480	320x240
30fps	-	1.1MB/s	700KB/s
15fps	850KB/s	580KB/s	350KB/s
Approximate capacity of a 128MB memory card			
30fps	-	1 min. 54 sec.	3 min. 6 sec.
15fps	2 min. 36 sec.	3 min. 49 sec.	5 min. 55 sec.

If image size or frame rate is changed, the frame counter displays the approximate number of seconds that can be recorded at that setting on the installed memory card. The total time that can be stored on a memory card is determined by the size of the card and the recording rate. The actual file size is determined by the scene; some subjects can be compressed further than others.

The writing speed of the memory card may prematurely end the recording of a movie clip. Test the card before important events. Check the Konica Minolta web site for the latest compatibility information:

North America: http://www.konicaminolta.us
Europe: http://www.konicaminoltasupport.com

Movie mode

The movie mode option selects the type of movie recorded. Two options are available on the movie menu:

Night Movie - to record under low light levels. While Night Movies can be recorded under normal conditions, bright outdoor lighting may be beyond the exposure control range.

Standard movie - to record a movie under normal lighting conditions.

Movie reset

This menu function resets the movie mode. When selected, a confirmation screen will appear; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Anti-shake	On	p. 36
Exposure compensation	0.0	p. 59
White balance	Auto	p. 60
Filter	0	p. 73
Color-saturation compensation	0	p. 74
Contrast compensation	0	p. 74
Image size	640x480	p. 108
Frame rate	15fps	p. 108
Movie mode	Night movie	p. 108
Manual focus	Canceled	p. 109

Button shortcuts can be used to reset the recording mode (p. 134).

Notes on movie recording

The list below indicates which functions can be set in the movie mode:

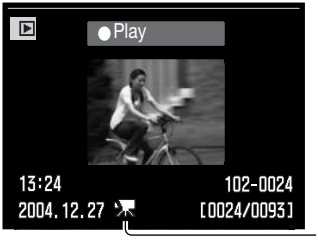
Available recording functions	
Exposure compensation (p. 59)	Anti-shake (p. 36)
Contrast compensation (p. 74)	Display information button (p. 43)
Color-saturation compensation (p. 74)	Manual focus (p. 45)
Filter (p. 73)	Macro mode (p. 49)
White balance (p. 60)	Digital zoom (p. 102)

ADVANCED PLAYBACK

This section covers how to play back movies as well as playback mode's menu functions. The menu navigation section covers basic menu operation. It is followed by detailed descriptions of the menu settings.

Viewing movies

Movies can be played back on the camera. Movie files are indicated by an indicator at the bottom of the display.



Movie indicator

Press the center of the controller to play back the file.

Press the controller to pause the movie; pressing the controller again will resume the playback.

Use the left/right keys of the controller to rewind or fast forward the movie clip.

Use the up/down keys to adjust the volume.

To cancel the playback, press the menu button.

The guidance bar and display indicators can be hidden or shown by pressing the display information button (i+).

Capturing a movie frame

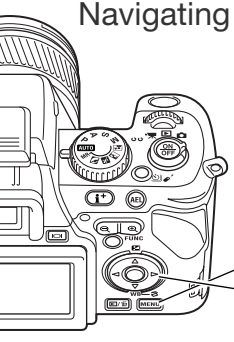
A single frame from a movie clip can be copied and saved as a still image. The copied image has the same image size as the original movie. This function is not available during Slide Show playback.

During playback, press the central button of the controller to pause the movie at the point to capture the frame. When the movie is paused, the left/right keys can be used to jog the clip to display the correct frame.

Press the up key of the controller to capture the frame. Before the frame is captured, a confirmation screen appears. Choosing “Yes” executes the operation, “No” cancels it.

The file and folder names of the captured image is displayed. Press the central button of the controller to complete the operation. The image is saved in the folder of the original movie file.

Navigating the playback Menu



In playback mode, press the menu button to activate the menu. The menu button also closes the menu after making settings. The four-way key of the controller is used to move the cursor in the menu. Pressing the central button of the controller will enter a setting.

Activate the playback menu with the menu button. Tab 1 at the top of the menu will be highlighted.

Use the left/right keys of the controller to highlight the appropriate menu tab; the menus will change as the tabs are highlighted.

When the desired menu section is displayed, use the up/down keys to scroll through the menu options. Highlight the option whose setting needs to be changed.

Press the right controller key to display the settings; the current setting is indicated by an arrow. To return to the menu options, press the left key.

Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to open the next screen.

Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed. Changes can continue to be made. To return to the playback mode, press the menu button.

To delete images on the memory card (p. 115).

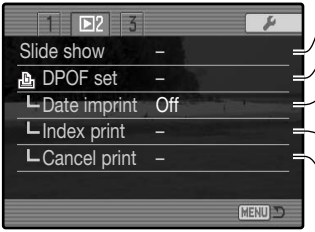
To format the memory card (p. 116).

To protect images from deletion (p. 117).

To select the folders to view in playback mode (p. 116).

To specify the folders viewed during playback (p. 116).

To make a cut from a movie clip (p. 118).



To play back images automatically (p. 120)

To select images for DPOF printing (p. 121).

To print the date of capture with each print (p. 122)

To create an index print with the DPOF order (p. 122)

To cancel DPOF print orders on the memory card (p. 123).

To copy images from one memory card to another (p. 123).

To copy and resize images to be e-mailed (p. 123).

To set the initial enlarged playback magnification (p. 120).

Frame-selection screen

When a marked-frames setting is chosen on a menu, the frame selection screen will appear. This screen allows multiple files to be selected.

Use the left/right keys of the controller to move the yellow border to select the image. The control dial can also be used to display the next nine frames.

The up key of the controller selects the frame; when selected, an indicator appears next to the thumbnail. The down key deselects the image removing the indicator.

As images are selected, indicators appear next to the frame:

	The file is selected for deletion.
	The file is locked or selected to be locked.
	The file is selected to be copied.
2	The image is selected for printing. The number next to the indicator shows the number of copies requested.

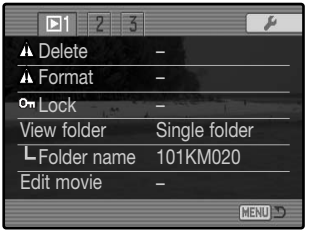
Press the central button of the controller to complete the operation.

MENU The menu button closes the screen and any operation made.

Delete

Deleting permanently erases the image. Once deleted, an image cannot be recovered. Care should be taken when using the delete function.

Single, multiple, or all images in a folder or on the memory card can be deleted in section 1 of the playback menu. Before an image is deleted, a confirmation screen will appear; choosing “Yes” will execute the operation, “No” will cancel the operation.



To delete images in a specific folder, select single folder from the view-folder option and display the folder name containing the images below it. The folder can also be selected in the select-folder option in section 2 of the setup menu (p. 137).

The delete option has four settings:

This frame - The image displayed or highlighted in playback mode will be deleted.

All in folder - All unlocked images in the selected folder will be deleted.

All on card - All unlocked images on the memory card will be deleted.

Marked frames - To delete multiple images in the selected folder or on the memory card. When this setting is chosen, the frame-selection screen will be displayed. Use the left/right keys of the controller to highlight the first image to be deleted. Pressing the up key will mark the thumbnail with the delete indicator. To deselect an image for deletion, highlight it with the yellow border and press the down key; the delete indicator will disappear. Continue until all the images to be deleted are marked. Press the controller to continue (the confirmation screen will appear), or press the menu button to cancel the operation and return to the playback menu. On the confirmation screen, highlighting and entering “Yes” will delete the marked images.

The delete function will only erase unlocked images. If an image is locked, it must be unlocked before it can be deleted.

Format

When a memory card is formatted, all data on the card is erased.

The formatting function is used to erase all data on a memory card. Before formatting a card, copy the data to a computer or storage device. Locking files will not protect them from being deleted when the card is formatted. Always format the memory card using the camera; never use a computer to format a card.

When the format option is selected and entered in section 1 of the playback menu, a confirmation screen will appear. Choosing “Yes” will format the card, choosing “No” will cancel the formatting operation. never remove the card while it is being formatted. A screen will appear to indicate the card has been formatted; press the central button of the controller to return to the playback menu.

VIEW FOLDER

Recorded images are stored in folders on the memory card. To view or edit these images, the folder they are contained in can be selected temporarily with the view-folder option in section 1 of the playback menu (p. 112). To specify a folder in the folder-name option, such as “101KM020” in the illustration, first select “Single folder” in the view-folder option; “All folders” shows all images on the memory card.

The folder-name option is reset to the folder selected in the select-folder option in section 2 of the setup menu (p. 137) each time the camera is turned off or switched to the recording or movie modes.

For more on memory card organization, see page 148. Folders can be created and selected in section 2 of the setup menu (p. 137).

Lock

Single, multiple, or all images in a folder or on the memory card can be locked in section 1 of the playback menu. A locked image cannot be deleted by either the playback menu functions or the Quick View/delete button. Important images should be locked. To lock images in a specific folder, select single folder from the view-folder option and display the folder name containing the images below it (p. 116). The folder can also be selected in the select-folder option in section 2 of the setup menu (p. 137).

The lock option has five settings:

This frame - The image displayed or highlighted in playback mode will be locked.

All in folder - All images in the selected folder will be locked.

All on card - All images on the memory card will be locked.

Marked frames - To lock or unlock multiple images in the selected folder or on the memory card. When this setting is chosen, the frame-selection screen (p. 114) will be displayed. Use the left/right keys of the controller to highlight the image to be locked. Pressing the up key will mark the thumbnail with the lock indicator. To unlock an image, highlight it with the yellow border and press the down key; the lock indicator will disappear. Continue until all the images are marked. Press the controller to lock the marked frames, or press the menu button to cancel the operation and return to the playback menu.

Unlock all - All images on the memory card are unlocked regardless of the folder setting in the view-folder options. A confirmation screen appears.

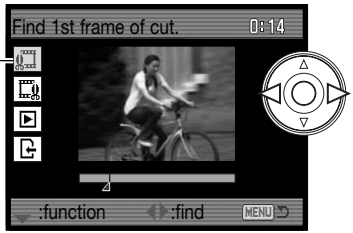
Locking an image will protect it from a delete function. However, the formatting function will erase all files on a memory card whether locked or not.

Movie editing

The edit-movie option in section 1 of the playback menu allows an unwanted section to be cut from a movie clip. The movie to be edited must first be displayed in the playback mode before opening the playback menu. Highlight “Enter” in the movie edit option and press the central button of the controller to open the editing screen. Movie editing is not possible when the red low-battery warning is displayed.

Function menu

The function menu indicates the active step in the editing procedure. The up/down keys selects functions.

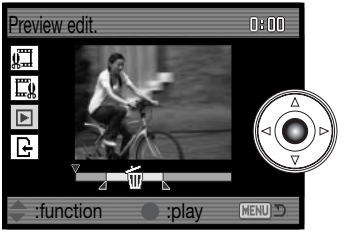


Use the left/right keys of the controller to display the first frame of the section to be cut. The bar under the image and the timer in the top right corner of the screen show the approximate location of the point.

Use the down key to select the next step.

Use the left/right keys of the controller to display the last frame of the section to be cut. The bar under the image and the timer in the top right corner of the screen show the approximate location of the point.

Use the down key to select the next step.



Press the center controller button to preview the edit. The arrow above the bar indicates the playback frame.

After playback, use the down key to continue if the edit is acceptable. To make changes to the edit, use the up key of the controller to return to the previous steps to adjust the start and end points. To cancel the edit operation, press the menu button.

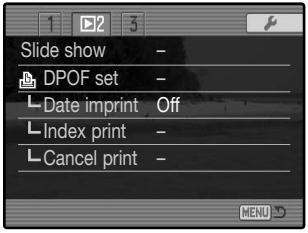
Press the center controller button to save the edit; a confirmation screen is displayed. Select “Yes” to continue.

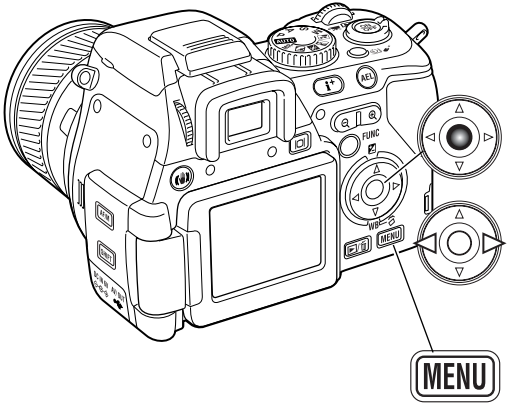
After the edited movie clip is saved, the file name is displayed.

The original movie file can be deleted from the memory card by selecting “Yes” on the screen. Once deleted, it cannot be recovered. By selecting “No,” both the original and edited file remain on the card.

Slide show

Section 2 of the playback menu controls the slide-show function. This function automatically displays all still images and movie clips in a folder or on the memory card in order.





Press the central button of the controller to pause and restart the presentation.

Use the left/right keys of the controller to advance to the next still image or return to the previous one. During a movie, the keys forward or rewind the clip.

MENU

To cancel the presentation, press the menu button.

magnification setup

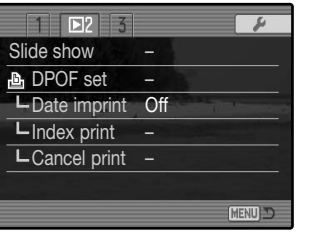
The enlarged playback starting magnification can be selected from X2.0, X4.0, and X10.0 in section 3 of the playback menu. See page 41 for more on enlarged playback.

About DPOF

This camera is supported by DPOF™ version 1.1. The DPOF (Digital Print Order Format) allows direct printing of still images from digital cameras. After the DPOF file is created, the memory card is simply taken to a photofinishing service or inserted into the memory -card slot of DPOF compatible printers. When a DPOF file is created, a misc. folder is automatically made on the memory card to store it (p. 148). DPOF print files cannot be made for RAW images or images with embedded color profiles (p. 68).

DPOF setup

The DPOF-set menu option in section 2 of the playback menu is used to set an order for standard prints from images in a specific folder. Single, multiple, or all images can be printed. To make an order for images in a specific folder, select single folder from the view-folder option and display the folder name containing the images below it (p. 116). The folder can also be selected in the select-folder option in section 2 of the setup menu (p. 137). DPOF setup has four settings:



This-frame - To create a DPOF file for the image displayed or highlighted in playback mode.
All in folder - To create a DPOF file for all images in the selected folder.
All on card - To create a DPOF file for all images on the memory card.
Marked frames - To choose a group of images in the selected folder or on the memory card to be printed or when the number of copies for each image varies. When selected, the frame-selection screen will appear (p. 114). Use the left/right keys of the controller to highlight an image to be printed. Pressing the up key will mark the image with the printer indicator. The number next to the indicator indicates the number of copies of that image will be printed. Pressing the up key will increase the number of copies, pressing the down key will decrease the number. A maximum of nine copies can be ordered. To deselect an image for printing, press the down key until the the number of copies reaches zero and the printer indicator disappears. Continue until all the images to be printed are marked. Press the controller to create the DPOF file, or press the menu button to cancel the operation and return to the playback menu.

When the this-frame, all-in-folder, or all-on-card setting is chosen, a screen will appear requesting the number of copies of each image; a maximum of nine copies can be ordered. Use the up/down keys of the controller to set the number of copies desired. If the all-in-folder or all-on-card setting was used to create a print order, any additional images saved afterwards in the folder will not be included in the order.

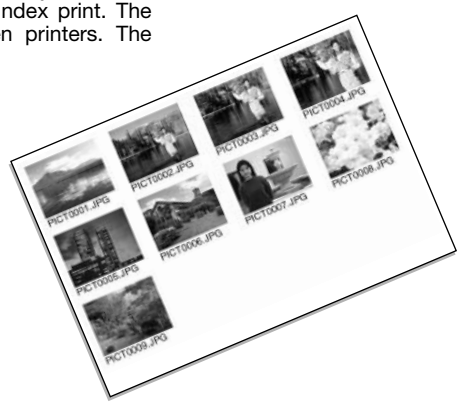
DPOF files created with another cameras will be canceled.

Date imprint

To print the date of capture with each image with a compatible DPOF printer, turn the section 2 menu option on. To cancel date imprint, simply turn the option off. How the date is printed varies with the printer.

Index print

To create an index print, select the On option in the index print option in section 2 of the playback menu. All the images in a folder or on the card specified in the view-folder option in section 1 of the playback menu will be printed. If an index-print order is created, any additional images saved afterwards will not be included in the index print. The number of images printed per sheet differs between printers. The information printed with the thumbnails can vary.



Cancel print

After the pictures have been printed, the DPOF file will still remain on the memory card and must be canceled manually. The cancel-print option in section 2 of the playback menu deletes the DPOF files. When the setting is selected, a confirmation screen will appear; choosing and entering “Yes” will execute the operation and cancel the print and index-print order. To cancel the printing of images in a specific folder, select single folder from the view-folder option and display the folder name containing the images below it (p. 116). The folder can also be selected in the select-folder option in section 2 of the setup menu (p. 137).
All in folder - To cancel the printing file in the folder.
All on card - To cancel all printing files on the memory card.

Copy and E-mail Copy

The copy function makes exact copies of image or movie files and can store the copied data on another memory card. E-mail Copy makes a standard 640 X 480 (VGA) JPEG copy of an original still image so that it may be easily transmitted by e-mail. E-mail copies can only be copied to the original card. Both copy and E-mail Copy are in section 3 of the playback menu.

When the functions are used, a folder is created for the files (p. 148); copy files are placed in a folder with a name ending in CP, and E-mail Copy images are placed in a folder ending in EM. Every time the copy function is used, a new folder is automatically created for the image(s), while in E-mail Copy, the same E-mail copy folder is used to store copies until the number of images exceeds 9,999. Copies of locked images are unlocked. DPOF information is not copied.

To view copied images, select the copy folder with the folder-name option in section 1 of the playback menu (p. 116).

The copy and E-mail copy functions have two menu options:

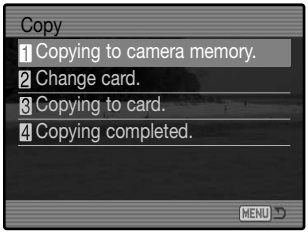
This frame - To copy the image currently displayed or highlighted in playback mode.

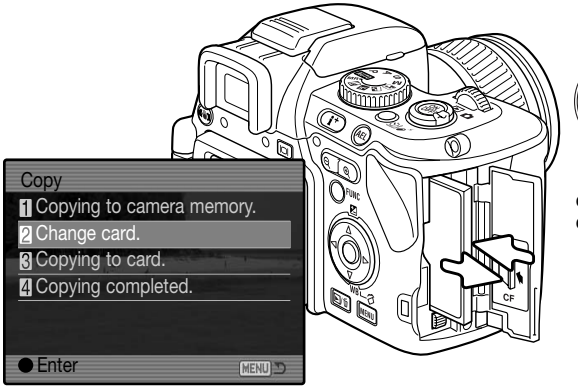
Marked frames - To copy single or multiple images in the selected folder or on the memory card. When selected, the frame-selection screen (p. 114) will appear; highlight the images to be copied with the yellow border and then press the up key of the controller to mark it with the check indicator. To deselect an image, highlight the selected thumbnail and press the down key; the check indicator will disappear. Continue until all the images are marked. Press the central button of the controller to continue, or press the menu button to cancel the operation and return to the playback menu.

Up to XXMB of data can be copied. If too many images have been selected, a warning will appear and the copy routine is canceled. Divide the number of images into two or three batches. The amount of data that can be converted into E-mail copies depends on the free space remaining on the memory card.

Copy

When images(s) to be copied are selected, a screen with four messages is displayed; the messages are highlighted as the copying procedure is executed.





When the change-card message is highlighted, remove the camera's memory card and insert the card to which the image should be copied. Press the central button of the controller to continue.

Wait until the copy-completed message is highlighted. A new screen will appear to indicate the name of the new folder containing the copied images; press the central button of the controller to return to the playback menu.

E-mail Copy

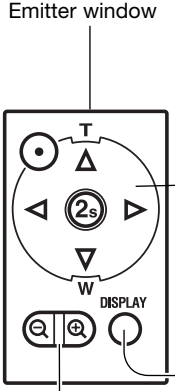
When the image(s) to be converted to an e-mail file are selected, the copy routine begins and a screen appears indicating the name of the folder containing the copied images; press the central button of the controller to return to the menu.

Camera Notes

The copy-unsuccessful message appears when one or all of the images could not be copied. Check the memory card to see which files were copied and then repeat the procedure for the uncopied images.

Viewing images using the remote control

The remote control can be used in the playback mode. Most playback operations can be made with the remote control. See page 78 for the remote control working range. The emitter window must be pointed toward the camera's self-timer lamp/remote-control receiver.



Controller - right/left keys scroll through image files in single-frame and index playback (p. 39, 40). The up key displays the histogram (p. 39) and the down key rotates images (p. 39).

Press the center (2s) button to play back movies (p. 110). The up/down keys adjust the volume during playback. Movie frame capture is made using the central button and the up key.

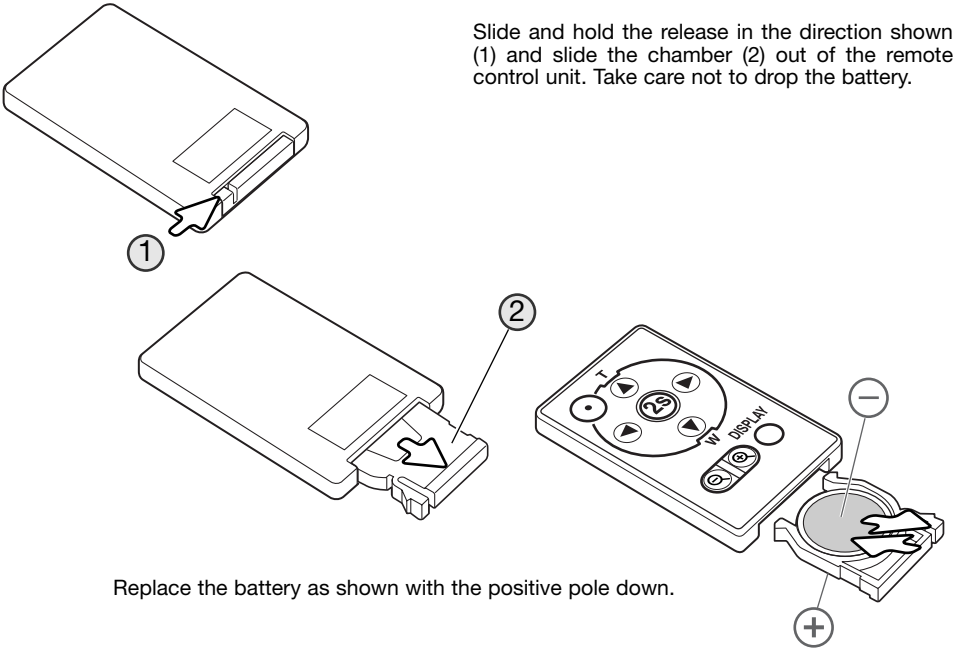
Display information button - to change the display format between full display and image only (p. 40).

Digital-zoom lever - to enlarge the playback image (p. 41) or activate index playback (p.40). The four-way keys of the controller scroll the enlarged image.

Changing the battery

The remote control battery should be replaced if the self-timer lamp does not blink to indicate the camera has received a signal from the remote control unit.

The remote control uses a 3V CR2025 lithium battery.



Slide and hold the release in the direction shown (1) and slide the chamber (2) out of the remote control unit. Take care not to drop the battery.

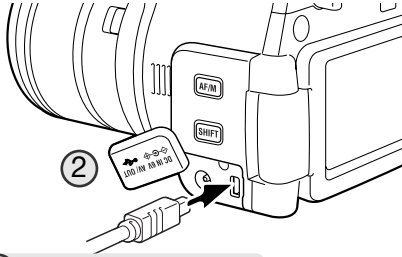
Replace the battery as shown with the positive pole down.

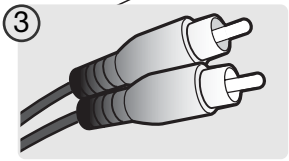
Slide the battery chamber back into the remote control until it clicks into place.

Viewing images on a television

It is possible to view camera images on your television. The camera has a video-out terminal which can be used to connect the camera to a television using the supplied AV cable. The camera is compatible with the NTSC and PAL standards. The video-output setting can be checked and set in section 1 of the setup menu (p. 132).

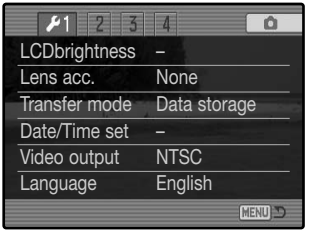
1. Turn off the television and the camera.
2. Insert the single plug of the AV cable into the camera's AV-out terminal.
3. Plug the other end of the AV cable into the video and audio input terminal on the television. The yellow plug is for the video output, and the white plug is for the monaural audio output.
4. Turn the television on.
5. Change the television to the video channel.
6. Turn on the camera and set the mode switch to the playback position. The camera's monitors will not activate when the camera is attached to a television. The playback-mode display will be visible on the television screen.
7. View images as described in the playback section. Use the television controls to adjust the volume of the audio playback. Because of the broadcast standard used to display television images, image quality and resolution will appear lower than when displayed on a computer monitor.



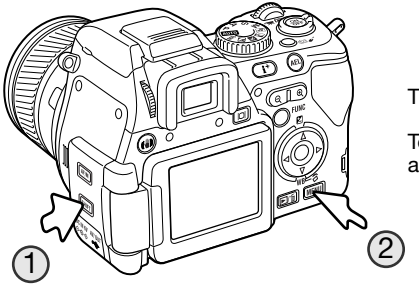


SETUP MENU

The setup menu controls camera operations. The menu navigation section covers basic menu operation. It is followed by detailed descriptions of the menu settings.



Opening the setup menu



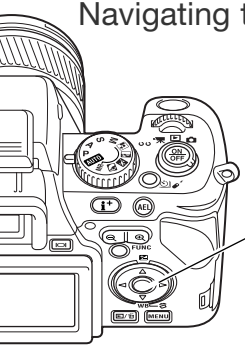
The setup menu can be opened two ways.

To access the menu directly, hold down the shift button (1) and press the menu button (2) to open the setup menu.

The setup menu can be accessed from the recording, movie, or playback menus.

Use the left/right keys of the controller to highlight the setup tab. Press the central button of the controller to open the setup menu.

Navigating the setup menu



See page 129 on how to open the setup menu. The four-way key of the controller is used to move the cursor in the menu. Pressing the central button of the controller will enter a setting.

Use the left/right keys of the controller to highlight the appropriate menu tab; the menus will change as the tabs are highlighted.

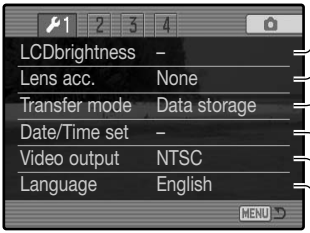
When the desired menu section is displayed, use the up/down key to scroll through the menu options. Highlight the option whose setting needs to be changed.

Press the right controller key to display the settings; the current setting is indicated by an arrow. To return to the menu options, press the left key.

Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to open the next screen.

Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the new setting will be displayed. To return to the mode set with the mode switch, press the menu button.



To set monitor brightness (p. 132).

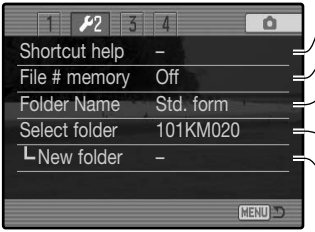
To specify the lens accessory in use (p. 132).

To specify camera operation with a computer (p. 133).

To set the camera’s clock and calendar (p. 131).

To switch video output between NTSC and PAL (p. 132).

To set the menu language (p. 134).



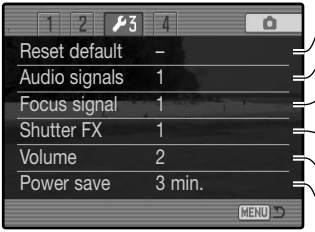
To display button shortcut information (p. 134).

To activate file number memory (p. 136).

To select the folder name format (p. 136).

To select the destination folder for recorded images (p. 137).

To create a new folder (p. 137).



To reset camera functions (p. 138).

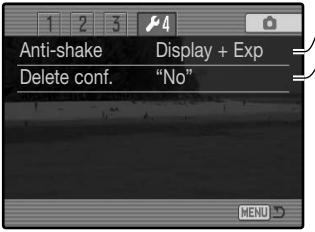
To change or turn off audio signals (p. 140).

To change or turn off focus signals (p. 140).

To change or turn off the shutter sound effect (p. 141).

To adjust or turn off the volume of camera signals (p. 141).

To set the auto power save period (p. 141).



To specify when Anti-shake is applied (p. 133).

To change the confirmation screen's default setting (p. 133).

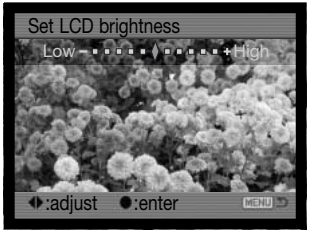
Date and Time setup

The date/time setup screen is opened from section 1 of the setup menu (p. 130). See page 28 on how to set the date and time.

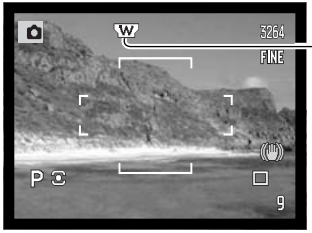
LCD Brightness

The brightness of the EVF and LCD monitor is set independently of each other. Select the display to adjust using section 1 of the setup menu; the corresponding monitor activates automatically and the brightness screen is displayed.

Brightness is controlled in eleven levels. Use the left/right controller keys to adjust the brightness, the monitor will adjust accordingly. Press the central button of the controller to set the level and complete the operation. Press the menu button to close the screen without applying any changes.



Lens accessory



Wide-angle converter

Telephoto converter

When using this camera with the optional wide-angle or telephoto converter lens (p. 164), the accessory must be specified in section 1 of the setup menu.

When selected, the lens-accessory indicator is displayed on the monitors.

Video Output

Camera images can be displayed on a television (p. 128). The video output can be changed between NTSC and PAL in section 1 of the setup menu. North America uses the NTSC standard and Europe uses the PAL standard. Check which standard is used in your region to play back images on your television set.

Transfer mode

The data-transfer mode must be specified depending on whether the camera is used to transfer data to a computer or print images with a PictBridge compatible printer. The transfer mode option can be selected in section 1 of the setup menu. Select the appropriate option:

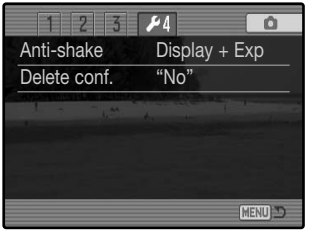
Data storage - to transfer data between the camera and a computer. This option must be selected when moving image files to a computer or when using the DiMAGE Viewer software.

PTP - to print images with a PictBridge compatible printer.

Anti-shake

When the Anti-shake system activates can be changed in section 4 of the setup menu. Two options are available:

Display + Exp. - when the shutter-release button is pressed partway down, the anti-shake function will activate if on. The affect of the Anti-shake system can be seen in the live image.



Exposure - Anti-shake is only applied during the exposure and is not apparent in the live image. When the shutter-release button is pressed partway down, wait a moment before taking the picture for the Anti-shake system to stabilize the image.

Delete confirmation

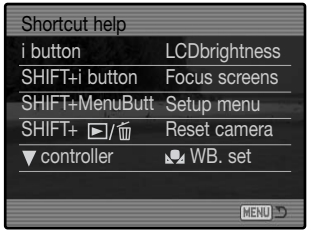
Each time a delete command is used a confirmation screen appears confirming the action to erase the image data. When this screen opens, the no button is highlighted. This function allows the yes button to be initially highlighted to make deleting images easier. Care should be taken when deleting images as the data cannot be retrieved once erased. Delete confirmation screen option can be selected in section 4 of the setup menu.

Language

The language used in the menus can be changed in section 1 of the setup menu. See page 29 on how to set the language.

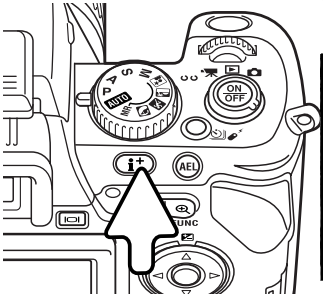
Shortcut help

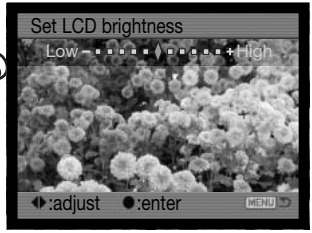
The shortcut help in section 2 of the setup menu shows button commands to open the LCD brightness screen, change the focusing screens, open the setup menu, reset the camera, or open the custom white-balance calibration screen. To close the help screen, press the menu button.



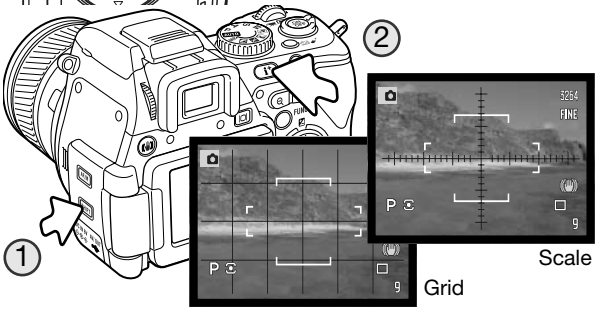
The following shortcuts can be used:

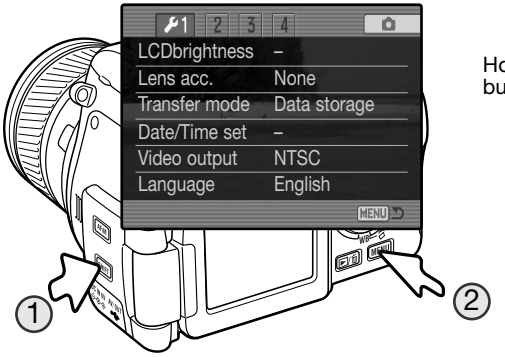
Press and hold the display information button to open the LCD brightness screen.



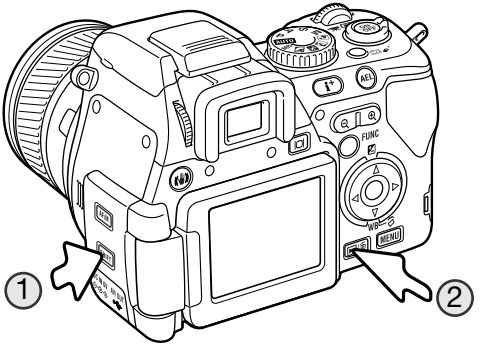


To display a grid or scale over the display formats, press and hold the shift button (1) and press the display information button (2) to cycle through the options: grid, scale, and off. For more on the displays format, see page 43.

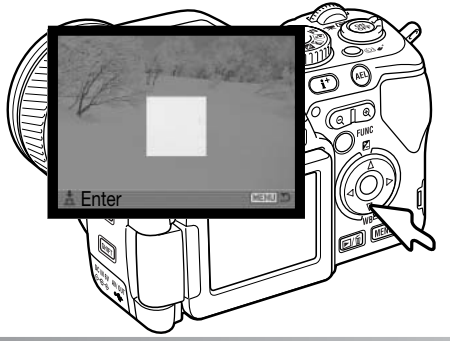




Hold down the shift button (1) and press the menu button (2) to open the setup menu.



Hold down the shift button (1) and press the Quick View/Delete button (2) to reset the camera. This shortcut only resets the recording mode or movie mode depending on the position of the mode switch. Refer to page 93 to see which functions reset in the recording mode, and page 109 for the movie mode.



Press and hold the down key of the controller to make a custom white balance setting; the custom white-balance calibration screen opens. Refer to page 62 for more on custom white balance.

File Number (#) Memory

When file number memory is selected, if a new folder is created, the first file stored in the folder will have a number one greater than the last file saved. If the file number memory is disabled, the image file name will have a number one greater than the last image saved in the folder.

If file number memory is active and the memory card is changed, the first file saved to the new card will have a number one greater than the last file saved on the previous card if the current folder in the new card does not contain an image with a greater file number. If it does, the file number of the new image will be one greater than the greatest in the folder. File number memory is activated in section 2 of the setup menu.

Folder name

All recorded images are stored in folders on the memory card. Two folder-name formats are available in section 2 of the setup menu, standard and date.

100KM020

(Standard)

Standard folders have an eight character name. The initial folder is named 100KM020. The first three digits are the folder's serial number, which will increase by one each time a new folder is created. The next two letters refer to Konica Minolta, and the last three numbers indicate the camera used; 020 indicates a DiMAGE A200.

A date folder name also starts with the three digit serial number and is followed by one register for the year, two register for the month, and two registers for the day: 100YMMDD. The folder 10141223 was created in 2004 on December 23rd.

10141223

(Date)

With the date folder format selected, when an image is recorded a new folder with the day's date will be created. All images recorded that day will be placed in that folder. Images recorded on a different day will placed in a new folder with the corresponding date. For more information on folder organization and file names, see page 148.

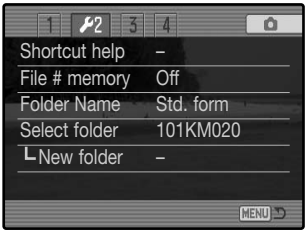
Select Folder

This option in section 2 of the setup menu allows the selection of existing folders. In quick view or playback mode, the images in the selected folder can be viewed or edited unless all-folder option is selected in the view-folder option in the playback menu (p. 116). In recording mode, the folder-name option in section 2 of the setup menu must be set to standard form in order to select the folder in which to place the subsequent recorded images. Copy or E-mail Copy folders cannot be selected.

To edit images in multiple folders, folders can be temporarily selected with the view-folder option in the playback menu. Deleting all images in a folder does not erase the folder itself. Formatting a memory card in section 1 of the playback menu, erases all folders regardless if they are selected or not.

New Folder

This allows the creation of new folders. The folder-name option in section 2 of the setup menu must be set to standard form in order to use the new-folder function.



When the folder is created, a screen appears indicating the name of the folder. Every time a new folder is created, the folder number will increase automatically by one greater than the highest folder number on the memory card. Press the central button of the controller to return to the menu. The new folder will be listed in the select-folder option.

Reset Default

This option in section 3 of the setup menu resets all camera modes: recording, movie, playback, and setup. To reset the recording or movie modes, see pages 93 and 109. When selected, a confirmation screen will appear; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Monitor display		
Display mode	LCD montor	p. 27

Recording mode		
Anti-shake	On	p. 36
Focusing screen	Off	p. 43
Display format	Standard	p. 43
Focus mode	Single-shot AF	p. 44
Focus-area mode	Wide focus frames	p. 46
Exposure compensation	0.0	p. 59
Flash compensation	0.0	p. 59
White balance	Auto	p. 60
Custom white balance registers	Settings deleted (Daylight)	p. 62
Camera sensitivity (ISO)	Auto	p. 66
Color mode	Natural (sRGB)	p. 68
Flash mode	Fill flash	p. 70
Metering mode	Multi-segment	p. 72
Filter	0	p. 73
Color-saturation compensation	0	p. 74
Contrast compensation	0	p. 74
Drive mode	Single-frame advance	p. 76

Recording menu		
Image size	3264 x 2448	p. 86
Image quality	Fine	p. 86
Spot AE area	Center spot	p. 90
Flash control	Auto	p. 90
AEL button	AE hold	p. 92
Sharpness	Normal	p. 94
Date imprinting	Off	p. 95
Instant playback	Off	p. 96
Full-time AF	Off	p. 97
Direct manual Focus (DMF)	Off	p. 97
Memory	Reset to default settings	p. 98
DSP setup	DSP (Digital Subject Programs)	p. 100
Noise reduction	On	p. 100
Monitor amplification	Auto	p. 101
Monitor amplification - Manual exp.	Exposure priority	p. 101
Digital zoom	Interpolate	p. 102

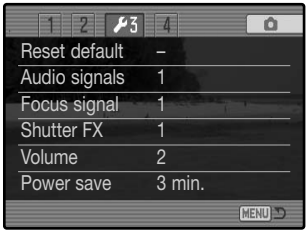
Movie mode		
Image size	640x480	p. 108
Frame rate	15fps	p. 108
Movie mode	Night movie	p. 108
Manual focus	Canceled	p. 109

Playback mode		
Display format	Full display	p. 40
View folder	All folders	p. 116
Magnification setup	X2.0	p. 120
Date imprint	Off	p. 122

Setup menu		
LCD brightness	Monitor and EVF reset	p. 132
Lens accessory	None	p. 132
Transfer mode	Data storage	p. 133
File number memory	Off	p. 136
Folder name	Standard	p. 136
Audio signals	1	p. 140
Focus signal	1	p. 140
Shutter FX	1	p. 141
Volume	2	p. 141
Auto power save	3 minutes	p. 141
Anti-shake	Display + exposure	p. 133
Delete confirmation	“No”	p. 133

Audio signals

Every time a button is pressed, an audio signal gives a positive confirmation of the operation. The audio signals can be turned off in section 3 of the setup menu (p. 130). The tone of the signal can also be changed; signal 1 is electrical and signal 2 is mechanical.



Focus signals

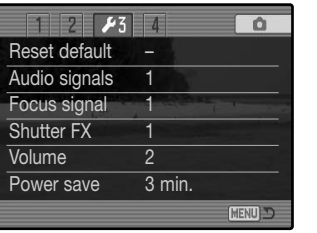
When the shutter-release button is pressed partway down, an audio signal gives a positive confirmation the AF system has focused. The focus signals can be changed or turned off in section 3 of the setup menu (p. 130). Two tones are available.

Shutter FX

A shutter sound effect gives positive audio confirmation when the shutter is released. The sound effects can be turned off in section 3 of the setup menu (p. 130). Two shutter effects are available. Signal 1 uses the shutter sound from the Dynax/Maxxum 9 SLR. Signal 2 uses a mechanical shutter sound taken from the legendary Minolta CLE.

Volume

The volume of the audio signals and sound effects can be increased or decreased in section 3 of the setup menu (p. 130). If the volume is turned off, the audio signals, focus signal, and shutter FX are disabled.



Auto Power Save

The camera will turn off the monitors to conserve battery power if no operation is made within a certain period. The length of this period can be changed to 1, 3, 5, or 10 minutes. To restore power, press the shutter-release button partway down or press the main switch. When the camera is connected to the computer, the auto-power-save period is set to ten minutes. This period cannot be changed. Auto power save is set in section 3 of the setup menu (p. 130).

If an operation is not made within thirty minutes, the camera will shut down. Press the main switch to restore power.

DATA-TRANSFER MODE

Read this section carefully before connecting the camera to a computer. Details on using and installing the DiMAGE Viewer software are found in the supplied software manual. The DiMAGE manuals do not cover the basic operation of computers or their operating systems; please refer to the manual supplied with your computer.

System requirements

For the camera to be connected directly to the computer and used as a mass-storage device, the computer must be equipped with a USB port as a standard interface. The computer and the operating system must be guaranteed by their manufacturers to support USB interface. The following operating systems are compatible with the camera:

Windows 98, 98SE, Me, 2000 Professional, and XP
Macintosh OS 9.0 ~ 9.2.2 and Mac OS X 10.1.3 ~ 10.1.5, 10.2.1 ~ 10.2.8, 10.3 ~ 10.3.5

Compatibility with Windows XP is with the home or professional editions only. Check the Konica Minolta web site for the latest compatibility information:
North America: http://www.konicaminolta.us/
Europe: http://www.konicaminoltasupport.com

Users with Windows 98 or 98 second edition will need to install the driver software on the included DiMAGE software CD-ROM (p. 144). No special driver software is required for other Windows or Macintosh operating systems.

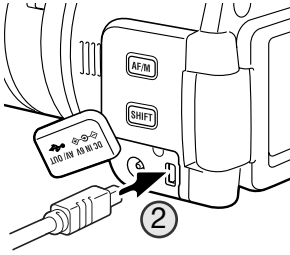
Customers who have bought a previous DiMAGE digital camera and have installed the Windows 98 driver software must repeat the installation procedure. The updated version of the driver software included on the supplied DiMAGE software CD-ROM is required for the operation of the DiMAGE A200 with a computer. The new software will have no affect on the performance of older DiMAGE cameras.

A remote camera driver is supplied in the Windows edition of the DiMAGE Viewer CD-ROM. This driver is not compatible with this camera.

Connecting the camera to a computer

A fully charged battery should be used when the camera is connected to a computer. The AC adapter (sold separately) is recommended over the use of batteries. For users with Windows 98, read the section on how to install the necessary driver before connecting the camera to a computer.

1. Start up the computer. The computer must be on before connecting the camera.
2. Open the terminal cover. Attach the smaller plug of the USB cable to the camera. The plug should be firmly attached.
3. Attach the other end of the USB cable to the computer's USB port. The plug should be firmly attached. The camera should be connected directly to the computer's USB port. Attaching the camera to a USB hub may prevent proper operation.
4. With a memory card inserted, turn on the camera. A screen will appear to indicate the start of the connection process. When the connection is made, the camera's monitors turn off. To change the card while the camera is connected to a computer, see page 152.

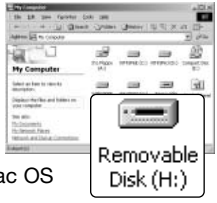


With the camera properly connected to Windows XP or Mac OS X, a window opens to download the image data; follow the instructions in the window. A drive icon, or volume, appears with other operating systems; the volume name varies with memory card and operating system. If the computer does not recognize the camera, disconnect the camera, restart the computer, and repeat the procedure.

Windows XP

Windows

Mac OSX

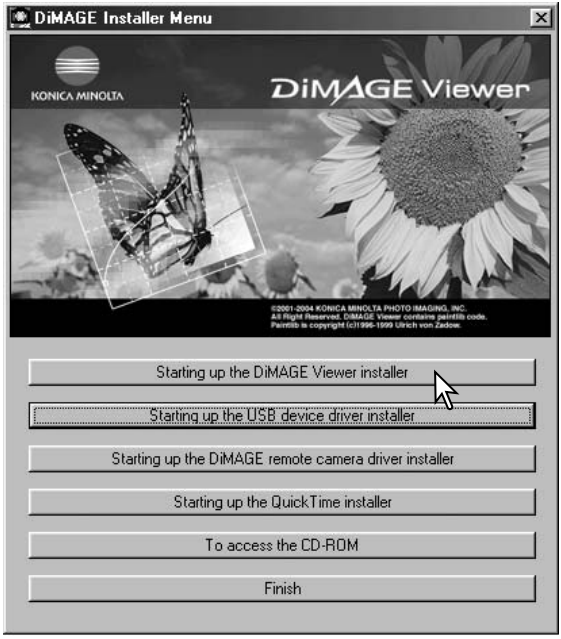


Mac OS

Connecting to Windows 98 / 98 second edition

The driver needs only to be installed once. If the driver cannot be installed automatically, it can be installed manually with the operating system's add-new-hardware wizard; see the instructions on the following page. During installation, if the operating system requests the Windows 98 CD-ROM, inset it into the CD-ROM drive and follow the accompanying instructions on the screen. No special driver software is required for other Windows operating systems.

Automatic Installation



Before connecting the camera to the computer, place the DiMAGE Viewer CD-ROM in the CD-ROM drive. The DiMAGE installer menu should automatically activate. To automatically install the Windows 98 USB driver, click on the starting-up-the-USB-device-driver-installer button. A window will appear to confirm that the driver should be installed; click "Yes" to continue.

When the driver has been successfully installed, a window will appear. Click "OK." Restart the computer before connecting the camera (p. 143).

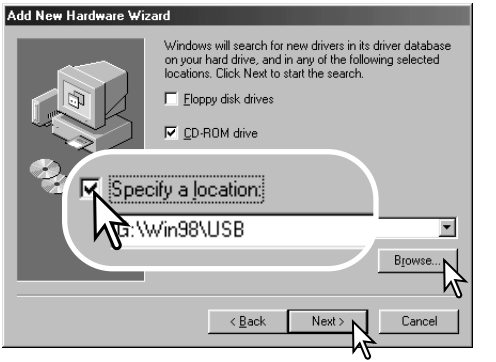
Manual installation

To install the Windows 98 driver manually, follow the instructions in the connecting-the-camera-to-a-computer section on page 143.

When the camera is plugged into the computer, the operating system will detect the new device and the add-new-hardware-wizard window will open. Place the DiMAGE Viewer CD-ROM in the CD-ROM drive. Click “Next.”

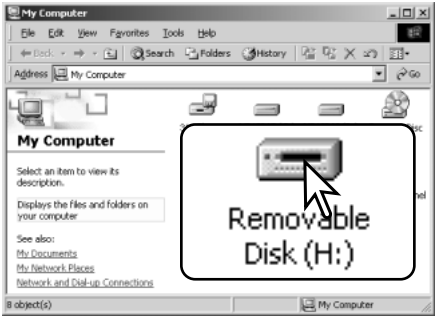
Choose the recommended search for a suitable driver. Click “Next.”

Choose to specify the location of the driver. The browse window can be used to indicate the driver location. The driver should be located in the CD-ROM drive at :\Win98\USB. When the location is shown in the window, click “Next.”



The add new hardware wizard will confirm the location of the driver. One of three drivers may be located: MNLVENUM.inf, USBPDR.inf, or USBSTRG.inf. The letter designating the CD-ROM drive will vary between computers. Click “Next” to install the driver in the system.

The last window will confirm the driver has been installed. Click “Finish” to close the add new hardware wizard. Restart the computer.



When the my-computer window is opened, a new removable-disk icon will be displayed. Double click on the icon to access the camera’s memory card; see page 148.

Auto power save (data-transfer mode)

If the camera does not receive a read or write command within ten minutes, it will shut down to save power. When the camera shuts down, an unsafe-removal-of-device warning may appear on the computer monitor. Click “OK.” Neither the camera or computer will be damaged in this operation.

Unplug the USB cable and turn off the camera. Remake the USB connection by reattaching the cable and turning the camera on.

Quicktime system requirements

QuickTime is used for playing back movies. To install QuickTime, follow the instructions in the installer. QuickTime is not supplied with the camera in all sales regions. Users can download the latest version of QuickTime free of charge from the Apple Computer web site at http://www.apple.com.

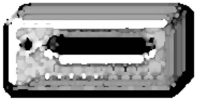
IBM PC / AT Compatible
Pentium processor-based PC or compatible computer
Windows 98, Me, 2000, or XP.
128MB or more of RAM

Videostudio system requirements

To install VideoStudio, follow the instructions in the installer.

Intel Pentium III 800 MHz or higher
Microsoft Windows 98SE, 2000, ME or XP
256 MB of RAM (512 MB recommended)
600MB of available hard disk space for program installation
Windows-compatible display with at least 1024x768 resolution
Windows-compatible sound card
Microsoft DirectX 9

Memory card folder organization



Drive Icon

Once the camera is connected to the computer, image files can be accessed by double clicking on icons. Image folders are located in the DCIM folder. To copying images and audio recordings, simply drag and drop the file icon into a location in the computer.

Dcim

Misc

The misc. folder contains DPOF print files (p. 121).

Files and folders on the memory card can be deleted using the computer. Changing file names or adding other types of data to the card with a computer may cause the camera to malfunction.

100KM020

10141223

102KM_CP

103KM_EM

From left to right: standard folder, date folder (p. 136), copy folder, and E-mail Copy folder (p. 123).

PICT0001.MRW

PICT0002.JPG

Extra fine, fine, or standard image

PICT0003.JPE

PICT0004.MOV

PICT0001.THM

RAW image

PICT0003.THM

Extra fine, fine, or standard image when using embedded Adobe RGB.

PICT0004.THM

Movie Clip

Image file names begin with “PICT” followed by a four-digit file number and an mrw, jpg, jpe, mov, or thm extension. The thumbnail images (thm) are used in camera and DiMAGE Viewer operation.

When a new folder is created, the first three digits in the folder name will be one greater than the largest folder number on the card. When the file number in the image file name exceeds 9,999, a new folder will be created with a number one greater than the greatest folder number on the memory card: e.g. from 100KM020 to 101KM020.

The file number on the image file may not correspond to its frame number on the camera. As images are deleted in the camera, the frame counter will adjust itself to show the number of images on the card and reassign the frame numbers accordingly. The file numbers on the image files will not change when an image is deleted. When a new image is recorded, it will be assigned a number one greater than the largest file number in the folder. File numbers can be controlled with the file-number-memory function in section 2 of the setup menu (p. 136).

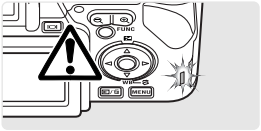
Image files contain exif tag data. This data includes the time and date the image was recorded as well as the camera settings used. This data can be viewed with the camera or the DiMAGE Viewer software.

If a camera image is opened in an image-processing application that does not support Exif tags, and then the image is saved overwriting the original data, the Exif tag information is erased. Some Exif compatible applications rewrite the Exif data preventing the DiMAGE Viewer from reading it. When using software other than the DiMAGE Viewer, always rename the image file to protect the exif tag data.

To view images correctly on your computer, the monitor’s color space may need to be adjusted. Refer to your computer manual on how to calibrate the display to the following requirements: sRGB, with a color temperature of 6500K, and a gamma of 2.2.

Although it is recommended to format a CompactFlash card with the camera, a card can be formatted with a computer. The card must be formatted on a Windows system using a FAT or FAT32 file system.

Disconnecting the camera from the computer



Never disconnect the camera when the access lamp is lit - the data or memory card may permanently be damaged.

Windows 98 / 98 second edition

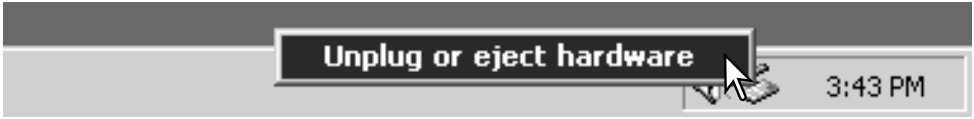
Confirm that the access lamp is not lit. Turn off the camera and then disconnect the USB cable.

Windows Me, 2000 professional, and XP

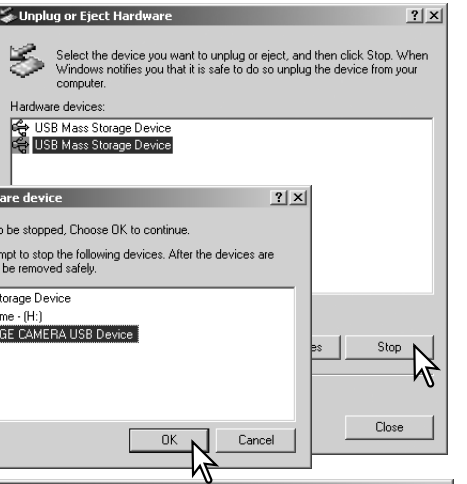
To disconnect the camera, click once on the unplug-or-eject-hardware icon located on the task bar. A small window will open indicating the device to be stopped.

Click on the small window to stop the device. The safe-to-remove-hardware window will open. Turn off the camera and then disconnect the USB cable.

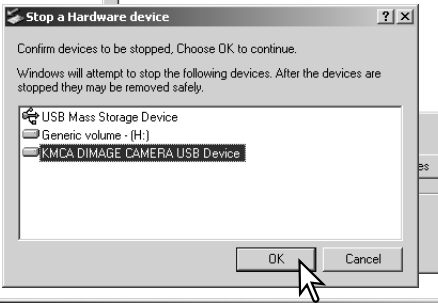
When more than one external device are connected to the computer, repeat the procedure above except right click on the unplug-or-eject-hardware icon. This will open the unplug-or-eject-hardware window after clicking on the small window indicating the unplug-or-eject-hardware routine.



The hardware devices to be stopped will be displayed. Highlight the device by clicking on it then click “Stop.”



A confirmation screen will appear to indicate the devices to be stopped. Clicking “OK” will stop the device.

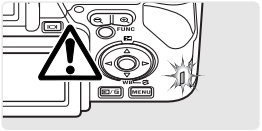


A third and final screen will appear to indicate the camera can be safely disconnected from the computer; click OK. Turn off the camera and then disconnect the USB cable.

Macintosh

Confirm that the access lamp is not lit and then drag the mass-storage device icon and drop it into the trash. Disconnect the USB cable.

Changing the Memory card (Data-transfer mode)



Care should be taken when changing memory cards while the camera is attached to the computer. Data could be lost or damaged if the camera is not properly disconnected. Always confirm the access lamp is out before removing the memory card.

Windows 98 / 98 second edition

1. Turn off the camera.
2. Change the memory card.
3. Turn on the camera to remake the USB connection.

Windows Me, 2000 professional, and XP

1. Stop the USB connection using the unplug-or-eject-hardware routine (p. 150).
2. Turn off the camera.
3. Change the memory card.
4. Turn on the camera to remake the USB connection.

Macintosh

1. Stop the USB connection by dragging the drive icon into the trash (p. 151).
2. Turn off the camera.
3. Change the memory card.
4. Turn on the camera to remake the USB connection.

Removing the driver software - Windows

1. Insert a memory card in the camera and connect it to the computer with the USB cable. Other devices must not be connected to the computer during this procedure.

2. Right click on the My-computer icon. Select “properties” from the drop-down menu.

   Windows XP: from the start menu go to the control panel. Click on the performance and maintenance category. Click “System” to open the system properties window.

3. Windows 2000 and XP: select the hardware tab in the properties window and click the device-manager button.

   Windows 98 and Me: click the device-manager tab in the properties window.

4. The driver file will be located in the universal-serial-bus-controller or other-devices location of the device manager. Click on the locations to display the files. The driver should be indicated with “Konica Minolta”. Under certain conditions, the driver name may not contain the company name. However, the driver will be indicated by either a question mark or exclamation point.

5. Click on the driver to select it.

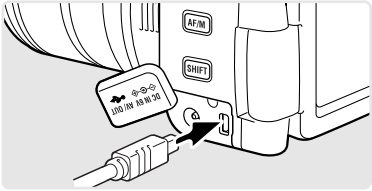
6. Windows 2000 and XP: click on the action button to display the drop-down menu. Select “uninstall.” A confirmation screen will appear. Clicking “Yes” will remove the driver from the system.

   Windows 98 and Me: click the remove button. A confirmation screen will appear. Clicking “Yes” will remove the driver from the system.

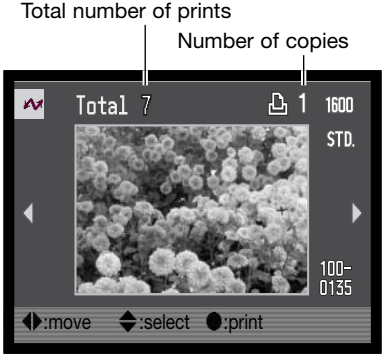
7. Disconnect the USB cable and turn off the camera. Restart the computer.

PictBridge

Confirm the transfer-mode option in section 1 of the setup menu is set to PTP. Connect the camera to a PictBridge compatible printer using the camera's USB cable. The larger plug on the cable is connected to the printer. Open the terminal cover and insert the smaller plug of the cable into the camera. Turn the camera on; the PictBridge screen is displayed automatically.



Individual still images can be selected for printing on the PictBridge screen. Movie clips, RAW and images with an embedded color profile (p. 68) cannot be selected. For other printing options, see the menu navigation section on page 156.

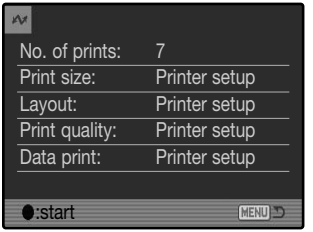


Use the left/right keys of the controller to display the image to be printed.

Press the up key to select the number of copies to be printed. Up to 20 copies can be printed. To deselect an image for printing, press the down key until the number of copies reaches zero.

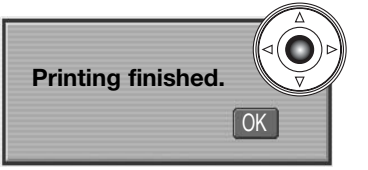
Repeat the previous steps until all the images to be printed are selected. Press the central button of the controller to continue.

On the PictBridge screen, the digital-zoom lever can be used to switch between the single frame and index playback formats, or to activate enlarged playback to examine image files.



The number of prints in the print run are displayed as well as the print parameters selected with the menu. See the menu navigation section for more information (p. 156). Press the central button of the controller to begin printing, or press the menu button to return to the PictBridge screen.

Once printing begins, the operation can be canceled by pressing the center of the controller. The printing-finished message indicates the end of the operation; turn the camera off to end the routine.



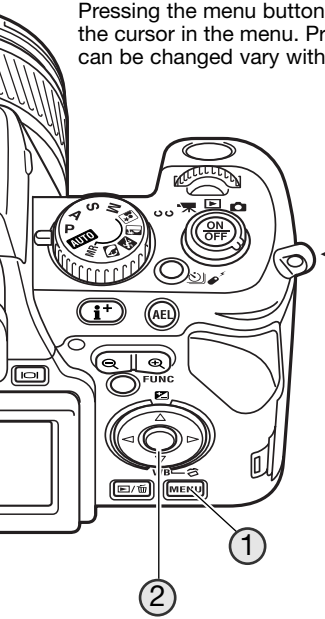
Notes on printing errors

If the battery is exhausted before the print run is complete, printing is canceled. Use a fully-charged battery or the optional AC adapter.

If a minor problem occurs during printing, such as the paper runs out, follow the procedure recommended for the printer; no action is required for the camera. If a major printer error occurs, press the center of the controller to end the routine. Refer to the printer manual for the correct procedure for the printer problem. Check the printer settings before starting again and deselect the images that were printed.

Navigating the PictBridge menu

Pressing the menu button (1) turns the menu on and off. The four-way keys of the controller (2) move the cursor in the menu. Pressing the central button of the controller enters a setting. The options that can be changed vary with the printer.



Activate the menu with the menu button.

Use the left/right keys of the controller to highlight the appropriate menu tab; the menu changes as the tabs are highlighted.

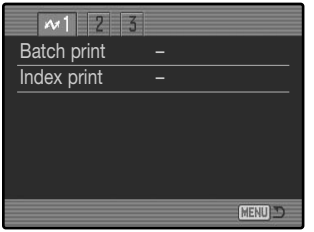
Use the up/down keys to scroll through the menu options. Highlight the option whose setting needs to be changed.

With the menu option highlighted, press the right controller key; the settings are displayed with the current setting highlighted. If “Start” is displayed, press the center of the controller to continue.

Use the up/down keys to highlight the new setting.

Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed. To return to the PictBridge screen, press the menu button. Read the following sections on information on the menu options.



Batch print

Batch print in section 1 selects all still images on the memory card for printing. Two options are available:

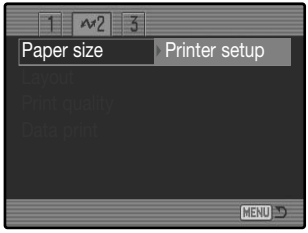
All-frames - to print all images on the card. A screen opens so the number of copies of each image can be specified.

Reset - to cancel changes made with the batch print option or with the print selection screen.

Index print

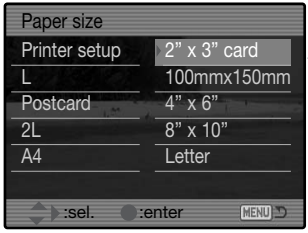
An index print of all still images on the memory card can be made. The quality and size of the print can be specified with the camera menu. The number of images per page varies with the printer. The print-setup confirmation screen is displayed before the print routine starts.

Paper size



The paper size of the print can be specified in section 2 of the PictBridge menu. The printer-setup option uses the size set with the printer.

Highlight the current size setting in the menu and press the central button of the controller to open the paper-size screen.



Use the four-way key of the controller to highlight the new paper size. The options available depend on the printer. The printer setup option uses the size set with the printer.

Press the central button of the controller to set the paper size.

Printing Notes

The following are the dimensions for postcard, L, and 2L paper sizes in both millimeters and inches for your reference:

Postcard	100 X 148mm	3.9 X 5.9 in.
L	89 X 127mm	3.5 X 5.0 in.
2L	127 X 178mm	5.0 X 7.0 in.

Layout

The layout of the print can be set. The printer-setup option uses the layout parameters of the printer. Borderless printing can be specified with the camera as well as the number of images per page.

Print quality

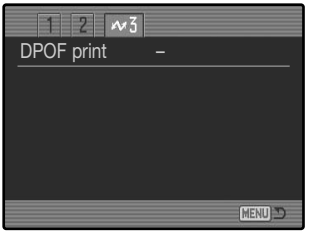
The print quality can be set. The printer-setup option uses the quality set with the printer. The fine quality can be specified with the camera.

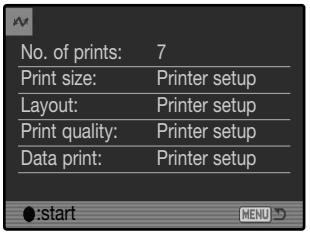
Data print

Data can be printed with the image. The printer-setup option uses the options set with the printer. The date of capture and the file name can be selected for printing. Data printing can also be disabled with the menu.

DPOF print

DPOF print in section 3 allows still images and an index print selected with the DPOF printing options in section 2 of the playback menu to be printed from a DPOF compatible PictBridge printer. Simply select the start option from the menu to begin the routine.





The number of prints in the print run are displayed; an index print is counted as one. Press the central button of the controller to begin printing, or press the menu button to return to the PictBridge menu.

Once printing begins, the operation can be canceled by pressing the center of the controller. The printing-finished message indicates the end of the operation; press the center of the controller and turn the camera off to end the routine.

TROUBLESHOOTING

The section covers minor problems with basic camera operation. For major problems or damage to the camera or charger, or if a problem continues to reoccur frequently, contact a Konica Minolta service facility.

Problem	Symptom	Cause	Solution
The camera will not work.	Nothing displayed on the monitors.	The battery is dead.	Recharge battery (p. 18).
		The AC adapter is not connected properly.	Check that the adapter is connected to the camera and a live electrical outlet (p. 21).
	The camera automatically shuts down without auto power save.	The camera is hot or it has been left in a very hot environment.	Turn off the camera and allow it to cool.
Shutter will not release.	"0000" is displayed on the frame counter.	Memory card is full and unable to store an image at the image-quality or image-size setting on the camera.	Insert a new memory card (p. 22), delete some images (p. 39), or change the image-quality or image-size setting (p. 86).
	No-card warning appears on the monitors.	No memory card in the camera.	Insert a memory card (p. 22).

Problem	Symptom	Cause	Solution
Pictures are not sharp.	Focus signal is red.	Subject is too close.	Make sure the subject is within the autofocus range (0,5m - inf. / 1,6 ft - inf.) or use the macro mode (p. 49).
		A special situation is preventing the autofocus system from focusing (p. 33).	Use the focus-lock function to focus on an object at the same distance as the subject (p. 32) or use manual focus (p. 45).
	Pictures are taken indoors or in low-light situations without flash.	Slow shutter speeds result in blurred images when the camera is hand-held.	Use Anti-shake or a tripod, change the camera sensitivity to a higher setting (p. 66), or use the flash (p. 34).
While using flash, the pictures are too dark.	The subject is beyond the flash range (p. 67).		Move closer to the subject or change the camera sensitivity to a higher setting (p. 66).
A shadow appears on the bottom of the image.	Lens hood mounted when using flash.	The lens hood blocks the light from the built-in flash.	Always remove the lens hood when using the built-in flash.

Problem	Symptom	Cause	Solution
Shooting data is displayed, but live image is entirely black or white.	Camera set to manual-exposure mode (M).	Shutter speed and aperture combination is extremely under or overexposing the live image.	Change the shutter speed or aperture value until an image appears on the monitor (p. 56).
Inaccurate exposures with very bright or dark scenes.	Metering-mode indicator is red.	Subject or scene is outside the metering range of the camera.	Change the camera sensitivity (p. 66) or the light levels.
Occasionally the camera will not turn off immediately.	The sandglass indicator appears on the blank LCD monitor.	The CCD is being calibrated. This procedure lasts several seconds. Do not remove the battery during this time. This is not a defect and the camera will turn off automatically.	

If the camera does not function normally, turn it off, remove and reinsert the battery, or unplug and reconnect the AC adapter. Always turn the camera off using the main switch otherwise the memory card may be damaged and camera settings reset.

The camera temperature rises with extended periods of use. Care should be taken to avoid burns when handling the camera, batteries, or memory card.

When using filters

Polarizing filters and close-up lenses may cause vignetting at the wide-angle range of the lens (below the 50mm mark on the zooming ring). With very powerful close-up lenses, such as a +3 or Minolta No. 2, vignetting may be noticeable below 100mm. Most step-up rings will cause vignetting. The Minolta Step-up Adapter 49mm to 62mm can be used.

About the lithium-ion battery charger cord

The AC cord is designed for the current of the sales region. Only use the cord in the region it was purchased.

Region	Product code
Continental Europe, Korea, Singapore (220-240V)	APC-150
Great Britain, Hong Kong (220V-240V)	APC-160
United States, Canada, Taiwan, Japan (100V-120V)	APC-170
China (220V-240V)	APC-151
Australia, New Zealand (220-240V)	APC-230

About PC fLash adapter PCT-100

The PCT-100 allows a studio or location flash system to be connected to the camera with a standard PC cord. The update CD-ROM supplied with the adapter should NOT be used with the DiMAGE A200.

The use of custom white balance is recommended with off camera flash systems (p. 62). Auto white balance is not recommended.

If the monitor image is dark, change the manual-exposure option under monitor amplification to display priority in section 3 of the recording menu (p. 101).

WIDE-ANGLE CONVERTER ACW-100
TELEPHOTO CONVERTER ACT-100
CLOSEUP LENS CL49-200

The Wide-angle Converter ACW-100 reduces the focal length of the camera lens by 0.8X, whilte the Telephoto Converter ACT-100 increases the focal length by 1.5X. The update CD-ROMs supplied with the ACW-100 and ACT-100 should NOT be used with the DiMAGE A200.

The Closeup Lens CL49-200 reduces the minimum focus distance of the lens to approximately 8cm (3.1 in.).

For more details on the accessories above and listed in this manual, contact your local Konica Minolta dealer.

This manual contains information on products and accessories available at the time of printing. To obtain compatibility information on products not contained in this manual, contact a Konica Minolta service facility.

CARE AND STORAGE

Read this section in its entirety to get the best results from your camera. With proper care, your camera will provide years of service.

Camera care

- Do not subject the camera to shock or impact.
- Turn off the camera when transporting.
- This camera is neither waterproof nor splashproof. Inserting or removing batteries or the memory card, or operating the camera with wet hands may damage the camera.
- When at the beach or near water, take care not to expose the camera to water or sand. Water, sand, dust, or salt can damage the camera.
- Do not leave the camera under direct sunlight. Do not point the lens directly at the sun; the CCD may be damaged.

Cleaning

- If the camera or the outside of the lens is dirty, gently wipe it with a soft, clean, dry cloth. If the camera or lens comes in contact with sand, gently blow away loose particles. Wiping may scratch the surface.
- To clean the lens surface, first blow away any dust or sand, then gently wipe the lens with a cloth or tissue designed for optics. Use lens-cleaning fluid if necessary.
- Never use organic solvents to clean the camera.
- Never touch the lens surface with your fingers.

Storage

- Store in a cool, dry, well-ventilated area away from dust and chemicals. For long periods of disuse, store the camera in an airtight container with a silica-gel drying agent.
- Remove the batteries and memory card from the camera when not in use for extended periods.
- Do not store the camera in an area with naphthalene or mothballs.
- During long periods of storage, operate the camera occasionally. When taking the camera out of storage, check that the camera is functioning properly before using.

Operating temperatures and conditions

- This camera has been designed for use in temperatures from 0°C to 40°C (32°F to 104°F).
- Never leave the camera exposed to extreme high temperatures, such as in a car parked in the sun, or to extreme humidity.
- When taking the camera from a cold to a warm environment, place it in a sealed plastic bag to prevent condensation from forming. Allow the camera to come to room temperature before removing it from the bag.

Memory card care and handling

Memory Cards are manufactured with precision electronic components. The following may cause data loss or damage:

- Improper use of the card.
- Bending, dropping, or subjecting the card to impact.
- Heat, moisture, and direct sunlight.
- Static electrical discharge or electromagnetic fields near the card.
- Removing the card or interrupting the power supply while the camera or a computer is accessing the card (reading, writing, formatting, etc.).
- Touching the electrical contacts of the card with your fingers or metal objects.
- Using the card beyond its life. Purchasing a new card periodically may be necessary.
- When using a Microdrive, do not subject the camera to vibrations.

Konica Minolta has no responsibility for any loss or damage to data. It is recommended that a copy of the card data be made.

Batteries

- Battery performance decreases with temperature. In cold environments, we recommend keeping spare batteries in a warm place, such as the inside of a coat. Batteries can recover their power when they warm up.
- Do not store the battery when it is fully charged.
- When storing the battery for extended periods, recharge it for five minutes every six months. The battery may not be able to be charged if completely exhausted.
- A special built-in battery supplies power to the clock and memory when the camera battery is exhausted or removed. If the camera resets each time the battery is replaced, the built-in battery is exhausted. It must be replaced at a Konica Minolta service facility.
- Keep battery and camera charger contacts clean. Dirty contacts can prevent charging. If the contacts become dirty, wipe them with a cotton swab.

LCD monitor care

- The LCD monitor and EVF are manufactured using high-precision technology and more than 99.99% of the pixels operate properly. Less than 0.01% of the monitor pixels are displayed as color or bright points; this is not monitor defect and does not affect the recorded image.
- Do not apply pressure to the surface of the LCD monitor; it may be permanently damaged.
- In a cold environment, the LCD monitor may become temporarily dark. When the camera warms up, the display will function normally.
- If fingerprints are on the LCD monitor surface, gently wipe with a soft, clean, dry cloth.

Copyright

- TV program, films, video tapes, photographs, and other materials may be copyrighted. Unauthorized recording or duplication of such material may be contrary to copyright laws. Taking pictures or images of performances, exhibitions, etc. is prohibited without approval and can infringe on copyright. Images protected by copyright can only be used under the provisions within the copyright laws.

Before important events or journeys

- Check the camera's operation; take test pictures and purchase spare batteries.
- Konica Minolta has no responsibility for any damage or loss incurred by equipment malfunction.

Questions and service

- If you have questions about your camera or charger, contact your local camera dealer or write to the Konica Minolta distributor in your area.
- Before shipping your camera or charger for repair, please contact a Konica Minolta Service Facility.

TECHNICAL SPECIFICATIONS

Number of effective pixels:	8.0 million
CCD:	2/3 inch interlaced primary-color CCD Total pixels: 8.3 million
Camera sensitivity (ISO):	Auto and 50, 100, 200, 400, and 800 ISO equivalents
Aspect ratio:	4:3
Lens construction:	16 elements in 13 groups
Maximum aperture:	f/2.8 - f/3.5
Focal length:	7.2 - 50.8 mm (35mm equivalent: 28 - 200mm)
Focusing range (from the CCD):	0.5 m to infinity (1.6 ft - infinity) Macro focus range At wide-angle position: 30 - 60 cm (11.8 - 23.6 in) At telephoto position: 25 - 60 cm (9.8 - 23.6 in)
Filter diameter:	49 mm
Autofocus system:	Video AF
Shutter:	CCD electronic shutter and mechanical shutter
Built-in flash recycling time:	5s (approx.)
Viewfinder LCD:	0.44 inch color-filter QVGA full-color display
Monitor LCD:	1.8 inch TFT color
Field of view:	100% (approx.)
A/D conversion:	12 bit
Recording media:	Type I and II CompactFlash cards, Microdrives. SD (Secure Digital) Memory Cards and MultiMediaCards with the optional CompactFlash Adapter SD-CF1.
File formats:	JPEG, Motion JPEG (mov) with monaural audio, and RAW. DCF 2.0, DPOF, and Exif 2.21 compliant.
PRINT Image Matching III:	Yes
Menu languages:	English, German, French, Spanish, Simplified Chinese, Italian, Swedish, and Japanese
AV output:	NTSC and PAL
Battery:	One NP-800 lithium-ion battery
External power source:	6V DC (with specified AC adapter AC-11) External High-Power Battery Pack Kit EBP-100

Battery performance (recording):	Approx. number of recorded images: 260 frames. Conforming to the CIPA standard test method with an NP-800 lithium-ion battery.
Battery performance (playback):	Approx. continuous playback time:330 min. Based on the Konica Minolta standard test method with an NP- 800 lithium-ion battery and the LCD monitor on.
Dimensions:	114 (W) X 80 (H) X 115 (D) mm 4.49 (W) X 3.15 (H) X 4.53 (D) in
Weight:	Approximately 505g (17.8 oz) (without batteries or recording media)
Operating temperature:	0° - 40°C (32° - 104°F)
Operating humidity:	5 - 85% (noncondensing)

Lithium-ion Battery Charger BC-900	
Input voltage:	AC 100-240V, 50-60Hz
Weight:	72g (2.5 oz.)
Dimensions:	72 X 28 X 23 mm 2.83 X 1.1 X 0.91 in The charger unit meets the UL standard as being movable.

Lithium-ion Battery NP-800	
Voltage:	7.4V, 800mAh
Weight:	43g (1.5 oz.)
Dimensions:	68 X 73 X 28 mm 2.68 X 2.87 X 1.10 in
Wireless Remote Control RC-D1	
Type:	Infrared remote control
Weight:	9 g (0.3 oz.) without battery
Dimensions:	35.0(W) X 56.5(H) X 6.5(D) mm 1.38(W) X 2.22(H) X 0.26(D) in

Specifications are based on the latest information available at the time of printing and are subject to change without notice.

The following marks may be found on the product:

This mark on your camera certifies that this camera meets the requirements of the EU (European Union) concerning interference causing equipment regulations. CE stands for Conformité Européenne (European Conformity).

FCC Compliance Statement
Declaration on Conformity

Digital Camera: DiMAGE A200

Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

Responsible Party: Konica Minolta Photo Imaging U.S.A. Inc.
Address: 725 Darlington Avenue, Mahwah, NJ 07430

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. Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. 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:

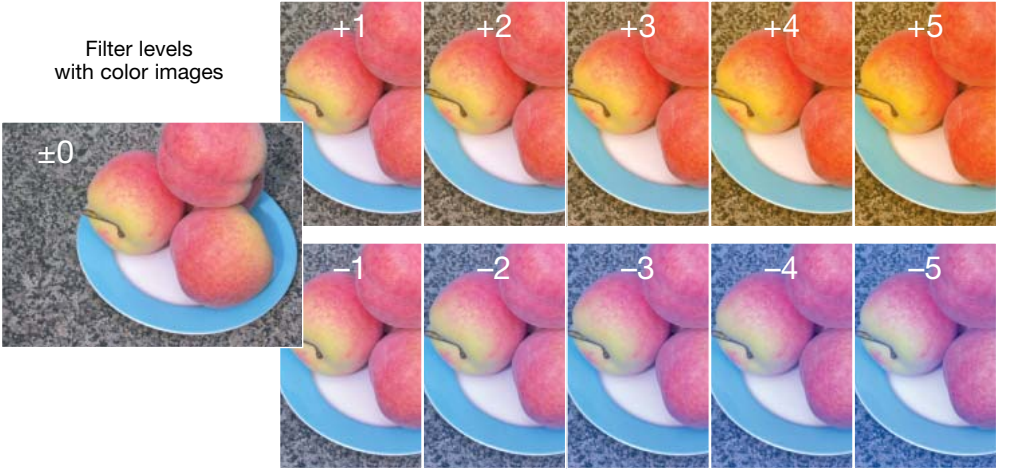
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not remove the ferrite cores from the cables.

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

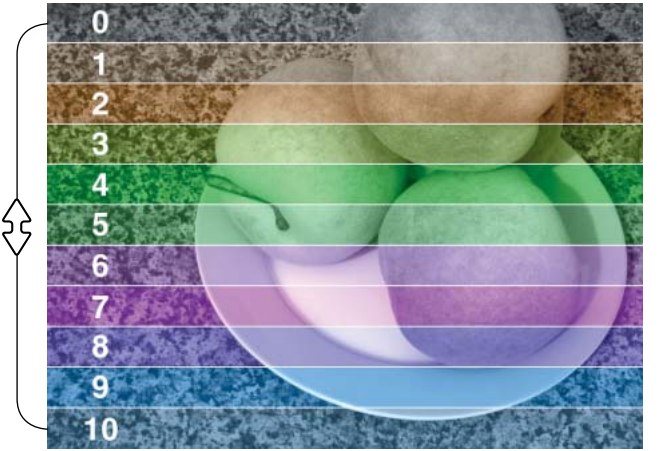
FILTER EXAMPLES

Filter levels
with color images



Filter settings with black and white images.

For more on Filter effects,
see page 73.



KONICA MINOLTA PHOTO IMAGING, INC.

© 2004 Konica Minolta Photo Imaging, Inc. under the Berne Convention
and the Universal Copyright Convention.

9222-2747-11 P-A409/10-2004/109678
Printed in Japan

0 43325 53403 4