

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.

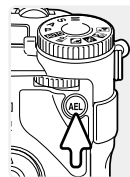
When the shutter is released, a pre-flash will fire. This pre-flash does not exposure the subject, but is used in the calculation of the flash exposure. The flash will fire again just before the shutter closes.



Camera Notes

Slow shutter sync can be set in P and A exposure modes. This flash mode controls the shutter and aperture to balance the ambient and flash illumination. When photographing a subject outside at night, the ambient-light exposure will be balanced to bring out the details in the background with the flash exposure for the subject. Because shutter speeds can be longer than usual, the use of a tripod is recommended.

1. Set the camera to the P or A exposure mode (p. 50).
2. Frame the subject on the monitors.
3. Press and hold the AE lock button to lock the exposure.
4. Press the shutter-release button partway down to lock the focus. Compose the image on the monitors.
5. 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.

System Accessories

The Close-up Diffuser CD-1000 is used directly on the camera with the built-in flash to provide soft lighting for close-up photography. Contact your local Minolta dealer for more information.

WIRELESS / REMOTE FLASH



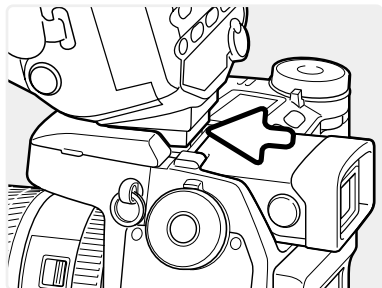
On-camera
flash

Wireless/Remote flash allows the camera to control an off-camera Minolta 5600HS(D) and 3600HS(D) flash unit without the need of a cable. Single or multiple flash units can be placed around the subject to create different lighting effects.

Wireless/
Remote
flash



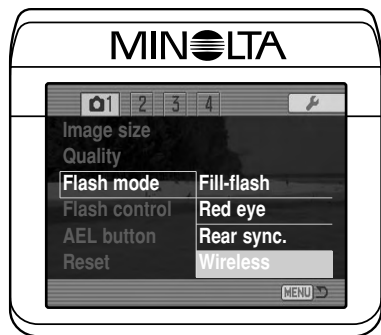
The camera's built-in flash fires to control the off-camera flash units rather than to illuminate the subject. See your local camera dealer about Minolta lighting accessories.



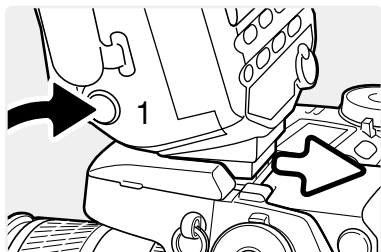
Slide the cap off the accessory shoe (p. 75).

Slide the Minolta 5600HS(D) or 3600HS(D) flash on the accessory shoe until the safety lock engages.

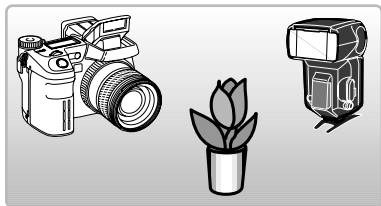
Turn on the camera and flash unit.



Set the camera to the wireless flash mode in section 1 of the recording menu (p. 80). This will simultaneously set the flash to the wireless mode and set the camera to the flash's wireless channel.



Press and hold the mounting-foot-release button (1) to disengage the safety catch to remove the flash unit from the camera.



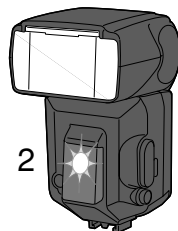
Position the camera and flash around the subject. See the following page for the camera-to-subject and flash-to-subject ranges. Make sure no objects come between the camera and flash unit.



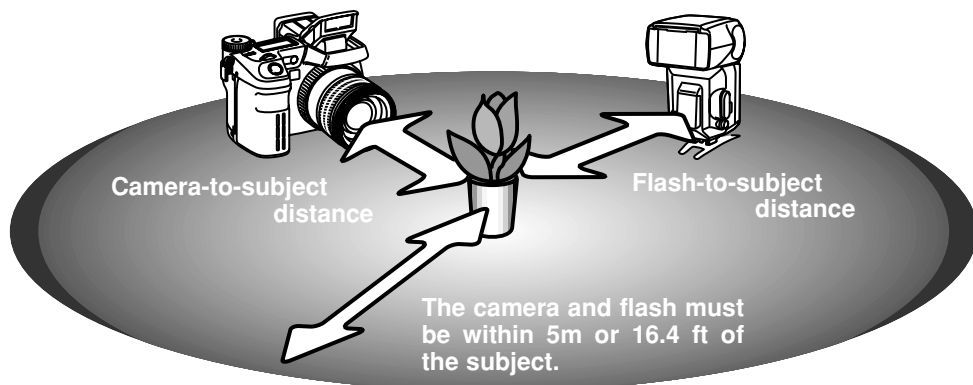
Raise the built-in flash on the camera. The wireless flash indicator (WL) will be displayed in the top left corner of the live image. The number next to it indicates the channel in use. The flash signal will turn white when the flash is charged.

When the 5600HS(D) and 3600HS(D) flash is charged, the AF illuminator on the front of the unit will blink (2). Take a picture as described in the basic recording section on page 33.

The flash units can be test fired by pressing the AEL button on the camera. If the flash does not fire, change the camera, flash, or subject position. The slow-shutter-sync function will be active in P and A exposure modes (p. 87).



WIRELESS/REMOTE CAMERA AND FLASH RANGES



Minimum camera-to-subject distance

Aperture	Camera sensitivity setting			
	ISO 100	ISO 200 / AUTO	ISO 400	ISO 800
f/2.8	1.4 m / 4.6 ft	2.0 m / 6.6 ft	2.8 m / 9.2 ft	3.9 m / 12.8 ft
f/4.0	1.0 m / 3.2 ft	1.4 m / 4.6 ft	2.0 m / 6.6 ft	2.8 m / 9.2 ft
f/5.6	0.7 m / 2.3 ft	1.0 m / 3.2 ft	1.4 m / 4.6 ft	2.0 m / 6.6 ft
f/8.0	0.5 m / 1.6 ft	0.7 m / 2.3 ft	1.0 m / 3.2 ft	1.4 m / 4.6 ft

Minimum flash-to-subject distance

f/2.8	1.0 m / 3.2 ft	1.4 m / 4.6 ft	2.0 m / 6.6 ft	2.8 m / 9.2 ft
f/4.0	0.7 m / 2.3 ft	1.0 m / 3.2 ft	1.4 m / 4.6 ft	2.0 m / 6.6 ft
f/5.6	0.5 m / 1.6 ft ¹	0.7 m / 2.3 ft	1.0 m / 3.2 ft	1.4 m / 4.6 ft
f/8.0	0.4 m / 1.3 ft ²	0.5 m / 1.6 ft ¹	0.7 m / 2.3 ft	1.0 m / 3.2 ft

1 Maximum flash-to-subject distance for the 3600HS(D) for these conditions is 3.5 m / 11.5 ft.

2 Maximum flash-to-subject distance for the 3600HS(D) for these conditions is 2.5 m / 8.2 ft.

NOTES ON WIRELESS/REMOTE FLASH

Wireless/Remote flash performs best under subdued light or interior lighting. Under bright light sources, the flash may not be able to detect the control signals from the camera's built-in flash.

The wireless/remote system has four channels so that multiple lighting systems can be used in the same area without affecting each other. Once the camera and flash are separated, the wireless channel can be changed. Refer to the flash's instruction manual on how to set the wireless channel. The flash and the camera must be set to the same channel.

When not using off-camera flash units, always turn off the wireless flash mode in section 1 of the recording menu, or inaccurate flash exposures will result. The 5600HS(D) and 3600HS(D) flash units can be reset simultaneously with the camera. Simply mount the flash unit in the accessory shoe and change the wireless flash mode setting on the menu to another flash mode.

This camera does not have a preset flash sync speed. In program (P) or aperture-priority (A) exposure mode, the shutter speed will not fall below the camera-shake limit unless the slow-sync function is activated (p. 87). When using shutter-priority (S) or manual (M) exposure mode, any shutter speed can be used in the exposure.

The flash can synchronize with the camera at any shutter speed, the 5600HS(D) and 3600HS(D) high-speed sync function is unnecessary. When using flash, the shutter speed should be set to the flash duration of flash unit to prevent underexposure. A maximum shutter speed of 1/250s is recommended when using a compatible Minolta flash unit. The Wireless/Remote Flash Controller is not compatible with this camera.

FLASH CONTROL

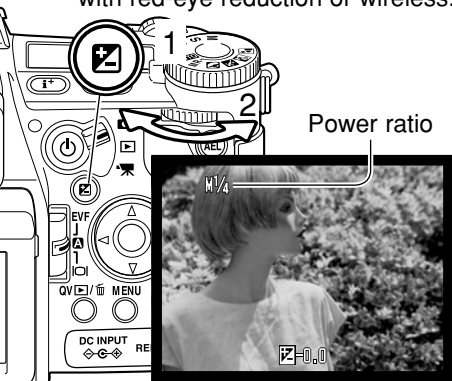
ADI, pre-flash TTL, and manual flash controls are available. Flash control is changed in section 1 of the recording menu (p. 80).

ADI (Advanced Distance Integration) flash metering - combines distance information from the autofocus system with information from a pre-flash exposure. Unlike conventional TTL flash metering, ADI is not influenced by the reflectance of the subject or background ensuring optimum flash exposures.

Pre-flash TTL - calculates flash exposure with a pre-flash only. This mode must be used when using close-up filters or filters that reduce the amount of light entering the camera such as neutral density filters. Pre-flash TTL must be used when a diffuser is attached to the built-in flash or an external flash unit.

The camera will automatically switch from ADI metering to pre-flash TTL when a low-contrast subject is preventing the autofocus system from focusing. If the autofocus system cannot lock on the subject, use manual focus; the ADI metering will remain in effect.

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



Select the manual option from flash control in section 1 of the recording menu. With the built-in flash raised, press the exposure compensation button (1). Use the rear control dial (2) to select the manual flash power ratio; the front control dial compensates the ambient exposure.

Press the shutter-release button partway down or press the exposure-compensation button to complete the operation. The power ratio and the manual flash indicator is displayed on the monitors when the flash is raised.

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

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

$$\frac{\text{Guide no.}}{f\text{n.}} = \text{distance}$$

$$\text{Guide no.} = f\text{n.} \times \text{distance}$$

$$\frac{\text{Guide no.}}{\text{distance}} = f\text{n.}$$

Flash Notes

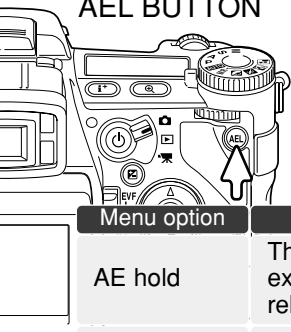
Maxxum/Program Flash 2500(D), 3600HS(D), 5600HS(D), Macro Ring Flash 1200, and Macro Twin Flash 2400 are compatible with this camera. ADI flash metering works with the three Maxxum/Program flashes attached to the accessory shoe. See the flash manual on how to set ADI metering. The use of other flash units is not recommended.

With the Maxxum/Program Flash 5600HS(D) and 3600HS(D), the flash-metering mode will automatically switch to pre-flash TTL when the bounce-flash or wireless/remote function is used, or the flashes are connected to the camera with an off-camera cable. Pre-flash TTL automatically activates when using the macro flash units. When using bounce flash with the Maxxum/Program Flash 2500(D), set TTL with the metering mode switch on the flash unit or pre-flash TTL on the recording menu on the 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. With the 3600HS(D), also change the flash metering mode to pre-flash TTL. 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. 80).

Menu option	
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.
 AE hold	Exposure is determined with the spot metering area. Press and hold the AEL button to lock the exposure; the spot circle is displayed. The exposure remains locked until the AEL button is released.
 AE toggle	Exposure is determined with the spot metering area. Press and release the AEL button to lock the exposure; the spot circle is displayed. 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. 80). When selected, a confirmation screen will appear; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

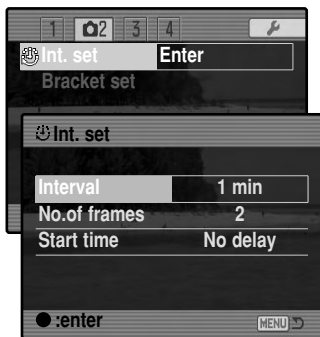
Exposure compensation	0.0	p. 59
Flash compensation	0.0	p. 59
Drive mode	Single-frame advance	p. 61
Anti-shake	On	p. 37
White balance	Auto	p. 70
White-balance shift	0	p. 70
Metering mode	Multi-segment	p. 69
Contrast compensation	0	p. 78
Color-saturation compensation	0	p. 77
Filter	0	p. 78
Focus area	Wide focus frames	p. 33
Flash mode	Fill flash or red-eye reduction ¹	p. 86
Flash control	ADI	p. 92
Sharpness	Normal	p. 97

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. 132). The confirmation screen will not appear in the shortcut operation.

INTERVAL SETUP

The parameters for the interval drive mode (p. 66) are set in section 2 of the recording menu (p. 80).



Select “Enter” in the interval-set option in section 2 of the recording menu. Press the center of the controller to open the setup screen.



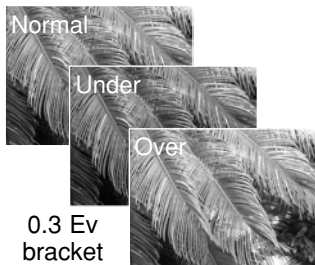
On the setup screen, use the up/down controller keys to highlight the parameter to be changed and then press the right controller key. Use the up/down keys to change the parameter. Use the left controller key to return to the parameters. Continue until the parameters are set.



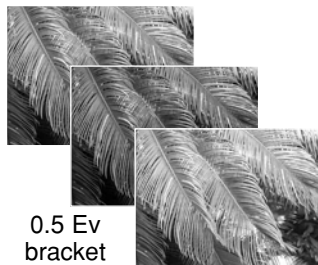
press the center of the controller to complete the operation. The menu button closes the screen and cancels any changes.

BRACKETING SETUP

When making an exposure bracket (p. 62), the exposure difference among frames can be set to 0.3EV or 0.5Ev. This is set in section 2 of the recording menu (p. 80).






0.3 Ev
bracket

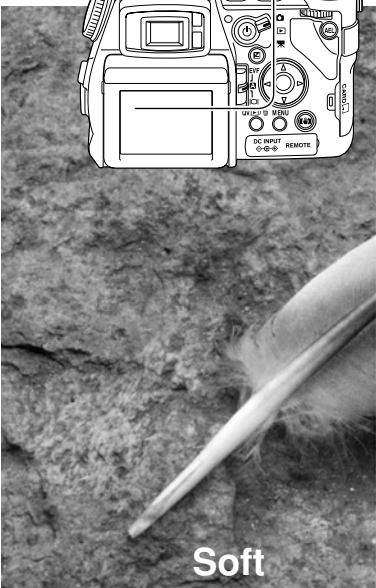
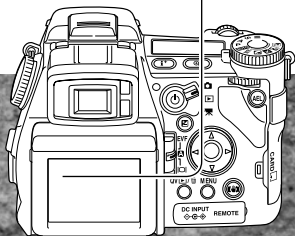


0.5 Ev
bracket

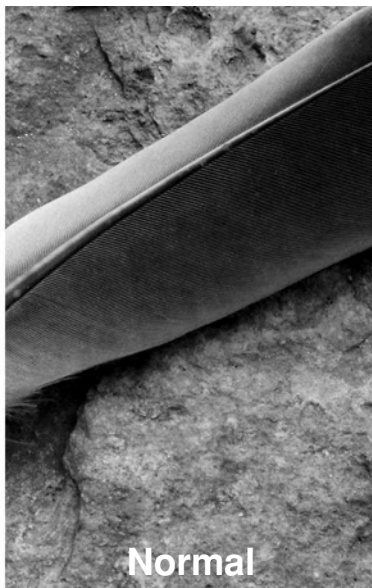
SHARPNESS

The sharpness of the image can be altered. This must be set before the image is recorded. Sharpness is set in section 3 of the recording menu (p. 80). If any setting other than normal is selected, the sharpness indicator is displayed on the monitors.

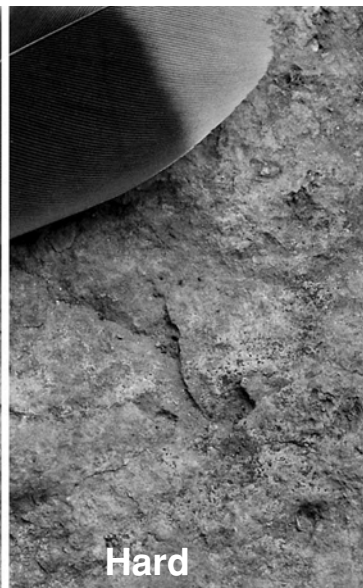
Menu options		
Hard (+)		Increases the sharpness of the image, accentuating details.
Normal		No filter applied.
Soft (-)		Softens the details of the image.



Soft



Normal



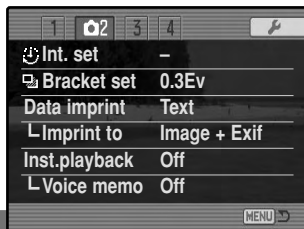
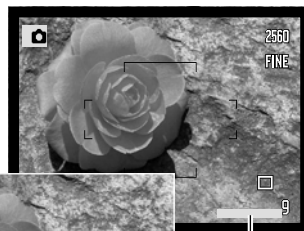
Hard

DATA IMPRINTING

Data can be printed on a still image and saved to the file's Exif data. The function must be activated before the image is taken. Once activated, data 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. Data imprinting is selected in section 2 of the recording menu (p. 80). Data imprinting cannot be used with TIFF or RAW images. Only one imprinting format can be used with each image.

Menu option	
Off	Data imprinting function disabled.
YYYY/MM/DD	Prints the year, month, and day the image was taken. The date format can be changed with Date/Time set option in section 2 of the setup menu (p. 30).
MM/DD/hr:min	Prints the date and time the image was taken.
Text	To imprint alphanumeric characters. When this option is selected, the electronic keyboard opens (p. 99).
Text + ID#	To imprint text with a serial number. As each successive image is captured, the ID number will increase by one. When this option is selected, the electronic keyboard opens (p. 99). The serial number is reset every time this option is selected.

The data can be imprinted in the lower right corner of the image when viewed horizontally as well as to the file's Exif data, or to the Exif data only. The Exif data can be seen with the DiIMAGE Viewer software. The imprinting location is selected with the imprint-to option in section 2 of the menu.



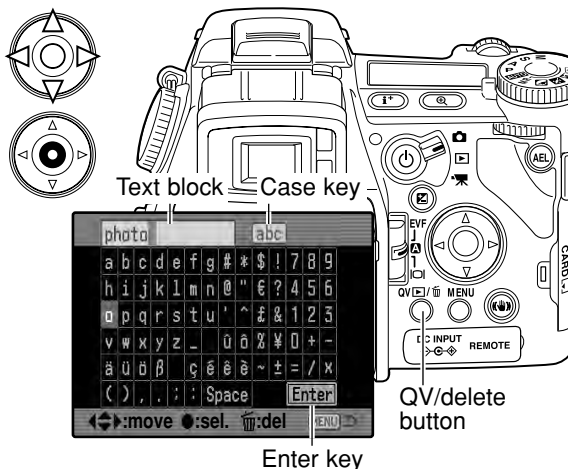
Imprinting indicator

ELECTRONIC KEYBOARD

The electronic keyboard is used to enter text for imprinting data or for naming new folders. The keyboard automatically appears when text needs to be entered.

To enter text, simply use the four-way keys of the controller to highlight the desired character and then press the central button of the controller to enter it. Highlight the case key and press the center of the controller to switch between upper case, lower case, and Japanese; the change is immediately displayed on the keyboard.

To enter the text and complete the operation, highlight the enter key and press the controller. To cancel the operation, press the menu button.



To delete text, move the cursor into the text block at the top of the screen. Use the cursor to highlight the character to be deleted. Press the QV/delete button to delete the character.

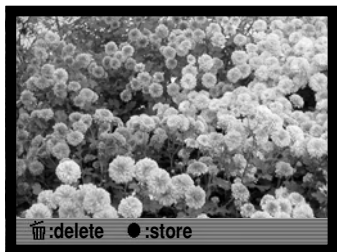
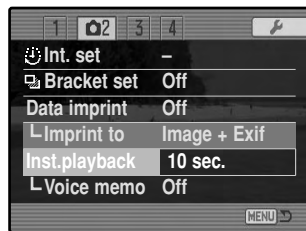
To replace a character, highlight the character in the text block then highlight the new character on the keyboard. Press the center button of the controller to replace the character.

Camera Notes

While the Japanese character set can be imprinted directly on the image, the Exif data may not be correctly displayed with the DiMAGE Viewer because of the limits of the computer's operating system.

INSTANT PLAYBACK

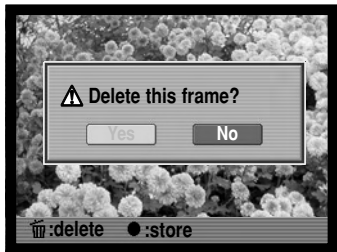
After an image is captured, it can be displayed on the monitors for two or ten seconds before being saved. When using the continuous-advance or continuous-advance bracketing drive mode, an index display is used. Instant-playback is activated and the length of the playback period is set in section 2 of the recording menu (P. 80).



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.



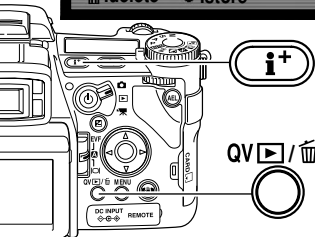
To delete an image during the instant playback, press the QV/delete button. A confirmation screen will appear.



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

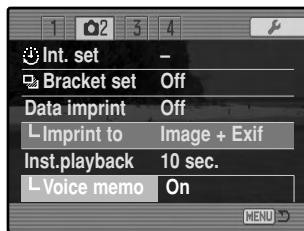


Press the central button of the controller to delete the image. When a continuous or bracketed series of images is captured, the entire series will be erased.



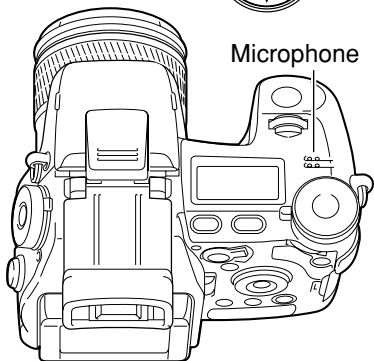
VOICE MEMO

Voice memo allows up to fifteen seconds of audio to be recorded with a still image. The function is activated in section 2 of the recording menu (p. 80) and is used in unison with instant playback. When the function is active, the microphone indicator is displayed on the monitors. Voice memo must be set before taking a picture. It will remain in effect until reset.



After the instant playback period, a screen will appear indicating the audio recording has started. A status bar will display the amount of recorded time. The recording will stop when the fifteen second recording period has ended or by pressing the center button of the controller.

A voice memo is attached to the last image of a continuous-advance or continuous-advance bracketing series (p. 61). The voice memo can be played back in Quick View and the playback mode (p. 115).



Recording Tips

When making audio 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.

During instant playback, if the central button of the controller is pressed, the image is saved and the voice-memo recording starts. If the shutter-release button is pressed partway down, the image is saved and the voice-memo recording is canceled.

COLOR MODE

The color mode controls whether a still image is color or black and white. This must be set before the image is recorded. The color mode is set in section 2 of the recording menu (p. 80). The live image on the monitors will reflect the selected color mode. The color mode has no effect on image file size. See the color examples 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.



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



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.



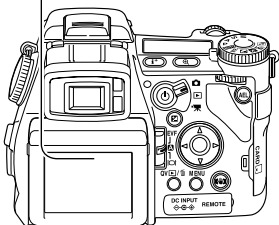
Embedded Adobe RGB - the same as Adobe RGB, except that the color space is embedded in the image file.



Black & White - produces monochrome images. Images can be toned using the Filter setting on the Digital Effects Controller (p. 77).



Solarization - produces a partial reversal of tones in the image. Exposure compensation function can be used to accentuate the solarization effect (p. 59). The Digital Effects Controller cannot be used. This color mode does not affect RAW images. For more on RAW image quality and color mode, see page 84.



ABOUT ADOBE RGB

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 and Vivid Color.

Color matching must be used when opening Adobe-RGB image files. The use of embedded Adobe RGB is recommended. When using the DiIMAGE 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 DiIMAGE Viewer manual. DiIMAGE Viewer version 2.2 or later is required to open Adobe RGB images taken with this camera.

NOISE REDUCTION

This function reduces the affect of dark noise caused by long exposures. Noise reduction is only applied to exposures of one 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.



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. Although the live image turns black and white, this does not affect the color mode in use.

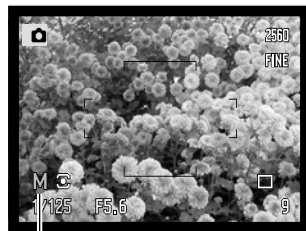
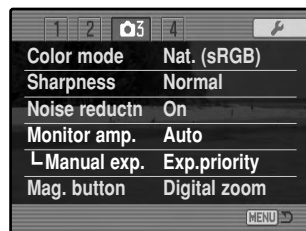
When the automatic monitor amplification activates, the Flex Digital Magnifier (p. 105) cannot be used. If the real-time histogram (p. 45) is used, it will reflect the amplified image and not the final values of the exposure.

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.



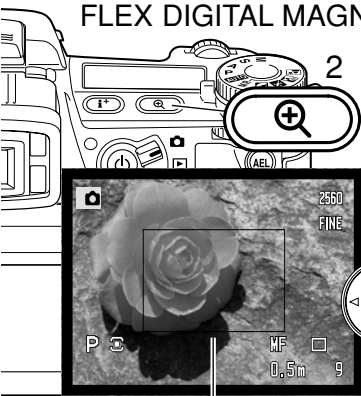
Display-priority indicator

MAGNIFICATION BUTTON

The function assigned to the magnification button can be changed between the digital zoom (p. 47) and the Flex Digital Magnifier in section 3 of the recording menu (p. 80). The Flex Digital Magnifier can only be used during manual focus. Button shortcuts can be used to switch between the digital zoom and Flex Digital Magnifier (p. 132).



FLEX DIGITAL MAGNIFIER

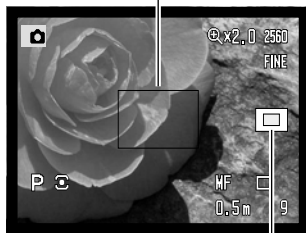


The Flex Digital Magnifier is a focusing aid for manual focus (p. 46). The live image can be magnified by X2 and X8. It is activated with the recording menu, see above. This function is disabled in the other focusing modes.



Initially, the 2X magnification area is displayed. This can be moved in the live image with the four-way keys of the controller (1). Pressing the center button of the controller returns the area to the middle of the image. Press the magnification button (2) to enlarge the image.

Magnification area



Locator indicator

When enlarged, the degree of magnification is displayed in the top right corner of the monitor. At 2X, the 8X magnification area is displayed; pressing the magnification button will display the framed portion of the image. The controller can be used to scroll and center the image area. Pressing the magnification button a third time cancels the function.

The locator indicator shows which portion of the image is displayed. When the shutter-release button is pressed partway down, the entire image area is displayed.

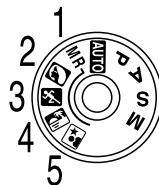
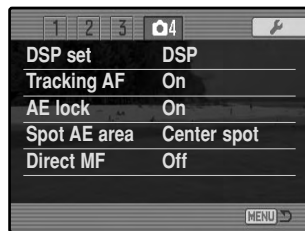
DSP (DIGITAL SUBJECT PROGRAM) SETUP

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 4 of the recording menu (p. 80). 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 72.

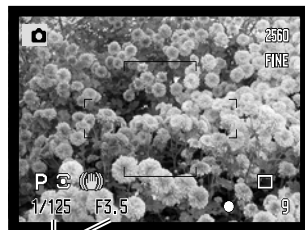


TRACKING AF

Subject Tracking AF used in the continuous AF focus mode (p. 46) can be turned off in section 4 of the recording menu (p. 80). When off, the position of the focus area can still be changed with the four-way keys of the controller.

AE LOCK

AE (autoexposure) lock can be turned off and on in section 4 of the recording menu (p. 80). When AE lock is on, the exposure is locked when the shutter-release button is pressed partway down; the shutter speed and aperture displays turn black to confirm the exposure lock. When AE lock is off, the exposure continues to change with the lighting conditions when the shutter-release button is pressed partway down. This has no effect on the operation of the AEL button (p. 50). When using single-shot AF with multi-segment metering, AE lock is always active regardless of the menu setting.



Exposure locked

SPOT AE AREA

When using spot metering (p. 69) 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 set. This is set in section 4 of the recording menu (p. 80).



Center spot



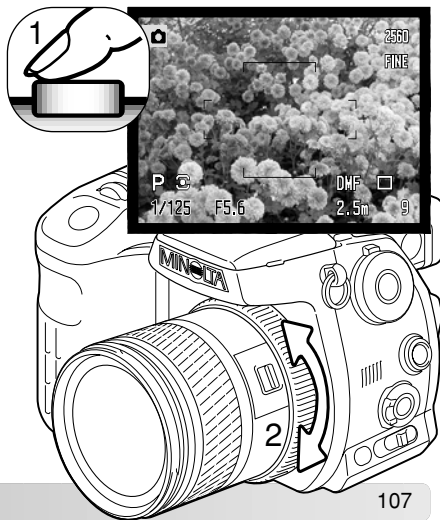
With Flex Focus Point

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 4 of the recording menu (p. 80). Direct manual focus is canceled when continuous AF or manual focus (p. 46) is in use.

As described in the basic recording operation section (p. 33), 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). Always use the monitor image to confirm focus. The approximate focusing distance is displayed next to the frame counter. If active, the Flex Digital Magnifier (p. 105) can be 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 aperture and shutter speed is not apparent in the live image. Unlike film cameras, test photographs can be taken and immediately viewed. For critical work, take a test photograph at the set aperture or shutter speed and view the result in Quick View (p. 40). The image can be deleted if not acceptable and another test image can be taken at a different setting.

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.

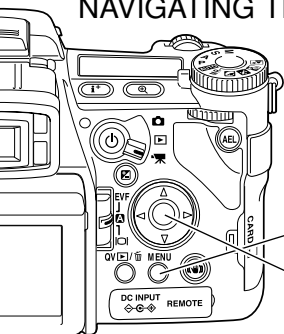
Artificial lighting is more consistent but will show variations. Tungsten lamps become warmer as their wattage decreases. And fluorescent lamps come in classifications that define their color. The preset white balance settings can be adjusted with the rear control dial (p. 70) to match the change in these light sources.

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.

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.

NAVIGATING THE MOVIE MENU



MENU



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.

MOVIE MODE

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

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

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

Auto select - automatically switch between standard and Night Movie modes depending on the lighting conditions. When recording, the mode is fixed.

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.

Exposure compensation	0.0	p. 59
Contrast compensation	0	p. 78
Color-saturation compensation	0	p. 77
Filter	0	p. 78
White balance	Auto	p. 70
Movie mode	Auto select	p. 113
Anti-shake	On	p. 37

Button shortcuts can be used to reset the recording mode (p. 132). The confirmation screen will not appear in the shortcut operation.

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. 37)
Contrast compensation (p. 77)	Display information button (p. 45)
Color-saturation compensation (p. 77)	Manual focus (p. 46)
Filter (disabled with Night Movies)(p. 77)	Macro mode (p. 49)
White balance (p. 70)	

To make custom white-balance calibrations can only be made in the recording mode. Once made, the setting are available for movie recording.

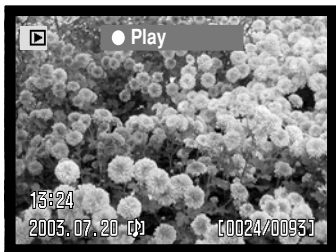
The movie mode's motion JPEG image is 320 X 240 pixels (QVGA). The effective image area is 316 X 240 pixels; two thin lines appear to the left and right of the image when played back.

ADVANCED PLAYBACK

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

PLAYING BACK VOICE MEMOS

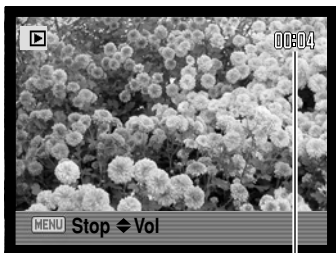
Voice memos can be played back in Quick View and the playback mode. See page 101 on how to record voice memos.



Voice memos are indicated by the voice-memo indicator displayed at the bottom of the monitor image.



Press the central button of the controller to start the audio playback.



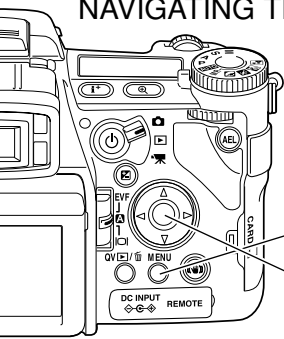
During playback, use the up/down keys of the controller to adjust the volume.



Press the menu button to cancel audio playback.

Playback time

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.

MENU



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 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.

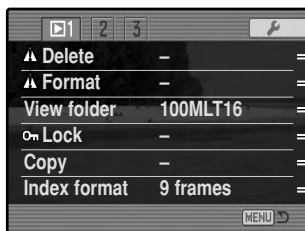


Use the up/down key to highlight the new setting. If "Enter" is displayed, press the central button of the controller to open the next screen.



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

Once a setting has been selected, the 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. 119).
- To format the memory card (p. 120).
- To select the folder to view in playback mode (p. 120).
- To protect images from deletion (p. 121).
- To copy images from one memory card to another (p. 122).
- To specify the index playback format (p. 121).



- To play back images automatically (p. 124)
- To select the images for the Slide Show (p. 124).
- To specify how long each image is played back (p. 124)
- To repeat the Slide Show presentation automatically (p. 124).



- To select images for DPOF printing (p. 126).
- To create an index print with the DPOF order (p. 127)
- To cancel DPOF print orders on the memory card (p. 127).

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. The index format of the screen can be changed in section 1 of the playback menu (p. 121).



The left/right keys of the controller move the yellow border to select the image.



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 for the slide show or to be copied to another memory card.



The image is selected for printing. The number next to the indicator shows the number of copies requested.



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

MENU



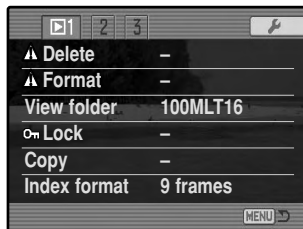
The menu button closes the screen and any operation made.

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 can be deleted with 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 other folders, the folder must first be selected with the view-folder option in section 1 of the playback menu (p. 116) or the select-folder option in section 2 of the setup menu (p. 137). The delete option has three settings:



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

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

Marked frames - To delete multiple images. 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.

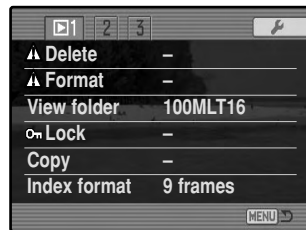
The formatting function is used to erase all data on a memory card. Before formatting a card, copy the data to a computer or storage device. Locking files will not protect them from being deleted when the card is formatted. Always format the memory card using the camera; never use a computer to format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

When the format option is selected and entered, 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.

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.

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



For more on memory card organization, see page 152. Folders can be created and selected in section 2 of the setup menu (p. 129).

LOCK

Single, multiple, or all images in a folder can be locked. A locked image cannot be deleted by either the playback menu functions or the QV/delete button. Important images should be locked. To lock images in other folders, the folder must first be selected with the view-folder option in section 1 of the playback menu (p. 116) or the select-folder option in section 2 of the setup menu (p. 137). The lock option has four settings:

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

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

Marked frames - To lock or unlock multiple images. When this setting is chosen, the frame-selection screen (p. 118) 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 frames - All images in the folder will be unlocked. 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.

INDEX PLAYBACK FORMAT

The index format option allows the index playback to be displayed with four or nine images. This affects all index displays.



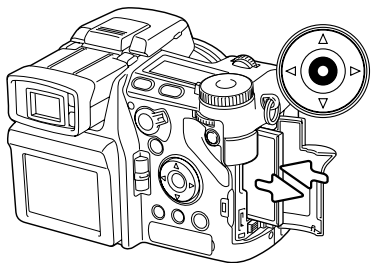
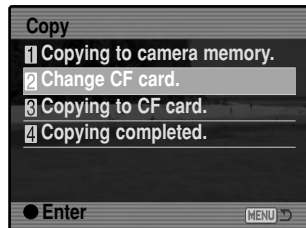
COPY

Image files can be copied from one memory card to another. Up to 15MB of data can be transferred. Every time the copy function is used, a new folder is automatically created for the image(s).

This frame - To copy the image currently displayed.

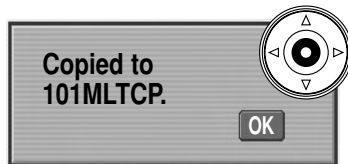
Marked frames - To copy single or multiple images. When selected, the frame-selection screen (p. 118) will appear; highlight the images to be copied with the yellow border and then press the up key of the controller to mark it with the check indicator. To deselect an image, highlight the selected thumbnail 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.

When the controller is pressed, a screen with four messages will be displayed; the messages are highlighted as the copying procedure is executed. If too many images have been selected, a warning will appear and the copy routine will be canceled. Divide the number of images into two or three batches.



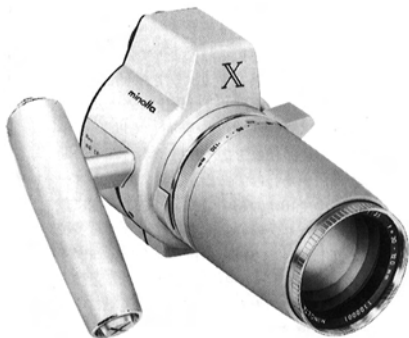
When the change-CF-card message is highlighted, remove the camera's memory card and insert the card to which the image should be copied. If the card has insufficient space, the card-full warning is briefly displayed; insert a different card or press the menu button to cancel the routine. Press the central 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.



If the images were copied to a new card, the no-images message will be displayed when viewed on the camera. Select the copy folder with the view-folder option in section 1 of the playback menu (p. 116).

Minolta History



Innovation and creativity has always been a driving force behind Minolta 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 Minolta's rarest cameras.

SLIDE SHOW

Section 2 of the playback menu controls the slide-show function. This function automatically displays all still images in a folder in order.



Number of images displayed / total number of images in the presentation.



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 image or return to the previous one.



To cancel the presentation, press the menu button or the down key of the controller.

Menu options	Settings	
Slide show	Enter	To start the slide-show presentation. Pressing the central button of the controller will pause the presentation. During the slide show, press the menu button or the down key of the controller to stop the presentation and return to the playback-mode menu.
Playback	All frames	To select all the images in the folder to be displayed in the slide-show presentation.
	Marked Frames	To select specific images in the folder to be displayed in the slide-show presentation. When this setting is chosen, the frame-selection screen (p. 118) will be displayed. Use the left/right keys of the controller to highlight the image to be included in the presentation. Pressing the up key will mark the image with a check indicator. To deselect a marked image, highlight it with the yellow border and press the down key; the check indicator will disappear. Continue until all the images have been edited. Press the controller to set the marked frames, or press the menu button to cancel the operation and return to the playback menu.
Duration	1 - 60s.	To select the period each image will be displayed during the slide show.
Repeat	Yes / No	Selecting "Yes" will cause the slide show to repeat until it is canceled using the menu button or the down key of the controller. "No" will end the slide show presentation and return to the playback-mode menu when all the images have been displayed once.

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. 152). DPOF print files cannot be made for RAW images or images with embedded color profiles (p. 102).

DPOF SETUP

The print menu option is used to set an order for standard prints from images in a specific folder. Single, multiple, or all images can be printed. If a memory card has multiple folders, a printing file must be created for each folder. Folders are selected with the view-folder option in section 1 of the playback menu (p. 116) or the select-folder option in section 2 of the setup menu (p. 137).



This-frame - To create a DPOF file for the image displayed or highlighted in playback mode.

All-frames - To create a DPOF file for all images in the folder specified in section 1 of the playback menu.

Marked frames - To choose a group of images to be printed or when the number of copies for each image varies. When selected, the frame-selection screen will appear (p. 118). 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 or all-frames 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-frames 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.

INDEX PRINT

To create an index print of all the images in the folder, select the Yes option. To cancel an index print, simply change the setting to “No.” If an index-print order is created, any additional images saved afterwards in the folder 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 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.

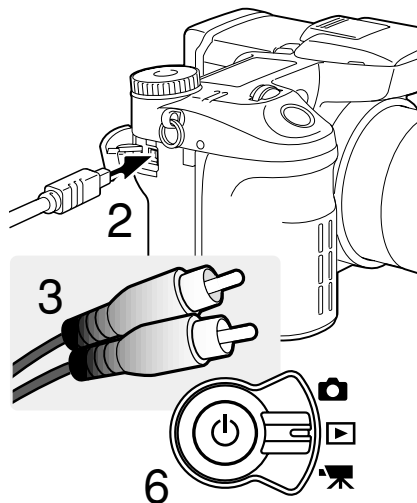
All frames C - To cancel all printing files on the memory card.

All frames F - To cancel the printing file in the folder.

VIEWING IMAGES ON A TELEVISION

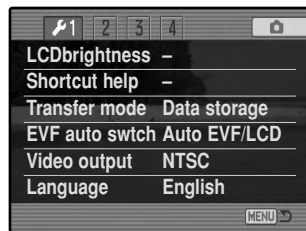
It is possible to view camera images on your television. The camera has a video-out terminal which can be used to connect the camera to a television using the supplied AV cable. The camera is compatible with the NTSC and PAL standards. The video-output setting can be checked and set in section 1 of the setup menu (p. 129).

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.

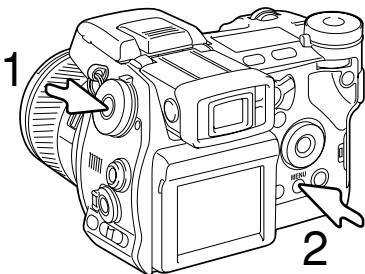


SETUP MENU

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

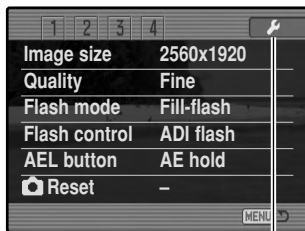


OPENING THE SETUP MENU



The setup menu can be opened two ways.

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



Setup tab

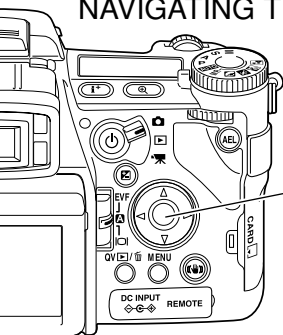


The setup menu can be accessed from the recording, movie, or playback menus.



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.

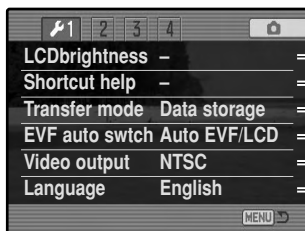


Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to open the next screen.

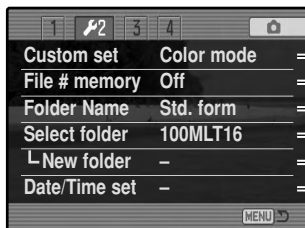


Press the central button of the controller to select the highlighted setting.

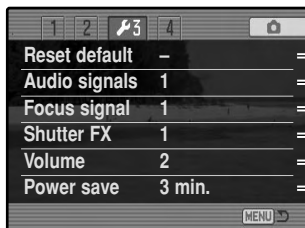
Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed. Changes can continue to be made. To return to the mode set with the mode switch, press the menu button.



- To set monitor brightness (p. 132).
- To display button shortcut information (p. 132).
- To specify camera operation with a computer (p. 134).
- To set the automatic display function (p. 135).
- To switch video output between NTSC and PAL (p. 135).
- To set the menu language (p. 135).



- To allocate a custom function to the function dial (p. 136).
- To activate file number memory (p. 136).
- To select the folder name format (p. 137).
- To select the destination folder for recorded images (p. 137).
- To create a new folder (p. 138).
- To set the camera's clock and calendar (p. 138).



- To reset camera functions (p. 139).
- To change or turn off audio signals (p. 141).
- To change or turn off focus signals (p. 141).
- To change or turn off the shutter sound effect (p. 142).
- To adjust or turn off the volume of camera signals (p. 142).
- To set the auto power save period (p. 142).



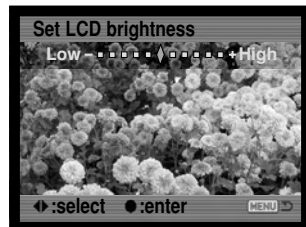
- To specify when Anti-shake is applied (p. 143).
- To activate Full-time AF (p. 143).
- To activate the grip sensor (p. 143).
- To customize control dial operation (p. 144).
- To customize manual exposure operation (p. 145).
- To change the confirmation screen's default setting (p. 145).

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.



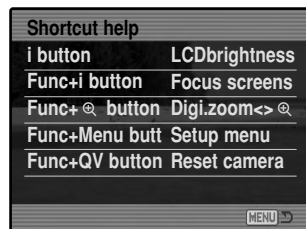
Brightness is controlled in eleven levels. Use the left/right controller keys to adjust the brightness, the monitor will adjust accordingly. Press the central button of the controller to set the level and complete the operation. Press the menu button to close the screen without applying any changes.



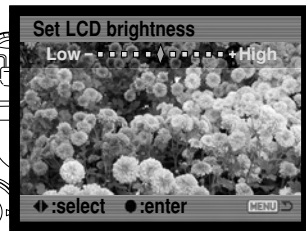
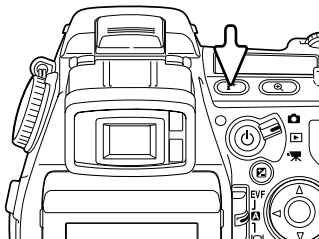
SHORTCUT HELP

The shortcut help shows button commands to open the LCD brightness screen, change the focusing screens, switch between the digital zoom and Flex Digital Magnifier, open the setup menu, or reset the camera. To close the help screen, press the menu button.

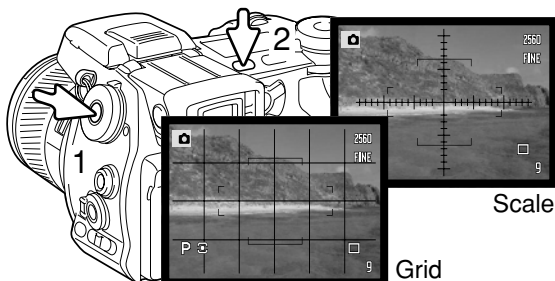
The following shortcuts can be used:



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



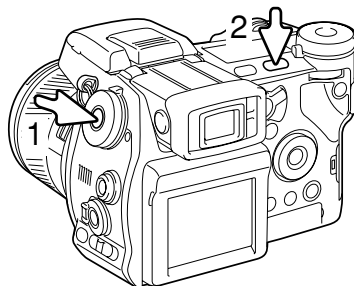
To display a grid or scale over the display formats, press and hold the function button (1) and press the display-information button (2) to cycle through the options: grid, scale, and off. For more on the displays modes, see page 45.



When using manual focus, a shortcut allows switching between the digital zoom (p. 47) and the Flex Digital Magnifier (p. 105). The shortcut is different depending on which function is selected in the mag. button option in section 3 of the recording menu.

Digital zoom selected on the menu

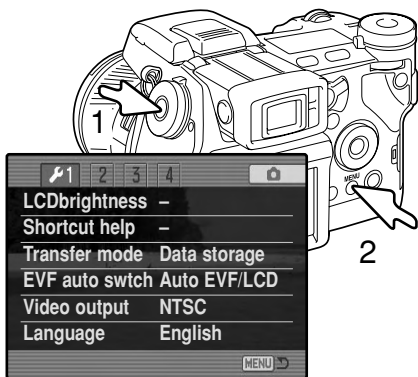
If the digital zoom is not activated, press and hold the function button (1) then press the magnification button (2) to cycle the Flex Digital Magnifier among X2.0, X8.0, and off. The magnification area is not displayed, but the image can be scrolled using the four-way keys of the controller when magnified. If the digital zoom is active, the display switches between the digital zoom and the X8.0 magnifier display.



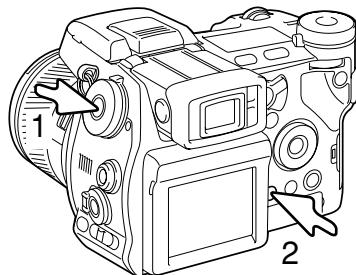
Flex Digital Magnifier selected on the menu

Without the live image magnified, press and hold the function button (1) then press the magnification button (2) to activate the digital zoom. Press the magnification button to switch between the digital zoom and the X8.0 magnifier display.

(Continued on the next page.)



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



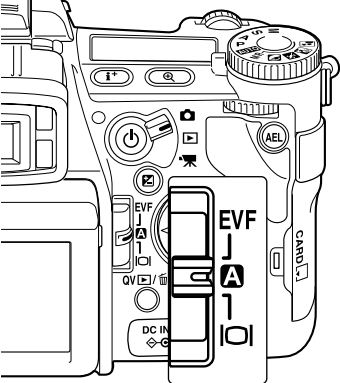
Hold down the function button (1) and press the QV/delete button (2) to reset the camera. This shortcut only resets the recording mode or movie mode depending on the position of the mode switch. Refer to page 95 to see which functions reset in the recording mode, and page 113 for the movie mode.

TRANSFER MODE

The data-transfer mode specifies whether the camera will act as a mass storage device or a remote camera when connected to a computer. To download images from the memory card to the computer, the data storage option should be selected. To capture images from a computer with a Windows operating system using the DiIMAGE Capture software, the computer-control option should be selected.

DiIMAGE Capture software is sold separately. See your local Minolta dealer for information on this product.

EVF AUTO SWITCH



This option controls the auto-display function in the recording and movie mode (p. 39). Two settings are available:

Auto EVF/LCD - the EVF's eye sensors switch between the EVF and LCD monitor automatically.

EVF auto on - the LCD monitor is turned off and the eye and grip sensors activate the EVF when in use. This setting will help conserve battery power. The grip sensor can be disabled in section 4 of the setup menu.

VIDEO OUTPUT

Camera images can be displayed on a television (p. 128). The video output can be changed between NTSC and PAL. 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.

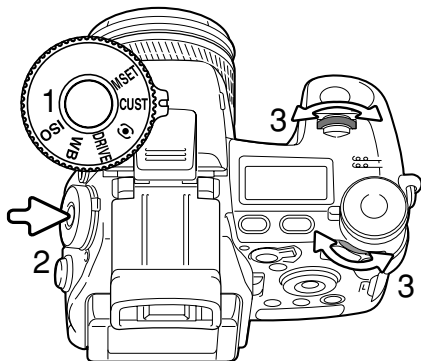
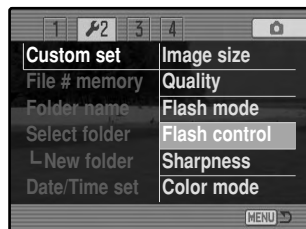
LANGUAGE

The language used in the menus can be changed.

CUSTOM SETUP

The one frequently used function can be allocated to the custom position on the function dial. The function is selected in section 2 of the setup menu (p. 130). The following recording functions are available:

Image size (p. 82)	Flash control (p. 92)
Image quality (p. 82)	Sharpness (p. 97)
Flash mode (p. 86)	Color mode (p. 102)



In the recording mode, the function specified in the menu is set with the function dial.

Turn the function dial to the custom position (1). Press the function button in the center of the dial (2). Turn the front or rear control dials to select the setting (3). Press the shutter-release button partway down or press the function button to complete the operation. Also see camera notes on page 65.

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. This allows multiple folders to be created to store images by category, place, or date, but the image file numbers will be in the order in which they were shot. 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 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 on the card.

FOLDER NAME

All recorded images are stored in folders on the memory card. Folder names come in two formats: standard and date.

Standard folders have an eight character name. The initial folder is named 100MLT16. The first three digits are the folder's serial number, which will increase by one each time a new folder is created. The next three letters refer to Minolta, and the last two numbers indicate the camera used; 16 indicates a DiMAGE A1.



100MLT16
(Standard)



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 10130723 was created in 2003 on July 23rd.

10130723
(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. When a new folder is created, the serial number in the image-file name is reset to 0001 unless file number memory is active. For more information on folder organization and file names, see page 152.

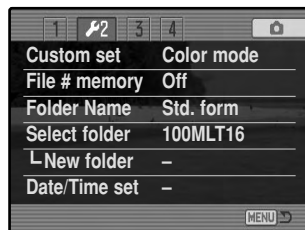
SELECT FOLDER

This option allows the selection of existing folders. In quick view or playback mode, the images in the selected folder can be viewed or edited. In recording mode, the folder-name option on 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.

Except for the all-frames-C cancel-print options in section 3 of the playback menu, changes made with menus only affect the images in the selected folder. To make changes to all images in multiple folders, each folder must be selected and the menu operation repeated for each folder. Folders can be selected temporarily with the view-folder option in section 1 of the playback menu (p. 120). 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 on in section 2 of the setup menu must be set to standard form in order to use the new-folder function. When selected, the electronic keyboard (p. 99) automatically appears so the folder name can be entered. Once the name is typed in and the enter button on the keyboard is highlighted and entered, the folder will be created and the name will be listed in the select-folder option.

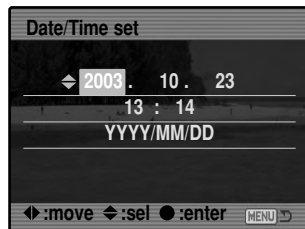


Every folder name begins with a three digit index number. When the electronic keyboard activates, three digits will be displayed in the register. This number cannot be changed. Every time a new folder is created, the folder number will increase automatically by one greater than the highest folder number on the memory card. A five-character folder name must be entered after the number; only capital letters, numbers, and the underbar can be used. To cancel the electronic-keyboard display without creating a new folder, press the menu button.

DATE AND TIME SETUP

It is important to accurately set the clock. When a still image or a movie clip is recorded, the date and time of the recording are saved with the image and are displayed during playback or can be read with the DiMAGE Viewer software included on the CD-ROM. The camera's clock is also used with data imprinting.

When the Date/Time-set option is selected and entered, the date/time screen will be displayed. The left/right keys of the controller are used to select the item to be changed and the up/down keys are used to change the value. When the date and time have been adjusted, set the clock by pressing the central button of the controller.



RESET DEFAULT

This option resets all camera modes: recording, movie, playback, and setup. To reset the recording or movie modes, see pages 95 and 113. When selected, a confirmation screen will appear; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Recording mode		
Display mode	Standard	p. 45
Exposure compensation	0.0	p. 59
Flash compensation	0.0	p. 59
Digital zoom	Canceled	p. 47
Anti-shake	Active	p. 37
Drive mode	Single-frame advance	p. 61
White balance	Auto	p. 70
Custom-white balance registers	Settings deleted (Daylight)	p. 70
Camera sensitivity (ISO)	Auto	p. 74
Metering mode	Multi-segment	p. 69
Memory	Reset to default settings	p. 72
Contrast compensation	0	p. 78
Color-saturation compensation	0	p. 77
Filter	0	p. 78
Focus area	Wide focus frames	p. 33

Recording menu		
Image size	2560 X 1920	p. 82
Image quality	Fine	p. 82
Flash mode	Fill-flash	p. 86
Flash control	ADI	p. 92
AEL button	AE hold	p. 94
Interval setup	1 min. interval, 2 frames, no delay	p. 96
Bracket setup	0.3Ev	p. 96

(Continued on the next page.)

Data imprinting	Off	p. 98
Imprint to	Image + Exif	p. 98
Instant playback	Off	p. 100
Voice memo	Off	p. 101
Color mode	Natural (sRGB)	p. 102
Sharpness	Normal	p. 97
Noise reduction	On	p. 103
Monitor amplification	Auto	p. 104
Monitor amplification (Manual exposure)	Exposure priority	p. 104
Magnification button	Digital zoom	p. 105
DSP setup	DSP	p. 106
Subject Tracking AF	On	p. 106
AE lock	Off	p. 106
Spot AE area	Center spot	p. 107
Direct Manual Focus (DMF)	On	p. 107

Movie menu

Movie mode	Auto select	p. 113
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Playback menu

Display mode	Single-frame playback	p. 40
Index format	9 frames	p. 121
Playback (Slide Show)	All frames	p. 124
Duration (Slide Show)	5 seconds	p. 124
Repeat (Slide Show)	No	p. 124

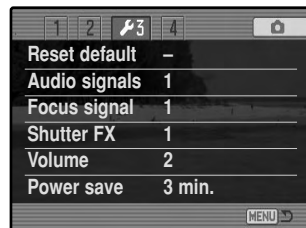
Setup menu

LCD brightness	Monitor and EVF reset	p. 132
Transfer mode	Data storage	p. 134
EVF auto switch	Auto EVF/LCD	p. 135
Custom setup	Color mode	p. 136
File number memory	Off	p. 136

Folder name	Standard	p. 137
Audio signals	1	p. 141
Focus signal	1	p. 142
Shutter FX	1	p. 142
Volume	2	p. 142
Auto power save	3 minutes	p. 142
Anti-shake	Display + exposure	p. 143
Full-time AF	On	p. 143
Grip sensor	On	p. 143
Control dial setup	Front: shutter speed, Rear: aperture	p. 144
Control dial setup (Manual exposure)	Front: shutter speed, Rear: aperture	p. 145
Delete confirmation	"No"	p. 145

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.

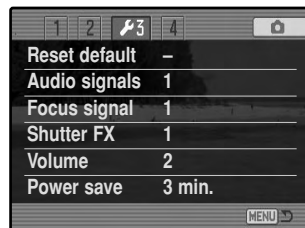
SHUTTER FX

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.

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

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.

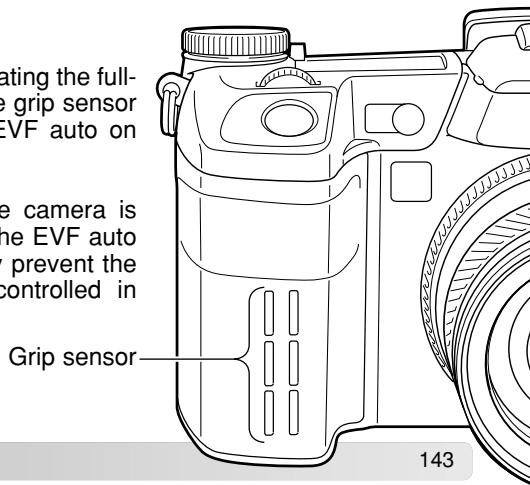
FULL-TIME AF

Full-time AF continually focuses the camera so the monitor image is always sharp. When the grip sensor is on, full-time AF is activated when the camera is held; the eye sensor is also employed when using the EVF. With the grip sensor off, full-time AF is always active when using the LCD monitor and activated by the eye sensors when using the EVF. This function can be turned off to conserve power.

GRIP SENSOR

The grip sensor conserves power by only activating the full-time AF function when the camera is held. The grip sensor also works with the eye sensors when the EVF auto on option is used, see page 135.

The grip sensor can be turned off when the camera is mounted on a tripod so that full-time AF and the EVF auto on function can be used. Wearing gloves may prevent the grip sensor from working. The sensor is controlled in section 4 of the setup menu.

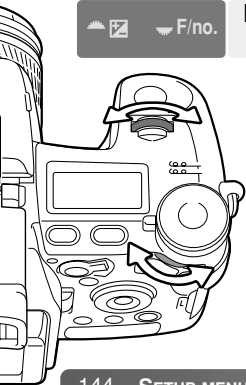


CONTROL DIAL SETUP

The control dial setup option in section 4 of the setup menu changes the front and rear control dial operation in the P, A, and S exposure modes. Exposure compensation (p. 59) can also be assigned to one of the control dials. Refer to the sections on the exposure modes for more information.



	P (Program exposure)		A (Aperture priority)		S (Shutter priority)	
	Front dial	Rear dial	Front dial	Rear dial	Front dial	Rear dial
☀ SS ☾ F/no.	Ps shift	PA shift	Aperture	Aperture	Shutter speed	Shutter speed
☀ SS ☾ []	Ps shift	Exposure comp.	Aperture	Exposure comp.	Shutter speed	Exposure comp.
☀ F/no. ☾ []	PA shift	Exposure comp.	Aperture	Exposure comp.	Shutter speed	Exposure comp.
☀ F/no. ☾ SS	PA shift	Ps shift	Aperture	Aperture	Shutter speed	Shutter speed
☀ [] ☾ SS	Exposure comp.	Ps shift	Exposure comp.	Aperture	Exposure comp.	Shutter speed
☀ [] ☾ F/no.	Exposure comp.	PA shift	Exposure comp.	Aperture	Exposure comp.	Shutter speed



CONTROL DIAL SETUP - MANUAL EXPOSURE

The manual-exposure option in section 4 of the setup menu changes the front and rear control dial operation in the manual (M) exposure mode. Three options are available:

	Front dial	Rear dial
SS F/no.	Shutter speed	Aperture
F/no. SS	Aperture	Shutter speed
Program manual	Programmed manual - both shutter speed and aperture are used to change the exposure following the camera's program line.	

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.



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 10.13 ~ 10.1.5 and 10.2.1 ~ 10.2.5

Compatibility with Windows XP is with the home or professional editions only. Check the Minolta web site for the latest compatibility information:

North America: <http://www.minoltausa.com>

Europe: http://www.minoltaeurope.com/pe/digital/languages_stage.html

Users with Windows 98 or 98 second edition will need to install the driver software on the included DiMAGE software CD-ROM (p. 148). No special driver software is required for other Windows or Macintosh operating systems.

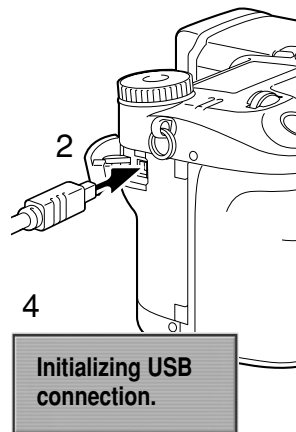
Customers who have bought a previous DiMAGE digital camera and have installed the Windows 98 driver software must repeat the installation procedure. The updated version of the driver software included on the supplied DiMAGE software CD-ROM is required for the operation of the DiMAGE A1 with a computer. The new software will have no effect 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. When using the DiMAGE Capture software (sold separately), the supplied ferrite core should be attached to the USB cable, see page 161.

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 AV out / USB port 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 156.



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

Mac OS X



Mac OS



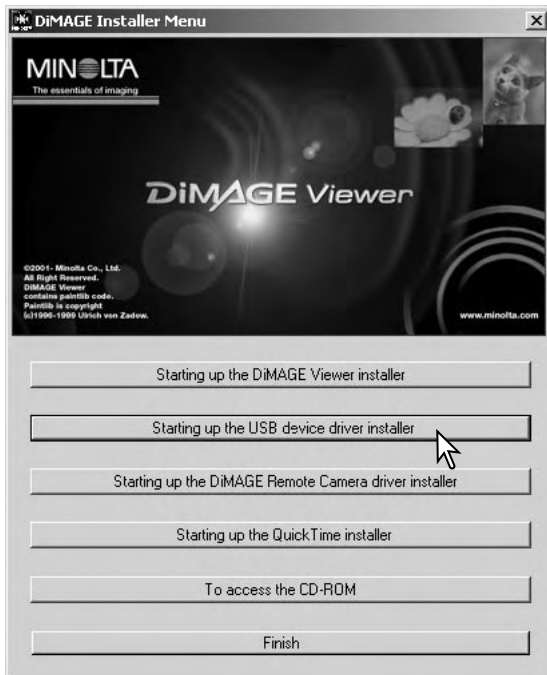
Windows XP



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 DiIMAGE Viewer CD-ROM in the CD-ROM drive. The DiIMAGE 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. 147).

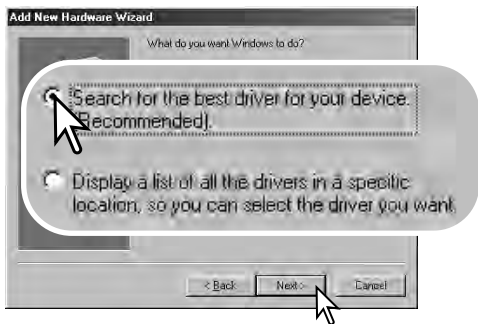
Manual installation

To install the Windows 98 driver manually, follow the instructions in the connecting-the-camera-to-a-computer section on page 147.

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.”



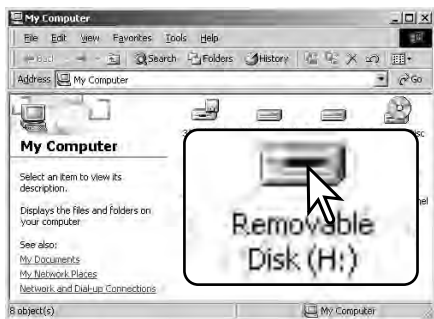
Choose to specify the location of the driver. The browse window can be used to indicate the driver location. The driver should be located in the CD-ROM drive at `:\Win98\USB`. When the location is shown in the window, click “Next.”





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 152.

QUICKTIME SYSTEM REQUIREMENTS

To install QuickTime, follow the instructions in the installer. Macintosh 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-based computer
Windows 95, 98, 98SE, NT, Me, 2000 Professional, or XP.
32MB or more of RAM
Sound Blaster or compatible sound card
DirectX 3.0 or later recommended

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.

MEMORY CARD FOLDER ORGANIZATION



Drive Icon

Once the camera is connected to the computer, image and audio 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. 126).

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.



100MLT16



10130801



102MLTCP

From left to right: standard folder, date folder (p. 137), and copy folder (p. 122).



PICT0001.TIF



PICT0002.MRW



PICT0003.JPG
Extra fine, fine,
or standard
image



PICT0004.JPE



PICT0005.MOV



PICT0001.THM
TIFF image



PICT0002.THM
RAW image



PICT0003.WAV
PICT0003's
voice-memo file



PICT0004.THM
Extra fine, fine, or
standard image
when using
embedded
Adobe RGB.



PICT0005.THM
Movie clip

Image and audio file names begin with "PICT" followed by a four-digit file number and a tif, mrw, jpg, jpe, mov, or thm extension. Voice-memo files have a wav extension and the file name corresponds to its image file. 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 100MLT16 to 101MLT16.

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).

Camera Notes

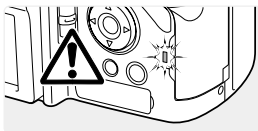
Image files contain exif tag data. This data includes the time and date the image was recorded as well as the camera settings used. This data can be viewed with the camera or the DiMAGE Viewer software.

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.

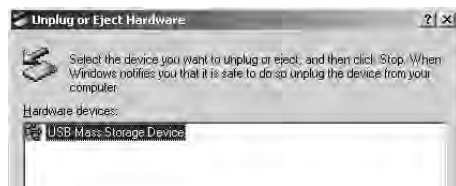


When more than one external device are connected to the computer, repeat the procedure above except right click on the unplug-or-eject-hardware icon. This will open the unplug-or-eject-hardware window after clicking on the small window indicating the unplug-or-eject-hardware routine.

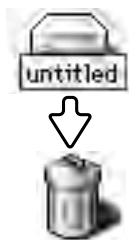


The hardware devices to be stopped will be displayed. Highlight the device by clicking on it then click “Stop.”

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

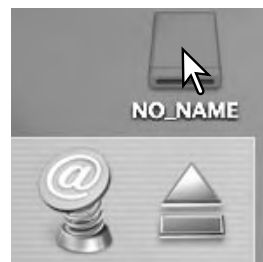


A third and final screen will appear to indicate the camera can be safely disconnected from the computer; click OK. Turn off the camera and then disconnect the USB cable.

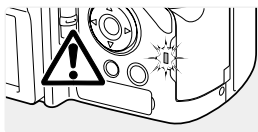


MACINTOSH

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. 154).
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. 155).
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 the camera name. Under certain conditions, the driver name may not contain the camera 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.

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 Minolta service facility listed on the back cover of this manual.

Problem	Symptom	Cause	Solution
The camera will not work.	Nothing displayed on the data panel or the monitors.	The batteries are dead.	Recharge battery (p. 22).
		The AC adapter is not connected properly.	Check that the adapter is connected to the camera and a live electrical outlet (p. 25).
	"Err" displayed on the data panel.	The camera is hot or it has been left in a very hot environment.	Turn off the camera and allow it to cool. If "Err" is still displayed on the camera after it cools, remove and replace the battery or power cord.
Shutter will not release.	"000" 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. 26), delete some images (p. 41), or change the image-quality or image-size setting (p. 82).
	No-card warning appears on the monitors.	No memory card in the camera.	Insert a memory card (p. 26).

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 - ∞ / 1.6 ft - ∞) or use the macro mode (p. 49).
		The camera is in macro mode.	Cancel the macro mode setting (p. 49).
		A special situation is preventing the autofocus system from focusing (p. 35)	Use the focus-lock function to focus on an object at the same distance as the subject (p. 34) or use manual focus (p. 46).
	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. 74), or use the flash (p. 36).
While using flash, the pictures are too dark.	The subject is beyond the flash range (p. 75).		Move closer to the subject or change the camera sensitivity to a higher setting (p. 74).
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 over-exposing the live image.	Change the shutter speed or aperture value until an image appears on the monitor (p. 56).
Live image turns black and white.	Camera used under low-light conditions.	With still images, automatic monitor amplification activates under low-light conditions (p. 34). Although the live image is black and white, the recorded still image will be color. In movie recording, the Night Movie mode will record black and white images.	
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. 74) or the light levels.

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.

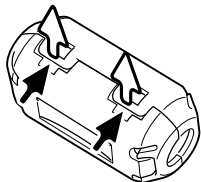
ABOUT THE LITHIUM-ION BATTERY CHARGER CORD

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

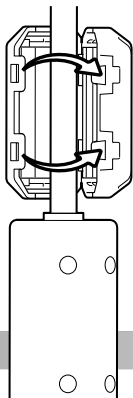
Region	Product code
Continental Europe, China, Korea, Singapore (220-240V)	APC-110
Great Britain, Hong Kong (220V-240V)	APC-120
United States, Canada, Taiwan (110V-120V)	APC-130
Japan (100V)	APC-140

ATTACHING THE FERRITE CORE FRC-100

When using an optional remote cord (RC-1000S or RC-1000L), or when operating the camera with the optional DiMAGE Capture software, the cord and USB cable must have the supplied ferrite core (FRC-100) attached. The ferrite core reduces harmful interference.

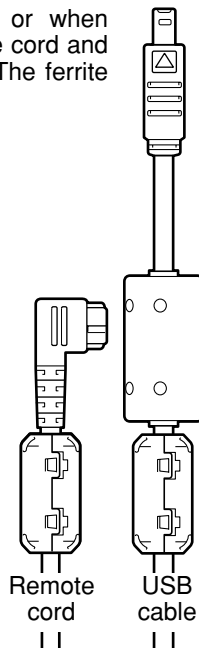


Slide a thin blunt object under the two latches on the core to open it.



The core must be placed on the end of the cable that is connected to the camera as shown on the right.

Place the core around the cable and close. Confirm the latches on the core have caught.



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 an IBM Microdrive, do not subject the camera to vibrations.

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, long-life battery supplies power to the clock and memory when the camera is turned off. If the camera resets each time it is turned off, the battery is exhausted. It must be replaced at a 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

- Although the LCD monitor is manufactured using high precision technology, there may occasionally be a lack of color or bright points on the LCD monitor.
- 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.
- The LCD monitor may be slow to react in low temperatures or may turn dark in a hot environment. When the camera reaches normal operating temperature, 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.
- 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 Minolta distributor in your area.
- Before shipping your camera or charger for repair, please contact a Minolta Service Facility.

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TECHNICAL SPECIFICATIONS

Number of effective pixels:	5.0 million
CCD:	2/3-type progressive primary-color CCD with a total of 5.3 million pixels
Camera sensitivity (ISO):	Auto and 100, 200, 400, and 800 ISO equivalents
Aspect ratio:	4:3
Lens construction:	16 elements in 13 groups
Maximum aperture:	f/2.8 (wide-angle position), f/3.5 (telephoto position)
Focal length:	7.2 - 50.8 mm (35mm equivalent: 28 - 200mm)
Focusing range (from the CCD):	0.5 m - infinity (1.6 ft - infinity) 0.25 - 0.6 m (11.8 - 23.6 in) macro mode: telephoto 0.3 - 0.6 m (9.8 - 23.6 in) macro mode: wide-angle
Filter diameter:	49 mm
Autofocusing system:	Video AF
Shutter:	CCD electronic shutter plus mechanical shutter
Built-in flash recycling time:	5s (approx)
Viewfinder LCD:	11 mm (0.44 in.) TFT liquid-crystal microdisplay.
Monitor LCD:	46 mm (1.8 inch) low-temperature polysilicon TFT
Field of view:	Approximately 100%
A/D conversion:	14 bits
Recording media:	Type I and II CompactFlash cards, 170MB, 340MB, 512MB, and 1GB IBM Microdrives.
File formats:	JPEG, TIFF, Motion JPEG (mov), WAV, and RAW. DCF 1.0, DPOF, and Exif 2.2 compliant.
PRINT Image Matching II:	Yes
Menu languages:	English, German, French, and Spanish
AV output:	NTSC and PAL

Battery:	One NP-400 lithium-ion battery
Battery performance (recording):	Approx. number of recorded images: 330 frames with a NP-400 lithium-ion battery, full-size images (2560 X 1920), standard image quality, EVF on, LCD monitor off, flash used with 50% of the frames, no instant playback, no voice memo.
Battery performance (playback):	Approx. continuous playback time: 300 min. with a NP-400 lithium-ion battery, LCD monitor on, EVF off.
External power source:	AC adapter (AC-1L or AC-11) External High-Power Battery Pack Kit EBP-100 Battery Pack BP-400
Dimensions:	117.0 (W) X 85.0 (H) X 113.5 (D) mm 4.61 (W) X 3.35 (H) X 4.47 (D) in
Weight:	Approximately 560g (19.8 oz) (without batteries or memory card)
Operating temperature:	0° - 40°C (32° - 104°F)
Operating humidity:	5 - 85% (noncondensing)

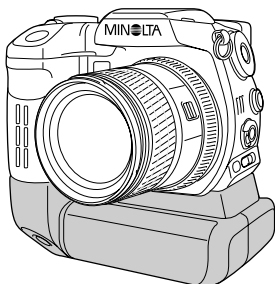
Lithium-ion Battery Charger BC-400

Input voltage:	AC 100-240V, 50-60Hz
Weight:	86g (3.0 oz.)
Dimensions:	65 (W) X 90 (H) X 30 (D) mm 2.56 (W) X 3.54 (H) X 1.18 (D) in

Lithium-ion Battery NP-400

Voltage:	7.4V, 1500mAh
Weight:	85g (3.0 oz.)
Dimensions:	56.0 (W) X 39.5 (H) X 21.0 (D) mm 2.20 (W) X 1.56 (H) X 0.83 (D) in

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



BATTERY PACK BP-400

The Battery Pack BP-400 is a portable power source for the camera. This accessory uses two NP-400 lithium-ion batteries or six Ni-MH or alkaline batteries to power the camera. For more details on the Battery Pack BP-400 or other accessories listed in this manual, contact your local Minolta dealer.

Approximate recording performance

With two NP-400 lithium-ion batteries	660 frames
With six 2100mAh Ni-MH batteries	350 frames

Based on the following test conditions: full-size images, standard image quality, EVF on, LCD monitor off, flash used with 50 % of frames, no instant playback, no voice memo

Approximate continuous playback performance

With two NP-400 lithium-ion batteries	600 minutes
With six 2100mAh Ni-MH batteries	320 minutes

Based on the following test conditions: LCD monitor on, EVF off.

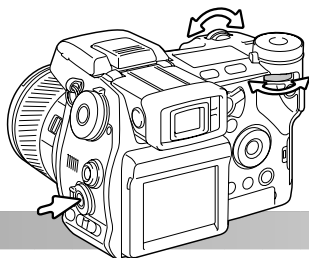
FILTER EXAMPLES

Filter levels
with color images



Filter settings with black
and white images.

For more on Filter effects,
see page 78.





KONICA MINOLTA

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