

IMAGE SIZE AND IMAGE QUALITY

Image size and quality are set in section 1 of the recording menu (p. 64). Changes are displayed on the monitor.

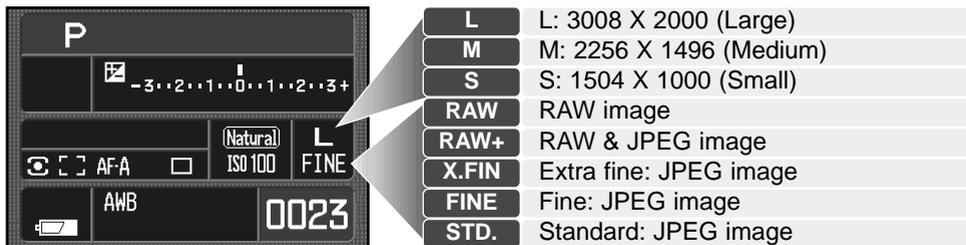


Image size affects the number of pixels in each image. The greater the image size, the larger the file size. Choose image size based on the final use of the image - smaller images are more suitable for web sites whereas larger sizes produce higher quality prints.

Image quality controls the file type and rate of compression. RAW is high-quality image file. The extra fine, fine, and standard settings produce JPEG files at various rates of compression. The higher the image quality, the lower the rate of compression and the larger the file sizes. If economical use of the memory card is important, use the standard mode. The RAW & JPEG option creates two image files at one time, a large RAW file and a fine quality JPEG file with an image size selected with the menu. The image files are saved with the same file name, but with different extensions (p. 126).

In the RAW image-quality mode, the image size is set to large and cannot be changed. The image size is not be displayed on the monitors. The enlarged playback and print functions cannot be used.

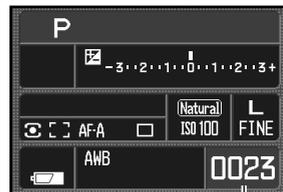
Unlike the other image-quality modes, RAW image data is unprocessed and requires image processing before it can be used. To process the RAW data, the DiIMAGE Viewer or the optional DiIMAGE Master software is required.

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

Approximate file sizes.			
	L: 3008 x 2000	M: 2256 X 1496	S: 1504 X 1000
RAW	8.6MB	–	–
Extra fine	5.9MB	3.3MB	1.6MB
Fine	3.0MB	1.7MB	850KB
Standard	1.8MB	1.0MB	540KB
Approximate number of images that can be stored on a 256MB memory card.			
RAW	26	–	–
Extra fine	41	72	157
Fine	81	141	292
Standard	138	235	463

Camera Notes

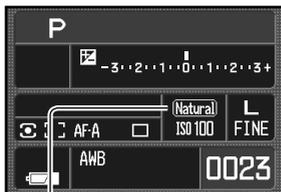
The frame counter indicates the approximate number of images that can be stored on the memory card at the camera's image quality and size settings. If the settings are changed, the frame counter adjusts accordingly. Because the counter uses approximate file sizes, the actual image taken may not change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



Frame counter

DiMAGE Viewer Notes

When opening a RAW file with DiMAGE Viewer, the filter slider, as described in the instruction manual, does not appear on the RAW processing screen. The hue slider is available in its place.



COLOR MODE

The color mode controls what the image looks like as well as the color space. The color mode is set in section 1 of the recording menu (p. 64). See the color examples on page 2.

Natural

Natural Color - reproduces the colors in the scene faithfully. Employs the sRGB color space.

Natural+

Natural Plus - increases contrast and acutance. Employs the sRGB color space.

Adobe

Embed Adobe RGB - like Natural Color, this color mode reproduces the colors in the scene faithfully, but uses the extended gamut of the Adobe RGB color space. The color space is embedded in the image data.

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 Natural Plus.

Color matching must be used when opening Adobe-RGB image files. When using the DiIMAGE Viewer, the color matching function must be active and the color space set to Original Color Space (Adobe RGB) or Adobe RGB in the color preferences window, see the software manual. The DiIMAGE Viewer included with the product or later versions is required to open RAW Adobe RGB images taken with this camera.

DIGITAL EFFECTS (FX) CONTROL

The Digital Effects Control can adjust image contrast, saturation, sharpness, and hue. See page 147 for Digital Effects examples. These controls are accessed from section 1 of the recording menu (p. 64).

Highlight “Enter” in the Digital FX option in section 1 of the recording mode menu. Press the central button of the controller to open the Digital FX setup screen.

Use the up/down keys or front control dial to select the parameter to change.



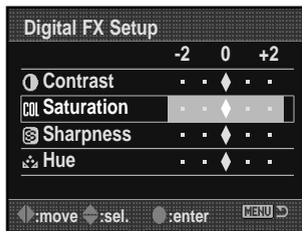
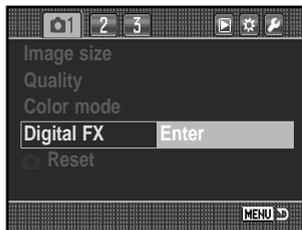
Use the left/right keys or rear control dial to adjust the parameter.



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



Adjustments can be made repeatedly and in combination. Adjustments remain in effect until manually reset. When set to any value other than zero, an indicator and value is displayed on the monitor as a warning.



Digital Effects panel

RECORDING MODE RESET

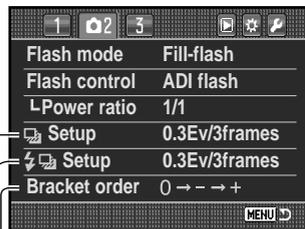
The recording mode functions can be reset in section 1 of the recording menu (p. 64). When selected, a confirmation screen appears; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Focus area selection	Spot AF area	p. 55
Preset white balance	Daylight ±0	p. 60
Color temperature	5500K	p. 60
Digital Effects (FX)	All reset to ±0	p. 69
Flash mode	Fill flash or red-eye reduction ¹	p. 71
Flash control	ADI	p. 75
Manual flash power ratio	1/1	p. 76
Exposure bracketing setup	0.3Ev / 3 frames	p. 70
Flash bracketing setup	0.3Ev / 3 frames	p. 70

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

BRACKETING SETUP

The bracketing increment and the number of frames in a exposure and flash bracket is selected in section 2 of the recording menu (p. 64). The bracketing increment is in Ev (p. 81). For information on the bracketing drive mode, see page 58.



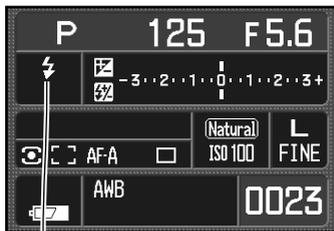
BRACKETING ORDER

The order in which the bracketing frames is captured selected in section 2 of the recording menu (p. 64). For information on the bracketing drive mode, see page 58.

Bracketing order
Flash bracket setup
Exposure bracket setup

□ → - → +	Normal - underexpose - overexpose*
- → □ → +	Underexpose - normal - overexpose

* With a five frame bracket, the bracketing order is 0, -, +, -, + with increasing steps.



FLASH MODES

The flash mode can be changed in section 2 of the recording menu (p. 64). For the flash to fire, the built-in unit must be manually raised; lower the flash to prevent it from firing. The auto-white-balance setting gives priority to the flash's color temperature. If another type of white balance is used, priority is given to the active setting's color temperature.



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



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



Rear flash sync - 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 fires. This pre-flash is not for exposure, but for metering. The flash fires again just before the shutter closes.



Wireless / Remote flash - allows the camera to control an off-camera flash unit without the need of a cable. See page 72.

WIRELESS / REMOTE FLASH

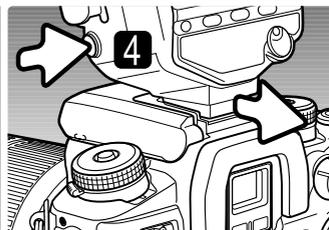
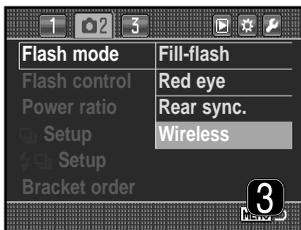
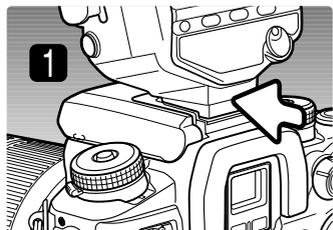


On-camera
flash

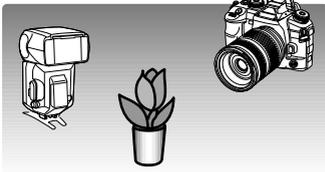
Wireless/Remote flash allows the camera to control an off-camera Program/Maxxum 5600HS(D) and 3600HS(D) flash unit without the need of a cable. Single or multiple flash units can be placed around the subject to create different lighting effects.

The camera's built-in flash fires to control the off-camera flash units rather than to illuminate the subject.

Wireless/
Remote
flash



1. Remove the accessory shoe cap (p. 117) and slide a Program/Maxxum 5600HS(D) or 3600HS(D) flash on the accessory shoe until the safety lock engages.
2. Turn on the camera and flash unit.
3. Set the camera to the wireless flash mode in section 2 of the recording menu (p. 64). This simultaneously set a the flash to the wireless mode and sets the camera to the flash's wireless channel.
4. Press and hold the mounting-foot-release button to disengage the safety catch and remove the flash unit from the camera.



Raise the built-in flash on the camera and position the camera and flash around the subject. See the following page for operating ranges.

Make sure no objects come between the camera and flash unit. The flash units can be test fired by pressing the AEL button on the camera. AEL button setup in section 1 of the custom menu should be set to one of the hold options. If the flash does not fire, change the camera, flash, or subject position. The slow shutter sync is active in P and A exposure modes (p. 47).

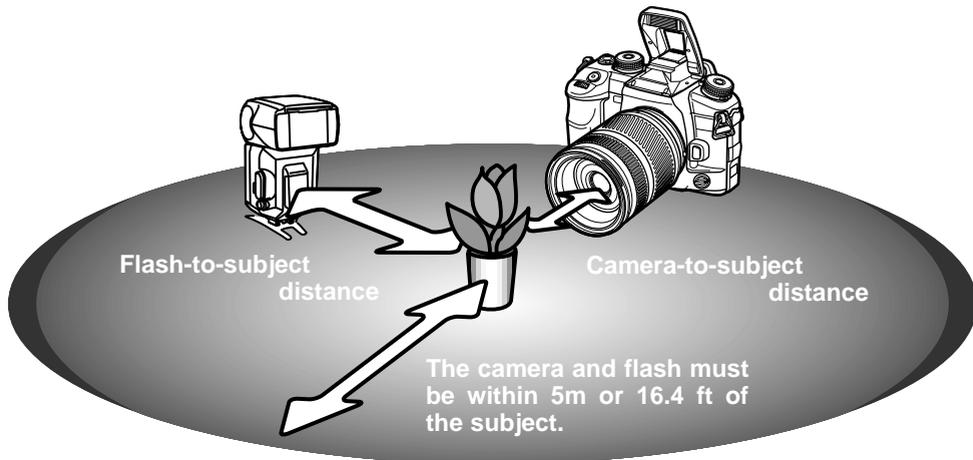
When the 5600HS(D) and 3600HS(D) flash is charged, the AF illuminator on the front of the unit blinks. The viewfinder flash signal shows the status of the camera flash (p. 31). Take a picture as described in the basic recording section on page 28.

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.

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.

High-speed sync. is available, see page 118. The Wireless/Remote Flash Controller is not compatible with this camera.

WIRELESS/REMOTE CAMERA AND FLASH RANGES



The camera and flash must be within 5m or 16.4 ft of the subject.

Specifications with Maxxum / Program flash 5600HS(D) at ISO 100

Aperture	Camera-to-subject distance	Flash-to-subject distance ²		
		Up to sync. speed ¹	1/250 second	1/1000 second
<i>f</i> /2.8	1.4 ~ 5m / 4.6 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 2.5m / 3.3 ~ 8.2ft
<i>f</i> /4.0	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 3.5m / 3.3 ~ 11.5ft	1 ~ 1.7m / 3.3 ~ 5.6ft
<i>f</i> /5.6	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 2.5m / 3.3 ~ 8.2ft	1 ~ 1.2m / 3.3 ~ 3.9ft

Specifications with Maxxum / Program flash 3600HS(D) at ISO 100¹

<i>f</i> /2.8	1.4 ~ 5m / 4.6 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 4m / 3.3 ~ 13.1ft	1 ~ 2m / 3.3 ~ 6.6ft
<i>f</i> /4.0	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 3m / 3.3 ~ 9.8ft	1 ~ 1.5m / 3.3 ~ 4.9ft
<i>f</i> /5.6	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 5m / 3.3 ~ 16.4ft	1 ~ 2m / 3.3 ~ 6.6ft	—

1. The camera's flash sync. speed is 1/125 sec. with Anti-Shake on and 1/160 sec. with Anti-Shake off. Shutter speeds up to this limit can be used.
2. Double the maximum distance when using the camera sensitivity at ISO 400. The maximum distance cannot exceed 5m or 16.4 ft.

FLASH CONTROL

ADI, pre-flash TTL, and manual flash control are available. Flash control is changed in section 2 of the recording menu (p. 64). The flash control used depends on the lens and flash combination.

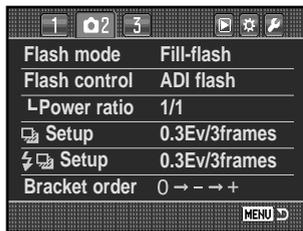
ADI (Advanced Distance Integration) flash metering - combines distance information from D-series lenses with information from a pre-flash exposure. ADI metering is less influenced by subject reflectance.

The camera automatically switches from ADI metering to pre-flash TTL when the autofocus system is prevented from focusing. When using the Macro Twin Flash 2400 , Marco Ring flash 1200 or a wireless or off-camera flash unit, flash control is set to pre-flash TTL.

When using the Maxxum / Program Flash 2500(D), switch both the flash unit and camera to ADI metering.

Pre-flash TTL - calculates flash exposure with a pre-flash only. This mode must be used with 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, the wide-angle adapter with the Maxxum / Program flash 3600HS(D), bounce flash with the Maxxum / Program Flash 2500(D), or an external flash unit.

Manual flash control - fires the flash at full power, 1/2, 1/4, 1/8, or 1/16 power. The power ratio is selected in section 2 of the recording menu (p. 64). See the following page for more on manual flash and power ratio. Because no pre-flash is used, it can be used to fire slave flash units. Manual flash cannot be used with wireless.

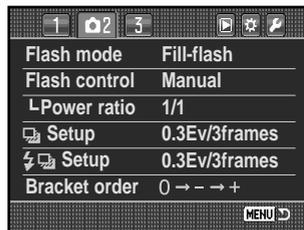


MANUAL FLASH AND POWER RATIO

The output of the flash can be specified when using manual flash control with power ratios.

Set the flash-control option in section 2 of the recording menu to manual. The power ratio, also in section 2, can then be selected. See page 64 for menu operation.

When the camera flash is raised, the power ratio is displayed on the monitor.



Power ratio

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

Guide no. (for distance in meters / feet)						
Power ratio	Camera sensitivity (ISO)					
	100	200	400	800	1600	3200
1/1 (Full)	12 / 39	17 / 56	24 / 79	34 / 112	48 / 157	68 / 223
1/2	8.5 / 29	12 / 39	17 / 56	24 / 79	34 / 112	48 / 157
1/4	6 / 20	8.5 / 29	12 / 39	17 / 56	24 / 79	34 / 112
1/8	4.2 / 14	6 / 20	8.5 / 29	12 / 39	17 / 56	24 / 79
1/16	3 / 10	4.2 / 14	6 / 20	8.5 / 29	12 / 39	17 / 56

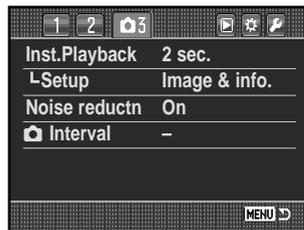
Guide number = f -number \times distance

Distance = guide number / f -number

f -number = guide number / distance

INSTANT PLAYBACK

After an image is captured, it can be displayed on the monitors for two, five, or ten seconds before being saved. When using continuous-advance bracketing, an index display is used. Instant playback is activated and the length of the playback period is set with the instant-playback option in section 3 of the recording menu (p. 64).



The setup option below instant playback specifies the display format:



Image only

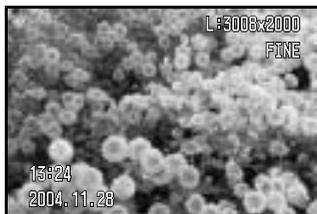


Image & information

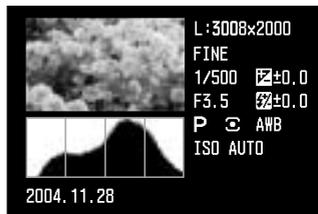


Image & histogram

After each image is captured, it is displayed as specified by the menu. Press the shutter-release button partway down to end the instant playback.

During the instant playback period, the captured images can be deleted using the delete button (p. 36). When a continuous-advance bracketed series is captured, the entire series is erased. Single non-RAW images can be enlarged with the magnification button. The image is centered on the AF area used, see page 38 for information on enlarged playback.

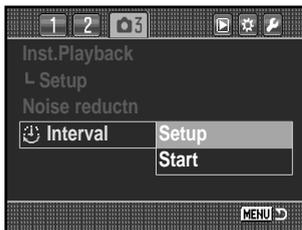
NOISE REDUCTION

This function reduces the affect of dark noise with 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. This can be turned off in section 3 of the recording menu (p. 64). Noise reduction uses dark-frame subtraction. Noise reduction is not applied to a series of continuous-advance images

INTERVAL

The interval mode makes a series of still images over a period of time, similar to time-lapse photography.

Set the drive-mode dial to the single-frame advance position (p. 56) before opening the menu. Highlight “setup” in the interval option in section 3 on the recording menu and press the central button of the controller to open the setup screen.



Use the up/down keys or front control dial to select the parameter to change.



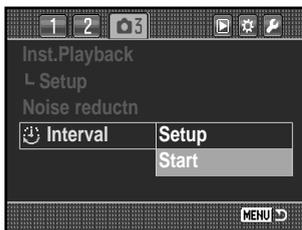
Use the left/right keys or rear control dial to adjust the parameter.



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



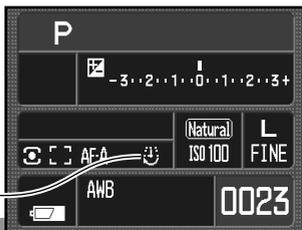
Confirm the recording menu settings, highlight the start option, and press the central button of the controller to put the camera in the interval recording mode.



The interval indicator appears on the monitor.

After mounting the camera on a tripod, compose the image so that the subject area falls within the focus frames; the camera sets the focus, exposure, and white balance, and charges the flash just before each exposure.

Interval indicator



Confirm the memory card has enough storage capacity for the series by comparing the number of frames in the interval series with the number of recordable images displayed on the frame counter. Image size and quality settings can be changed to increase the number of pictures that can be saved on the memory card.

Continuous AF can be used. To override the automatic systems, use manual focus (p. 52), manual exposure (p. 44), and preset or custom white balance (p. 60).

Press the shutter-release button to begin the series. During the interval series, the monitor is turned off between exposures to conserve power. The access lamp glows when an image is being recorded.

The camera stops recording and resets to the first frame when the series is complete or when the memory card is full. The use of an AC adapter is recommended when recording with long intervals or a large number of frames. To cancel the interval series, turn off the camera or press the shutter-release button partway down.

A SHORT GUIDE TO PHOTOGRAPHY

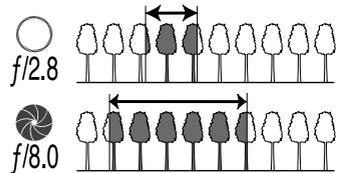
Photography can be a rewarding pursuit. It is a broad and disciplined field that can take years to master. But the pleasure in making photographs and the joy of capturing a magical moment cannot be compared. The guide is an introduction to some basic photographic principles.

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.

For critical work, take a test photograph and view the result in playback (p. 34). The image can be deleted if not acceptable



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 and the cloudy setting is appropriate. 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 shows 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. 60) 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.

WHAT IS AN EV?

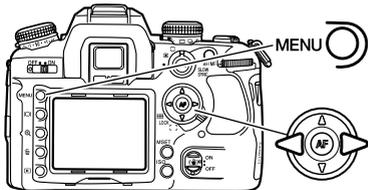
Ev stands for exposure value. A change of one Ev adjusts the exposure calculated by the camera by a factor of two. An Ev and a "stop" are the same.

+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

PLAYBACK MENU

In playback mode, press the menu button to open and close the menu. The four-way keys of the controller and the control dials move the cursor in the menu (p. 65). Pressing the central button of the controller enters a setting.

NAVIGATING THE PLAYBACK MENU



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

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



When the required 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.

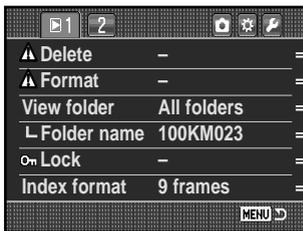


Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to continue.

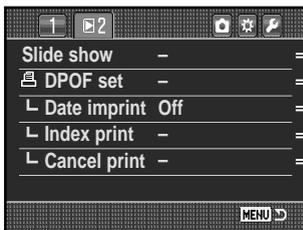


Press the central button of the controller to select the highlighted setting.

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



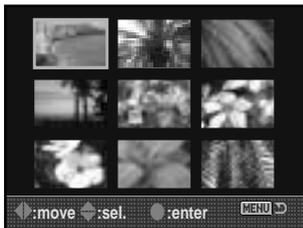
- To delete images on the memory card (p. 84).
- To format the memory card (p. 85).
- To select one or all folders to view in playback (p. 85).
- To select the folder to view in playback (p. 85).
- To protect images from deletion (p. 86).
- To specify the index playback format (p. 87).



- To play back images automatically (p. 88)
- To select images for DPOF printing (p. 89).
- To print the date of capture with each print (p. 90)
- To create an index print with the DPOF order (p. 90)
- To cancel DPOF print orders on the memory card (p. 90).

FRAME-SELECTION SCREEN

When a marked-frames setting is chosen on a menu, the frame-selection screen appears so multiple files can be selected. The index format of the screen can be changed in section 1 of the playback menu (p. 87).



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



The up key selects the frame; when selected, an indicator appears on the thumbnail. The down key deselects the image removing the indicator.



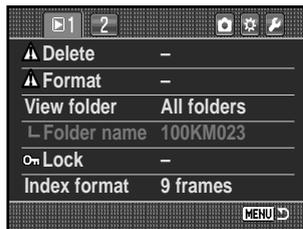
Press the central button of the controller to complete the operation. Pressing the menu button cancels the screen and any operation made.

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 appears; choosing “Yes” executes the operation, “No” cancels it. Only the images in the view-folder option in section 1 of the playback menu (p. 82) can be viewed and deleted with the marked frames and all-in-folder options. Delete has three options:



Marked frames - to delete multiple images. When this setting is chosen, the frame-selection screen is displayed. Use the left/right keys of the controller to highlight the first image to be deleted. Pressing the up key marks 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 disappears. Continue until all the images to be deleted are marked. Press the controller to continue (the confirmation screen appears), or press the menu button to cancel the operation and return to the playback menu. On the confirmation screen, highlighting and entering “Yes” deletes the marked images.

All in folder - to delete unlocked images in a single folder specified by the view-folder option.

All on card - all unlocked images on the card are deleted.

The delete function can 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 in section 1 of the playback menu 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.

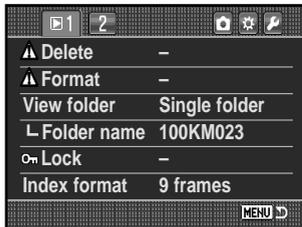
When the format option is selected and entered, a confirmation screen appears. Choosing “Yes” formats the card, choosing “No” cancels the operation. Never remove the card while it is being formatted. A screen appears to indicate the card has been formatted.

VIEW FOLDER

Only the images in the folders specified with the view-folder option in section 1 of the playback menu (p. 82) can be viewed or edited in playback. Two options are available:

All folders - to view and edit all images on the memory card.

Single folder - to view and edit images in a specific folder. The folder is selected in the folder-name option below the view-folder option.



For more on memory card organization, see page 126. Folders can be created and selected in section 2 of the setup menu (p. 108, 109).

LOCK

Single, multiple, or all images on the memory card or in a folder specified with the view-folder option can be locked. A locked image cannot be deleted by either the playback menu functions or the delete button. Important images should be locked. Images are locked in section 1 of the playback menu (p. 82).

The lock has five options:

Marked frames - to lock or unlock multiple images. When this is chosen, the frame-selection screen (p. 83) is displayed. Use the left/right keys of the controller to highlight the image to be locked. Pressing the up key marks the thumbnail with the lock indicator. To unlock an image, highlight it with the yellow border and press the down key; the lock indicator disappears. 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.

All in folder - to lock images in a single folder specified by the view-folder option.

All on card - all images on the memory card are locked.

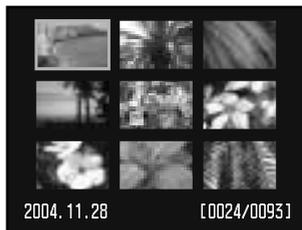
Unlock folder - to unlock images in a single folder specified by the view-folder option.

Unlock card - all images on the memory card are unlocked.

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

INDEX PLAYBACK FORMAT

The index-format option in section 1 of the playback menu can specify a four, nine, and sixteen image display for index playback (p. 37) and frame-selection screens (p. 83). A file browser can also be used in place of the index playback display mode; a 9-frame display is used for the selection screens.



9-frame index

After selecting the file-browser option in the menu, press the display button in the playback mode to display the file browser.



The up/down keys of the controller switch between the folder tabs and images; a tab or images is highlighted.



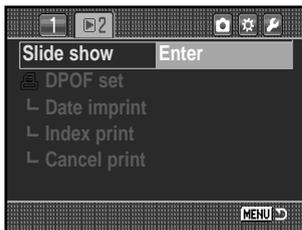
The left/right keys of the controller select the folder tabs or images.



SLIDE SHOW

Section 2 of the playback menu starts the slide-show function. This function automatically displays images every five seconds on the card or in the folder specified with the view-folder option in section 1 of the menu.

Highlight “Enter” in the slide-show option in section 2 of the playback menu and press the center of the controller to begin the slide-show playback.



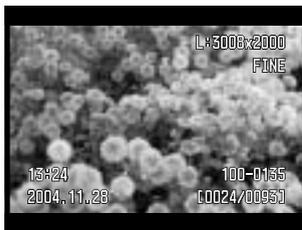
Press the central button of the controller to pause and restart the presentation.



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 down key of the controller or the menu button.



ABOUT DPOF

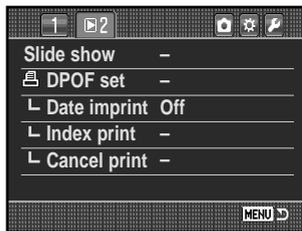
This camera is supported by DPOF™ version 1.1. The DPOF (Digital Print Order Format) allows direct printing of still images from digital cameras. After the DPOF file is created, the memory card is simply taken to a photofinishing service or inserted into the memory -card slot of DPOF compatible printers.

When a DPOF file is created, a misc. folder is automatically made on the memory card to store it (p. 126). DPOF print files cannot be made for RAW images or images using the embedded Adobe RGB color mode (p. 68).

DPOF SETUP

The DPOF-set option is used to set an order for standard prints from digital images. Single, multiple, or all images on the memory card or in a folder specified with the view-folder option can be printed (p. 85).

DPOF setup has three options:



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 appears (p. 83). Use the left/right keys of the controller to highlight an image to be printed. Pressing the up key marks 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 increases the number of copies, pressing the down key decreases 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.

All in folder - to select images in the folder specified by the view-folder option.

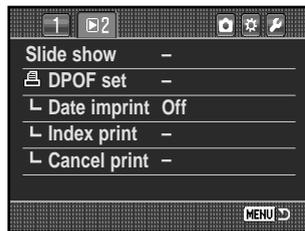
All on card - to select all images on the memory card for printing.

When the all-in-folder or all-on-card option is chosen, a screen appears 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. If the all-on-card option was used to create a print order, any additional images saved afterwards in the folder are not be included in the order.

DPOF files created with another camera are deleted when a DPOF file is created.

DATE IMPRINT

To print the date of capture with each image with a compatible DPOF printer, turn the menu option on. To cancel date imprint, simply turn the option off. How the date is printed varies with the printer. Not all printers support this function.



INDEX PRINT

To create an index print of all the images in the folder, set the option on. To cancel an index print, simply change the setting to off.

If an index-print order is created, any additional images saved afterwards in the folder are not 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

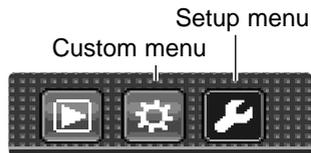
After the pictures have been printed, the DPOF file remains on the memory card and must be canceled manually. The cancel-print option in section 2 of the playback menu deletes the DPOF files. When the setting is selected, a confirmation screen appears; choosing and entering "Yes" executes the operation and cancels the print and index-print order. Two options are available:

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

All frames F - To cancel the printing file in the folder specified by the view-folder option.

OPENING THE CUSTOM & SETUP MENUS

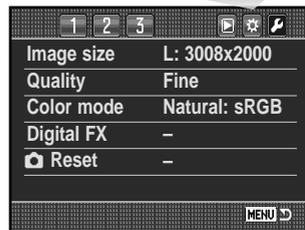
The custom and setup menus can be accessed from both the recording and playback modes. The buttons in the top right corner of the menus are links to the other camera menus. See page 92 for information on the custom menu and page 102 for the setup menu.



Open the menu and use the left/right keys of the controller to highlight the custom or setup buttons.



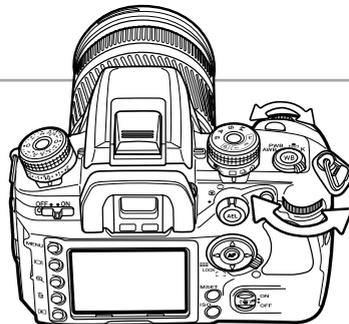
Press the central button to display the menu. Repeat the procedure to return to the original or different menu or press the menu button to close the menu.



Camera Notes

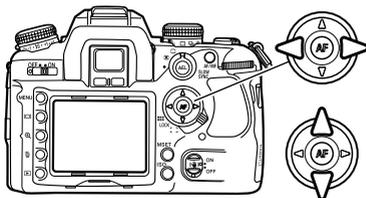
The control dials can move the cursor in the menus. The front dial moves the cursor up and down. The rear dial moves it left and right.

The M-SET button setup option in section 4 of the custom menu allows a menu shortcuts to be made (p. 100). The menu-section memory option in section 3 of the setup menu memorizes the last menu section opened and returns to that section when the menu button is pressed (p. 110).



CUSTOM MENU

The custom menu controls operation preferences. See page 91 on how to open the custom menu.



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

When the required 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.

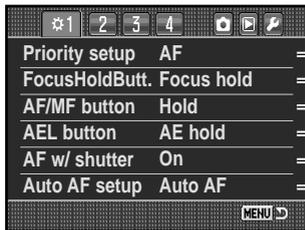


Use the up/down key to highlight the new setting. If “Enter” is displayed, press the central button of the controller to continue.



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

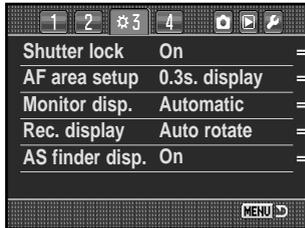
Once a setting has been selected, the cursor returns to the menu options and the new setting is displayed. Changes can continue to be made.



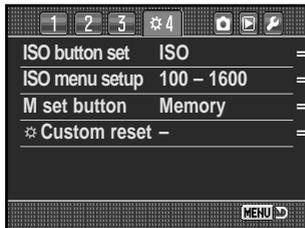
- To set AF or shutter-release priority (p. 94).
- To set the operation of a lens' focus-hold button (p. 94).
- To set the operation of the AF/MF button (p. 94).
- To set the operation of the AEL button (p. 95).
- To set AF with the shutter-release button (p. 95).
- To set the operation of the Auto AF focus mode(p. 96).



- To specify exposure control with the control dials (p. 96).
- To assign exposure comp. to the control dials (p. 96).
- To lock the control dials before AF and AE (p. 97).
- To specify flash output with exposure comp. (p. 97).
- To turn the AF illuminator on and off (p. 97).



- To lock the shutter when no lens is mounted (p. 97).
- To control the viewfinder AF-area illumination (p. 98).
- To control how the monitor is turned on and off (p. 98).
- To set the recording display orientation (p. 98).
- To turn the Anti-Shake scale on and off (p. 98).



- To switch between ISO and Zone Matching (p. 99).
- To set the ISO range (p. 100).
- To select between memory and menu shortcut (p. 100).
- To reset the custom functions (p. 101).

AF/SHUTTER RELEASE PRIORITY SETUP

This custom function has two options:

AF - AF priority. The shutter will not release until the camera focuses.

Release - shutter-release priority. The shutter releases even if focus cannot be confirmed. The RP indicator is displayed on the monitor when this option is selected.



Release priority indicator

FOCUS-HOLD BUTTON SETUP

Some Konica Minolta lenses are equipped with a focus-hold button. The operation of this button can be specified in section 1 of the custom menu (p. 92). This custom function has two options:

Focus hold - pressing the focus-hold button on the lens locks the focus.

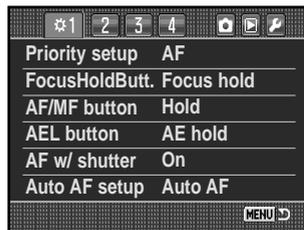
D.O.F. preview - pressing the focus-hold button previews the depth of field (p. 53). With non-D series lenses, this is active when the aperture and shutter speed are displayed.

AF/MF BUTTON SETUP

The operation of the AF/MF button (p. 53) can be specified in section 1 of the custom menu (p. 92). This custom function has two options:

Hold - press and hold the AF/MF button to switch between autofocus and manual focus. Releasing the button returns to the original focus mode.

Toggle - press and release the AF/MF button to switch between autofocus and manual focus. Press and release the button again returns to the original focus mode.



AEL BUTTON SETUP

The operation of the AEL button (p. 46) can be specified in section 1 of the custom menu (p. 92). This custom function has four options:

AE hold - press and hold the AEL button to lock the exposure, release the button to unlock it. The metering mode set with the metering-mode dial is used (p. 50).

AE toggle - press and release the AEL button to lock the exposure. The exposure remains locked even after the image is captured. Press and release the button again to unlock the exposure. The metering mode set with the metering-mode dial is used (p. 50).

Spot AE hold - the spot metering area is used regardless of the metering-mode selected with the dial (p. 50). Press and hold the AEL button to lock the exposure, release the button to unlock it.

Spot AE toggle - the spot metering area is used. Press and release the AEL button to lock the exposure. The exposure remains lock even after the image is captured. Press and release the button again to unlock the exposure.

AF WITH SHUTTER RELEASE BUTTON

The operation of the shutter-release button can be specified in section 1 of the custom menu (p. 92). When on, AF is activated when the shutter-release button is pressed partway down. This is the basic operation described in this manual.

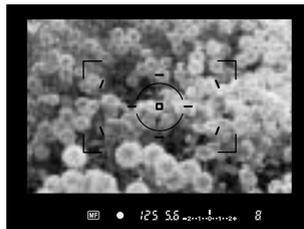
If this custom function is turned off, the AF system does not activate with the shutter-release button. The camera can be focused by pressing the controller. See page 54 for more information. The shutter can be released even if the camera has not focused.

AUTO AF SETUP

The operation of the Auto AF focus mode (p. 52) can be specified in section 1 of the custom menu (p. 92). This custom function has two options:

Auto AF - the AF system automatically switches between single-shot AF and continuous AF depending on the subject's motion.

DMF - Direct manual focus. After the AF system focuses, the manual focus indicator (MF) appears in the viewfinder. The focus can then be adjusted manually by the photographer.



CONTROL-DIAL SETUP

The operation of the control dials in the full-auto program, program, and manual exposure modes (p. 39) can be specified in section 2 of the custom menu (p. 92). This custom function has two options:

 SS  F/no. The front control dial adjusts the shutter speed. The rear control dial adjusts the aperture.

 F/no.  SS The front control dial adjusts the aperture. The rear control dial adjusts the shutter speed.

CONTROL-DIAL (EXPOSURE COMPENSATION) SETUP

Exposure compensation can be assigned to the front or rear control dial in section 2 of the custom menu (p. 92). In the recording mode, simply turn the selected control dial to adjust exposure compensation. The increment depends on the exposure-compensation dial position. For more on exposure compensation, see page 97.



CONTROL-DIAL LOCK

Control-dial lock is set in section 2 of the custom menu (p. 92). When the control-dial lock is active, the exposure can be changed only when the AF system or exposure system have been activated with one of the camera controls. When the lock is off, the control dials are able to change the exposure at any time.

EXPOSURE COMPENSATION SETUP

Exposure compensation setup is set in section 2 of the custom menu (p. 92). This custom function has two options:

Ambient & flash - when using exposure compensation with the flash, both the ambient and flash exposure controls can be adjusted.

Ambient only - the flash exposure is fixed and only the ambient exposure controls (shutter speed, aperture, and camera sensitivity) adjust the exposure.

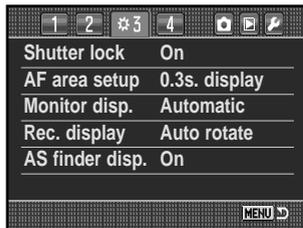
AF ILLUMINATOR

The built-in flash is used as an AF Illuminator. When the scene is too dark for the camera to focus, raise the built-in flash. It fires a few short bursts to provide light for the camera to focus. When an accessory flash is attached, the flash unit is used as the AF illuminator. The AF illuminator can be turned on and off in section 2 of the custom menu (p. 92).

The range of the AF Illuminator is approximately 1 to 5 m (3.3 to 16.4 ft.). It does not fire when using the continuous AF focus mode. The AF illuminator may not operate with focal lengths of 300mm or longer or with the 3x-1x Macro Zoom.

SHUTTER LOCK

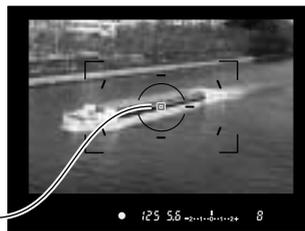
The shutter lock prevents the shutter opening and exposing the CCD to dust when no lens is mounted on the camera. Turn the shutter lock off when attaching the camera to a telescope or microscope. The shutter lock is turned on and off in section 3 of the custom menu (p. 92).



AF AREA SETUP

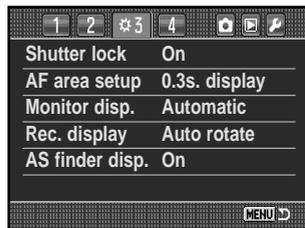
The spot focus or local AF areas are illuminated when the camera focuses. The illumination period is selected in section 3 of the custom menu (p. 92) between 0.3 seconds and 0.6 seconds. AF area illuminator activation with the shutter-release button can also be turned off.

AF area illuminator



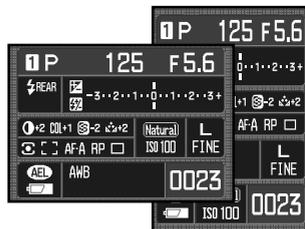
MONITOR DISPLAY SETUP

Automatic and manual monitor display is selected in section 3 of the custom menu (p. 92). The automatic option employs the viewfinder eye sensors to turn the monitor off when using the viewfinder. The manual option requires the monitor to be turned off using the display button (p. 33).



RECORDING DISPLAY SETUP

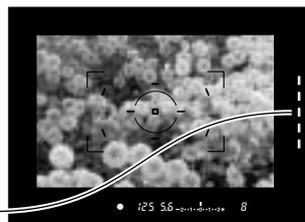
The auto-rotate and horizontal display is selected in section 3 of the custom menu (p. 92). The auto-rotate option automatically changes the recording display as the camera orientation is moved between horizontal and vertical positions. The horizontal option fixes the display to the horizontal position.



ANTI-SHAKE VIEWFINDER DISPLAY SETUP

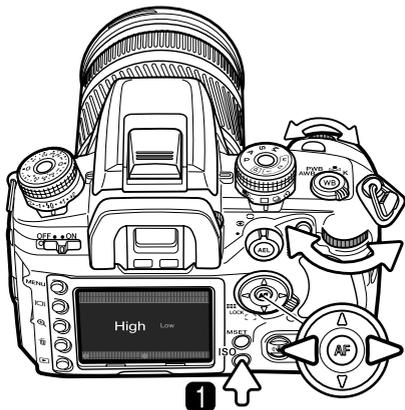
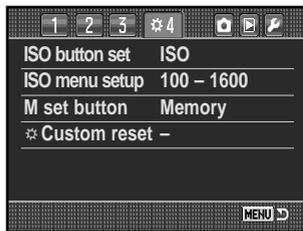
The Anti-Shake scale can be turned on and off in section 3 of the custom menu (p. 92).

Anti-Shake scale



ISO BUTTON SETUP

The function selected with the ISO button (p. 51) can be switched between camera sensitivity (ISO) and Zone Matching in section 4 of the custom menu (p. 92). For more on Zone Matching, see below.



ZONE MATCHING

Zone Matching is used for recording high-key or low-key scenes. Zone Matching is activated in section 4 of the custom menu.

To set Zone Matching, press the ISO button (1) to open the setup screen.

The left/right keys of the controller and the control dials change between high (key) and low (key).

Press the central button of the controller or the shutter-release button to complete the operation.

When selected, an indicator is displayed on the monitor. The camera sensitivity is fixed at ISO 250 for high and ISO 100 for low. The color mode is fixed at Natural. Contrast cannot be changed with the Digital Effect Control.

A high-key scene is made up of predominately light tones and colors. A low-key scene is made up of dark tones and colors. Zone Matching controls exposure and contrast to improve reproduction of these scenes.



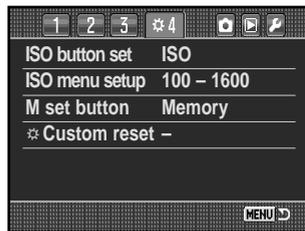
Zone Matching indicator

ISO MENU SETUP

The ISO range available is selected section 4 of the custom menu (p. 92). See page 51 for more on camera sensitivity and ISO. Two ranges are available:

ISO 100 - 1600

ISO 100 - 3200



M-SET BUTTON SETUP

The function assigned to the memory set (M SET) button can be specified in section 4 of the custom menu (p. 92). Two options are available:

Memory - camera settings can be saved to the camera memory. For more information on this function, see page 63.

Menu shortcut - a shortcut to a specific menu section can be made.

Creating a menu shortcut

Display the menu section to which a shortcut is to be made. Press the M SET button (1); a confirmation screen opens.

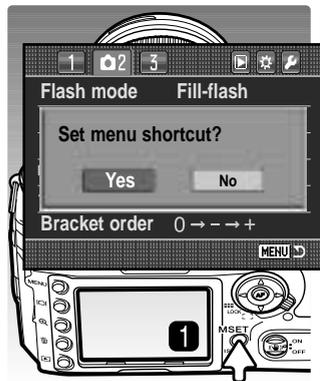
Use the left/right keys to highlight “Yes.” “No” cancels the operation.



Press the controller to execute the command on the confirmation screen.



In the recording and playback mode, each time the M SET button is pressed, the specified menu section is displayed.



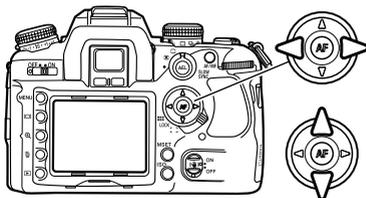
CUSTOM MENU RESET

The custom functions can be reset in section 4 of the custom menu (p. 92). When selected, a confirmation screen appears; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

AF/Shutter-release priority setup	AF priority	p. 94
Focus-hold button setup	Focus hold	p. 94
AF/MF button setup	Hold	p. 94
AEL button setup	AE hold	p. 95
AF with shutter-release button	On	p. 95
Auto AF setup	Auto AF	p. 96
Control-dial setup	Front dial: SS, Rear dial: F/no.	p. 96
Control-dial (exposure comp.) setup	Off	p. 96
Control dial lock	Off	p. 97
Exposure compensation setup	Ambient & flash	p. 97
AF illuminator	On	p. 97
Shutter lock	On	p. 97
AF area setup	0.3 second display	p. 98
Monitor display setup	Automatic	p. 98
Recording display setup	Auto rotate	p. 98
Anti-Shake viewfinder display setup	On	p. 98
ISO button setup	ISO	p. 99
ISO menu setup	100 - 1600	p. 100
M-SET button setup	Memory	p. 100

SETUP MENU

The setup menu controls camera operation. See page 91 on how to open the setup menu.



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



When the required 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 continue.

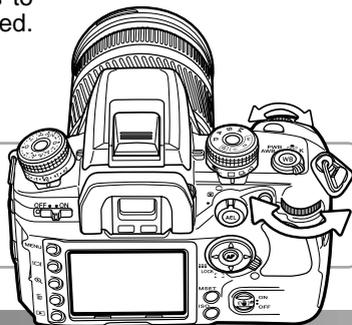


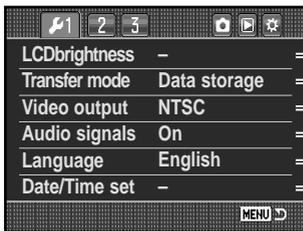
Press the central button of the controller to select the highlighted setting.

Once a setting has been selected, the cursor returns to the menu options and the new setting is displayed. Changes can continue to be made.

Camera Notes

The control dials can move the cursor in the menus. The front dial moves the cursor up and down. The rear dial moves it left and right.





To set monitor brightness (p. 104).

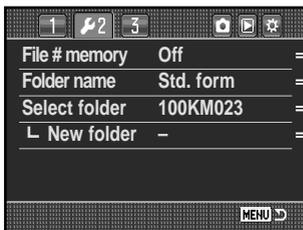
To specify camera operation with a computer (p. 104).

To switch video output between NTSC and PAL (p. 105).

To change or turn off audio signals (p. 106).

To set the menu language (p. 106).

To set the camera's clock and calendar (p. 107).

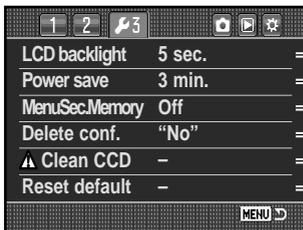


To activate file number memory (p. 107).

To select the folder name format (p. 108).

To select the destination folder for recorded images (p. 108).

To create a new folder (p. 109).



To specify monitor backlight illumination period (p. 109).

To set the auto-power-save period (p. 109).

To memorize the last menu section opened (p. 110).

To change the confirmation screen's default setting (p. 110).

⚠ Read cleaning instructions before using (p. 145).

To reset camera functions (p. 112).

LCD BRIGHTNESS

Monitor brightness is adjusted in section 1 of the setup menu. Highlight “Enter” and press the central button of the controller to open the LCD brightness setup screen.

Brightness is controlled in eleven levels. Use the left/right controller keys to adjust the brightness, the monitor adjusts 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.



TRANSFER MODE

The data-transfer mode must be specified depending on whether the camera is used to transfer data to a computer or print images with a PictBridge compatible printer. Select the appropriate option:

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

PTP - to print images with a PictBridge compatible printer. See page 132 for more on PictBridge.

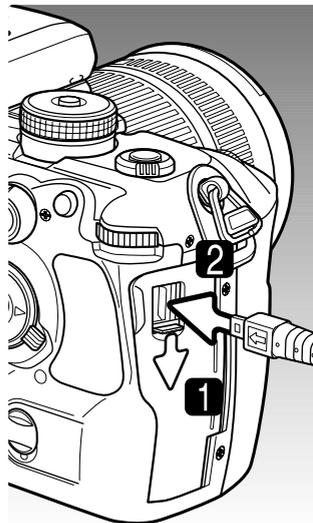
VIDEO OUTPUT

Camera images can be displayed on a television. 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.

VIEWING IMAGES ON A TELEVISION

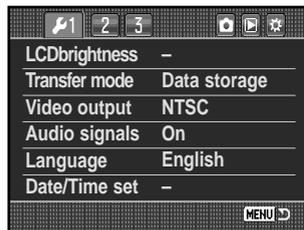
It is possible to view camera images on your television. The camera has a video-out terminal which can be used to connect the camera to a television using the supplied video cable.

1. Turn off the television and the camera.
2. Slide the terminal cover open (1) and insert the plug of the video cable into the camera's video-out terminal (2).
3. Plug the other end of the video cable into the video input terminal on the television.
4. Turn the television on.
5. Change the television to the video channel.
6. Turn on the camera and press playback button. The camera's monitors do not activate when the camera is attached to a television. The playback-mode display is visible on the television screen.
7. View images as described in the playback section. Because of the broadcast standard used to display television images, image quality and resolution will appear lower than when displayed on a computer monitor.



AUDIO SIGNALS

When the shutter-release button is pressed partway down, an audio signal gives a positive confirmation the AF system has focused. This signals can be turned off in section 1 of the setup menu (p. 102).



LANGUAGE

The language used in the menus can be changed. Highlight the current language and press the center of the controller to open the language setup screen.



Use the four-way keys of the controller to select the menu language.



Press the central button of the controller to set the language. Press the menu button to close the screen without making any changes.



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 100KM023. The first three digits are the folder's serial number, which increases by one each time a new folder is created. The next two letters refer to Konica Minolta, and the last three numbers indicate the camera used; 023 indicates a Maxxum/Dynax 7D.

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 10141023 was created in 2004 on October 23rd.

With the date folder format selected, when an image is recorded a new folder with the day's date is created. All images recorded that day are placed in that folder. Images recorded on a different day are 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 126.

SELECT FOLDER

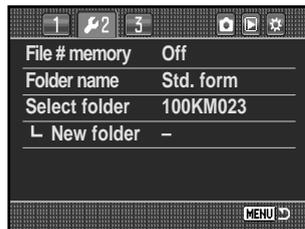
This option specifies in which folder images are saved. Only folders with a standard folder name can be selected. If the date folder name option is used, images are placed in a folder with the corresponding date of recording. Select folder is in section 2 of the setup menu (p. 102).



100KM023
(Standard)



10141023
(Date)

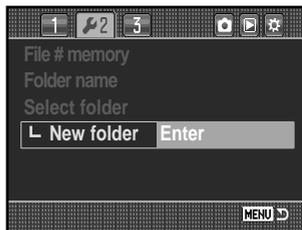


NEW FOLDER

This allows the creation of new folders. The folder-name option in section 2 of the setup menu specifies the folder-name format. If multiple date-format folders are created, only the last folder can be used for storing images.

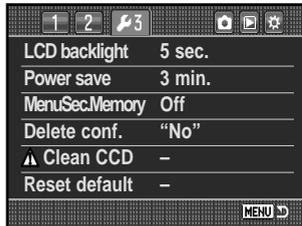
Highlight “Enter” and press the center of the controller to create a new folder.

The new folder name is displayed briefly. Every time a new folder is created, the folder number increases automatically by one greater than the highest folder number on the memory card.



LCD BACKLIGHT

The LCD monitor backlight turns off to conserve power after a certain period. Press a camera button to restore the display. This period can be set to 5, 10, 30, or 60 seconds in section 3 of the setup menu (p, 102).

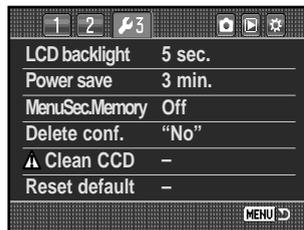


AUTO POWER SAVE

The camera shuts down 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, 10, or 30 minutes. To restore power, press the shutter-release button partway down. When the camera is connected to the computer, the auto-power-save period is set to ten minutes. This period cannot be changed.

MENU SECTION MEMORY

The camera can remember which menu section was last opened. If the menu section memory function is on, when the menu button is pressed, the last menu section that was last displayed is opened. When menu section memory is off, section 1 of the recording or playback menu is displayed when the menu button is pressed.



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.



CLEAN CCD



Only clean the CCD when necessary. Improper cleaning may damage the CCD.

Dust can enter the camera body when changing lenses. The camera should have a lens or body cap mounted at all times. Confirm the rear of the lens and cap is free from dust before mounting on the body.

Clean the CCD in a dust-free environment. Use a blower brush to remove the dust - compressed air can damage the camera.

Accessory Notes

The DiMAGE Master software can remove the affects of dust from RAW images. This is done by taking a dust reference image before cleaning the CCD. For more on this process, see the DiMAGE Master manual.

The battery should be fully charged before cleaning the CCD. If battery power is low, this function cannot be used. The use of the optional AC adapter is recommended over the use of the battery. Cleaning the CCD without sufficient power will cause permanent damage.

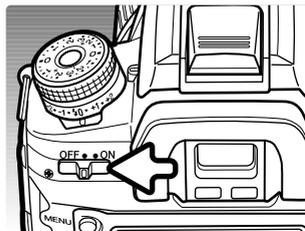
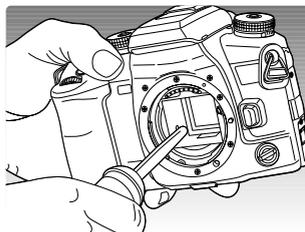
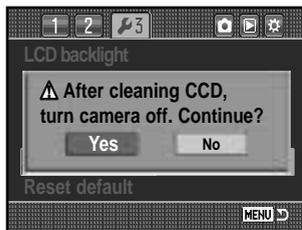
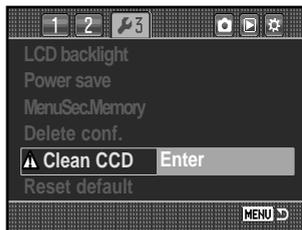
Highlight “Enter” and press the center of the controller to begin the cleaning routine.

Before the CCD is exposed, a confirmation screen appears; choosing “Yes” executes opens the shutter and mirror, “No” cancels the cleaning operation.

Remove the lens or body cap.

Use a blower brush to clean the CCD. Hold the body so it is leaning forward to prevent the dust blown from the CCD resettling in the camera. Do not touch the interior of the camera. If the camera starts beeping, power is low. Immediately stop cleaning and turn the camera off.

Turn the camera off to complete the operation. Replace the lens or body cap.



RESET DEFAULT

This option resets all camera modes and menus. When selected, a confirmation screen appears; choosing “Yes” resets the following functions and settings, “No” cancels the operation.

Recording and Playback mode		
Monitor display	Full display	p. 33
Focus-area selection	Spot AF area	p. 55
Preset white balance	Daylight ± 0	p. 60
Custom white balance	Reset (Daylight)	p. 61
Color temperature	5500K	p. 62
Camera sensitivity	ISO 100	p. 51
Memory	All registers reset	p. 63
Playback display	Single frame	p. 34
Recording menu		
Image size	L: 3008 x 2000	p. 66
Image quality	Fine	p. 66
Color mode	Natural	p. 68
Digital Effects Control	Reset (0)	p. 69
Flash mode	Fill flash or Red-eye reduction*	p. 71
Flash control	ADI	p. 75
Power ratio	1/1	p. 76
Exposure bracketing setup	0.3Ev / 3 frames	p. 70
Flash bracketing setup	0.3Ev / 3 frames	p. 70
Bracketing order	Normal, underexpose, overexpose	p. 70
Instant playback	2 seconds, image & information	p. 77
Noise reduction	On	p. 77
Interval setup	1 minute, 2 frames, no delay	p. 78
Playback menu		
View folder	All folders	p. 85
Index format	9 frame	p. 87
Date imprint	Off	p. 90

Custom menu		
AF/Shutter-release priority setup	AF priority	p. 94
Focus-hold button setup	Focus hold	p. 94
AF/MF button setup	Hold	p. 94
AEL button setup	AE hold	p. 95
AF with shutter-release button	On	p. 95
Auto AF setup	Auto AF	p. 96
Control-dial setup	Front dial: SS, Rear dial: F/no.	p. 96
Control-dial (exposure comp.) setup	Off	p. 96
Control dial lock	Off	p. 97
Exposure compensation setup	Ambient & flash	p. 97
AF illuminator	On	p. 97
Shutter lock	On	p. 97
AF area setup	0.3 second display	p. 98
Monitor display setup	Automatic	p. 98
Recording display setup	Auto rotate	p. 98
Anti-Shake viewfinder display setup	On	p. 98
ISO button setup	ISO	p. 99
ISO menu setup	100 - 1600	p. 100
M-SET button setup	Memory	p. 100
Setup menu		
LCD brightness	Reset	p. 104
Transfer mode	Data storage	p. 104
Audio signal	On	p. 106
File number memory	Off	p. 107
Folder name	Standard form	p. 108
LCD backlight period	5 seconds	p. 109
Auto-power-save period	3 minutes	p. 109
Menu section memory	Off	p. 110
Default confirmation	"No"	p. 110

* Whichever of the modes was last set

ACCESSORY NOTES

This section contains operation and compatibility information with camera accessories. Please read it in its entirety to achieve the best results with your camera.

AC ADAPTER AC-11 (SOLD SEPARATELY)

The AC Adapter AC-11 allows the camera to be powered from an electrical household outlet. The AC Adapter is recommended when the camera is interfaced with a computer or during periods of heavy use.

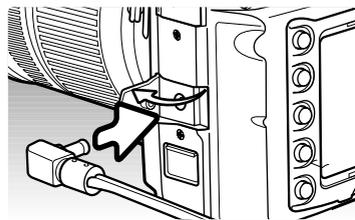


Always turn off the camera and confirm the access lamp is not lit before changing between power supplies.

Open the DC terminal cover from the right. The cover is attached to the body to prevent loss.

Insert the mini plug of the AC adapter into the DC terminal.

Insert the AC adapter plug into an electrical outlet.



ABOUT THE BATTERY CHARGER CORD

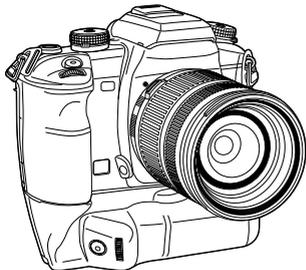
The included AC cord is designed for the current of the sales region. Only use the cord in the region it was purchased.

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

Accessory Notes

The External High-Power Battery Pack Kit EPB-100 is not compatible with this camera.

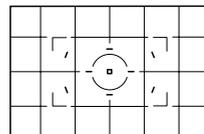
VERTICAL CONTROL GRIP VC-7D (SOLD SEPARATELY)



The Vertical Control Grip VC-7D allows the camera to be used comfortably when held vertically and well as horizontally. The grip duplicates camera controls as well as being a portable power source for the camera. This accessory uses two NP-400 lithium-ion batteries or six AA-size Ni-MH batteries to power the camera. For more details on this or other accessories listed in this manual, contact your local Konica Minolta dealer.

FOCUSING-SCREEN COMPATIBILITY

This camera is supplied with a type G spherical acute matte focusing screen. Type M, L, and ML screens can also be used. Focusing screens must be installed by an authorized Konica Minolta service facility. Contact Konica Minolta for more information.



Type L / ML

LENS SHADOWING

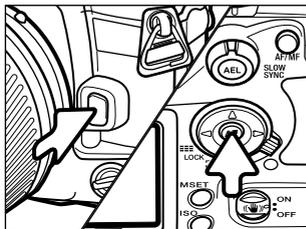
Lens shadowing occurs when the lens or lens hood blocks part of the output from the built-in flash. Lens shadowing appears as a semi-circular shadow at the bottom (horizontal pictures) or side (vertical pictures) of the image. Remove the lens hood before using the built-in flash. Focus distance must be 1m / 3.3ft or greater. The built-in flash can not be used with the AF 600mm f/4 Apo G(HS).

SMOOTH FOCUS

Some lenses or lens and teleconverter combinations can be difficult to focus manually. The following procedure disconnects the body's AF system to make focusing easier. Metering accuracy and Anti-Shake performance is lower when using the function. This cannot be used with xi series or AF Power Zoom lenses.



Turn the focus-mode dial to the manual-focus position.



Simultaneously press and hold the lens release and the central button of the controller.

Release the lens release followed by the controller to disconnect the AF system.



Smooth-focus indicator

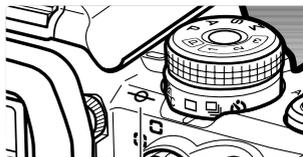
An indicator warns the smooth-focus mode is active. To cancel the mode, repeat the procedure or change the position of the focus-mode dial.

FOCAL-LENGTH CONVERSION

Because the CCD is smaller than a 35mm frame, the angle of view obtained at a specific focal length is not the same. To calculate the approximate equivalent 35mm focal length, multiply the focal length in use by 1.5. A 100mm lens gives about the same angle of view as a 150mm lens on a 35mm camera.

CCD-PLANE INDICATOR

For some technical photographic applications such as macro photography, the position of the CCD plane is necessary. The CCD-plane indicator is located next to the exposure-mode dial.



CCD-plane indicator

LENS COMPATIBILITY

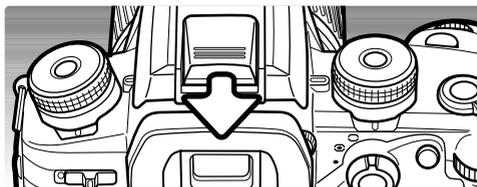
All Konica Minolta AF lenses are compatible with this camera. MD and MC series lenses cannot be used. For our current line of lenses, contact your Konica Minolta dealer.

The AF Macro Zoom 3X - 1X f/1.7-2.8 cannot be used with Anti-Shake (p. 32); turn Anti-Shake off. If a lens is equipped with a macro release, the release cannot be used with Anti-Shake. Focus range limiters set to a range that does not include infinity cannot be used. The focus range limiter on the SSM-series or D-series macro lenses can be used at any set range. Anti-Shake may not work with products made by another manufacturer.

ATTACHING AN ACCESSORY FLASH UNIT

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

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



FLASH COMPATIBILITY

The following flash units are compatible with this camera:

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

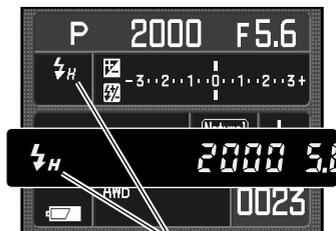
The 5400HS, 5400xi, and 5200i can be used with this camera with manual flash control only. The 4000AF, using the Flash Adapter FS-1100, can also be used with manual flash control.

HIGH-SPEED SYNC. (HSS)

This camera is compatible with the High Speed Sync. (HSS) function in the Program/Maxxum Flash 5600HS(D) and 3600HS(D). This allows the camera to use its full range of shutter speeds up to 1/4000 second.

Attach a compatible flash unit to the camera. Set the flash unit to HSS. When the shutter speed exceeds the camera sync. speed, the High Speed Sync. indicator (H) is displayed on the monitor and in the viewfinder.

HSS cannot be used with the 2-second self-timer drive mode nor the rear sync. flash mode.

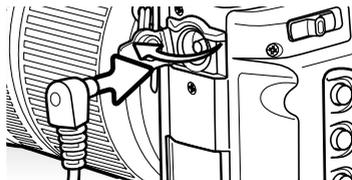


High Speed Sync. indicator

USING THE FLASH SYNC TERMINAL

The flash sync terminal allows a studio or location flash system to be connected to the camera with a standard PC cord. The terminal is compatible with both center positive (normal polarity) and center negative (positive polarity) flash units with a voltage of 400V or lower.

Open the DC terminal cover from the right; the cover is attached to the body to prevent loss. Securely connect the flash's PC cord to the flash sync terminal. Confirm the flash is off before connecting the cable to prevent it from firing.



To ensure correct exposures, use the manual exposure mode (p. 44). Set the shutter speed equal to or slower than the flash duration; refer to the flash unit's instruction manual.

If the built-in flash is raised when another flash unit is connected to the flash sync terminal, both flash units will fire. However, the camera's automatic flash control systems will not provide correct exposures. To use the built-in flash as a fill light, use manual flash control (p. 75).

The use of custom white balance is recommended (p. 61). When calibrating the camera, use the shutter speed and aperture settings require for the final exposure. A gray card may have to be used as the reference target with powerful flash units to reduce the intensity of the illumination. If custom white balance is not practical, use the preset daylight or flash setting or set the color temperature (p. 62) to the flash unit's color temperature if known; auto white balance is not recommended.

To make an exposure bracket, press and hold the AEL button during the bracketing series. The camera's flash-compensation dial has no affect on the flash exposure.

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. These manuals do not cover the basic operation of computers or their operating systems; please refer to the manual supplied with your computer.

SYSTEM REQUIREMENTS

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

Windows 98, 98SE, Me, 2000 Professional, and XP

Macintosh OS 9.0 ~ 9.2.2 and Mac OS X 10.1.3 ~ 10.1.5, 10.2.1 ~ 10.2.8, 10.3 ~ 10.3.5

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

North America: <http://www.konicaminolta.us/>

Europe: <http://www.konicaminoltasupport.com>

Users with Windows 98 or 98 second edition will need to install the driver software on the included DiMAGE software CD-ROM (p. 122). 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 this camera with a computer. The new software will have no affect on the performance of DiMAGE cameras.

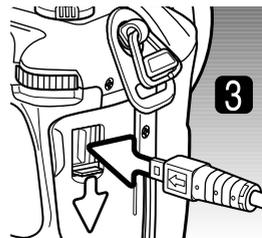
A remote camera driver is supplied in the Windows edition of the DiMAGE Viewer CD-ROM. This driver is not compatible with this camera.

CONNECTING THE CAMERA TO A COMPUTER

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

1. Confirm the data-transfer option in section 1 of the setup menu is set to "Data storage" (p. 102). Turn the camera off.
2. Start up the computer. The computer must be on before connecting the camera.
3. Slide open the video out / USB port cover. Attach the smaller plug of the USB cable to the camera. The plug should be firmly attached.
4. 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.
5. With a memory card inserted, turn on the camera. A screen appears 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 130.

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



Initializing USB connection.

5



Desktop: Mac OS



My Computer: Windows

CONNECTING TO WINDOWS 98 / 98 SECOND EDITION

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

AUTOMATIC INSTALLATION



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



When the driver has been successfully installed, a window appears. Click "OK." Restart the computer before connecting the camera (p. 121).



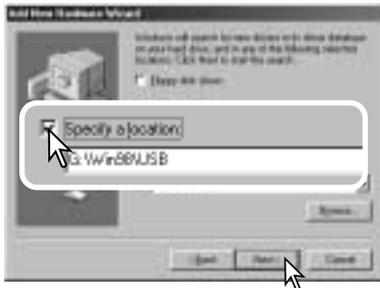
Manual installation

To install the Windows 98 driver manually, follow the instructions in the connecting-the-camera-to-a-computer section on page 121.

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



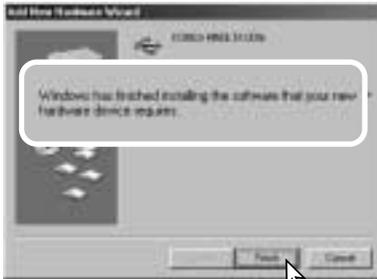
Choose the recommended search for a suitable driver. Click “Next.”



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 confirms 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 varies between computers. Click “Next” to install the driver in the system.



The last window confirms 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 is displayed. Double click on the icon to access the camera’s memory card; see page 126.

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.

Konica Minolta History

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

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

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



MEMORY CARD FOLDER ORGANIZATION



Drive Icon

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



Dcim



Misc

The misc. folder contains DPOF print files (p. 88).

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.



100KM023



10141023

From left to right: standard folder and date folder (p. 108).



PICT0001.MRW



PICT0002.JPG

Extra fine, fine,
or standard
image



PICT0003.JPE



PICT0003.THM

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

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

PICT0001.THM

RAW image

When a new folder is created, the first three digits in the folder name is 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 is created with a number one greater than the greatest folder number on the memory card: e.g. from 100KM023 to 101KM023.

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 adjust itself to show the number of images on the card and reassign the frame numbers accordingly. The file numbers on the image files do not change when an image is deleted. When a new image is recorded, it is 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. 107).

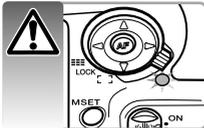
Camera Notes

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 DiIMAGE Viewer and DiIMAGE Master 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 DiIMAGE Viewer or DiIMAGE Master from reading it. When using software other than the DiIMAGE Viewer and DiIMAGE Master, 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.

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



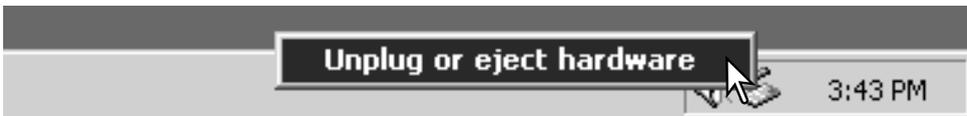
To disconnect the camera, click once on the unplug-or-eject-hardware icon located on the task bar. A small window opens indicating the device to be stopped.



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.

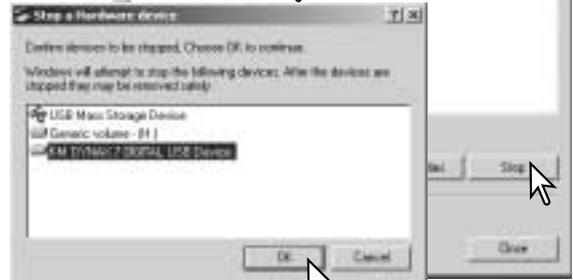
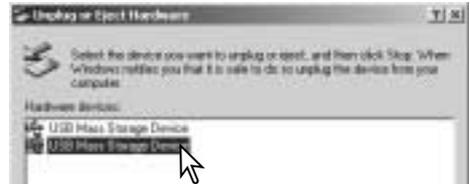


When more than one external device are connected to the computer, repeat the procedure above except right click on the unplug-or-eject-hardware icon. This opens the unplug-or-eject-hardware window after clicking on the small window indicating the unplug-or-eject-hardware routine.



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

A confirmation screen appears to indicate the devices to be stopped. Clicking “OK” stops the device.



A third and final screen appears 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. 128).
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. 129).
2. Turn off the camera.
3. Change the memory card.
4. Turn on the camera to remake the USB connection.

REMOVING THE DRIVER SOFTWARE - WINDOWS

1. Insert a memory card in the camera and connect it to the computer with the USB cable. Other devices must not be connected to the computer during this procedure.
2. Right click on the My-computer icon. Select “properties” from the drop-down menu.

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

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

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

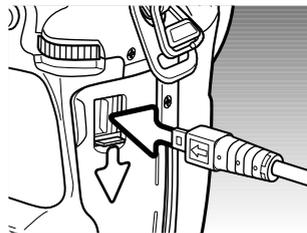
4. The driver file will be located in the universal-serial-bus-controller or other-devices location of the device manager. Click on the locations to display the files. The driver should be indicated with Konica Minolta, the camera name, or “USB Mass Storage Device.” Under certain conditions, the driver name may not contain these names. However, the driver will be indicated by either a question mark or exclamation point.
5. Click on the driver to select it.
6. Windows 2000 and XP: click on the action button to display the drop-down menu. Select “uninstall.” A confirmation screen will appear. Clicking “Yes” will remove the driver from the system.

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

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

PICTBRIDGE

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



Individual still images can be selected for printing on the PictBridge screen; RAW and images with the embedded Adobe RGB color profile (p. 68) are not displayed and cannot be selected. For other printing options, see the menu navigation section on page 134.

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



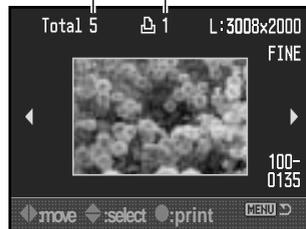
Press the up key to select the number of copies to be printed. To deselect an image for printing, press the down key until the number of copies reaches zero. A maximum number of fifty images can be printed.



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



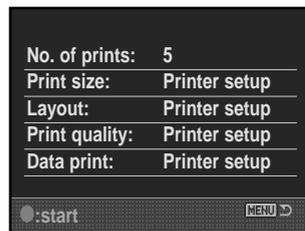
Total number of prints
Number of copies



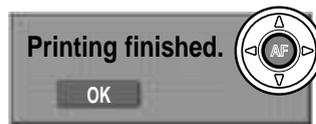
PictBridge screen

The display button switches between the single frame and index playback formats on the PictBridge screen. Enlarged playback, activated with the magnification button (p. 38), can be used to examine image files on the screen.

The number of prints in the print run are displayed as well as the print parameters selected with the menu. See the menu navigation section for more information (p. 134). Press the central button of the controller to begin printing, or press the menu button to return to the PictBridge screen.



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



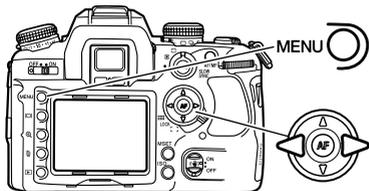
NOTES ON PRINTING ERRORS

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

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

NAVIGATING THE PICTBRIDGE MENU

Pressing the menu button opens and closes the menu. The four-way keys of the controller and the control dials move the cursor in the menu. Pressing the central button of the controller enters a setting. The options that can be changed vary with the printer.



Activate the menu with the menu button. Tab 1 at the top of the menu is highlighted.



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



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



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

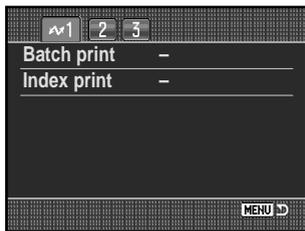


Use the up/down key to highlight the new setting.



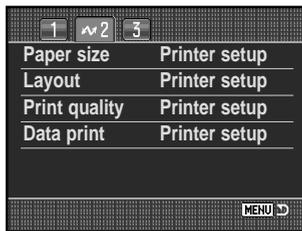
Press the central button of the controller to select the highlighted setting.

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

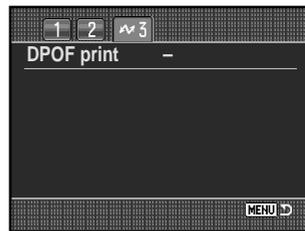


Index to menu functions

Batch print, 135
 Data print, 137
 DPOF print, 137



Index print, 135
 Layout, 136
 Paper size, 136



Print quality, 137

Batch print

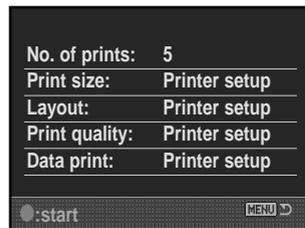
Batch print in section 1 selects all still images on the memory card for printing. Two options are available:

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

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

Index print

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



Paper size

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

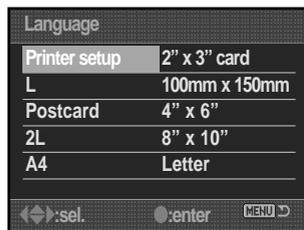
Highlight the current size setting in the menu and press the central button of the controller to open the paper-size screen.



Use the four-way keys of the controller to highlight the paper size.



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



Printing Notes

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

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

Layout

The layout of the print can be set in section 2 of the PictBridge menu. The printer-setup option uses the layout parameters of the printer. Borderless printing can be specified with the camera as well as the number of images per page.

Print quality

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

Data print

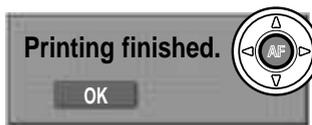
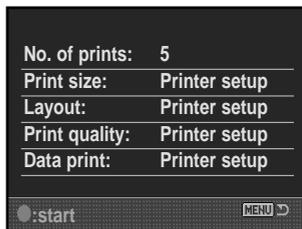
Data can be printed with the image in section 2 of the PictBridge menu. The printer-setup option uses the options set with the printer. The date of capture and the file name can be selected for printing. Data printing can also be disabled with the menu.

DPOF print

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

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

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



TROUBLESHOOTING

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

Problem	Symptom	Cause	Solution
The camera will not work.	Nothing displayed on monitor.	The batteries are dead.	Recharge battery (p. 21).
		The AC adapter is not connected properly.	Check that the adapter is connected to the camera and a live electrical outlet (p. 114).
		Display mode set to off.	Change the display mode to full or basic (p. 33).
	"Err" displayed on the monitor.	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.	"0000" is displayed on the frame counter.	Memory card is full and unable to store an image at the image-quality or image-size setting on the camera.	Insert a new memory card (p. 24), delete some images (p. 36), or change the image-quality or image-size setting (p. 64).
	"----" is displayed on the frame counter.	No memory card in the camera.	Insert a memory card (p. 24).
	Focus signal blinks.	AF/Shutter release priority in the custom menu is set to AF	See page 94 for more on this custom function.

Problem	Symptom	Cause	Solution
Pictures are not sharp.	Focus signal is blinking.	Subject is too close.	Make sure the subject is within the focus range of the lens.
		A special situation is preventing the autofocus system from focusing (p. 29)	Use the focus-lock function to focus on an object at the same distance as the subject (p. 30) or use manual focus (p. 52).
	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. 51), or use the flash (p. 31).
While using flash, the pictures are too dark.	The subject is beyond the flash range (p. 51).		Move closer to the subject or change the camera sensitivity to a higher setting (p. 51).
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. Also see the lens shadowing section on page 115.

Problem	Symptom	Cause	Solution
Inaccurate exposures with very bright or dark scenes.	Shutter speed and/or aperture display blink.	Subject or scene is outside the exposure control range of the camera.	Adjust the exposure until the display stops blinking or change camera sensitivity (p. 51).
	Arrows blink at each end of the Ev scale.	Subject or scene is outside the metering range of the camera.	In dark conditions, use the camera flash. Under bright light, use a neutral density filter on the lens to control the light levels.
Anti-Shake does not work.	The viewfinder Anti-Shake scale is blinking.	CCD setup error.	Turn the camera off and on. If the Anti-Shake scale continues to blink, contact a Konica Minolta service facility.
Unable to see recorded images in playback.	Folder number not displayed.	Folder is not selected with the view-folder option in section 1 of the playback menu.	Select the folder with the menu (p. 82).

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.

CARE AND STORAGE

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

CAMERA CARE

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

CLEANING

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

STORAGE

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

OPERATING TEMPERATURES AND CONDITIONS

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

MEMORY CARD CARE AND HANDLING

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

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

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

BATTERIES

- Battery performance decreases with temperature. In cold environments, we recommend keeping spare batteries in a warm place, such as the inside of a coat. Batteries can recover their power when they warm up.
- Do not store the battery when it is fully charged.
- When storing the battery for extended periods, recharge it for five minutes every six months. The battery may not be able to be charged if completely exhausted.
- A special built-in battery supplies power to the clock and memory when the camera is exhausted or removed. If the camera resets each time the battery is removed, the

battery is exhausted. It must be replaced at a Konica Minolta service facility.

- Keep battery and camera charger contacts clean. Dirty contacts can prevent charging. If the contacts become dirty, wipe them with a cotton swab.

LCD MONITOR CARE

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

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

BEFORE IMPORTANT EVENTS OR JOURNEYS

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

QUESTIONS AND SERVICE

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

TECHNICAL SPECIFICATIONS

Number of effective pixels:	6.1 million
CCD:	APS-C size (23.5 X 15.7mm) interline primary-color CCD with a total of 6.3 million pixels
Camera sensitivity (ISO):	Auto, 100, 200, 400, 800, 1600, 3200 ISO equivalents
Aspect ratio:	3:2
A/D conversion:	12 bit
Autofocusing system:	TTL phase-detection system with CCD line sensor.
AF sensitivity range:	Ev -1 ~ +18 (at ISO 100)
Meter:	14-segment honeycomb-pattern SPC
Metering range:	Ev \pm 0 ~ +20 (Spot: Ev +3 ~ +20) at ISO 100, <i>f</i> /1.4.
Shutter:	Electronically-controlled, vertical-traverse, focal-plane shutter
Flash guide number:	12 (in meters at ISO 100)
Flash sync.:	1/125s with Anti-Shake, 1/160s without Anti-Shake
Flash coverage:	Equal to a 24mm focal-length lens
Built-in flash recycling time:	3s (approx.)
Viewfinder:	Eye-level fixed glass pentaprism.
Field of view:	95% (approx.)
Eye relief:	Approximately 25mm from the eyepiece or 21mm from the eyepiece cup at -1 diopter.
Viewfinder magnification:	0.9x (50mm lens at infinity at -1 diopter).
Monitor LCD:	2.5 inch TFT color
Recording media:	Type I and II CompactFlash cards, Microdrives.
File formats:	JPEG and RAW. DCF 2.0, DPOF, and Exif 2.21 compliant.
PRINT Image Matching III:	Yes
Menu languages:	English, German, French, Spanish, Japanese, Italian, Swedish, and Chinese.
Video output:	NTSC and PAL

Battery: One Lithium-ion Battery NP-400
Optional power source: AC adapter (AC-1L or AC-11)
Vertical Control Grip VC-7D
Battery performance (recording): Approx. number of recorded images: 400 frames.
Based on the CIPA standard with a NP-400 lithium-ion
battery, 512MB CompactFlash card.
Dimensions: 150.0 (W) X 106.0 (H) X 77.5 (D) mm
5.9 (W) X 4.2 (H) X 3.1 (D) in
Weight: Approximately 760g (26.8 oz)
(without batteries or memory card)
Operating temperature: 0° - 40°C (32° - 104°F)

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.

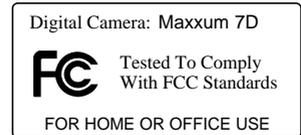
The following marks may be found on the product:



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

FCC Compliance Statement
Declaration on Conformity

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



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Do not remove the ferrite cores from the cables.

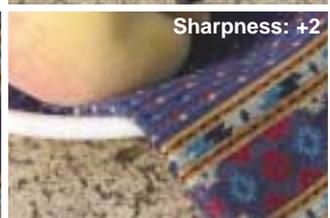
This Class B digital apparatus complies with Canadian ICES-003.

DIGITAL EFFECTS CONTROL EXAMPLES

The Digital Effects Controls are accessed from section 1 of the recording menu (p. 64)
See page 69 on how to set Digital Effects.



Hue corrections are made by rotating the color in the image within a color space.





KONICA MINOLTA

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