

Custom White Balance

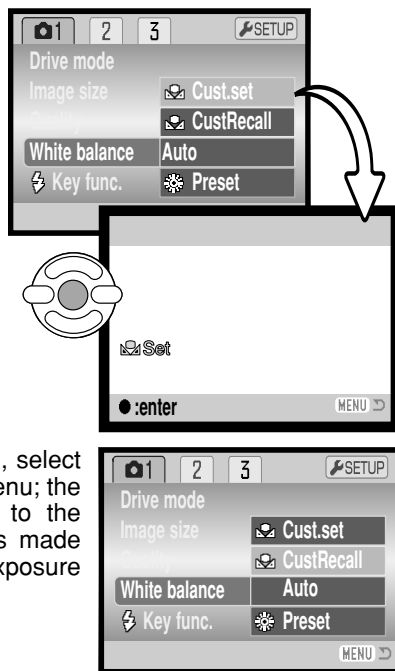
Custom white-balance allows the camera to be calibrated to a specific lighting condition. The setting can be used repeatedly until reset. Custom white balance is especially useful with mixed-lighting or when critical control over color is needed. The object used to make a calibration must be neutral. A blank piece of white paper is an ideal surface and can easily be carried in a camera bag.

To calibrate the camera, select custom setup (Cust.set) from the white balance option in section 1 of the movie, and P, A, S, and M exposure-mode menus (p. 44); the custom white-balance calibration screen opens.

Fill the image area with a white object; the object does not need to be in focus. Press the central button of the controller to make the calibration or press the menu button to cancel the routine.

The live view shows the effect of the new white balance setting. The custom setting will remain in effect until another calibration is made or the white-balance setting is changed.

If the custom white-balance setting is required again, select custom recall from the white-balance option of the menu; the last custom white-balance setting will be applied to the camera. The same custom white-balance setting is made and accessed from the movie, P, A, S, and M exposure modes.

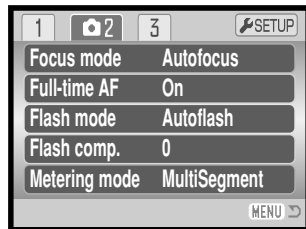


FULL-TIME AF

With full-time AF active, the autofocus systems continually focuses to keep the monitor image sharp. This also reduces the autofocus time when taking pictures. When the camera is set to manual focus, full-time AF is disabled. Turning the full-time AF function off can help conserve battery power. Full-time AF can be turned on and off in section 2 of the P, A, S, and M menus (p. 44).

FLASH MODE

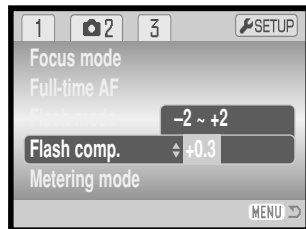
The flash modes can be changed in section 2 of the P, A, S, and M menus (p. 44). This menu option is used when another function is assigned to the flash mode button, see page 65 on the custom key function. For more on flash modes, refer to page 26.



FLASH COMPENSATION

Flash compensation increases or decreases the flash exposure of the built-in flash in reference to the ambient exposure by as much as 2 Ev.

Select the flash compensation option section 2 of the P, A, S, and M menus (p. 44). Use the up/down keys to adjust the degree of compensation (1). Press the central controller button to set this value (2). If any value other than 0.0 is set, an indicator will be displayed on the monitor as a warning.



Positive compensation No compensation

Negative compensation No flash

Flash compensation changes the ratio between the ambient and flash exposures. When using fill-flash to reduce harsh shadows caused by direct sunlight, flash compensation changes the ratio between the highlights and shadows. The flash affects the darkness of the shadows without affecting the area illuminated by the sun. By decreasing the flash output with a negative Ev setting, the shadows receive less light and are deeper, but retain detail that would be lost without the flash. Using a positive Ev setting will soften or eliminate shadows.

METERING MODES

Metering mode indicators are displayed on the monitor. The metering mode is set in section 2 of the P, A, S, and M menus (p. 44).



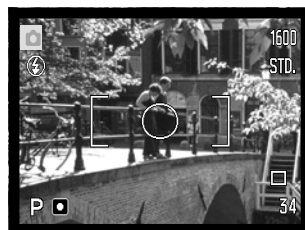
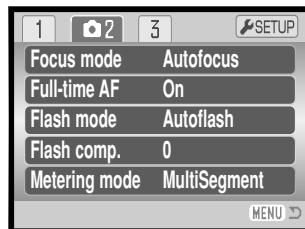
Multi-segment metering: uses 256 segments to measure luminance and color. This data is combined with distance information to calculate the camera exposure. This advanced metering system will give accurate worry-free exposures in almost all situations.



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

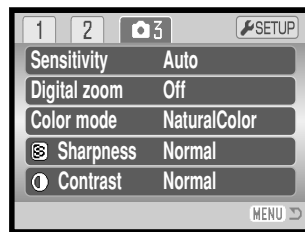


Spot metering: uses a small area within the image to calculate the exposure. A small circle appears in the middle of the live image indicating the measuring area. The spot allows precise exposure measurements of a particular object without being influenced by extremely bright or dark areas within the scene.



CAMERA SENSITIVITY - ISO

Five camera sensitivity settings can be selected: Auto, 50, 100, 200, and 400; the numerical values are based on an ISO equivalent. ISO is the standard used to indicate film sensitivity: the higher the number, the more sensitive the film. Camera sensitivity is set in section 3 of the P, A, S, and M menus (p. 44).



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

A specific sensitivity setting can be selected. As the ISO value doubles, the camera sensitivity doubles. Like grain in silver-halide film that increases with speed, noise increases with sensitivity in digital imaging; an ISO setting of 50 will have the least noise and 400 will have the most. An ISO setting of 400 may allow the camera to be hand-held in low-light conditions without the need of a flash. The affect of noise with exposures of one second or longer is reduced by the noise-reduction function in section 3 of the setup menu (p. 91).

FLASH RANGE AND CAMERA SENSITIVITY

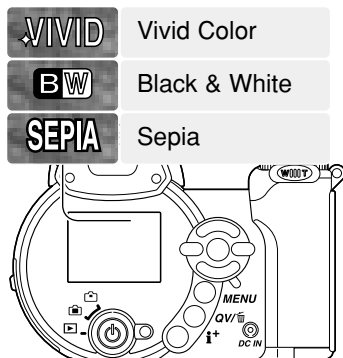
The flash range is measured from the CCD. Because of the optical system, the flash range is not the same at the lens' wide-angle position as it is at the telephoto position.

ISO setting	Flash range (wide angle)	Flash range (telephoto)
AUTO	0.23 - 6.1m (0.75 - 20ft.)	1.2 - 4.8m (3.9 - 15.7ft.)
50	0.23 - 3.1m (0.75 - 10.2ft.)	1.2 - 2.4m (3.9 - 7.9ft.)
100	0.23 - 4.3m (0.75 - 14ft.)	1.2 - 3.4m (3.9 - 11.2ft.)
200	0.23 - 6.1m (0.75 - 20ft.)	1.2 - 4.8m (3.9 - 15.7ft.)
400	0.23 - 8.6m (0.75 - 28ft.)	1.2 - 6.9m (3.9 - 22.5ft.)

COLOR MODE

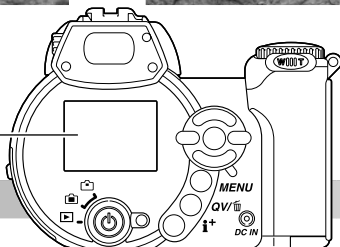
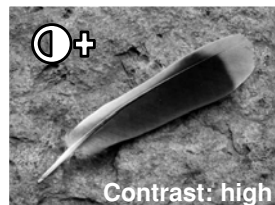
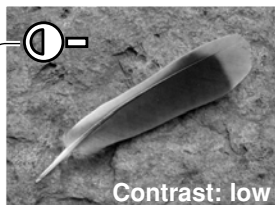
The color mode controls whether a still image is color or black and white. This must be set before the image is recorded. The color mode is set in section 3 of the P, A, S, and M menus (p. 44). The live image reflects the selected color mode. The color mode has no effect on image file size.

Natural Color reproduces the colors in the scene faithfully. This mode uses no monitor indicator when active. Vivid Color increases the saturation of the colors in the scene. Black & White produces neutral monochrome images. The sepia mode creates warm-tone monochrome images.



CONTRAST

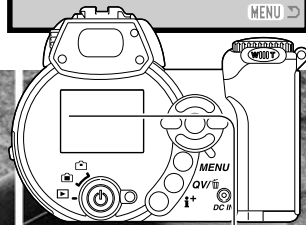
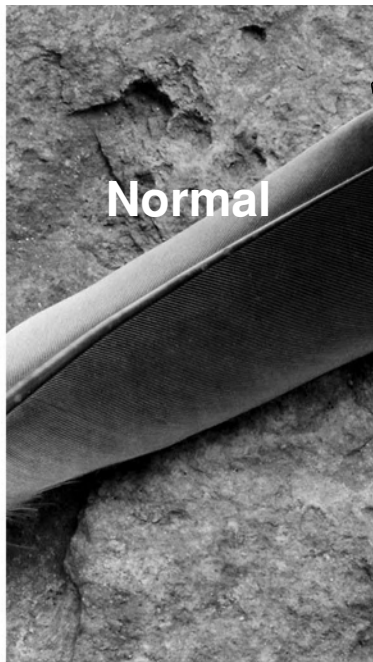
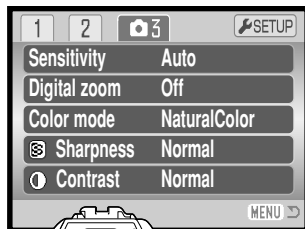
This function increases or decreases the contrast of the scene in three levels: high (+), normal, and low (-). This can be set in section 3 of the P, A, S, and M menus (p. 44). Any changes made are applied to the live image. If any level except normal is selected, an indicator appears on the monitor as a warning.



SHARPNESS

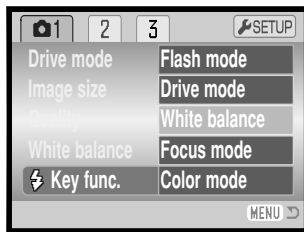
Sharpness accents or softens details in an image in three levels: hard (+), normal, and soft (-). This can be set in section 3 of the P, A, S, and M menus (p. 44).

Any changes made are applied to the live image, but may be difficult to see. However, when viewed with a computer, the changes will be evident. If any level except normal is selected, an indicator appears on the monitor as a warning.

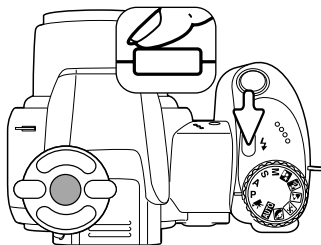


CUSTOM KEY FUNCTION

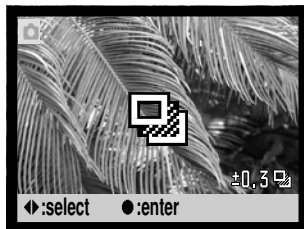
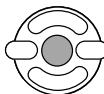
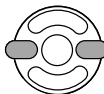
The function assigned to the flash mode button can be selected among the flash mode, drive mode, white balance, focus mode, and color mode. This can be set in section 1 of the P, A, S, and M menus (p. 44). The flash mode can also be changed in section 2 of the P, A, S, and M menus.



Pressing the flash-mode button changes the function set in the menu. Press the central button of the controller or press the shutter-release button partway down to apply the setting.



When selecting the continuous advance, progressive capture, or bracketing drive mode, or preset white balance, a selection screen appears. Use the left/right keys of the controller to display the appropriate mode or bracketing increment and press the central button of the controller to select it.



When selecting custom white balance, the calibration screen appears. Fill the frame with a white object and press the central button of the controller to calibrate the camera.

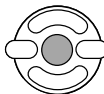
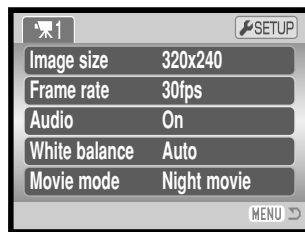


IMAGE SIZE (MOVIE)

Movies can be recorded at three sizes: 640x480, 320x240, and 160x120. The larger the image size, the higher the image quality and the larger the file sizes. Image size is set in the movie menu (p. 44).



FRAME RATE

Movies can be recorded at two frame rates: 15 fps and 30 fps. The higher the frame rate, the smoother the moving image and the larger the file sizes. Frame rate is set in the movie menu (p. 44).

MOVIE FILE SIZES

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

		Approximate recording rate		
	Image size	640 X 480	320 X 240	160 X 120
Frame rate				
30 frames per second		1060KB/s	670KB/s	160KB/s
15 frames per second		535KB/s	340KB/s	85KB/s
Approximate number of seconds that can be stored on a 16MB memory card.				
30 frames per second		13 seconds	21 seconds	82 seconds
15 frames per second		26 seconds	41 seconds	150 seconds

AUDIO

Movie can be recorded with and without audio. Audio is set in the movie menu (p. 44). When audio is off, the optical zoom can be used during movie recording.

MOVIE MODE

The movie mode option selects the type of movie recorded. Standard produces a normal movie clip. Night Movie uses high camera sensitivity to record under low light levels; camera sensitivity will automatically increase in low light. Image quality can be lower with Night Movies because of the higher sensitivity. The movie mode is set in the movie menu (p. 44).

NOTES ON MOVIE RECORDING

In movie recording, some functions can be changed with the movie menu. Exposure, focus, and camera sensitivity are automatic. Exposure compensation can be used (p. 41). When the red low-battery indicator appears (p. 14), power is insufficient for movie recording.

The optical zoom can be used during recording if the audio is turned off in the menu. A 4X digital zoom is available with or without audio during recording when the frame rate is set to 15fps.

Depending on the image size and frame rate, the writing speed of the memory card in use may prematurely end the recording of a movie clip, especially with 640 X 480 size images at 30 frames per second. Test the card before important events. Check the Minolta web site for the latest compatibility information:

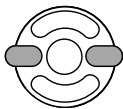
North America: <http://www.minoltausa.com>

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

ADVANCED PLAYBACK

The basic functions in this mode are described in the basic playback section on pages 30 through 33. This section covers how to playback movie clips as well as the advanced function on the playback menu. Movie clips can be played back in Quick View.

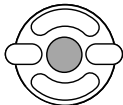
PLAYING BACK MOVIES



Use the left/right keys of the controller to display the movie.



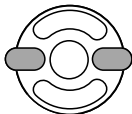
Press the center of the controller to play back the movie clip.



Press the controller to pause the movie playback; press the controller again to resume the playback.



Press the display button to view the movie with or without the guidance bar.



During playback, the up/down keys adjust the volume and the left/right keys rewind and fast forward the recording.

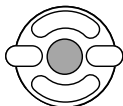


MENU To cancel the playback, press the menu button.

CAPTURING A MOVIE FRAME



A single frame from a movie clip can be copied and saved as a still image. The copied image has the same image size as the original movie.



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



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




The file name of the captured image is displayed. Press the center button of the controller to complete the operation.

320X240 and 160X120 size images cannot be enlarged in the Quick View or playback modes.

NAVIGATING THE PLAYBACK MENU

Pressing the menu button (1) turns the menu on and off. The four-way keys of the controller (2) move the cursor in the menu. Pressing the central button of the controller enters a setting.

 **MENU** Activate the menu with the menu button.



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



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



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

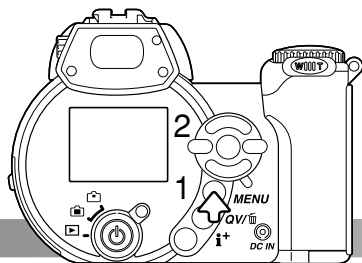


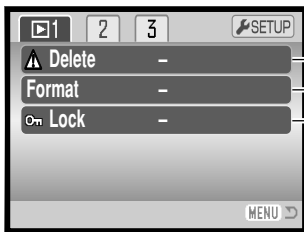
Use the up/down keys to highlight the new setting.



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

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

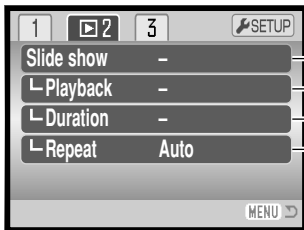




To delete images on the memory card (p. 73).

To format the memory card (p. 74).

To protect images from deletion (p. 75).

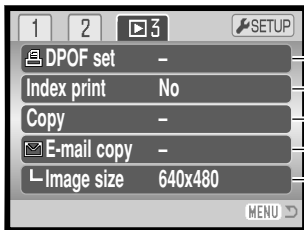


To play back images automatically (p. 76)

To select the images for the Slide Show (p. 76).

To specify how long each image is played back (p. 76)

To repeat the Slide Show presentation automatically (p. 76).



To select images for DPOF printing (p. 78).

To create an index print with the DPOF order (p. 79)

To copy images from one memory card to another (p. 80).

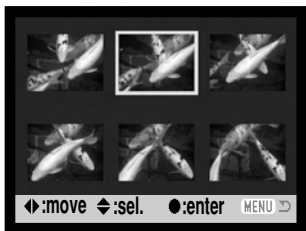
To copy and resize images to be e-mailed (p. 80).

To specify the size of the e-mail copy (p. 80).

Refer to the following sections for descriptions of the menu options.

FRAME-SELECTION SCREEN





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



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




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

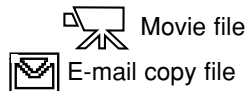
-  The garbage can indicates the image is selected for deletion.
-  The key indicates the image is locked or selected to be locked.
-  The printer icon indicates the image is selected for DPOF printing. The number of copies is shown on the right.
-  The check indicates the image is selected for the slide show or to be copied.



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

-  **MENU** The menu button cancels the screen and any operation made.

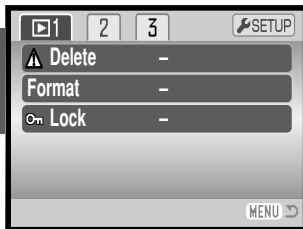
Indicators may be displayed on the right of each index image to indicate movie and E-mail copy files.



DELETE



Deleting permanently erases the file. Once deleted, a file cannot be recovered. Care should be taken when deleting images.

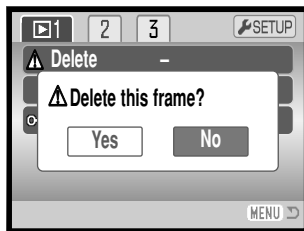


Single, multiple, or all files on the memory card can be deleted in section 1 of the playback menu (p. 70). The delete option has three settings:

This frame	The file displayed or highlighted in the playback mode is deleted.
All frames	All unlocked files are deleted.
Marked frames	To delete multiple files. When this setting is chosen, the frame-selection screen is displayed. Use the left/right keys of the controller to highlight the first file to be deleted. Pressing the up key marks the thumbnail with the delete indicator. To deselect a file for deletion, highlight it with the yellow border and press the down key; the indicator disappears. Continue until all the files to be deleted are marked. Press the central button of 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 files.

Before a file is deleted, a confirmation screen appears. Choosing “Yes” executes the operation, “No” cancels it.

The delete function will only erase unlocked files. Locked files must be unlocked before they can be deleted.



FORMAT



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

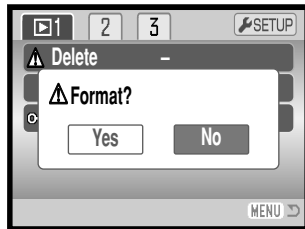
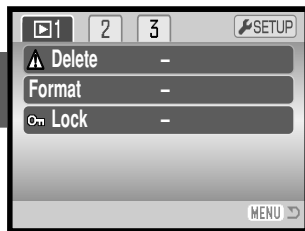
The formatting function is used to erase all data on a memory card. Before formatting a memory card, copy the data to a computer or storage device. Locking images will not protect them from being deleted when the card is formatted. Always format the memory card using the camera; never use a computer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

When the format option is selected and entered in section 1 of the playback menu (p. 70), a confirmation screen appears. Choosing “Yes” formats the card, choosing “No” cancels the formatting operation. A screen appears to indicate the card has been formatted.

A memory card used in another camera may have to be formatted before being used. If the unable-to-use-card message appears, the card should be formatted with the camera. If the card-error message appears, press the central button of the controller to close the window; check the Minolta web site for the latest compatibility information:

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

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



LOCK

Single, multiple, or all files can be locked. A locked file cannot be deleted by either the playback menu functions or the QV/delete button. However, the formatting function (p. 74) will erase all files on a memory card whether locked or not. Important images should be locked. The lock function is in section 1 of the playback menu (p. 70). The lock option has four settings:

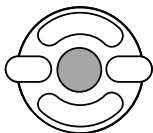
This frame	The file displayed or highlighted in the playback mode is locked.
All frames	All files on the memory card are locked.
Marked frames	To lock or unlock multiple files. When this setting is chosen, the frame-selection screen is displayed. Use the left/right keys of the controller to highlight the file to be locked. Pressing the up key marks the file with the lock indicator. To unlock a file, highlight it with the yellow border and press the down key; the lock indicator disappears. Continue until all the files to be locked are marked. Press the central button of the controller to lock the marked thumbnails, or press the menu button to cancel the operation and return to the playback menu.
Unlock all	All files on the memory card are unlocked.

SLIDE SHOW

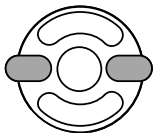
Section 2 of the playback menu controls the slide-show function. This function automatically displays all still images and movie clips on the memory card in order. The menu has the following options:

Slide show	Enter	To start the slide-show presentation. Highlight “Enter” and press the central button of the controller to start the slide show.
Playback	All frames	To select all the images on the memory card to be displayed in the slide-show presentation.
	Marked Frames	To select specific images to be displayed in the slide-show presentation. When this setting is chosen, the frame-selection screen is displayed. Use the left/right keys of the controller to highlight the image to be included in the presentation. Pressing the up key will mark the image with a check indicator. To deselect a marked image, highlight it with the yellow border and press the down key; the check disappears. Continue until all the images have been edited. Press the controller to set the marked frames, or press the menu button to cancel the operation and return to the playback menu.
Duration	1 - 60s.	To select the period each still image is displayed during the slide show.
Repeat	Yes / No	Selecting “Yes” causes the slide show to repeat until it is canceled using the menu button. “No” ends the slide show presentation and returns to the playback menu when all the images have been displayed once.

The controller can be used to control the presentation during playback.



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



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



MENU Press the menu button to cancel the presentation.

Camera Notes



The presentation can be viewed without image information. Before opening the playback menu, press the information (i+) button to turn off the information display.



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 created on the memory card to store it (p. 98).

DPOF SETUP

The DPOF-set menu option is used to create an order for standard prints from still images on the memory card. Single, multiple, or all images can be printed. Print orders are created in section 3 of the playback menu (p. 70). The print menu option has four settings:

This frame	To create a DPOF file for the displayed or highlighted image.
All frames	To create a DPOF file for all images on the memory card.
Marked frames	To chose a group of images to be printed or when the number of copies of each image varies. When selected, the frame selection screen appears. Use the left/right keys of the controller to highlight an image to be printed. Pressing the up key will mark the image with the print indicator. The number next to the indicator shows the number of copies that 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 number of copies reaches zero and the print indicator disappears. Continue until all the images to be printed are marked. Press the central button of the controller to create the DPOF file, or press the menu button to cancel the operation and return to the playback menu.
Cancel all	To delete the DPOF file.

When the this-frame or all-frames setting 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 required number of copies. If the all-frames setting was used to create a print order, any additional images recorded afterwards will not be included in the order.

DPOF files created with another camera will be canceled. After the pictures have been printed, the DPOF file will still remain on the memory card and must be canceled manually.

INDEX PRINT

To create an index print of all the images on the card, select “Yes” in the index print option in section 3 of the playback menu. To cancel an index print, simply change the setting to “No.”

If an index-print order is created, any additional images saved afterwards on the card will not be included in the index print. The number of images printed per sheet differs between printers. The information printed with the thumbnails can vary.

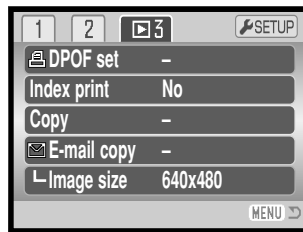


Camera Notes

DPOF files and images can be printed directly from the camera, see page 105.

COPY AND E-MAIL COPY

The copy function makes exact copies of image or movie files and can store the copied data on another memory card. E-mail Copy makes a standard 640 X 480 (VGA) or 160 X 120 (QVGA) JPEG copy of an original still image so that it may be easily transmitted by e-mail. E-mail copies can only be copied to the original card. The copy functions are selected in section 3 of the playback menu (p. 70).



When a copy function is used, a folder is created for the files (p. 98); copy files are placed in a folder with a name ending in CP, and E-mail Copy images are placed in a folder ending in EM. The same folder is used to store copies until the number of images exceed 9,999. Copies of locked images are unlocked. DPOF information is not copied.

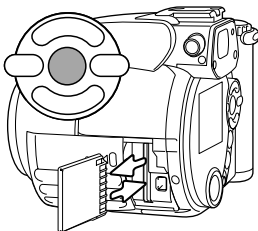
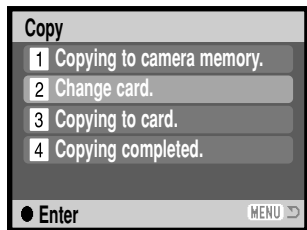
The copy and E-mail copy functions have two menu options:

This frame	To copy the file displayed or highlighted in the playback mode.
Marked frames	To copy single or multiple files. When selected, the frame-selection screen will appear; highlight the file to be copied with the yellow border and then press the up key of the controller to mark it with the check indicator. To deselect a file to be copied, highlight the selected thumbnail and press the down key; the check disappears. Continue until all the files to be copied are marked. Press the central button of the controller to continue, or press the menu button to cancel the operation and return to the playback menu.

Up to 16 MB of data can be copied. If too many images have been selected, a warning will appear and the copy routine will be canceled. Divide the number of images into two or three batches. The amount of data can be converted into E-mail copies depends on the free space remaining on the memory card and the image size of the copy. The image size of the E-mail copy is selected in section 3 of the playback menu (p. 70).

Copy

When the image(s) to be copied are selected, a screen with four messages is displayed. The messages are highlighted during the copying procedure.



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

Copied to 101MLTCP.

OK

After the copy-completed message is highlighted, a screen indicates the name of the folder containing the copied images; press the central controller button to return to the menu.

E-mail Copy

Before starting the E-mail copy routine, select the image size of the copy in section 3 of the playback menu. Two sizes are available: 640 X 480 (VGA) or 160 X 120 (QVGA). To copy captured movie frames, the image size must be equal to or smaller than the frame image size.

Copied to 101MLEM.

OK



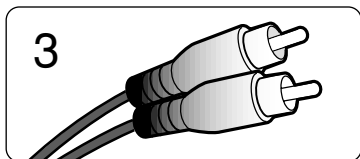
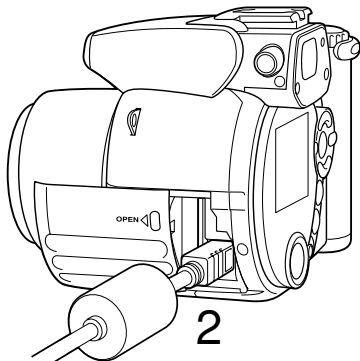
When the image(s) to be converted to an e-mail file are selected, the copy routine begins and a screen appears indicating the name of the folder containing the copied images; press the central button of the controller to return to the menu.

Camera Notes

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

VIEWING IMAGES ON A TELEVISION

It is possible to view camera images on your television. The camera has a video-out terminal to make the connection using the supplied AV cable. The camera is compatible with the NTSC and PAL standards. The video-output setting can be checked and set in section 4 of the setup menu (p. 83).



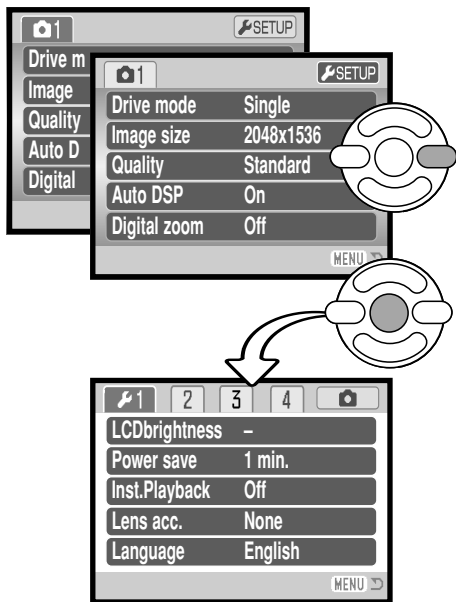
1. Turn off the television and the camera.
2. Insert the small plug of the AV cable into the camera's AV-out terminal. The triangular mark on the plug should face the back of the camera.
3. Plug the other end of the AV cable into the video and audio input terminals on the television. The yellow plug is for the video output. The white plug is for the monaural audio output.
4. Turn the television on.
5. Change the television to the video channel.
6. Turn the camera's mode dial to the playback position and turn on the camera. The camera's monitors will not activate when the camera is attached to a television. The playback-mode display will be visible on the television screen.
7. View images as described in the playback section.

SETUP MENU

The setup menu is used to control the camera's functions and operation. The navigating the setup menu section covers the operation of the menu. The section is followed by detailed descriptions of the settings.

OPENING THE SETUP MENU

The setup menu is opened from the other menus. It can be accessed from any of the recording or playback menus.



Setup menu

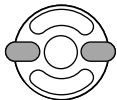
Use the right key of the controller to highlight setup tab at the top of the menu.

Press the central button of the controller to open the setup menu.

Reverse the procedure to return to the original menu. Pressing the menu button closes the menu and returns to the recording or playback modes.

NAVIGATING THE SETUP MENU

See page 83 on how to open the menu. The four-way keys of the controller (1) move the cursor in the menu. Pressing the central button of the controller enters a setting.



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



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



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



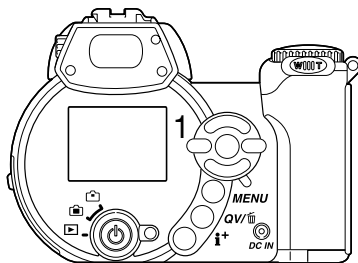
Use the up/down keys to highlight the new setting.

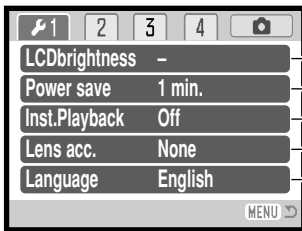


Press the central button of the controller to select the highlighted setting. Once a setting has been selected, the cursor will return to the menu options and the new setting will be displayed.



MENU Close the menu with the menu button.





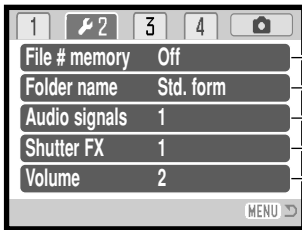
To set monitor brightness (p. 86).

To set the auto power save period (p. 86).

To play back a still image after it is recorded (p. 86).

Specified when using a lens accessory (p. 87).

To set the menu language (p. 87).



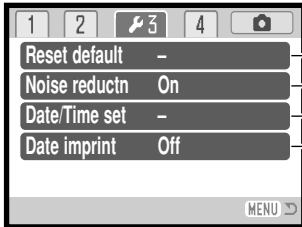
To activate file number memory (p. 87).

To select the folder name format (p. 88).

To change or turn off audio signals (p. 88).

To change or turn off the shutter sound effect (p. 89).

To adjust the volume of camera signals (p. 89).

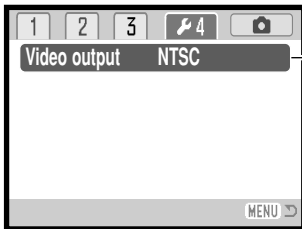


To reset camera functions (p. 89).

To turn off noise reduction (p. 91).

To set the camera's clock and calendar (p. 91).

To activate date imprinting (p. 92).

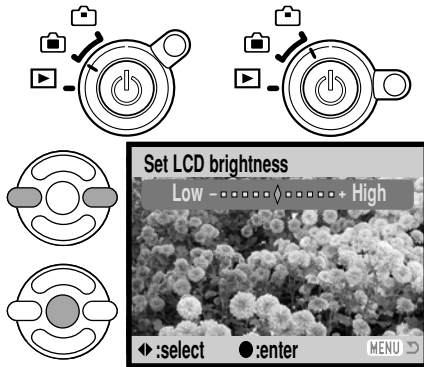


To switch video output between NTSC and PAL (p. 91).

LCD MONITOR BRIGHTNESS

Monitor brightness can be adjusted in 11 levels. Brightness can be set individually for viewfinder and direct viewing in the recording mode. Turn the mode switch to the appropriate position before opening the brightness option in section 1 of the setup menu (p. 84). Also see page 28.

Use the left/right keys of the controller to adjust brightness, the monitor image changes accordingly. Press the central button of the controller to set the level.

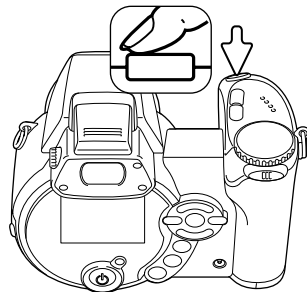


AUTO POWER SAVE

To conserve battery power, the camera will shut down if no operation is made within a certain period. The length of the auto-power-save period can be changed to 1, 3, 5, or 10 minutes. When the camera is connected to a computer, the auto-power-save period is fixed at ten minutes. Auto power save is set in section 1 of the setup menu (p. 84).

INSTANT PLAYBACK

An image can be displayed on the monitor after it is captured. When used with the continuous-advance drive mode (p. 46), thumbnails of the last six images in the series will be displayed. Instant playback is activated section 1 of the setup menu (p. 84). A playback period of two or ten seconds can be selected. To cancel the playback and save the image before the end of the playback period, press the shutter-release button partway down.



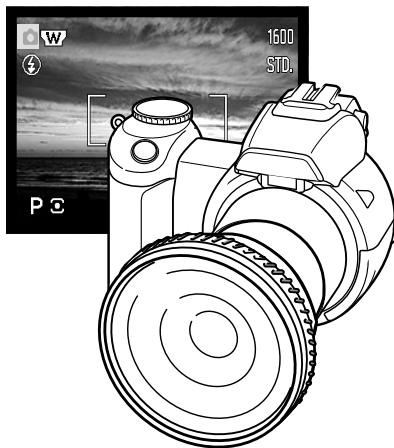
Camera Notes

Single still images can be previewed immediately after being captured without instant playback active. Simply continue to hold the shutter-release button down after taking the picture to display the image. Release the shutter button to end the playback.

LENS ACCESSORY

This camera is compatible with the optional Wide Converter Kit ZCW-100. This kit contains a 0.75X wide-angle converter, which reduces the focal length of the zoom lens' wide-angle position giving it the equivalent of a 28mm lens on a 35mm camera.

When the converter is mounted, the lens accessory option in section 1 of the setup menu should be set to "WideConvertr." An indicator (W) appears in the top left corner of the monitor as a warning. The optical zoom is automatically set to the wide-angle position. The optical zoom and Super Macro are disabled.

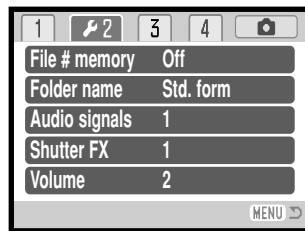


LANGUAGE

The language used in the menus can be changed in section 1 of the setup menu.

FILE NUMBER (#) MEMORY

If file number memory is selected, when a new folder is created or a new memory card is used, the next image recorded will have a file number one greater than the last file saved. If the new card contains an image with a greater file number, the new image will be assigned a file number one greater than the greatest on the card. If the file number memory is disabled, the image file number is reset to 0001 when saved in a new folder or card. File number memory is activated in section 2 of the setup menu.



FOLDER NAME

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

Standard folders have an eight character name. The initial folder is named 100MLT20. The first three digits are the folder's serial number, which will increase by one each time a new folder is created. The next three letters refer to Minolta, and the last two numbers indicate the camera used; 29 indicates a DiMAGE Z1.

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: 101YMMDD. The folder 10131219 was created in 2003 on December 19th.

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. If the file number memory function is off (p. 87), when a new folder is created, the serial number in the image-file name is reset to 0001. If file number memory function is on, the serial number in the image-file is one greater than the last image saved. For more information on folder organization and file names, see page 98.



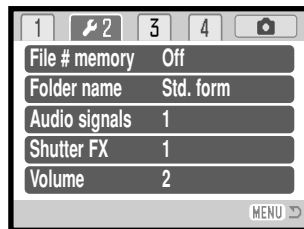
100MLT29
(Standard)



10131219
(Date)

AUDIO SIGNALS

Every time a button is pressed, an audio signal gives a positive confirmation of the operation. The audio signals can be turned off in section 2 of the setup menu (p. 84). The tone of the signal can also be changed; signal 1 is electrical and signal 2 is mechanical.



SHUTTER FX

When the shutter is released, a shutter sound effect gives a positive confirmation a still image is recorded. The sound effect can be turned off in section 2 of the setup menu (p. 84). Two shutter effects are available. Signal 1 is taken from the Dynax/Maxxum 9 SLR and signal 2 is taken from the legendary Minolta CLE, a compact rangefinder that represents the pinnacle of the development of the Leitz-Minolta CL.



VOLUME

The volume of the audio signals and shutter FX can be increased or decreased in section 2 of the setup menu (p. 84). This affects the camera's audio signals only and will not change the playback levels of a movie clip.

RESET DEFAULT

This function affects all modes. When selected, a confirmation screen appears; choosing "Yes" resets the following functions and settings, "No" cancels the operation.

Recording mode			
Focus area		Wide frames	p. 22
Monitor display		Full	p. 28
Exposure compensation		0.0	p. 41
Flash mode		Autoflash (Fill-flash in A, S, M modes)	p. 26
Drive mode		Single-frame advance	p. 46
Image size		2048 X 1536	p. 54
Image quality		Standard	p. 54
Auto Digital Subject Selection		On (Auto recording mode)	p. 23
Digital zoom		Off	p. 56
Focus mode		Autofocus	p. 57

(Continued on the next page.)

Recording mode

White balance	Auto	p. 58
Custom key function	Flash mode	p. 65
Full-time AF	Off	p. 60
Flash compensation	0.0	p. 60
Metering mode	Multi segment	p. 61
Camera sensitivity (ISO)	Auto	p. 62
Color mode	Natural color	p. 63
Sharpness	Normal	p. 64
Contrast	Normal	p. 63

Movie menu

Image size	320 X 240	p. 66
Frame rate	15 fps	p. 66
Audio	On	p. 67
White Balance	Auto	p. 58
Movie mode	Standard movie	p. 67

Playback menu

Playback (Slide Show)	All frames	p. 76
Duration (Slide Show)	5 seconds	p. 76
Repeat (Slide Show)	No	p. 76
Index print	No	p. 79
Image size (E-mail copy)	640 X 480	p. 80

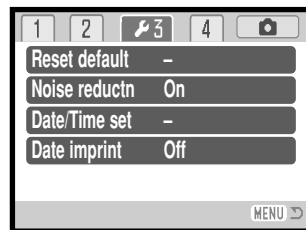
Setup menu

LCD Brightness	Normal	p. 86
Auto-power-save period	1 minute	p. 86
Instant playback	Off	p. 86
Lens accessory	None	p. 87
File number (#) memory	Off	p. 87
Folder name	Standard	p. 88
Audio signals	1	p. 89

Shutter FX	1	p. 89
Volume	2	p. 89
Noise reduction	On	p. 91
Date imprinting	Off	p. 92

NOISE REDUCTION

This function reduces the affect of dark noise caused by long exposures. Noise reduction is only applied to exposures of one second or longer. Dark-frame subtraction is applied to each image after it is captured. The processing time varies from image to image; a message will be displayed during this period. Noise reduction can be turned off in section 3 of the setup menu.

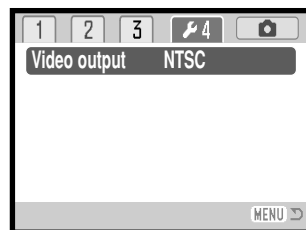


DATE AND TIME SETUP

It is important to accurately set the clock. When a still image or a movie clip is recorded, the date and time of the recording are saved with the image and are displayed during playback or can be read with the supplied DiMAGE Viewer software. The date format that is displayed or imprinted can be changed: YYYY/MM/DD (year, month, day), MM/DD/YYYY (month, day, year), DD/MM/YYYY (day, month, year). See page 18 for instructions on how to set the clock and calendar.

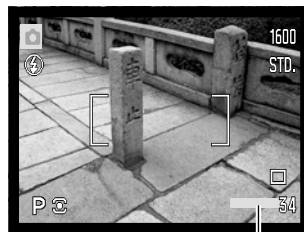
VIDEO OUTPUT

Camera images can be displayed on a television (p. 82). The video output can be changed between NTSC and PAL in section 4 of the setup menu. North America uses the NTSC standard and Europe uses the PAL standard. Check which standard is used in your region to play back images on your television set.

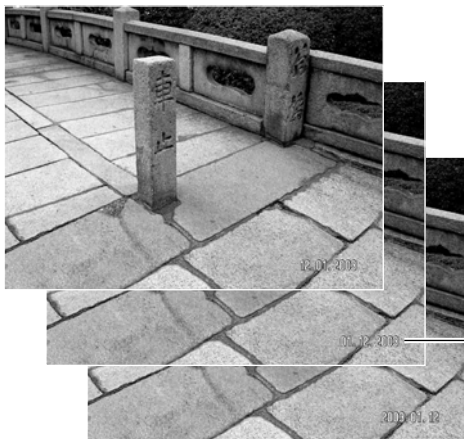


DATE IMPRINTING

The date of recording can be printed directly on the image. The imprinting function must be activated before the image is taken. Once activated, the date will continue to be imprinted until the function is reset; a yellow bar is displayed behind the frame counter to indicate the imprinting function is active. Date imprinting is activated in section 3 of the setup menu (p. 84).



Date-imprinting indicator



The date is imprinted in the lower right corner of the image when viewed horizontally. It is printed directly on the photograph writing over the image information. The date can be imprinted in three formats: year / month / day, month / day / year, and day / month / year. The date and date format are set in section 3 of the setup menu (p. 91).



Camera Notes

Every time a still image is recorded, it is stored with an exif tag that contains the date and time of recording as well as shooting information. This information can be viewed with the camera in the Quick View or playback mode, or on a computer with the DiIMAGE Viewer software.

DATA-TRANSFER MODE

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

SYSTEM REQUIREMENTS

For the camera to be connected directly to the computer and used as a mass-storage device, the computer must be equipped with a USB port as a standard interface. Both 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 home and professional editions.

Mac OS 9.0 ~ 9.2.2 and Mac OS X 10.1.3 - 10.1.5, 10.2.1, and 10.2.6.

Check the Minolta web site for the latest compatibility information:

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

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

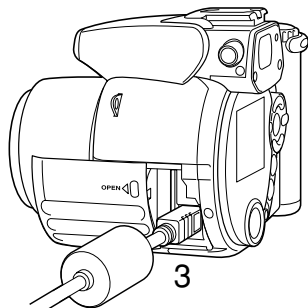
Users with Windows 98 or 98 second edition will need to install the driver software on the included DiMAGE Viewer CD-ROM (p. 95). No special driver software is required for other Windows or Macintosh operating systems.

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 Viewer CD-ROM is required for the operation of the DiMAGE Z1 with a computer. The new software will have no effect on the performance of older DiMAGE cameras.

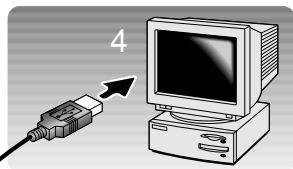
A remote camera driver is supplied in the Windows edition of the DiMAGE Viewer CD-ROM. The driver is not compatible with this camera.

CONNECTING THE CAMERA TO A COMPUTER

Confirm the battery has sufficient power before connecting the camera to a computer; the full-battery indicator should be displayed on the monitor. The use of the AC adapter (sold separately) is recommended over the use of the battery. For users with Windows 98 or 98 Second Edition, read the section on page 95 on how to install the necessary USB driver before connecting the camera to a computer.



1. Start up the computer. The computer must be on before connecting the camera.
2. Insert the memory card into the camera. To change the memory card while the camera is connected to a computer, see page 102.
3. Slide open the card chamber door. Attach the smaller plug of the USB cable to the camera. The triangular mark on the plug should face the back of the camera. Make sure the plug is firmly attached.



4. Attach the other end of the USB cable to the computer's USB port. Make sure the plug is 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.

Initializing USB connection.

5. Press the main switch to turn on the camera. The USB connection is made automatically; a screen appears to indicate the operation. The monitor turns off when the connection has been made. If the USB connection is not made, disconnect the camera and restart the computer. Repeat the connection procedure above.



Windows XP

Windows

When the USB connection is completed, a drive icon, or volume, appears in My Computer or the desktop; the name varies with memory card. When using Windows XP or Mac OS X, a window opens requesting instructions on what to do with the image data; follow the directions in the window.



Mac OS



Mac OS X



CONNECTING TO WINDOWS 98 AND 98 SE

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, insert it into the CD-ROM drive and follow the accompanying instructions on the screen. No special driver software is required for other Windows or Macintosh operating systems.



Automatic Installation

Before connecting the camera to the computer, place the DiMAGE Viewer CD-ROM in the CD-ROM drive. The DiMAGE Viewer installer 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 and connect the camera (p. 94) to complete the operation.

Manual Installation



To install the Windows 98 driver manually, follow the instructions in the connecting-the-camera-to-a-computer section on page 94.

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 will confirm the location of the driver. The letter designating the CD-ROM drive will vary between computers. Click “Next” to install the driver in the system.

One of three drivers may be located: MNLVENUM.inf, USBPDR.inf, or USBSTRG.inf.



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 98.

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. The misc. folder contains DPOF print files (p. 78).



Dcim

Misc

Files and folders on the memory card can be deleted using the computer. Never format the memory card from the computer; always use the camera to format the card. Only files recorded by the camera should be stored on the memory card.



100MLT20

10130801

102MLTCP

103MLTEM

From left to right: standard folder, date folder, copy folder, e-mail copy folder.



PICT0001.JPG

Still image



PICT0002.MOV

Movie clip

Image-file names begin with "PICT" followed by a four-digit file number and a jpg or mov extension. To copying images, simply drag and drop the file icon into a location in the computer.

Copy images (p. 80) are placed in a folder with a name ending in "CP." E-mail Copy images are placed in a folder ending in "EM." 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 index 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 100MLT20 to 101MLT20.

The number in the image file name may not correspond to the frame number of the image. As images are deleted in the camera, the frame counter will adjust itself to show the number of images on the card and reassign the frame numbers accordingly. The serial numbers used with image files will not change when an image is deleted. When a new image is recorded, it will be assigned a number one greater than the largest serial number in the folder. File serial numbers can be controlled with the file-number-memory function in section 2 of the setup menu (p. 87).

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

If a camera image is opened in an image-processing application that does not support Exif tags, and then the image is saved overwriting the original data, the Exif tag information is erased. Some Exif compatible applications rewrite the Exif data preventing the DiMAGE Viewer from reading it. When using software other than the DiMAGE Viewer, always make a backup copy of the image files 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. Changes made to the captured image with the camera's contrast controls will affect any color-matching software in use.

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. Turn off the camera with the main switch. Remake the USB connection by turning the camera on.

DISCONNECTING THE CAMERA

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



Windows 98 / 98 Second Edition

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

Windows Me, 2000 Professional, and XP



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



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

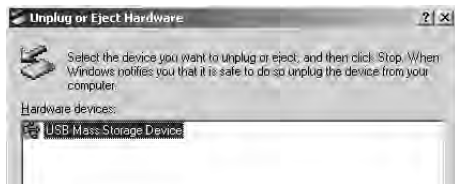


When more than one external device are connected to the computer, repeat the procedure above except right click on the unplug-or-eject-hardware icon. This will open the unplug-or-eject-hardware window after clicking on the small window indicating the unplug-or-eject-hardware routine.



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

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



A third and final screen will appear to indicate the camera can be safely disconnected from the computer. Close the window, turn the camera off, 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. Turn the camera off, and then disconnect the USB cable.



CHANGING THE MEMORY CARD

Never remove the card when the access lamp is red - the data or memory card may permanently be damaged.



Windows 98 and 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. 100).
2. Turn off the camera.
3. Change the memory card.
4. Turn on the camera to remake the USB connection.

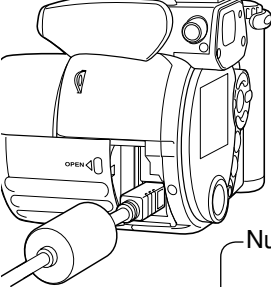
Macintosh

1. Stop the USB connection by dragging the drive icon into the trash (p. 101).
2. Turn off the camera.
3. Change the memory card.
4. Turn on the camera to remake the USB connection.

USING USB DIRECT-PRINT

USB DIRECT-PRINT allows still images to be printed directly from a compatible Epson printer. This function prints a single image on one sheet of paper. Index prints cannot be printed with USB DIRECT-PRINT. To print index prints, see page 105.

Before each print run, check the printer settings; refer to the printer manual. A fully charged battery should be used when the camera is connected to the printer. The use of the AC adapter (sold separately) is recommended over the use of the battery.



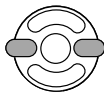
Connect the camera to the printer using the camera's USB cable. The larger plug on the cable is connected to the printer. Open the card chamber door and insert the smaller plug of the cable into the camera. Turn the camera on; the USB Direct Print screen is displayed automatically.

Number of prints in the print run.



Strike through indicates unprintable file type.

Number of copies of the displayed image.



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.

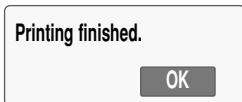


Repeat the previous steps until all the images to be printed are selected. Press the central button of the controller to begin the printing routine.

The information (i) button switches between the single frame and index playback formats.



The number of prints in the print run are displayed on the LCD monitor. Use the left/right keys to highlight "Yes," and press the center of the controller to start printing.



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 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 use the USB Direct Print screen to deselect the images that were printed.

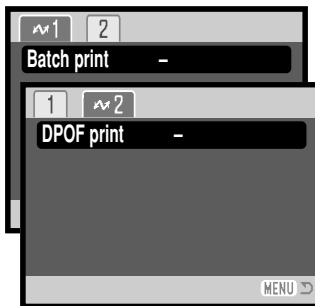
NAVIGATING THE USB DIRECT-PRINT MENU

When the camera is connected to a compatible printer, the menu button turns the menu on and off. The left/right and up/down keys of the controller are used to move the cursor in the menu. Pressing the central button of the controller will enter a setting.

Batch print in section 1 selects all still images on the memory card for printing. When the all-frames option is selected, a screen opens so the number of copies of each image can be specified. The reset option cancels all changes made to the print selection screen.

After the batch-print option is chosen, the USB DIRECT-PRINT selection screen will show which images and the number of copies selected. The controller can be used to edit the print order, see page 102.

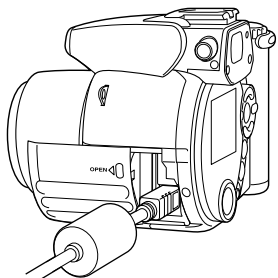
DPOF print in section 2 allows still images and an index print selected with the DPOF printing options in section 2 of the playback menu to be printed from an Epson USB DIRECT-PRINT compatible printer. Simply select the start option from the menu to begin the routine, see the following page.



PRINTING DPOF FILES

The USB DIRECT PRINT menu DPOF-print option allows still images and an index print selected with the DPOF printing options in section 2 of playback menu to be printed from an Epson USB DIRECT-PRINT compatible printer. See page 78 on how to create a DPOF file.

Before each print run, check the printer settings; refer to the printer manual. A fully charged battery should be used when the camera is connected to the printer. The use of the AC adapter (sold separately) is recommended over the use of the battery.

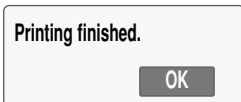


Connect the camera to the printer using the camera's USB cable. The larger plug on the cable is connected to the printer. Open the card chamber door and insert the smaller plug of the cable into the camera.

Turn the camera on; the USB Direct Print screen is displayed automatically. Open the USB DIRECT-PRINT menu. Highlight "Start" in the DPOF-print option in section 2 of the menu. Press the central button of the controller to begin the routine.



The number of prints in the print run are displayed; index prints are counted as one. Use the left/right keys to highlight "Yes," and press the center of the controller to start printing.



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

APPENDIX

TROUBLESHOOTING

The section covers minor problems with basic camera operation. For major problems or damage, or if a problem continues to reoccur frequently, contact a Minolta service facility listed on the back cover of this manual.

Problem	Symptom	Cause	Solution
The camera will not work.	Nothing displayed on the monitors.	The batteries are dead.	Replace batteries (p. 13).
		AA Ni-MH batteries are inserted incorrectly.	Reinsert the batteries taking care that the negative and positive terminals are oriented as indicated on the inside of the battery chamber door (p. 13).
		The AC adapter is not connected properly.	Check that the adapter is connected to the camera and a live electrical outlet (p. 15).
Shutter will not release.	"000" is displayed on the frame counter.	Memory card is full and unable to store an image at the image-quality or image-size setting on the camera.	Insert a new memory card (p. 16), delete some images (p. 31), or change the image-quality or image-size setting (p. 54).
	No-card warning appears on the monitors.	No memory card in the camera.	Insert a memory card (p. 16).

Problem	Symptom	Cause	Solution
Pictures are not sharp.	Focus signal is red.	Subject is too close.	Make sure the subject is within the autofocus range (p. 24) or use the macro mode (p. 35).
		The camera is in macro mode.	Cancel the macro mode setting (p. 35).
		A special situation is preventing the autofocus system from focusing (p. 25).	Use the focus-lock function to focus on an object at the same distance as the subject (p. 24) or use manual focus (p. 57).
	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 a tripod, change the camera sensitivity to a higher setting (p. 62), or use the flash (p. 26).
While using flash, the pictures are too dark.	The subject is beyond the flash range (p. 62).		Move closer to the subject or change the camera sensitivity to a higher setting (p. 62).

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

If the camera does not function normally or the system error message appears, turn it off, remove and reinsert the batteries, or unplug and reconnect the AC adapter. If the camera has become hot with extended use, wait for it to cool before removing or disconnecting the power supply. Always turn the camera off using the main switch otherwise the memory card may be damaged and the camera reset.

UNINSTALLING THE DRIVER SOFTWARE - WINDOWS

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

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

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

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

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

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

5. Click on the driver to select it.

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

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

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

QUICKTIME SYSTEM REQUIREMENTS

Pentium-based computer

Windows 95, 98, 98SE, NT, Me,
2000 Professional, or XP.

32MB or more of RAM

Sound Blaster or compatible sound card

DirectX 3.0 or later recommended

To install QuickTime, follow the instructions in the installer. Macintosh users can download the latest version of QuickTime free of charge from the Apple Computer web site: <http://www.apple.com>.

VIDEOIMPRESSION SYSTEM REQUIREMENTS

To install ArcSoft VideoImpression, follow the instructions in the installer.

Windows 98, Me, 2000, or XP.

Pentium III 450 processor or equivalent. Pentium III 700 recommended

200MB of hard disk space, 1GB recommended.

32MB of RAM. 128MB recommended.

16-bit or higher color display at 800 x 600.

DirectX 8.1 or above. Apple QuickTime recommended.

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.

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.

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.

LCD monitor care

- Although the LCD monitor is manufactured using high precision technology, there may occasionally be a lack of color or bright points on the monitor.
- Do not apply pressure to the surface of the LCD monitor; it may be permanently damaged.
- In cold temperatures, the LCD monitor may become temporarily dark. When the camera warms up, the display will function normally.
- The LCD monitor may be slow to react in low temperatures or may turn dark in a hot environment. When the camera reaches normal operating temperature, the display will function normally.
- If fingerprints are on the LCD monitor surface, gently wipe with a soft, clean, dry cloth.

Memory cards

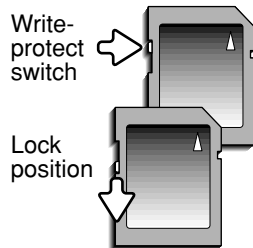
SD Memory Cards and MultiMediaCards are manufactured with precision electronic components. The following may cause data loss or damage:

- 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.

The response time is longer with MultiMediaCards compared with SD Memory Cards. This is not a defect, but rather due to the specifications of the cards. When using large capacity cards, some operations like deletion may take longer.

SD Memory Cards have a write-protect switch to prevent image data from being deleted. By sliding the switch to the bottom of the card, the data will be protected. Images cannot be recorded when the card is protected. If an attempt is made to record or delete an image with the camera, the card-locked message will appear on the monitor.

Memory cards should not be used to permanently store image data. Always make a copy of camera files on an appropriate storage device or recording media. Minolta has no responsibility for any loss or damage to data.



Before important events and journeys

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

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.
- If batteries have been exhausted when used in the camera, do not reload them even if their charge seems to recover over time. These batteries will interfere with normal camera operation.
- A special built-in long-life battery supplies power to the clock and memory when the camera is off. If the camera resets each time it is turned off, the battery is exhausted. The battery must be replaced at a Minolta service facility.

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.

Copyright

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

Questions and service

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



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).

Digital Camera: DiIMAGE Z1



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE

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.

Tested by the Minolta Corporation 101 Williams Drive, Ramsey, New Jersey 07446, U.S.A.
Do not remove the ferrite cores from the cables.

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

TECHNICAL SPECIFICATIONS

CCD:	1/2.7-type interline primary-color CCD
Number of effective pixels:	3.2 million
Total number of pixels:	3.3 million
Camera sensitivity (ISO):	Auto and 50, 100, 200, 400 ISO equivalents.
Aspect ratio:	4:3
Lens construction:	8 elements in 7 groups
Maximum aperture:	f/2.8 (wide-angle position), f/3.5 (telephoto position)
Focal length:	5.8 - 58 mm (35mm equivalent: 38 - 380 mm)
Focusing range (from the CCD):	0.57 m - ∞ / 1.9 ft - ∞ (wide-angle position) 2.07 m - ∞ / 6.8 ft - ∞ (telephoto position) 0.11 - 1.07 m / 0.4 - 3.6 ft in Super Macro mode
Autofocusing system:	Video AF
Shutter:	CCD electronic shutter and mechanical shutter
Shutter speeds:	1/1000 - 4s, Time (30s maximum)
Built-in flash recycling time:	7s (approx.)
Monitor LCD:	3.8cm (1.5 in) low-temperature polysilicon TFT color
Monitor field of view:	100% (approx.)
Viewfinder field of view:	98% (approx.)
A/D conversion:	10 bit
Recording media:	SD Memory cards and MultiMediaCards
File formats:	JPEG, Motion JPEG (mov). DCF 1.0 and DPOF compliant.
Printing output control:	Exif print, PRINT Image Matching II, Epson USB DIRECT-PRINT
Menu languages:	Japanese, English, German, French, and Spanish
AV output:	NTSC and PAL

Batteries:	Four AA alkaline or Ni-MH batteries.
Battery performance (recording):	Approximately 250 frames with alkaline batteries, LCD monitor on, full-size images (2048 X 1536), standard image quality, no instant playback, no full-time AF, flash used with 50% of the frames.
Battery performance (playback):	Approx. continuous playback time: 300 min. with alkaline batteries.
Optional external power source:	AC Adapter AC-1L or AC-11 External High-Power Battery Pack Kit EBP-100
Dimensions:	109.5 (W) X 77.5 (H) X 80.0 (D) mm 4.31 (W) X 3.05 (H) X 3.15 (D) in
Weight:	Approximately 305g / 10.8 oz. (without batteries or memory card)
Operating temperature:	0° - 40°C / 32° - 104°F
Operating humidity:	5 - 85% (noncondensing)

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



KONICA MINOLTA

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