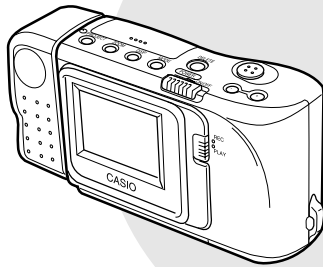


Liquid Crystal Digital Camera

QV-10 B

Owner's Manual



Introduction

Congratulations upon your selection of the QV-10 Liquid Crystal Digital Camera. The QV-10 comes with its own built-in liquid crystal color monitor that let's you instantly view the pictures you take.

To get the most out of the QV-10, be sure to carefully read this manual and follow the instructions contained in it.



Please refer to this manual for the QV-10, QV-10A & QV-11 models



■ Before using the QV-10...

Note the following precautions before attempting to use the QV-10.

- CASIO COMPUTER CO., LTD. assumes no responsibility for any damage or loss resulting from the use of this manual.
- CASIO COMPUTER CO., LTD. assumes no responsibility for any loss or claims by third parties which may arise through the use of the QV-10.
- CASIO COMPUTER CO., LTD. assumes no responsibility for any damage or loss caused by deletion of data as a result of malfunction, repairs, or battery replacement. Be sure to back up all important data on other media to protect against its loss.

Windows is a trademark of Microsoft Corporation.

Apple and Macintosh are registered trademarks of Apple Computer, Inc.

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Liquid Crystal Digital Camera QV-10

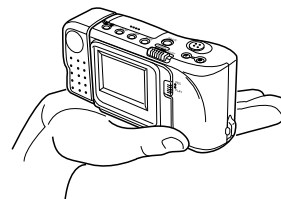
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QV-10 Features

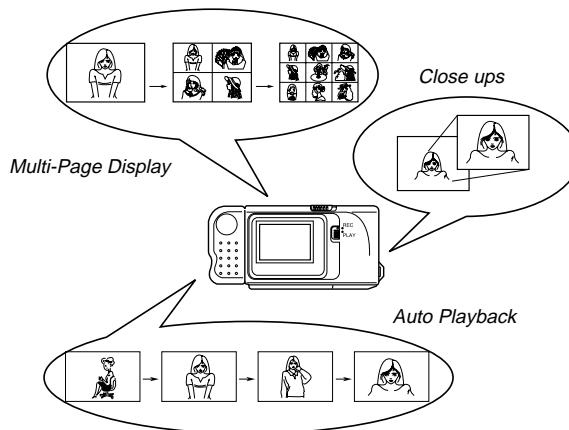
Lightweight and compact design

The QV-10 is the first camera to incorporate a built-in monitor into a compact configuration.



Versatile features and functions

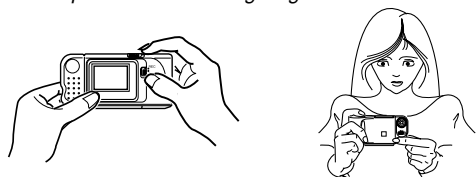
The versatile features and functions of the QV-10 include: simultaneous display of multiple memory pages, close-up capabilities, automatic sequential display of memory pages, and more.



QV-10 Features

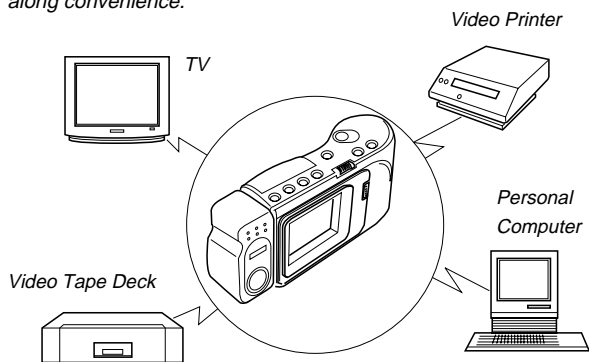
Picture composition without looking through a viewfinder

The QV-10's high-resolution, low-glare TFT liquid crystal display provides clear pictures even in bright light.



VIDEO OUT and digital transfer function for unlimited application of digital images

The VIDEO OUT capabilities of the QV-10 makes it possible to connect to a television to use images for presentations and other applications. Digital images can be transferred to a personal computer for storage and editing, or from a computer to the QV-10 for take-along convenience.



General Precautions

Be sure to observe the following important precautions whenever using the QV-10.

- Never try to take pictures or use the built-in display while operating a motor vehicle or while walking. Doing so creates the danger of serious accident.
- Never try to open the case of the camera or attempt your own repairs. High-voltage internal components create the risk of electrical shock when exposed. Always leave maintenance and repair work up to authorized CASIO service providers.
- Keep the camera away from water and other liquids, and never let it get wet. Moisture creates the danger of fire and electrical shock. Never use the camera outdoors in the rain or snow, at the seashore or beach, in the bathroom, etc.
- Should foreign matter or water ever get into the unit, immediately turn power off, unplug the AC adaptor from the power outlet, and contact your dealer or nearest CASIO service provider. Using the unit under these conditions creates the danger of fire and electrical shock.
- Should you ever notice smoke or a strange odor coming out of the unit, immediately turn power off and unplug the AC adaptor from the power outlet. Using the unit under these conditions creates the danger of fire and electrical shock. After making sure there is no more smoke coming from the unit, take it to your nearest CASIO service provider for repair. Never attempt your own maintenance.
- If the unit's case should ever become cracked due to dropping it or otherwise subjecting it to rough treatment, immediately turn power off, unplug the AC adaptor from the power outlet, and contact your nearest CASIO service provider.
- Never use the unit inside of an air craft or in any other areas where its use is prohibited. Doing so can result in an accident.

General Precautions

- Physical damage and malfunction of this unit can cause the image data stored in its memory to be deleted. Be sure to always keep backup copies of data by recording them on video tape or by transferring them to personal computer memory.
- Never open the battery compartment cover, disconnect the AC adaptor from the camera or unplug it from the wall socket while the "WAIT" message is on the LCD. Doing so will not only make storage of the current image impossible, it can also corrupt other image data already stored in camera memory.

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Other Precautions

MEMORY ERROR message

The following error appears on the built-in monitor whenever the camera's flash memory becomes disabled due to malfunction or improper operation.



MEMORY ERROR
CALL
TECH SUPPORT

Whenever this happens, all of the digital images stored in the camera's memory will be lost. You will not be able to view stored images or record new ones. Take your camera to your dealer or an authorized CASIO service provider as soon as possible after the MEMORY ERROR message appears.

Operating conditions

- This camera is designed for use in temperatures ranging from 0°C to 40°C (32°F to 104°F).
- Do not use or keep the camera in the following areas.
 - In areas subject to direct sunlight
 - In areas subject to high humidity or dust
 - Near air conditioners, heaters, or other areas subject to temperature extremes
 - Inside of a closed vehicle, especially one parked in the sun
 - In areas subject to strong vibration

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Other Precautions

Condensation

- When you bring the camera indoors on a cold day or otherwise expose it to a sudden change of temperature, there is the possibility that condensation can form on the exterior or on interior components. Condensation can cause malfunction of the camera, so you should avoid exposing it to conditions that might cause condensation.
- To keep condensation from forming, place the camera into a plastic bag before moving it into a location that is much warmer or colder than your current location. Leave it in the plastic bag until the air inside the bag has a chance to reach the same temperature as the new location. If condensation does form, remove the batteries from the camera and leave the battery compartment cover open for a few hours.

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Liquid Crystal Digital Camera QV-10

GUIDELINES LAID DOWN BY FCC RULES FOR USE OF THIS UNIT IN THE U.S.A. (not applicable to other areas).

NOTICE

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:

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.

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

Caution : Changes or modification to the product not expressly approved by CASIO could void the user's authority to operate the product.

Properly shielded cables with ferrite core must be used for connection to computer in order to meet FCC emission limits.

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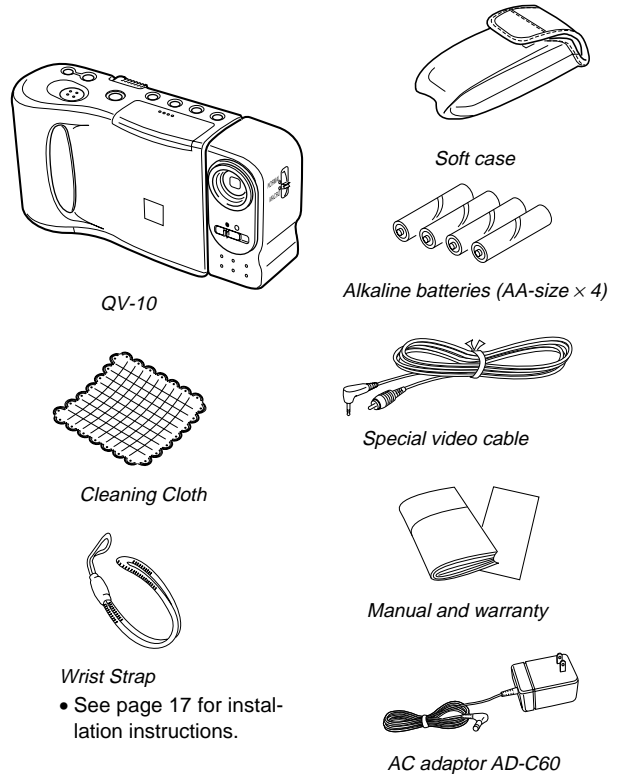
Getting Acquainted

This part of the manual contains information on unpacking, the names of controls and components, and power supply information. It also has sections that cover basic operations to let you begin enjoying the QV-10 as quickly as possible.

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Unpacking

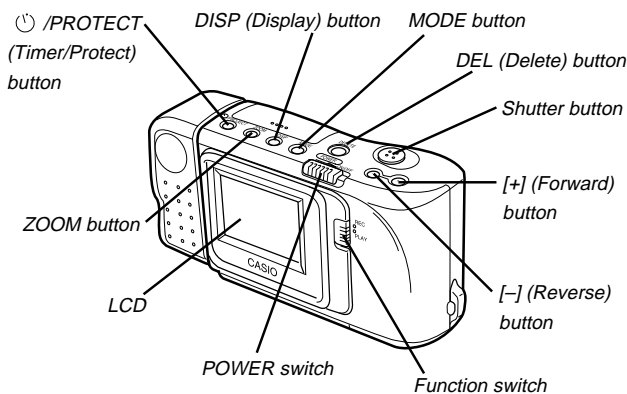
Check to make sure that all of the items shown below are included with your QV-10. If something is missing, contact your dealer as soon as possible.



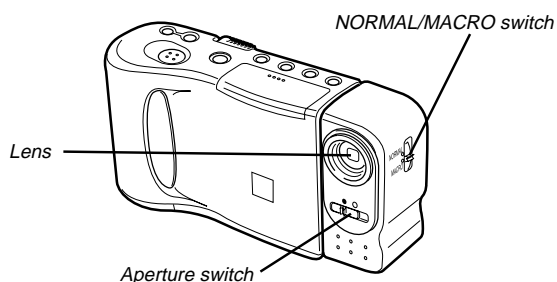
General Guide

The following illustrations show the names of each component, button and switch on the camera.

Top and Display

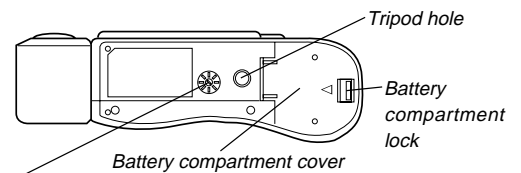


Lens



Getting Acquainted

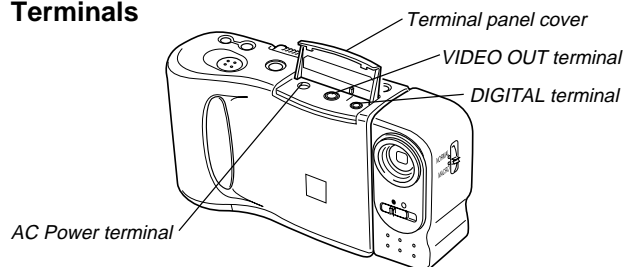
Bottom



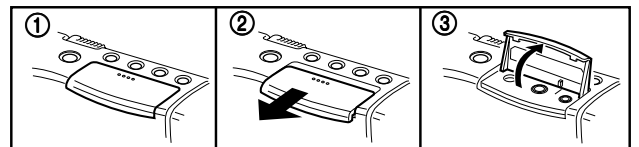
BRIGHT (brightness) control

• BRIGHT control adjusts the brightness of the image on the LCD. The brightness is set at the factory to the optimum setting, and normally does not need adjustment. Use BRIGHT control to make adjustments after replacing batteries, or any other time you feel the LCD image brightness is too dark or too light.

Terminals



Opening the Terminal Panel Cover

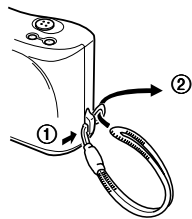


Important!

Make sure that the terminal panel cover is slid fully away as shown in step ② above before trying to raise it. Forcing the cover up can seriously damage it.

Connecting the Wrist Strap

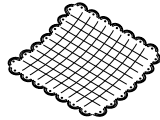
Pass the wrist strap through the hole on the side of the camera as shown in the illustration.



Using the Cleaning Cloth

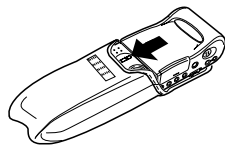
Use the cleaning cloth to wipe fingerprints and smudges from the LCD and lens.

- Be sure to avoid applying too much pressure when wiping the LCD. Too much pressure can cause permanent discoloration, abnormal images, and cracks.



Using the Soft Case

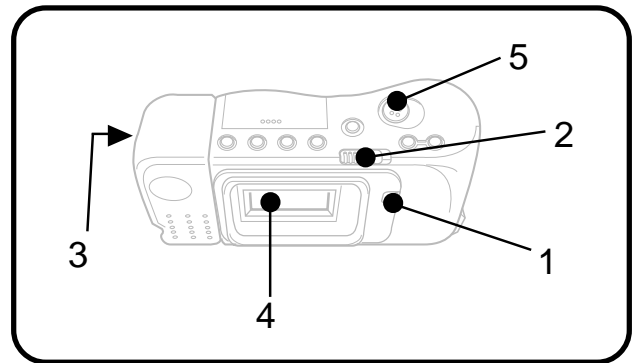
Keep the camera in its soft case to protect it when not in use.



Operation Reference

To record an image

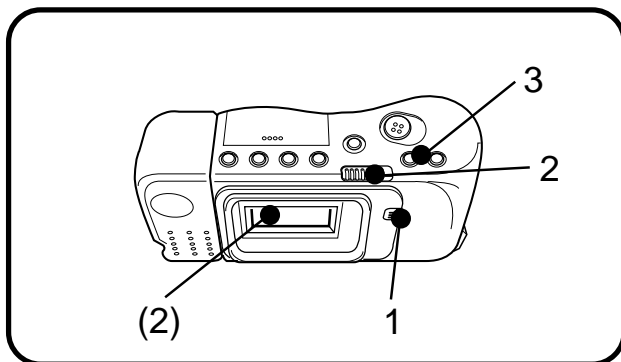
- Be sure to load batteries (page 25) before operation.



1. Set to REC.
2. Slide to the right to turn on power.
 - Set to MACRO for close-ups. See page 40 for information on the difference between NORMAL and MACRO.
3. Set to NORMAL.
 - The message "WAIT" appears on the LCD for about four seconds along with the image that was recorded when you pressed the shutter button. You can use the camera to take the next picture after the "WAIT" message disappears.
 - The camera can hold up to 96 images in memory
4. While viewing the image on the LCD, slowly move the camera so the image appears as you want it.
5. Press the shutter button.

To view images stored in memory

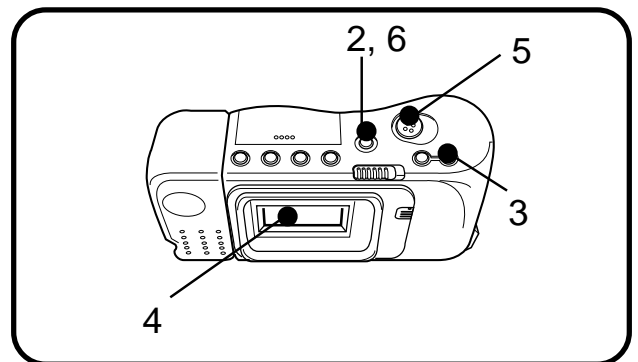
You can recall images and view them on the LCD.



1. Set to PLAY.
2. Slide to the right to turn on power.
 - An image appears on the LCD when power comes on.
3. Press [+] to display the next memory page or [-] to display the previous page.

To delete images stored in memory

After you delete an image you can store a new one in its place.



1. Display the image you want to delete (page 19).
2. Press DEL.
 - The following steps are performed in accordance with prompts that appear on the LCD.
3. Press [+].
4. A message appears to confirm that you really want to delete the image.
 - To abort the delete operation without deleting anything, press DEL here.
5. Press the shutter button to delete the image shown on the LCD.
6. After you finish deleting all the images you want, press DEL to quit the delete procedure.

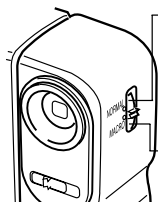
Function Reference

Record Functions

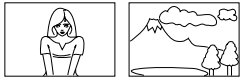
The following describes features and functions that you can use when recording images.

NORMAL/MACRO Switch (Page 40)

Select the setting that suits the distance between the camera and object whose image is being recorded.



- **NORMAL**
For normal shots of scenery, people, etc.

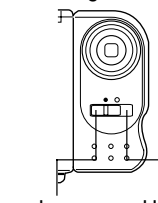


- **MACRO**
For close-up shots.



Aperture Switch (Page 42)

Use this switch to select from one of two aperture settings and control the brightness of the image.



Low brightness High brightness



- on the LCD indicates lighting is too dim. Change the aperture switch setting to [].



- on the LCD indicates lighting is too bright. Change the aperture switch setting to [].

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Getting Acquainted

Exposure Adjustment (page 41)

The camera normally adjusts exposure automatically, using aperture priority AE. You can also perform manual exposure adjustments, while viewing the image on the LCD.

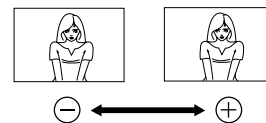
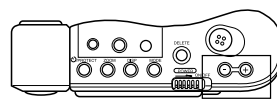
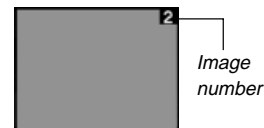
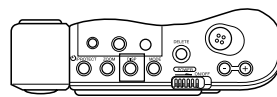


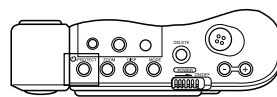
Image Number (Page 43)

This value indicates the number of the next image that will be recorded.



Self-Timer (Page 47)

Press a button and the shutter releases automatically 10 seconds later.



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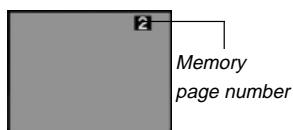
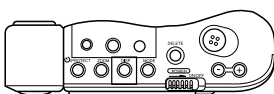
Function Reference

Playback Functions

The following functions help you view the images stored in memory quickly and easily.

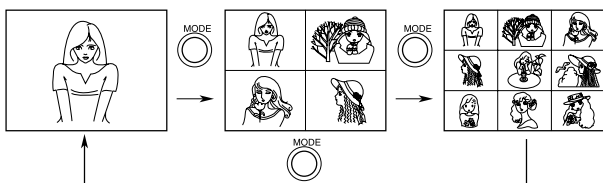
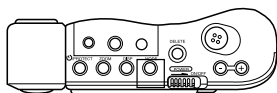
Memory Page Number (Page 52)

This value indicates the number of the memory page whose contents are currently shown on the LCD.



Multi-Page Display (Page 53)

This function lets you view four or nine memory pages at the same time.

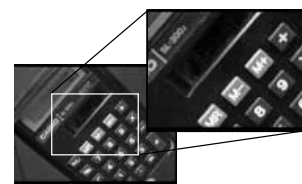
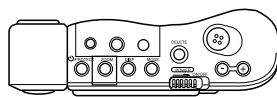


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Getting Acquainted

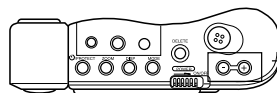
Zoom (Page 57)

This function lets you enlarge a specific part of an image to twice its original size.



Auto Play (Page 59)

This function automatically scrolls through the camera's memory pages.

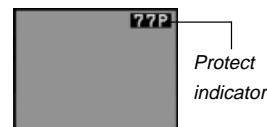
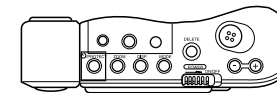


Press both these buttons at the same time to start Auto Play.



Protect Function (Page 67)

Use this function to protect specific memory pages against being deleted.



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Power Supply

The QV-10 features a two-way power supply that lets you use either batteries (AA-size Alkaline) or household AC current.

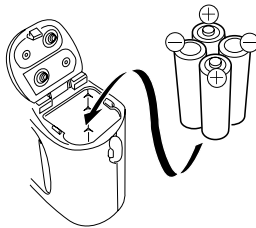
To load batteries

Be sure that camera power is turned off whenever loading or replacing batteries.

1. Slide the battery compartment lock on the bottom of the camera in the direction indicated by arrow (1), and swing open the battery compartment cover as indicated by arrow (2).



2. Insert four batteries.



Be sure to use only AA-size **Alkaline** batteries. Never use manganese batteries (see precautions on the next page).

- Make sure that the positive \oplus and negative \ominus ends of the batteries are facing correctly.

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Getting Acquainted

3. Close the battery compartment cover.



- Press down on the battery compartment cover at the point marked \textcircled{A} in the nearby illustration until the cover locks into place with a click.

Battery Handling Precautions

Incorrect use or handling of batteries can cause them to leak or burst and seriously damage your camera. Be sure to note the following important precautions to avoid problems with batteries.

Caution

Never load manganese batteries into the camera! Doing so not only results in shortened battery life, it also causes batteries to generate heat that can cause serious damage to the camera. Always use Alkaline batteries only.

- Make sure that the positive \oplus and negative \ominus ends of the batteries are facing properly when you load them in the camera.
- Remove batteries from the camera if you do not plan to use it for more than two weeks.
- Never mix old batteries with new ones.
- Never recharge batteries, never allow direct connection between two ends of a battery, and never try to take batteries apart.
- Do not expose batteries to direct heat or dispose of them by burning. Doing so can create the danger of explosion.

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Power Supply

- Never mix batteries of different types.
- Dead batteries are susceptible to leakage, which can cause serious damage to your camera. Remove batteries from the camera as soon as you notice they are dead.


Standard Battery Life

You can generally expect to get about 120 minutes of operation from a fresh set of LR6 (AM3) Alkaline batteries at normal temperature. Note that battery life is shortened by extreme cold.

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Getting Acquainted

Low Battery Indicator

A low battery indicator () appears on the LCD whenever remaining battery power drops below a certain level.



When this indicator appears, replace all four batteries with a fresh set of new ones. Once the low battery indicator appears, you can expect only about 10 more minutes of operation before total power failure.

Flash Memory

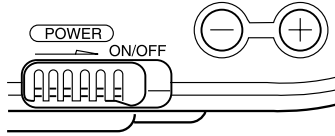
The QV-10 features flash memory for storage of images. Flash memory does not require electrical power to store data, so image data is retained in memory even when you turn camera power off. If batteries go dead, simply load a set of new batteries or connect the AC adaptor and you will be able to view images in camera memory.

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Auto Power Off

Power automatically turns off whenever you do not perform any camera operation for a period of time. Power turns off after about two minutes in the Record Mode or after about five minutes in the Playback Mode.

* To restore power, simply slide the POWER switch to the right as you normally do.

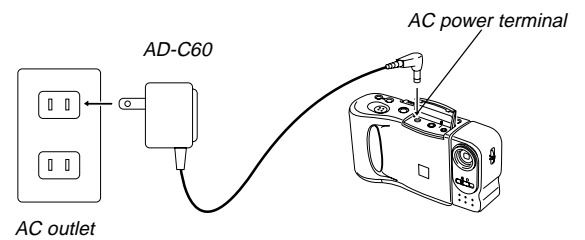
**Important!**

The Auto Power Off function does not operate under the following conditions.

- During Auto Play (page 59)
- When operations are being performed on a computer connected to the camera via the camera's DIGITAL terminal (page 81).

Using AC Power

To power the camera from standard AC power, use the AC adaptor (AD-C60) that comes with this camera.

**AC Adaptor precautions**

- Always be sure to use the AD-C60 AC adaptor only. Using any other AC adaptor can cause damage to the camera not covered by the warranty.
- When unplugging the AC adaptor from the wall socket, be sure to grasp the adaptor (not the cord).
- Avoid an undue bending, pulling, and twisting of the AC adaptor's cord, and never try to lengthen the cord by splicing it with other wire.

**Caution**

- If the power cord should become damaged (exposed wires, disconnection, etc.), please purchase a new AC adaptor. Use of a damaged power cord may cause fire or electrical shock.
- Be sure to switch power off before connecting or disconnecting the adaptor.
- Always turn camera power off before disconnecting the AC adaptor, even if the camera has batteries installed. If you don't the camera will turn off automatically when you disconnect the AC adaptor. Even so, you run the risk of damaging the camera whenever you disconnect the AC adaptor without first turning power off.
- The AC adaptor may become warm to the touch after extended periods of use. This is normal and is not cause for alarm.
- After use turn off the power switch of the camera and unplug adaptor from the AC outlet.

Operation

This section explains how to actually operate the camera. It includes information on adjustments you can make when recording an image, various formats you can use when viewing images stored in memory, and how to delete images from memory.

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To delete a single memory page	70
To delete all unprotected memory pages	73

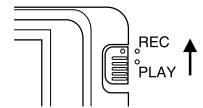
Recording Images

The following procedure provides the basic steps for recording an image.

To record an image

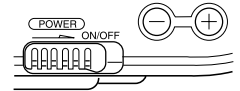
1. Enter the Record Mode.

- Slide the function switch to the REC position.



2. Turn on the camera.

- Slide the POWER switch in the direction indicated by the arrow.
- The POWER switch automatically slides back to its original position when you release it.
- When power comes on, the image of the object that is in front of the camera's lens appears on the LCD.
- You can perform steps 1 and 2 in either order (1 then 2, or 2 then 1).



3. Set the NORMAL/MACRO switch to the NORMAL position.

- If the object whose image you are recording is about 15 centimeters from the lens (about 6 inches), set the NORMAL/MACRO switch to MACRO. See page 42 for details on using this switch.



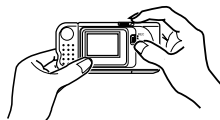
Note

- The QV-10 is designed to refresh the image on the LCD about seven times per second. Because of this, you may experience a feeling of jerkiness in the changing image if you move the camera quickly. This is normal and does not indicate malfunction.

Recording Images

4. Record the image.

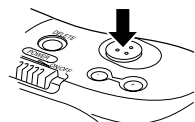
- Compose the image you want to record while viewing it on the LCD.
- It is best to look at the LCD directly, and not from an angle.



- Take care that your finger is not blocking the lens.



- When the image is situated on the LCD as you want it, press the shutter button.
- Press the shutter button lightly to avoid moving the camera. See page 36 for information on how to avoid hand movement.



- The message "WAIT" appears on the LCD for about four seconds along with the image that was recorded when you pressed the shutter button. You can use the camera to take the next picture after the "WAIT" message disappears.
- Here you could change the function switch to the PLAY position and view the image you just recorded.



Operation

Caution

- Never open the battery compartment cover, disconnect the AC adaptor from the camera or unplug it from the wall socket while the "WAIT" message is on the LCD. Doing so will not only make storage of the current image impossible, it can also corrupt other image data already stored in camera memory.

How to avoid hand movement...

Any hand movement when you press the shutter button can cause blurring of the recorded image. Note the following points on avoiding hand movement.

- Make sure there is no excessive movement of the image of the object on the LCD.
- Use a tripod whenever possible when recording images in dim lighting. The QV-10 automatically adjusts shutter speed in accordance with the brightness of the object whose image is being recorded. Shutter speed is quite slow for dimly lit objects, increasing the possibility of blurring caused by hand movement.

Flourescent Lighting

Flourescent lighting actually flickers at a frequency that cannot be detected by the human eye. When using the camera indoors under such lighting, you may experience some brightness or color problems with recorded images. The actual extent of the problems depends on what cycle of the flourescent light's flicker is occurring when the camera's shutter actually releases. Because of this, we recommend that you use incandescent lighting or some other non-flourescent lighting whenever possible.

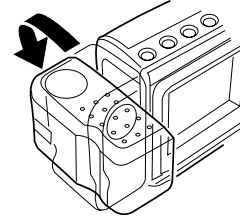
Infrared Light

Infrared light generated by a flash or other source can create image color problems, such as red areas being recorded as green. Such color problems will show up in the LCD while you are composing the image.

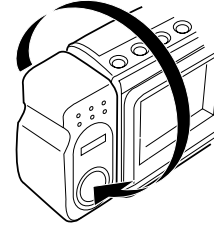
37

Changing the Lens Orientation

The lens of the camera is built into a lens body that is designed to rotate. This means you can change the angle of the lens without moving the rest of the camera.



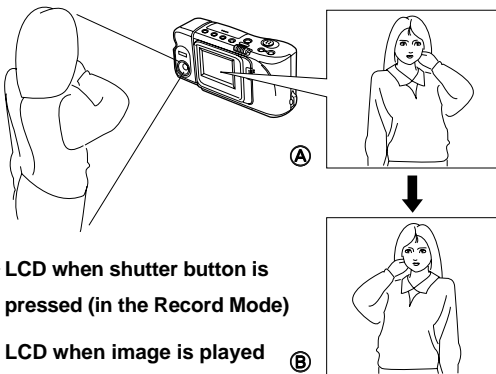
Rotates up to 90° towards the front



Rotates up to 180° towards the back

38

- Any images recorded while the lens body is rotated so the lens is pointed from the back of the camera are stored as mirror images of the image that appears in the LCD before the shutter button is pressed.



(A) – LCD when shutter button is pressed (in the Record Mode)

(B) – LCD when image is played back from camera memory

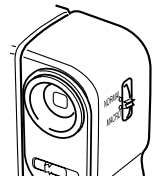
Important!

- Do not apply excessive force when rotating the lens body. Doing so can cause serious damage to the lens.
- Do not carry the camera or move it around while holding onto only the lens body.
- Return the lens body to its normal position (with the lens pointing from the front of the camera) before storing the camera.

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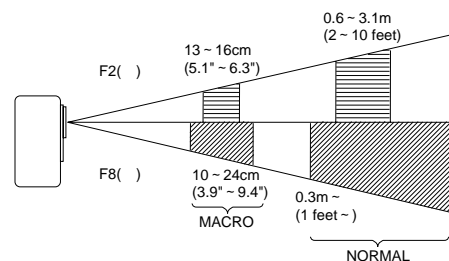
NORMAL/MACRO Switch

The NORMAL/MACRO switch tells the camera how much distance there will be between the lens and the object whose image you are recording. The following table describes the conditions covered by each switch setting.



Switch position		NORMAL	MACRO
Aperture	F2 ()	0.6 to 3.1 meters For portraits taken indoors	13 to 16cm For close ups taken indoors
	F8 ()	0.3 meters to ∞ For general outdoor images	10 to 24 cm For outdoor close-ups

* See page 42 for details on how to change the aperture.



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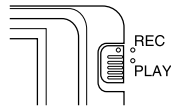
Exposure Adjustment

This camera features an automatic exposure (AE) function that automatically changes the shutter speed in accordance with lighting. In addition, you can also manually adjust the exposure to compensate for backlighting, indirect indoor lighting, dark backgrounds, and other special conditions.

To manually adjust the exposure

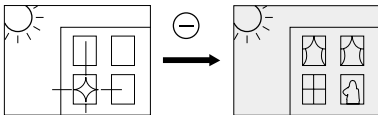
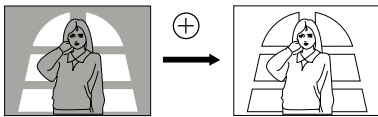
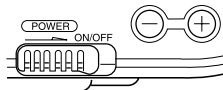
1. Enter the Record Mode.

- Set the function switch to the REC position.



2. Use the [+] and [-] buttons to manually adjust the exposure.

- Pressing [+] makes the image on the LCD brighter. Use it to adjust for dim indoor lighting and back-lighting.
- Pressing [-] makes the image on the LCD darker. Use it to adjust for bright sunlight.



3. After adjusting the exposure, press the shutter button to record the image.

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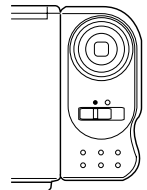
Notes

- Exposure adjustment is generally expressed in terms of an exposure adjustment value. The exposure adjustment value is always set to zero whenever you turn on the camera.
- The exposure adjustment value is changed by 0.25 with each press of [+] or [-]. The range of the value is -2 to +2.
- The exposure adjustment value automatically reverts to zero whenever the shutter button is pressed. To reset the exposure adjustment value to zero without pressing the shutter button, turn the camera off and on again, or change the position of the function switch to PLAY and then back to REC.

Changing the Aperture Setting

There are two aperture settings you can use to match lighting conditions. Use the aperture switch to change the aperture setting.

- Use the [F8] setting to decrease exposure. This setting works best outdoors and with back lit images.
- Use the [F2] setting to increase exposure. This setting works best indoors.



Note

- Also see page 45 for information about exposure warning indicators.

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Record Mode Displays

The following provides details on the images, indicators and messages that appear on the LCD in the Record Mode.

Image Display

An image of the object that is picked up by the camera's lens appears on the LCD. The QV-10 is designed to refresh the image on the LCD about seven times per second. Because of this, you may experience a feeling of jerkiness in the changing image if you move the camera quickly. This is normal and does not indicate malfunction.

Note

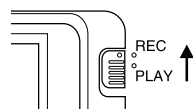
- The LCD image that appears in the Playback Mode is more detailed than the image produced in the Record Mode (page 49). Because of this, you should consider the Record Mode image to be a reasonable facsimile of the image that is actually stored in memory.

Displaying the Image Number

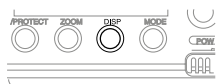
The image number is a value that indicates the number of the next image that will be recorded. Up to 96 images can be stored in camera memory.

1. Enter the Record Mode.

- Set the function switch to the REC position.



2. Press the DISP button.



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- The image number appears in the upper right corner of the LCD. It indicates the number of the next image that will be recorded. The number 21, for example, indicates that there are 20 images in memory, and the next image will be number 21.
- To clear the image number from the LCD, press the DISP button again.



Note

- Note that turning display of the image number on and off in the Record Mode also affects the display of the memory page number in the Playback Mode (page 52), and the zoom area indicator used in the zoom operation (page 57). If you turn display of the image number off in the Record Mode, for example, the memory page number will not be shown in the Playback Mode.

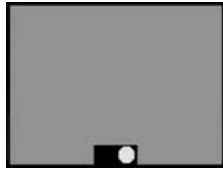
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Exposure Warning Indicators

Exposure warning indicators appear on the LCD whenever the light being picked up by the lens would result in under exposure or over exposure of an image.



Under exposure



Over exposure

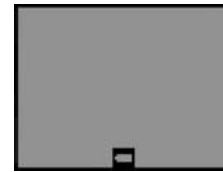
Use the procedure described on page 42 to change the aperture or change the lighting of the image so the indicator disappears from the LCD.

Important!

- The exposure warning indicators also appear when lighting is outside the range of the camera. In such a case, changing the aperture will not clear the indicator from the LCD.
- The manual exposure adjustment procedure (page 41) cannot be used when an exposure warning indicator is on the LCD. Clear the warning indicator by changing the aperture switch setting.

Low Battery Indicator

The low battery indicator (■) appears on the LCD whenever remaining battery power drops below a certain level.



When this indicator appears, replace all four batteries with a fresh set of new ones. Once the low battery indicator appears, you can expect only about 10 more minutes of operation before total power failure.

- See page 25 for details on how to replace batteries.


Memory Full Message

The message "MEMORY FULL" appears on the LCD whenever you press the shutter button while camera memory is full.



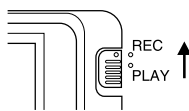
If you want to record more images, you must first delete some of the images already stored in camera memory. See page 70 for details on how to delete images.

Using the Self-Timer


With the Self-Timer, the shutter is released 10 seconds after you press the  /PROTECT button.

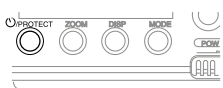
1. Enter the Record Mode.

- Set the function switch to the REC position.




2. Start the Self-Timer operation.

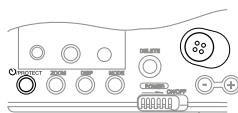
- Place the camera securely on a tripod, desk or other stable surface, with the image to be recorded in the LCD.
- After composing the image, press the  /PROTECT button.



- A 10-second countdown starts on the LCD. The shutter will release automatically when the end of the countdown is reached.



- To cancel an ongoing Self-Timer operation, press the  /PROTECT button or shutter button.



Note

- If you use the Self-Timer with the lens body rotate 180° (page 38), you can view the countdown on the LCD while waiting for the shutter to release.

Important!

- If battery power is low, camera power may turn off while a countdown is in progress. If this happens, replace the batteries with new ones.

Playing Back Images

This section describes how to recall and view images stored in camera memory.

Displaying Images on the Camera's LCD

The QV-10 can store up to 96 images in memory. Images are sequentially numbered from 1 through 96. Think of camera memory like a 96-page album of the images you record.

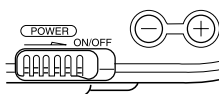
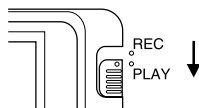
The following procedure describes how to display images on the camera's built-in LCD.

1. Enter the Playback Mode.

- Slide the function switch to the PLAY position.

2. Turn on the camera.

- Slide the POWER switch in the direction indicated by the arrow. The POWER switch automatically slides back to its original position when you release it.
- When power comes on, the page that was displayed when you last turned power off appears on the LCD.
- You can perform steps 1 and 2 in either order (1 then 2, or 2 then 1).



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Operation

3. Scroll through the memory pages until the image you want to view is displayed.

- Press [+] to display the next memory page or [-] to display the previous memory page.



Notes

- If you set the function switch to PLAY after recording an image, that image appears on the LCD first.
- The message "MEMORY EMPTY" appears on the LCD if there are no images stored in memory when you enter the Playback Mode.



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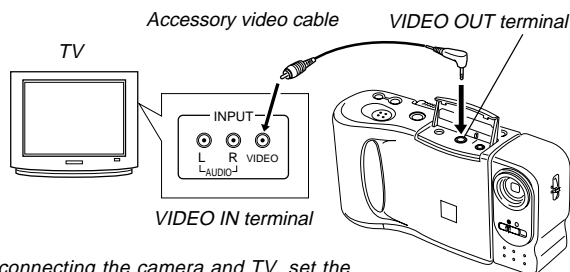
Playing Back Images

Displaying Images on a TV Screen

Use the special video cable that comes with the camera to connect the QV-10 to a television as illustrated below, and you can then view the images stored in camera memory on the TV's screen.

Important!

- The camera can be connected only to a TV that is equipped with a VIDEO IN terminal.
- Make sure that the power of both the camera and the TV are turned off when making connections.



After connecting the camera and TV, set the channel of the TV to the channel used for video input.

After connecting the camera and TV, use the same procedures as those described under "Displaying Images on the Camera's LCD" on page 49.

Important!

- Note that only images already stored in camera memory can be viewed on the TV screen. If you change to the camera's Record Mode, the image picked up by the camera's lens will not appear on the TV screen.

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Operation

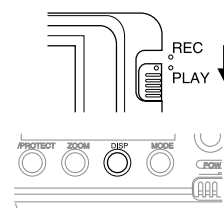
Displaying the Memory Page Number

The memory page number is a value in the upper right corner of the LCD that indicates the number of the currently shown memory page.

1. Enter the Playback Mode.

- Set the function switch to the PLAY position.

2. Press the DISP button.



- The memory page number appears in the upper right corner of the LCD.



- To clear the memory page number from the LCD, press the DISP button again.

Notes

- The letter "P" next to the memory page number indicates that page is "protected" and cannot be deleted. See page 67 for details about protecting memory pages.
- Note that turning display of the memory page number on and off in the Playback Mode also affects the display of the image number in the Record Mode (page 43), and the zoom area indicator used in the zoom operation (page 58).

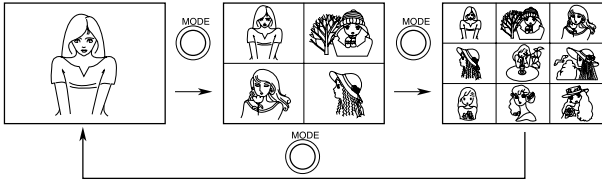
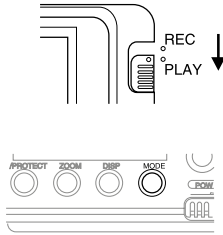
52

Producing a Multi-Page Display

Four or nine memory pages can be displayed at the same time. This feature can be used to display multiple memory pages on the camera's built-in LCD, or on the screen of a connected TV.

1. Enter the Playback Mode and turn on the camera.
2. Switch to multi-page display.

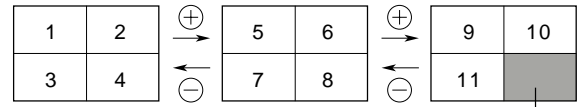
- Press the MODE button to change between the different display formats.
- Each press of MODE changes the display format in the following sequence.



* The memory page that is shown on the screen when you change to the 4-page or 9-page format is in the first (upper left) position in the multi-page display.

3. Scroll through the pages on the display.

- Use [+] (forward) and [-] (back) to scroll through the memory pages. Pages are scrolled one, four, or nine at a time, depending on the display format you are using.



Unused pages are colored gray.

Note

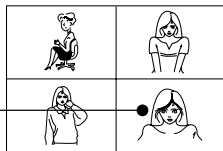
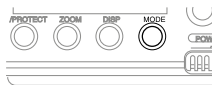
- The brightness of the images on a multi-page display may differ slightly from the brightness when a single image is shown. This is because the camera automatically uses the brightness setting for the brightest image contained in the multi-page display for all of the images.

Selecting a Memory Page in a Multi-Page Display

You can use the following procedure to select one of the memory pages in a multi-page display. Then when you return to the 1-page display, the memory page you selected will be the one displayed. The following procedure uses the 4-page display as an example, but you can use the same procedure with the 9-page display.

1. In the Playback Mode, press the MODE button.

- This changes to the 4-page display.



2. Press the DISP button.

- This causes a white line to appear under the first (upper left) page. This white line indicates the memory page that is currently selected.
- If you do not perform any operation for about 10 seconds, the white line disappears from the display.



3. Move the white line to the memory page that you want to select.

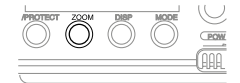
- Press [+] to move the line to the right or [-] to move it to the left. In this example, press [+] three times or [-] once.

[+] X 3



4. Press the ZOOM button.

- The image in the selected memory page appears as a 1-page display.



Using the Zoom Function

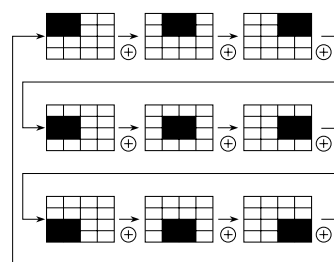
This function lets you select a specific part of a stored image and enlarge it to twice its normal size.

1. Display an image.
2. Press the ZOOM button to zoom in on the center of the image.
 - The center of the image is enlarged to twice its normal size.



3. Change the position of the zoom area.
 - You can use [+] and [-] to change the position of the zoom area in the sequence shown on page 58.
4. Press the ZOOM button again to return the image to its original size.

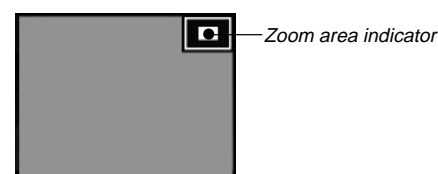
Changing the Location of the Zoom Area



- Pressing [-] moves the zoom area in the opposite direction.

Notes

- If the page number is displayed in the upper right corner of the screen when you perform a zoom operation, the number is replaced by a zoom area indicator. This indicator shows you what part of the image is currently enlarged on the display. You can turn the zoom area indicator on and off by pressing the DISP button.



- Note that turning display of the zoom area indicator on and off during a zoom operation also affects the display of the image number in the Record Mode (page 52), and the memory page number in the Playback Mode (page 43).

Using Auto Play

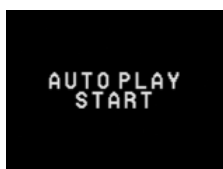
Auto play lets you automatically scroll through the camera's memory pages quickly and easily. You can specify the speed of the scroll, the display format (1-page, 4-page, or 9-page), and the range of pages to be included in the scroll operation.

Important!

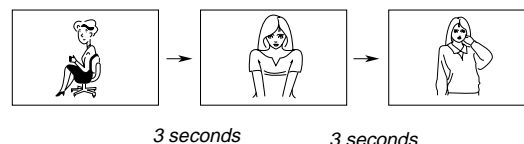
- The camera's Auto Power Off function (page 29) does not function while an auto play operation is in progress. If you forget to turn the camera off, there is the danger that auto play will continue until batteries are dead. To avoid this, make sure that you stop the auto play operation and turn the camera off when you finish viewing.

To start the auto play operation

1. Enter the Playback Mode and turn on the camera.
2. Start the auto play operation.
 - Hold down the [+] and [-] buttons until the message "AUTO PLAY START" appears.
 - There must be at least two images (two pages) recorded in memory to use the auto play operation. Otherwise, the "AUTO PLAY START" message will not appear on the display.



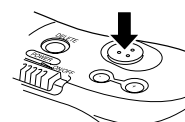
- After about one second, this message disappears and the auto play operation starts.



- Auto play continues to loop through the memory pages. This means that when it reaches the last page, it starts again from the first page.

3. Press the shutter button to stop the auto play operation.

- Pressing any button except the MODE button stops the auto play operation.
- Note that the buttons of the camera do not operate while a page change operation is in progress. Make sure that an image is shown on the display when you press a button to stop the auto play operation.



Other Auto Play Features

When using auto play, you can specify the speed of the scroll, the display format (1-page, 4-page, or 9-page), and the range of pages to be included in the scroll operation.

Accessing Auto Play Features

You can call up screens for control of auto play features by pressing the MODE button while an auto play operation is in progress.

1. Enter the Playback Mode and turn on the camera.
2. Start the auto play operation.
3. Press the MODE button to display the screen for the auto play feature you want to use.

- Each press of MODE changes the screen in the following sequence.



Speed Setting



Display Format



Page Range

- Make sure that there is an image shown and that a page change operation is not in progress when you press MODE.
4. After you make the settings you want, press the shutter button to start the auto play operation.
 - To abort the auto play feature setting procedure without changing anything, turn the camera off and on again, or change the position of the function switch to REC and then back to PLAY.

To set the auto play speed

1. Display the auto play speed screen.



Indicates the number of seconds between page changes.

- See page 61 for information on how to display auto play feature screens.
2. Use [+] (increase) and [-] (decrease) to change the auto play speed setting.



- You can set the auto play speed in 3-second increments, in the range of 3 to 30.
3. After you are finished setting the auto play speed, you can use MODE to change to another screen or press the shutter button to start the auto play operation.

To specify the display format

1. Display the display format screen.



- See page 61 for information on how to display auto play feature screens.

2. The highlighted display format is the one that is currently selected. Use [+] (right) and [-] (left) to change the display format selection.



3. After you are finished setting the display format, you can use MODE to change to another screen or press the shutter button to start the auto play operation.

To specify the page range

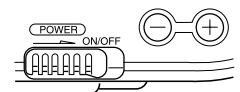
1. Display the page range screen.

- See page 61 for information on how to display auto play feature screens.

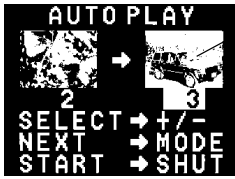
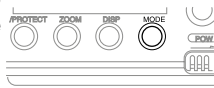


Indicates the starting page number.

- For the starting page number, the page range screen shows either page 1 or the last page number you specified.
2. Use [+] (increase) and [-] (decrease) to change the starting page number.

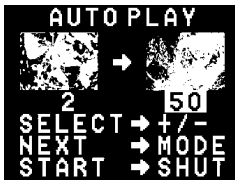
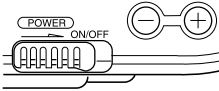


3. Press the MODE button to change to display the current ending page number setting.



The ending page is automatically set as the page following the starting page you specify.

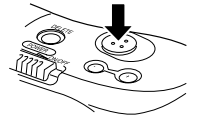
4. Use [+] (increase) and [-] (decrease) to change the ending page number.



Important!

- Be sure to specify an ending page number. If you do not change the ending page number in step 4, the starting page specification you made will also be ignored. This means that the auto play operation will be performed using the page range settings that were in effect before you started this procedure.

5. After you are finished setting the page range, you can use MODE to change to another screen or press the shutter button to start the auto play operation.



Note

- If the starting page you specify for the page range comes after the ending page (if you specify 12 as the starting page and 2 for the ending page, for example), the auto play operation will be performed in reverse order (from 12 to 2).
- An auto play page range specification is automatically cancelled whenever you delete an image from memory (page 70). This is true regardless of whether the deleted image is inside or outside of the page range. Following deletion of an image, auto play will display all pages starting with page 1 and ending with the last page that contains an image.

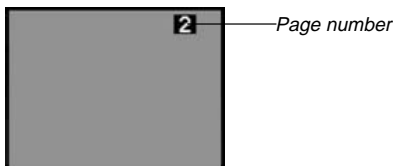
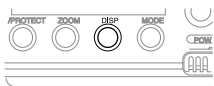
Protecting Memory Pages

You can protect specific memory pages to ensure that they are not accidentally deleted.

To protect a page

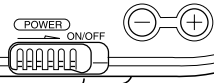
1. Enter the Playback Mode and turn on the camera.

- Slide the function switch to the PLAY position.
- Slide the POWER switch in the direction indicated by the arrow.
- If the page number is not shown in the upper right of the page, press DISP.




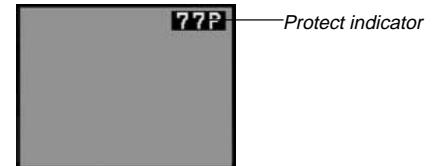
2. Scroll through the memory pages until the one you want to protect is displayed.

- Press [+] to display the next memory page or [-] to display the previous memory page.




3. Protect the page.

- Press the  /PROTECT button to protect the page.
- The letter "P" appears to the right of the page number to indicate that page is protected.




Note

- If the page number is not displayed when you press the  /PROTECT button, the page number along the protect indicator appears about a second after you press the button.

To unprotect a page


1. Enter the Playback Mode and turn on the camera.
2. Scroll through the memory pages until the one you want to unprotect is displayed.



3. Press the  /PROTECT button.
 - The letter "P" disappears, indicating that page is no longer protected.



Note

- If the page number is not displayed when you press the  /PROTECT button, the page number appears about a second after you press the button.

Deleting Memory Pages

Use the procedures described in this section to delete memory pages. You can delete individual pages, or all the pages currently stored in memory.

Warning!

The delete operation cannot be undone!

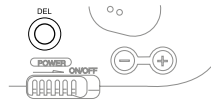
Before performing any of the procedures described in this section, make sure that you really do not need the images recorded on the memory pages you are deleting. Be especially careful when you are using the all delete operation.

To delete a single memory page

1. Enter the Playback Mode and turn on the camera.
 - Slide the function switch to the PLAY position.
 - Slide the POWER switch in the direction indicated by the arrow.
2. Scroll through the memory pages until the one you want to delete is displayed.
 - Press [+] to display the next memory page or [-] to display the previous memory page.
 - Remember that you cannot delete a protected page. If the page you want to delete is protected, use the procedure on page 69 to unprotect it before proceeding.

Deleting Memory Pages

3. Press DEL.

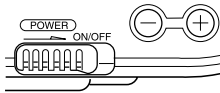


One-page delete — DEL PAGE → +
 All page delete — DEL ALL → -
 Exit this screen — EXIT → DEL

* This screen clears automatically from the display if you do not perform any operation for about 30 seconds.

4. Press the [+] button to specify deletion of a single page.

- If the page you selected in step 2 is protected, the contents of the nearest unprotected page appear in the above screen.



The contents of the memory page you displayed in step 2 appear here.

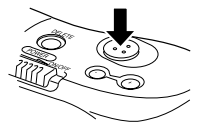
* This screen clears automatically from the display if you do not perform any operation for about 30 seconds.

5. Make sure that you really want to delete the page that contains the contents shown on the display.

- You can use [+] and [-] to change the memory page. When you do, protected pages are skipped (not displayed).

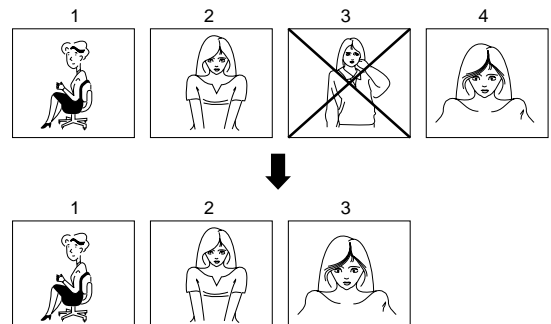
Operation

- To abort the delete operation without deleting anything, press DEL.
6. To delete the page whose contents are shown, press the shutter button.
 - Pressing the shutter button deletes the page you selected and displays the next page.
 7. Repeat steps 5 and 6 as many times as you want to delete memory pages.
 - After you are finished deleting pages, press DEL to exit the delete operation.



Note

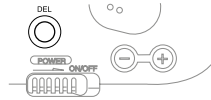
- Deleting a page causes the remaining pages to be renumbered. Blank pages are not left inserted between non-blank pages.



To delete all unprotected memory pages

1. Enter the Playback Mode and turn on the camera.

2. Press DEL.

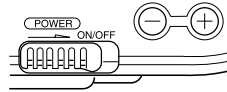


One-page delete — DEL PAGE → +
 All page delete — DEL ALL → -
 Exit this screen — EXIT → DEL

** This screen clears automatically from the display if you do not perform any operation for about 30 seconds.*

3. Press the [-] button to specify deletion of all unprotected pages.

- To abort the delete operation without deleting anything, press DEL.



** This screen clears automatically from the display if you do not perform any operation for about 30 seconds.*

Warning!

The following operation deletes all unprotected memory pages and cannot be undone. Make sure that you do not need any of the images stored in memory before performing this operation.

4. To delete all unprotected pages, press the shutter button.

- If there were no protected pages in memory, the message "MEMORY EMPTY" appears on the display after all memory pages are deleted.



- If there were protected pages in memory, they are the only pages that remain after the delete operation is complete.



Connecting to Other Devices

This part of the manual provides details about connecting to televisions, video tape decks, personal computers, and other devices. Be sure to read the information presented here before connecting to any other device.

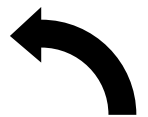
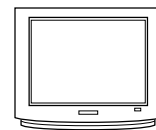
Connection Guide 76
 QV-10 Terminals 78

Using the QV-10 with a Connected Device 79
 Television 79
 Video Tape Deck 79
 Video Printer 80
 Video Phone 81
 Computer (Using special cable and software) 81
 Computer (Video Capture) 82

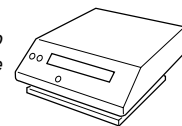
Connection Guide

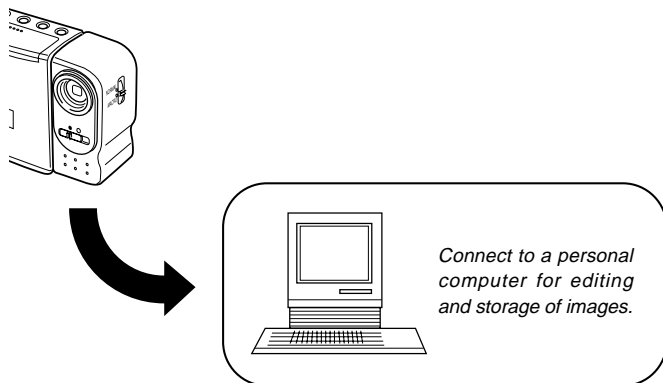
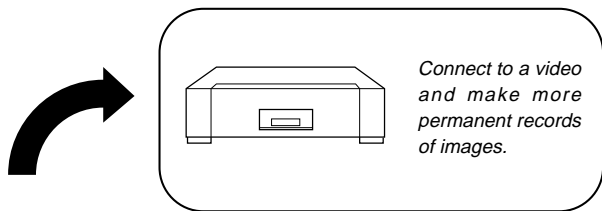
The QV-10 is equipped with two terminals for connection to other devices: VIDEO OUT and DIGITAL.

Connect to a TV and view images on a big screen.



Connect to a video printer and produce printouts of images.

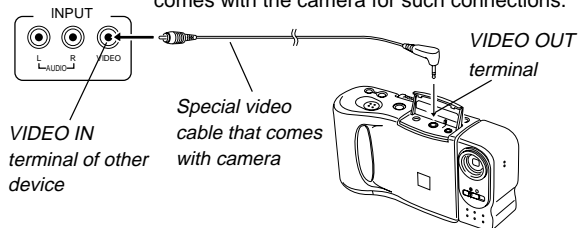




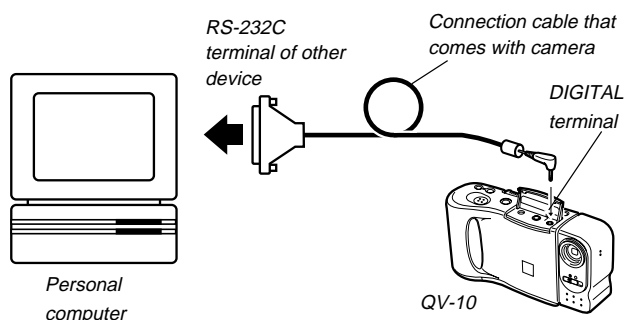
QV-10 Terminals

The following describes which QV-10 terminal you should use for each type of connection.

VIDEO OUT – Use this terminal when connecting to the VIDEO IN terminal of a TV, video tape deck, video printer, or other similar device. Use the special video cable that comes with the camera for such connections.



DIGITAL – Use this terminal when connecting to a personal computer. Note that connection with a personal computer requires a personal computer connection kit.



Using the QV-10 with a Connected Device

The following section provides specific information on how you can use the QV-10 after connecting to various types of devices. In each case, the QV-10 terminal you should connect to is indicated in the title as **VIDEO** and **DIGITAL**.

Important!

- Make sure that the power of all devices is turned off before connecting them.
- You should also check the owner's manuals of the device you are connecting to the camera for precautions and other information.

Television **VIDEO**

- See page 51 of this manual for details about connecting to a television and displaying images from camera memory on a TV screen.

Video Tape Deck **VIDEO**

You can use the video tape deck to record images from the QV-10.

To record QV-10 images on video tape

1. Use the special video cable that comes with the camera to connect to the VIDEO IN terminal of the video tape deck.
2. Set up the video tape deck to record images input through its VIDEO IN terminal.
- Consult the owner's guide that comes with the tape deck for details about how to set up for recording.
3. Enter the QV-10 Playback Mode (page 49) and start the video deck record operation.
- It is probably best to use auto play (page 59) when recording QV-10 images to video tape, because it changes pages automatically at a preset speed.

- Page numbers (page 52) are also recorded on the video tape if they are turned on. Be sure to turn off display of page numbers if you do not want them in the taped images.
- If the low battery indicator (page 28) is displayed while you are recording to video tape, it will also be recorded with the image. If this happens, either replace batteries or use the AC adaptor.

Video Printer **VIDEO**

You can use Video Printer to print copies of images in QV-10 memory.

To print QV-10 images on a Video Printer

1. Use the special video cable that comes with the camera to connect to the VIDEO IN terminal of the video printer.
2. Set up the video printer to print images input through its VIDEO IN terminal.
- Consult the owner's guide that comes with the video printer for details about how to set up for printing.
3. Enter the QV-10 Playback Mode (page 49) and display the image you want to print.
4. Start the video printer's print operation.
- Page numbers (page 52) are also included on the print if they are turned on. Be sure to turn off display of page numbers if you do not want them in the print.
- If the low battery indicator (page 28) is displayed while you are printing, it will also be printed with the image. If this happens, either replace batteries or use the AC adaptor.

Computer (Using special cable and software) DIGITAL

This package includes special software (two versions, for Windows and the Macintosh) and a special cable that allow you to transfer images from the QV-10 to a personal computer. Images are transferred as digital data, which ensures minimum loss of image quality.

Certain requirements concerning your computer model and its operating system must be met to use the special software that comes in this package. For details, see the Owner's Manual that comes with the Connection Kit.

Note: You can also connect directly to a computer that has video capture capabilities (page 82).

Computer (Video Capture) VIDEO

You can use the special video cable that comes with the QV-10 to connect directly to the VIDEO IN terminal of a personal computer equipped with video capture capabilities.

To transfer QV-10 images to a personal computer (video capture)

1. Use the special video cable that comes with the camera to connect to the VIDEO IN terminal of the computer.
 2. Enter the QV-10 Playback Mode (page 49) and display the image you want to send.
 3. Perform the required operation on the computer.
- Consult the owner's guide that comes with the computer or its video capture board for details about how to set up to capture images.

Important!

- With this configuration, you cannot send images from the personal computer to the QV-10.
- The QV-10 can be connected directly to a personal computer or video capture board that is equipped with a VIDEO IN terminal (RCA pin jack). It cannot be connected directly to an S-VIDEO terminal.

Reference




This part of the manual contains information on troubleshooting, available accessories, specifications, and other information you may need to reference only occasionally.

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Specifications 88

About the camera's backlight 89

Troubleshooting

	Symptom	Probable Cause	Action
Power Supply	No power	1. Batteries not loaded correctly. 2. Dead batteries 3. Wrong AC adaptor	1. Correctly load batteries (page 25). 2. Replace batteries with new ones (page 25). 3. Use only recommended AC adaptor (AD-C60).
	Sudden power failure	1. Operation of Auto Power Off 2. Low battery power Use of manganese batteries	1. Turn power back on. 2. Replace batteries with new ones (page 25). Replace manganese batteries with alkaline batteries.
	 indicator on LCD	Low battery power	Replace batteries (page 25).
Recording	No recording when shutter button is pressed	Function switch set to PLAY	Set function switch to REC.
	Power failure during self-timer operation	Low battery power	Replace batteries (page 25).
	 indicator on LCD	Over exposure	Change aperture switch setting to [] (page 42).
	 indicator on LCD	Under exposure	Change aperture switch setting to [] (page 42).

Troubleshooting

	Sympton	Probable Cause	Action
Recording	Poor LCD image focus	Incorrect NORMAL/MACRO switch setting	Use NORMAL for scenery and group photos, and MACRO for close-ups (page 40).
	Poor color and brightness when indoors	Indoor fluorescent lighting	Shoot under incandescent or other non-fluorescent lighting (page 36).
Playback	Color of recorded image is strange.	1. Reflection from sunlight or light from another source 2. Difference between Record Mode and Playback Mode characteristics.	1. Reorient the camera so that light is not shining directly into lens. 2. This difference does not indicate a problem or malfunction.
	No [+] / [-] button operation during multi-page display	Button operation during page change	Wait until an image is on the LCD before performing a button operation.
	Cannot start auto play operation	Only one image in memory	Auto play can be used only when there are two or more images in camera memory.
	All pages do not appear during auto play	Auto play page range specification	Change the auto play page range specification to include the pages you want to view.

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Reference

	Sympton	Probable Cause	Action
Playback	No display of image on connected TV screen	1. Function switch set to REC 2. Incorrect connection 3. Wrong TV channel	1. Set the function switch to PLAY. 2. Use the special video cable that comes with the camera and connect correctly (page 51). 3. Set the TV to the correct channel. See the TV's owner's manual for details.
	Delete operation does not start when DEL is pressed	1. All pages are protected 2. Multi-page display (page 00) or zoom display (page 00)	1. Unprotect the page you want to delete (page 69). 2. Change to a normal-size, 1-page display format.
Other	All buttons and switches do not operate	Malfunction due to static electrical charge or strong impact	Remove batteries and disconnect the AC adaptor if you are using one. Restore power and turn the camera on. If this does not work, contact your dealer or an authorized CASIO service provider.
	Very bright or very dark LCD image	Wrong BRIGHT setting	Adjust the BRIGHT setting (page 16).

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Troubleshooting

Messages

MEMORY FULL	All 96 memory pages are used. Pages must be deleted (page 70) before further recording is possible.
MEMORY EMPTY	No images are stored in memory.
MEMORY ERROR CALL TECH SUPPORT	Problem with internal memory. Contact your dealer or an authorized CASIO service provider.

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Specifications

General

Recording System ... Digital (JPEG based)/Field recording
 Signal System NTSC
 Recording Medium .. Built-in 16-Mbit flash memory
 Number of Pages 96
 Delete Functions Single page; All pages (with page protect feature)
 Imaging Device 1/5-inch CCD (Total Number of Pixels: 250,000)
 Lens Fixed focus with macro position; F2/f = 5.2mm
 Aperture F2/F8 manual switching
 Focal Length F2/NORMAL :60cm to 310cm;
 F2/MACRO :13cm to 16cm
 F8/NORMAL :28cm to ∞;
 F8/MACRO :10cm to 24cm
 (from lens protection filter)
 Light Metering TTL center point by photographic element
 Exposure Metering .. Aperture priority AE
 Exposure Range EV +5 to 18
 Exposure Adjustment .. -2EV to +2EV
 Shutter System Electronic
 Shutter Speed 1/8 to 1/4000 second
 White Balance Automatic
 Self-timer 10-second
 Monitor 61,380-pixel 1.8-inch TFT low-glare color LCD;
 doubles as finder
 Terminals DIGITAL; VIDEO OUT; DC IN 6V
 Power Supply Batteries (AA-size Alkaline batteries X 4)/AC Adaptor (AD-C60)
 Battery Life Approximately 120 minutes
 Dimensions 66(H) X 130(W) X 40(D)mm /
 2.6" (H) X 5.12" (W) X 1.6" (D)
 Weight Approximately 190g / 6.7oz (excluding batteries)

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Specifications

Accessories Wrist strap; soft case; special video cable; AC adaptor (AD-C60) Alkaline batteries (LR6 X 4); cleaning cloth; owner's manual; personal computer connection kit

- The liquid crystal panel built into this camera is the product of precision engineering, with an effective pixel rate of 99.99%. This also means, however that 0.01% of the pixels can be expected to fail to light or to remain lit at all times.

About the camera's backlight...

- The camera is equipped with a fluorescent light source to provide the back lighting for its LCD.
- The normal service life of the backlight is approximately six years, when the camera is used for about two hours a day.
- Should the LCD image appear abnormally dark, take the camera to your dealer or an authorized CASIO service provider to have the light source replaced. Note that you will be charged for this replacement.
- Under very cold conditions, the backlight may require more time than normal to light, or reddish bands may appear in the image. These conditions do not indicate malfunction, and normal operation should return at higher temperatures.