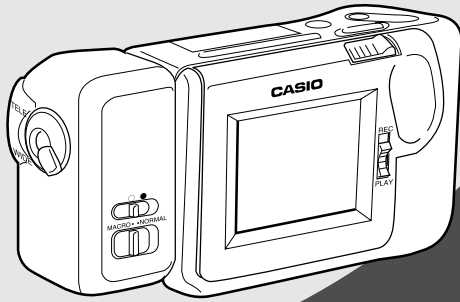Liquid Crystal Digital Camera
QV-30
Owner's Manual

CASIO.

Introduction

Congratulations upon your selection of the QV-30 Liquid Crystal Digital Camera. The QV-30 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-30, be sure to carefully read this manual and follow the instructions contained in it.

Contents

Precautions

General Precautions

Be sure to observe the following important precautions whenever using the QV-30.

All references in this manual to "this camera" and "the camera" refer to the CASIO QV-30 Digital Camera.

• 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.

• 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 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.

MEMORY ERROR message

Any of the following can cause data stored in the camera's memory to become corrupted.

• Removal of batteries or disconnection of the AC adaptor during a record or data communication operation

• Performing an image record operation while the low battery indicator is on the display, or disconnection of the connecting cable during data communication

• Other incorrect operation

In each of the above cases, one of the following memory error messages appears, and further operation of the camera will become impossible. If this should happen, contact your dealer or the nearest CASIO service provider as soon as possible.

MEMORY ERROR #1 CONSULT THE OWNER'S MANUAL!	MEMORY ERROR #2 CONSULT THE OWNER'S MANUAL!	MEMORY ERROR #3 CONSULT THE OWNER'S MANUAL!
Memory Error Message #1	*Memory Error Message #2*	*Memory Error Message #3*

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

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.

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.

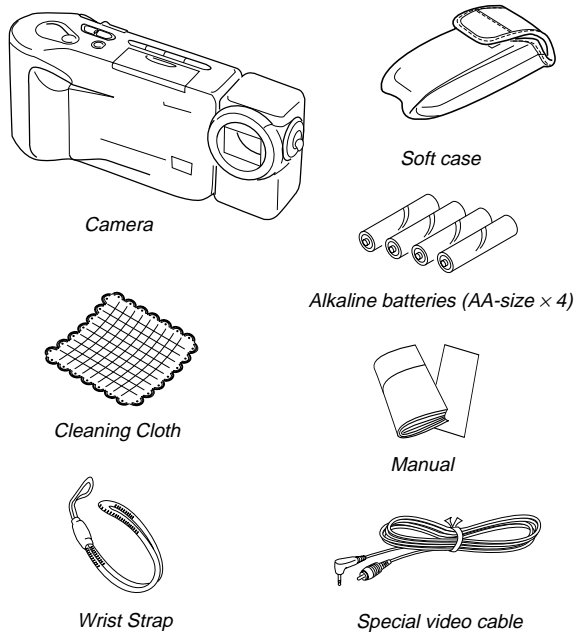• Consult the dealer or an experienced radio/TV technician for help.

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.

Unpacking

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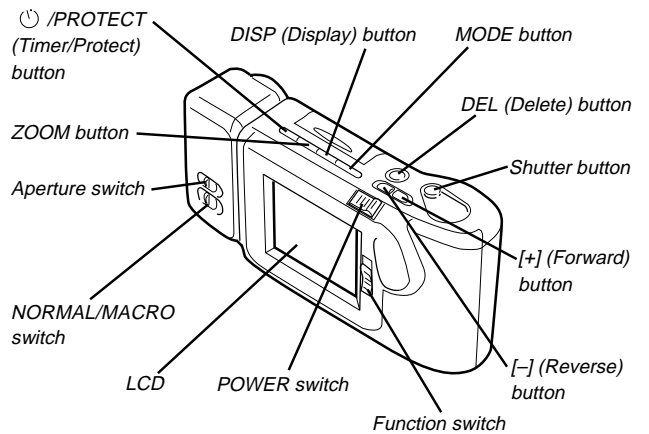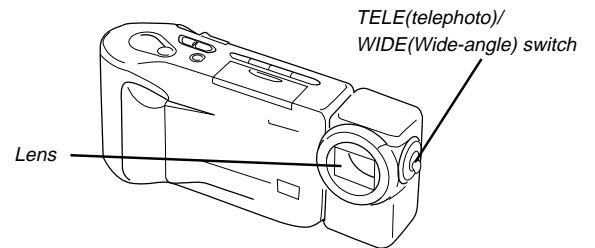
Camera

Soft case

Alkaline batteries (AA-size × 4)

Cleaning Cloth

Manual

Wrist Strap

Special video cable

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General Guide

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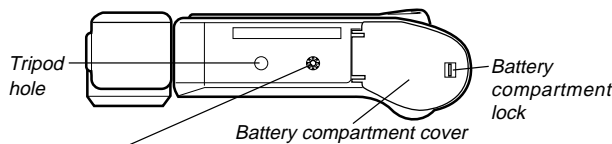
Top and Display

⏱/PROTECT (Timer/Protect) button

DISP (Display) button

MODE button

ZOOM button

DEL (Delete) button

Aperture switch

Shutter button

NORMAL/MACRO switch

[+] (Forward) button

LCD

POWER switch

[–] (Reverse) button

Function switch

Lens

TELE(telephoto)/ WIDE(Wide-angle) switch

Lens

10

Bottom

Tripod hole

Battery compartment lock

Battery compartment cover
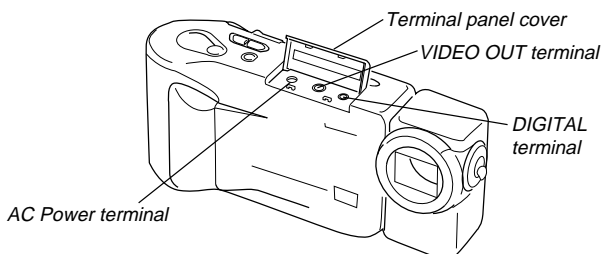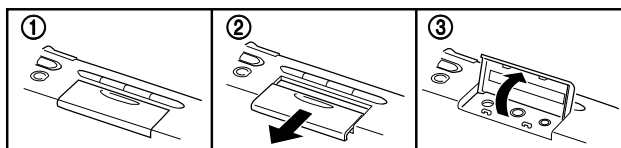
BRIGHT (brightness) control

• 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.

Terminals

Terminal panel cover

VIDEO OUT terminal

DIGITAL terminal

AC Power terminal

Opening the Terminal Panel Cover

① ② ③

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.

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Connecting the Wrist Strap

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

②

①
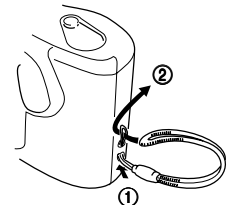
Using the Cleaning Cloth

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.
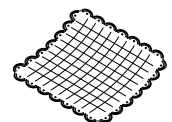
Using the Soft Case

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

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Power Supply

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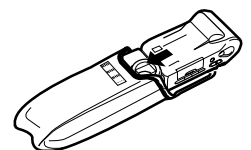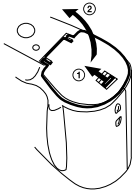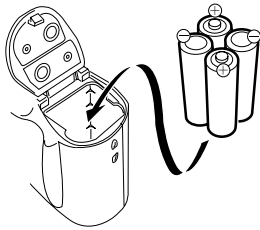
To load batteries

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.**
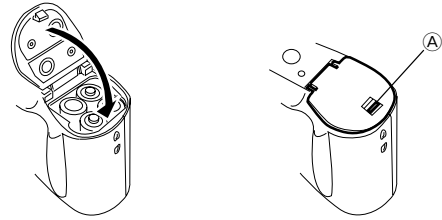
2. **Insert four batteries.**

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

- Make sure that the positive ⊕ and negative ⊖ ends of the batteries are facing correctly.

3. **Close the battery compartment cover.**

- Press down on the battery compartment cover at the point marked Ⓐ in the above 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**

- Use only LR6 (AM-3) type alkaline dry cell batteries with this camera. Never mix old batteries with new ones. Failure to do so can result in bursting or leaking of batteries, creating the danger of fire or personal injury.
- Always make sure that the positive ⊕ and negative ⊖ ends of the batteries are facing correctly, as noted by the markings on the camera itself. Improper loading of batteries can result in bursting or leaking of batteries, creating the danger of personal injury or soiling of objects nearby.

- Remove batteries from the camera if you do not plan to use it for more than two weeks.
- 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.
- 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.
- The batteries that power this camera normally become warm when they lose power. This does not indicate malfunction.

Standard Battery Life

The following shows standard battery life of batteries when the camera is used without interruption under normal temperatures. Lower temperatures can cause shortening of the standard battery life.

    Battery type : LR6 (AM-3) alkaline dry cell

    Battery Life : Approximately 2 hours
                   Approximately 96 images
                   (consecutive recording, one image per minute)

Low Battery Indicator

A low battery indicator (▭) appears on the LCD whenever remaining battery power drops below a certain level.
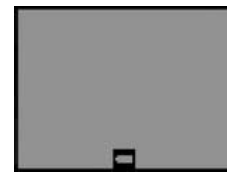
When this indicator appears, replace all four batteries with a fresh set of new ones. Once the low battery indicator appears, you can expect only about 10 more minutes of operation before total power failure.

Flash Memory

The camera 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.

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.

POWER ——→ ON/OFF

Important!

The Auto Power Off function does not operate under the following conditions.
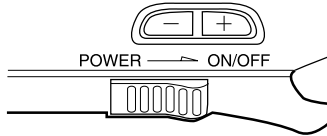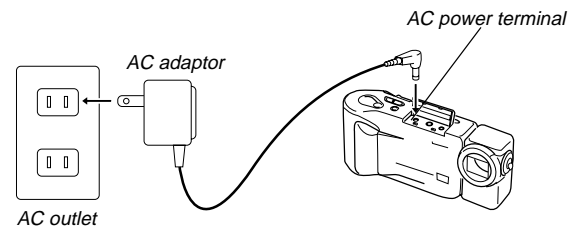
• During Auto Play (page 43)

• When operations are being performed on a computer connected to the camera via the camera's DIGITAL terminal.

Using AC Power

To power the camera from standard AC power, use the optional AC adaptor (AD-C60).

AC power terminal

AC adaptor

AC outlet

⚠ Caution

AC Adaptor precautions

• Never use an electrical outlet whose voltage is outside the rating marked on the camera. Doing so can create the danger of fire or electrical shock. Use only the optional AC adaptor specified for this camera.

• Should the cord of the AC adaptor become damaged (exposed internal wiring or shorts), request a replacement from an authorized CASIO service provider. A damaged AC adaptor cord creates the danger of fire or electrical shock.

⚠ Caution

• 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.

• 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.
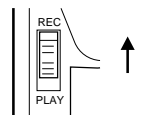

Recording Images

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.

REC
PLAY

2. Turn on the camera.

• Slide the POWER switch in the direction indicated by the arrow.

POWER ——→ ON/OFF

• The POWER switch automatically slides back to its original position when you release it.
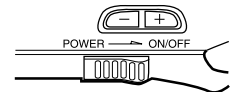
• When power comes on, the image of the object that is in front of the camera's lens appears on the LCD.

• 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.

• For close-ups, set the NORMAL/MACRO switch to MACRO. See page 25 for details on using this switch.

MACRO • • NORMAL
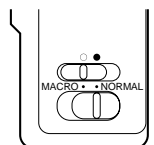
Note

• The camera 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.

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.

• Should the lens become dirty, use the cloth that comes with the camera to clean it off.

• 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 22 for information on how to avoid hand movement.
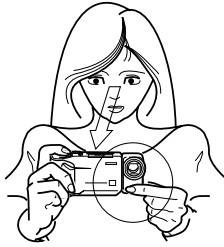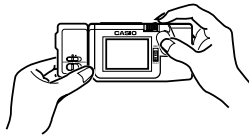
• The message "WAIT" appears on the LCD for about six seconds along with the image that was recorded when you pressed the shutter button. You can use the camera to take the next picture after the "WAIT" message disappears.

• Here you could change the function switch to the PLAY position and view the image you just recorded.

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.

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How to avoid hand movement…

Any hand movement when you press the shutter button can causes 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 camera 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.

Fluorescent Lighting

Fluorescent 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 fluorescent light's flicker is occurring when the camera's shutter actually releases. For best results, use a commercially available video lights.

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.

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Shooting Images Outdoors

Strong direct or reflected sunlight can cause recorded images to take on a greenish tinge. This is due to the characteristics of the camera's optical pickup and it does not indicate malfunction of the camera. One way you can try to minimize this problem is to set the aperture to [ ] (F8).

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.
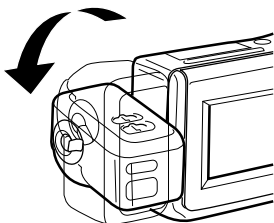
Rotates up to 90° towards the front
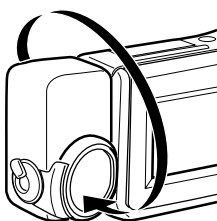
Rotates up to 180° towards the back

23

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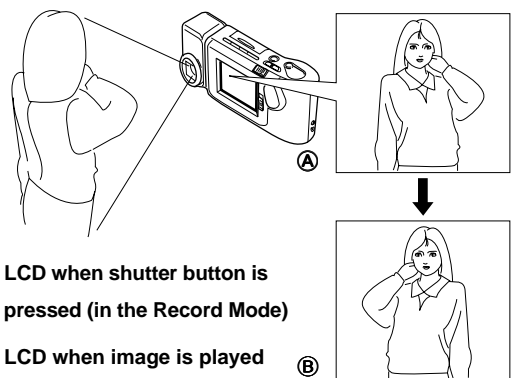
Ⓐ – – **LCD when shutter button is pressed (in the Record Mode)**

Ⓑ – – **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.

Switching Between Lenses

This camera gives you a choice between telephoto (TELE) and wide-angle (WIDE) lenses. The following shows the optimum distances at which you should use each of these lenses.

Distances

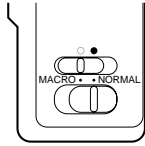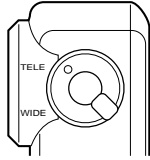| Lens	Aperture	Normal (NORMAL)	Macro (MACRO)
Wide Angle (WIDE) f = 4.0mm	F2.8( )	50cm ~ ∞ (1.6' ~ ∞)	10cm ~ 13cm (3.9" ~ 5.1")
	F8 ( )	24cm ~ ∞ (9.4" ~ ∞)	8cm ~ 19cm (3.1" ~ 7.5")
Telephoto (TELE) f = 9.0mm	F2.8( )	250cm ~ ∞ (8.2' ~ ∞)	50cm ~ 65cm (1.6' ~ 2.1')
	F8 ( )	120cm ~ ∞ (3.9' ~ ∞)	40cm ~ 95cm (1.3' ~ 3.1')

* See page 27 for information on changing the aperture.

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.
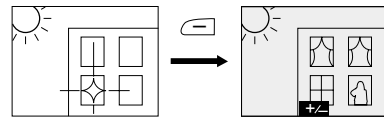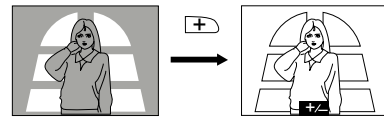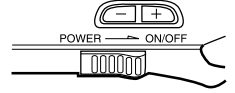
To manually adjust the exposure

1. **Enter the Record Mode.**

• Set the function switch to the REC position.
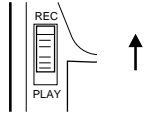
2. **Use the [+] and [–] buttons to manually adjust the exposure.**

• Pressing [+] makes the image on the LCD brighter. Use it to adjust for dim indoor lighting and backlighting.

• 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.

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. You can manually reset the exposure adjustment value by using [+] and [–] to change the value back to zero, which is indicated when the +/– indicator disappears from the monitor.

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.

• Use the [ ] (F2.8) setting to increase exposure. This setting works best indoor and with back lit images.
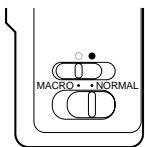
Note

• Also see page 29 for information about exposure warning indicators.

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 camera 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. 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.
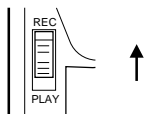
2. **Press the DISP button.**
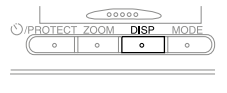
- The image number appears in the upper right corner of the LCD. It indicates the number of the next image that will be recorded. The number 21, for example, indicates that there are 20 images in memory, and the next image will be number 21.

- 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 36), and the zoom area indicator used in the zoom operation (page 41). 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.

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*

29

Use the procedure described on page 27 to change the aperture or change the lighting of the image so the indicator disappears from the LCD.

Important!

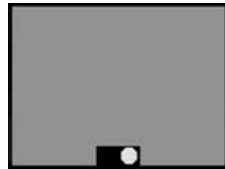• The exposure warning indicators also appear when lighting is outside the range of the camera. In such a case, changing the aperture will not clear the indicator from the LCD.

• The manual exposure adjustment procedure (page 26) cannot be used when an exposure warning indicator is on the LCD. Clear the warning indicator by changing the aperture switch setting.

• Pressing the [+] or [–] button to adjust exposure while an exposure warning indicator is on the LCD clears the warning indicator and causes a positive [+] or negative [–] exposure correction (EV shift) indicator to appear.

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 13 for details on how to replace batteries.

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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 50 for details on how to delete images.

MEMORY FULL

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.

REC

PLAY
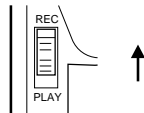
2. Start the Self-Timer operation.

- 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.

10

31
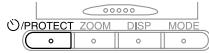
- To cancel on ongoing Self-Timer operation, press the ⟳ /PROTECT button or shutter button.
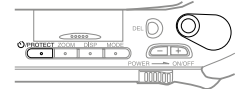
Note

• If you use the Self-Timer with the lens body rotate 180° (page 23), 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.

32

Playing Back Images

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

Displaying Images on the Camera's LCD

The camera 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.
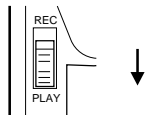
2. Turn on the camera.

• 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).

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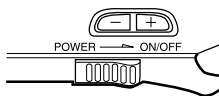
3. Scroll through the memory pages until the image you want to view is displayed.

• 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.

Displaying Images on a TV Screen

Use the special video cable that comes with the camera to connect it 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.

Accessory video cable   *VIDEO OUT terminal*

TV

INPUT
L   R   VIDEO
AUDIO

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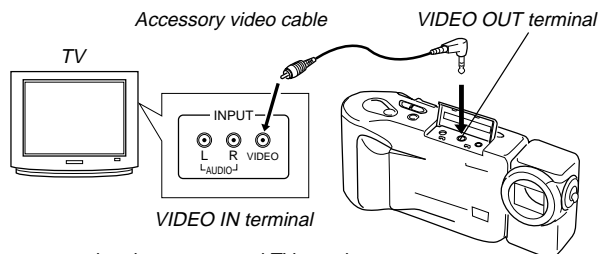
After connecting the camera and TV, set the channel of the TV to the channel used for video input.

After connecting the camera and TV, use the same procedures as those described under "Displaying Images on the Camera's LCD" on page 33.

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.

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.

/PROTECT ZOOM DISP MODE
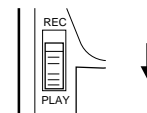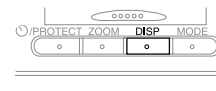
• The memory page number appears in the upper right corner of the LCD.

• 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 46 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 28), and the zoom area indicator used in the zoom operation (page 41).

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.

   • You cannot use the multi-page display while protected memory pages are hidden (page 49).
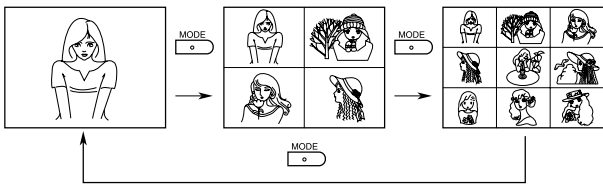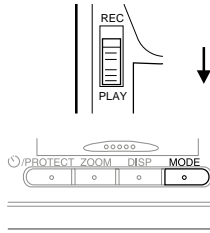
   * The memory page that is shown on the screen when you change to the 4-page or 9-page format is in the first (upper left) position in the multi-page display.

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.

1	2
3	4

5	6
7	8

9	10
11	
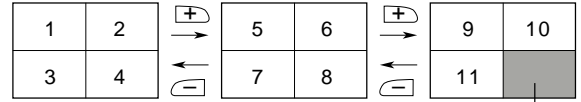
Unused pages are colored gray.

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.

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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.**
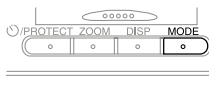
   • This changes to the 4-page display.
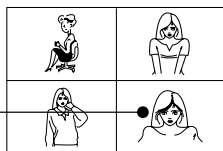
   In this example, we will select this page.

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.

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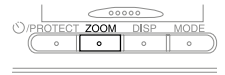
Using the Zoom Function

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 42.

4. Press the ZOOM button again to return the image to its original size.

Changing the Location of the Zoom Area
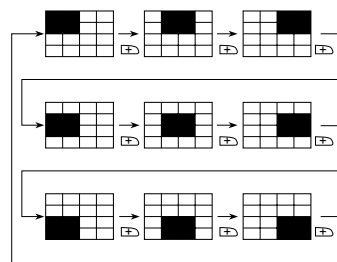
• Pressing [–] moves the zoom area in the opposite direction.

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.

Zoom area indicator
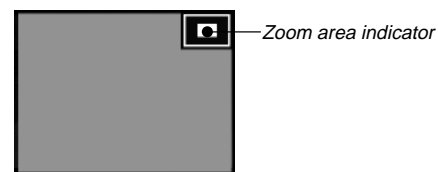
• Note that turning display of the zoom area indicator on and off during a zoom operation also affects the display of the image number in the Record Mode (page 28), and the memory page number in the Playback Mode (page 36).

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.

Important!

• The camera's Auto Power Off function (page 17) 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.
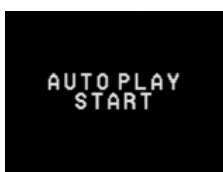
   • After about one second, this message disappears and the auto play operation starts.

3 seconds   3 seconds
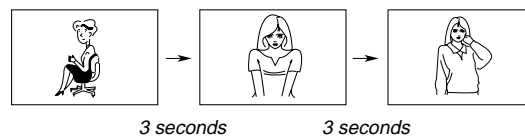
   • Auto play continues to loop through the memory pages. This means that when it reaches the last page, it starts again from the first page.

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.
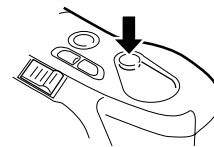
To set auto play speed

Use the following procedure to specify how long each image remains on the display, within the range of 3 to 30 seconds.

1. **Perform steps 1 and 2 under "To start the auto play operation" on page 43 to start auto play.**

2. **Press MODE to enter the Auto Play Setting Mode.**

   • Be sure to press MODE while an image is stopped on the monitor, and not while images are changing.

```
AUTO PLAY
SPEED  3 SEC ─── Speed (number of
                  seconds each
SELECT→+/-        image is displayed)
START  →SHUT
```

3. **Use [+] (increase) and [–] (decrease) to change the current speed setting.**

   • You can set the speed within a range of 3 to 30 seconds, in three-second increments.

4. **To start auto play using your newly set speed setting, press the shutter button.**

   • To exit the auto play setting mode at any time, change the function switch position to REC and then back to PLAY, or turn power off. Either of these methods cancels any settings you made and returns to the settings in effect when you entered the Auto Play Setting Mode.

   • You can use auto play in combination with the multi-page display (page 37). First change to the multi-page format, and then perform the auto play operation (page 43).

   • You cannot use auto play in combination with the multi-page display while protected pages are hidden.

Protecting Memory Pages

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

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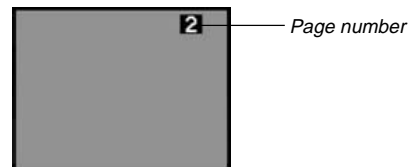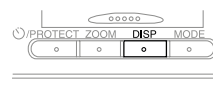
2. **Scroll through the memory pages until the one you want to protect is displayed.**

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

   • You cannot protect or unprotect memory pages while protected memory pages are hidden (page 49).

---
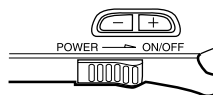
3. **Protect the page.**

   • Press the ⏻ /PROTECT button to protect the page.

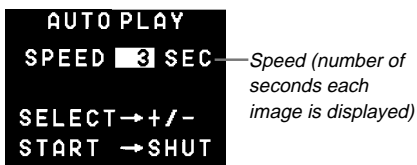   • The letter "P" appears to the right of the page number to indicate that page is protected.

   Protect indicator

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.

Hiding Protected Memory Pages

This function makes it possible for you to hide protected memory pages so their images do not appear on the monitor during playback.

To hide protected memory pages

While holding down the [+] button, turn on the camera.

Important!

• You cannot protect or unprotect pages (pages 46~48) while protected pages are hidden.

• You cannot display multiple images (page 37) while protected pages are hidden.

• The following message appears on the monitor when you hide protected memory pages and all pages currently in memory are protected. It also appears if you delete all unprotected memory pages while protected memory pages are hidden.

```
ALL DATA
   IS
PROTECTED !
```

To unhide protected memory pages

While holding down the [–] button, turn on the camera.

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

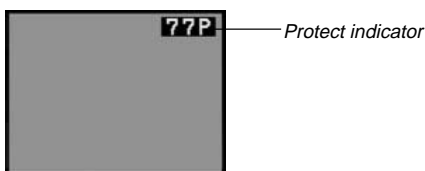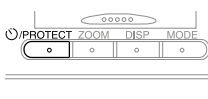1. **Enter the Playback Mode and turn on the camera.**

   • 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 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 48 to unprotect it before proceeding.

   • You cannot delete memory pages while using multi-page display (page 37), zoom function (page 41), or auto play (page 43).

3. **Press DEL.**

DEL

POWER —— ON/OFF

```
DELETE?
DEL PAGE ➡ +
DEL ALL  ➡ –
EXIT    ➡DEL
```
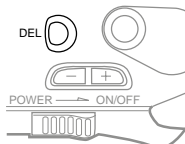
One-page delete — DEL PAGE ➡ +
All page delete — DEL ALL ➡ –
Exit this screen — EXIT ➡DEL

* 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.

POWER —— ON/OFF

```
DELETE PAGE?

SELECT➡+/–
YES   ➡SHUT
EXIT  ➡DEL
```
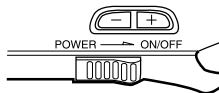
The contents of the memory page you displayed in step 2 appear here.

* 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).

   • 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.
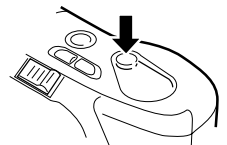
7. **Repeat steps 5 and 6 as many times as you want to delete memory pages.**

   • 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.
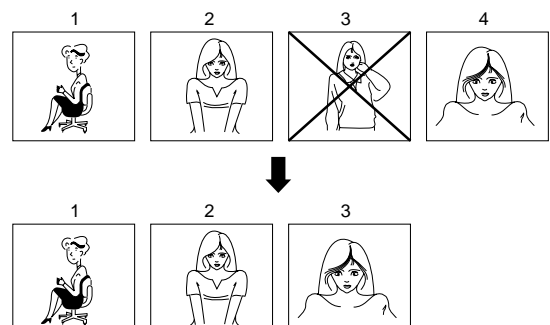
To delete all unprotected memory pages

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

2. Press DEL.
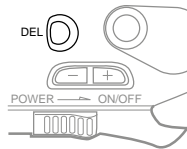
One-page delete — DEL PAGE ➡ +
All page delete — DEL ALL ➡ –
Exit this screen — EXIT ➡ DEL

DELETE?

* 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.
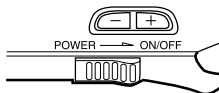
DELETE ALL?
YES ➡ SHUT
EXIT ➡ DEL

* 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.

MEMORY EMPTY

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

• The following message appears on the monitor whenever you delete all unprotected memory pages while protected memory pages are hidden (page 49).

**ALL DATA
IS
PROTECTED !**

Connecting to Other Devices

The camera terminals

The following describes which the camera 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 devices. Use the special video cable that comes with the camera for such connections.

VIDEO IN terminal of other device

Special video cable that comes with camera

VIDEO OUT terminal
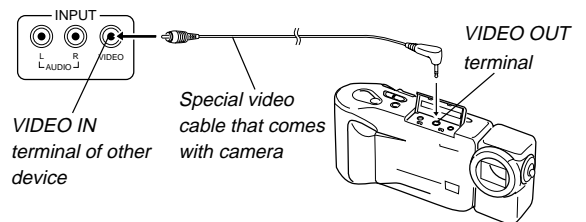
DIGITAL – Use this terminal to connect to a personal computer (requires optional Connection Kit) or another CASIO Digital Camera. Connect to another digital camera as illustrated below.

DIGITAL terminal

Connecting cable*
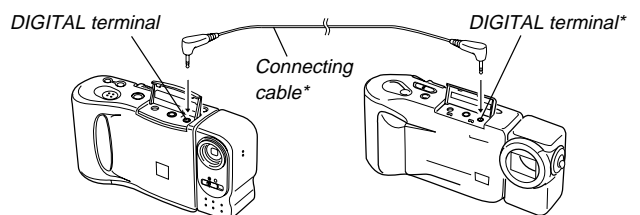
DIGITAL terminal*

* The type of connecting cable you should use depends on the type and shape of the terminals equipped on the digital camera you are connecting to. See pages 59 through 61 for details.

Using the Camera with a Connected Device

The following section provides specific information on how you can use the camera after connecting to various types of devices. In each case, the camera 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 35 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 camera.

To record camera 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 camera Playback Mode and start the video deck record operation.
• It is probably best to use auto play when recording camera images to video tape, because it changes pages automatically at a preset speed.

• Page numbers (page 28) 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 30) 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 camera memory.

To print camera 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 camera Playback Mode and display the image you want to print.
4. Start the video printer's print operation.
• Page numbers (page 28) 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 30) 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.

Connecting to another CASIO Digital Camera
DIGITAL

You can connect the camera to another CASIO digital camera and exchange image data between them. Connect the DIGITAL terminals of the two cameras using the optionally available SB-62 connecting cable.

To connect the two cameras
1. Turn both cameras off.
2. Connect the two cameras by plugging the optional SB-62 connection cable into their DIGITAL terminals.
3. Turn both cameras on.
• You will not be able to send image data to a camera whose memory is already full (contains 96 images).

To send data from this camera to another camera
1. Set the function switches of both cameras to PLAY.
2. Use the [+] and [–] buttons of this camera to find the image you want to send.
• You cannot send images between two cameras while either of their function switches is set to REC.
• You cannot send images while using the multi-page display or zoom function.
3. Press the shutter button of this camera.

IMAGE COPY!!
▶ 📷 →   — Send icon
  📷 ←   — Receive icon
                   — Return to previous
EXIT   display

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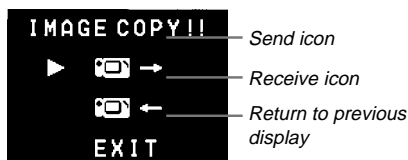
4. Use the [+] and [–] buttons to move the pointer to the send icon.
5. After you make the setting you want, press the shutter button again.
• Pressing the shutter button sends the selected image to the other camera.
• You can send only one image at a time. To send more images, repeat steps 2 through 5.

To receive data to this camera from another camera
1. Set the function switches of both cameras to PLAY.
2. Use the [+] and [–] buttons of other camera to find the image you want to receive.
• You cannot receive images between two cameras while either of their function switches is set to REC.
• You cannot receive multi-page display or zoomed images.
• If you try to receive a multi-page display or zoomed images, other camera's monitor automatically changes to normal display of page 1.
3. Press the shutter button of this camera.

IMAGE COPY!!
  📷 →   — Send icon
▶ 📷 ←   — Receive icon
                   — Return to previous
EXIT   display
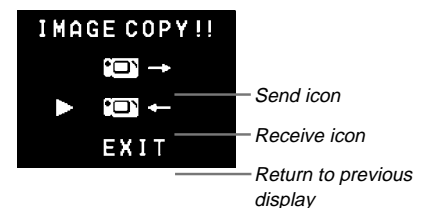
4. Use the [+] and [–] buttons to move the pointer to the receive icon.

• As soon as you perform the above step, all of the buttons and controls on the other camera become disabled.

5. After you make the setting you want, press the shutter button again.

• Pressing the shutter button receives the selected image from the other camera.

* You can receive only one image at a time. To send more images, repeat steps 2 through 5.

Important!

Never disconnect the cable, turn power off, or change the function switch setting while a data communication operation is in progress. Doing so can damage the camera.

Connecting to a Computer using a Connection Kit

Optionally available personal computer connection kits are available to allow transfer of digital data with a personal computer. Each kit includes special connecting cables, and software, and makes it possible to send images from the camera to a personal computer and vice versa. Images are transferred as digital data, which minimizes loss of image quality.

For details on connecting to your computer and how to use the software, see the user documentation that comes with the connection kit.

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Computer (Video Capture) VIDEO

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

To transfer camera 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 camera Playback Mode 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 camera.

• The camera 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.

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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 13). 2. Replace batteries with new ones (page 13). 3. Use only recommended AC adaptor .
	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 13). Replace manganese batteries with alkaline batteries.
	[▭] indicator on LCD	Low battery power	Replace batteries (page 13).
Recording	No recording when shutter button is pressed	Function switch sets to PLAY.	Set function switch to REC.
	Power failure during self-timer operation	Low battery power	Replace batteries (page 13).
	[◻] indicator on LCD	Over exposure	Change aperture switch setting to [ ] (page 27).
	[◉] indicator on LCD	Under exposure	Change aperture switch setting to [ ] (page 27).

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	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 25).
	Poor color and brightness when indoors	Indoor fluorescent lighting	Shoot under incandescent or other non-fluorescent lighting (page 22).
	Recorded image has greenish tinge.	Strong direct or reflected sunlight	Change aperture setting to [ ] (F8). This condition is due to optical pickup characteristics and does not indicate camera malfunction.
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.

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	Sympton	Probable Cause	Action
Playback	All pages do not appear during auto play.	Protected memory pages are hidden.	Unhide protected memory pages (page 49).
	Camera is connected to a TV, but LCD monitor contents do not appear on TV screen.	1. Function switch set to REC 2. Incorrect camera-TV connection 3. Wrong TV channel	1. Set function switch to PLAY (page 33). 2. Connect correctly using the special video cable that comes with the camera (page 35). 3. Select the correct channel for video playback. See the TV's user documentation for details.
	Some images are missing.	Protected memory pages are hidden.	Unhide protected memory pages by holding down [–] while turning power on (page 49).
	Cannot use multi-page display.	Protected memory pages are hidden.	Unhide protected memory pages by holding down [–] while turning power on (page 49).
	Cannot protect memory pages.	Protected memory pages are hidden.	Unhide protected memory pages by holding down [–] while turning power on (page 49).

	Sympton	Probable Cause	Action
Playback	ALL DATA IS PROTECTED! stays on monitor and images do not appear.	Protected memory pages are hidden.	Unhide protected memory pages by holding down [–] while turning power on (page 49).
Deletion	Delete operation does not start when DEL is pressed.	1. All pages are protected. 2. Multi-page display (page 37) or zoom display (page 41)	1. Unprotect the page you want to delete (page 48). 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 11).
	No buttons or switches operate.	Malfunction due to exposing camera to electrostatic charge.	Remove batteries and/or unplug the AC adaptor. Reload batteries and/or plug in AC adaptor and try operation again.
	LCD monitor is too bright or too dark.	Incorrect BRIGHT setting	Adjust the BRIGHT (brightness) setting.

	Sympton	Probable Cause	Action
Other	Cannot exchange data between two cameras	1. Incorrect cable connection 2. Camera connected to is not turned on. 3. Function switch sets to REC.	1. Connect correctly (page 59). 2. Turn power on after connecting cable. 3. Set function switch to PLAY (page 33).
	Cannot transfer data (error keeps occurring)	1. Sending camera's memory is empty. 2. Receiving camera's memory is full 3. Receiving camera's function switch is in REC position. 4. The message "ALL DATA IS PROTECTED" is on the monitor of the sending camera. 5. Low battery (indicated by ▭) 6. Disconnection of cable during data communication	1. Correct the situation and try again. 2. Correct the situation and try again. 3. Change function switch setting of receiving camera to PLAY (page 33). 4. The sending camera's protected memory pages are hidden. Unhide protected memory pages by holding down [–] while turning power on (page 49). 5. Replace batteries or use the AC adaptor (page 13). 6. Securely reconnect the cable and turn power on.
	Keys of connected camera are disabled.	Connected camera operation is disabled during data communications.	Normal operation will return when you exit data communications by pressing EXIT.

Messages

MEMORY FULL	All 96 memory pages are used. Pages must be deleted (page 50) before further recording is possible.
MEMORY EMPTY	No images are stored in memory.
MEMORY ERROR #1~#3 CONSULT THE OWNER'S MANUAL!	Problem with internal memory. Contact your dealer or an authorized CASIO service provider.

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 .... 2 focal points with macro position: F2.8 f=4.0mm/ f=9.0mm

Aperture .... F2.8/F8 manual switching

Focal Length

f = 4.0mm	F2.8	F8
Normal	50cm(1.6') ~ ∞	24cm(9.4") ~ ∞
Macro	10cm(3.9") ~ 13cm(5.1")	8cm(3.1") ~ 19cm(7.5")
f = 9.0mm	F2.8	F8
Normal	250cm(8.2') ~ ∞	120cm(3.9') ~ ∞
Macro	50cm(1.6') ~ 65cm(2.1')	40cm(1.3') ~ 95cm(3.1')

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 2.5-inch TFT low-glare color LCD; doubles as finder

Reference

Terminals .... DIGITAL; VIDEO OUT; DC IN 6V

Power Supply .... Batteries (AA-size Alkaline batteries X 4)/AC Adaptor (AD-C60)

Battery Life .... Approximately 2 hours

Approximately 96 images
(consecutive recording, one image per minute)

Dimensions .... 72 (H) X 162 (W) X 49 (D)mm /

2.8" (H) X 6.4" (W) X 1.9" (D)

Weight .... Approximately 240g / 8.5oz (excluding batteries)

Accessories .... Wrist strap; soft case; special video cable; Alkaline batteries (LR6 X 4); cleaning cloth; owner's manual

• 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.