English

EPSON®

Epson Rangefinder Digital Camera R-D1

User's Guide

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Introduction

Main Features

The main features of the camera are described below.

- ❏ The world's first rangefinder digital camera.
- ❏ Capable of mounting existing lenses. The EM mount allows you to use most standard lenses such as Leica M/L mount lenses.
- ❏ Provides accurate framing using parallax auto compensation.
- ❏ Provides constantly stable focus with a bright rangefinder.
- ❏ Supports CCD-RAW data, saved in ERF (EPSON RAW File) format, and they can be processed using the EPSON PhotoRAW or EPSON RAW Plug-In applications provided.

Note:

- ❏ *Do not expose the camera to severe impact; doing so may cause malfunctions especially while the camera is operating.*
- ❏ *We strongly recommend you back up files stored on the HDD to another storage device periodically.*
- ❏ *Epson is not liable for any problems resulting from the loss or corruption of data on the HDD.*

Safety Instructions

Read all of these instructions before using this product, and keep this guide handy for later reference. Follow all warnings and instructions marked on this product and the options.

Warnings, Cautions, and Notes

Warnings *must be followed carefully to avoid bodily injury.*

Cautions *must be observed to avoid damage to your equipment.*

Notes *contain important information and useful tips on the operation of your product.*

When using the camera

- ❏ Follow all warnings and instructions marked on this product.
- ❏ Do not insert objects into any openings.
- ❏ Do not touch the components inside this product unless instructed to do so in the user documentation. Never force this product's components into place. Although this product is designed to be sturdy, rough handling can damage it.
- ❏ Protect the camera from rapid temperature change.
- ❏ Never spill liquid onto this product.
- ❏ If this product emits unusual noises, odors, or smoke, cancel the current operation and turn it off immediately. Remove the battery from the product. Contact our Customer Support.
- ❏ To prevent fire or electric shock, do not cover this product with a blanket or other covering that may give off a static electric shock.
- ❏ To prevent fire or electric shock, do not expose this product or its options to rain or moisture.
- ❏ To prevent fire or explosion, do not use this product where flammable or volatile gas is stored.
- ❏ Do not use this product outdoors during a thunderstorm.

- ❏ Do not use this product after moving it between extreme temperatures, which may cause condensation to form on electronic parts.
- ❏ To prevent possible injury, do not take flash pictures in close proximity to anyone's eyes.
- ❏ Do not insert your finger into the camera or EM mount.
- ❏ If the liquid crystal solution contained in the LCD monitor leaks out and gets on your hands, wash them thoroughly with soap and water. If it gets into your eyes, flush them immediately with water.
- ❏ When connecting this product to a computer or other device with a cable, ensure the correct orientation of the connectors. Each connector has only one correct orientation. Inserting a connector in the wrong orientation may damage both devices connected by the cable.

When using the strap

- ❏ Do not swing the camera about. This can damage the camera or other objects, or cause injury.
- ❏ Do not pull or tighten the strap too much when wearing it; this can cause serious injury.
- ❏ Keep the strap away from children.

When using the battery

Follow the precautions below when using the battery as mishandling it may cause injury.

- ❏ If battery acid gets into your eyes or on your skin, immediately rinse the affected area thoroughly with water and seek medical treatment. If a battery is swallowed, seek medical treatment immediately.
- ❏ Use only an Epson Li-ion battery for this camera according to the directions in the user documentation.
- ❏ Do not use the battery that comes with this product for other devices.
- ❏ To protect against short-circuiting, do not remove the outside sleeves of the battery.
- ❏ Do not handle the battery with wet hands or use it near water.
- ❏ Do not expose the battery to water or high humidity.
- ❏ Do not drop, puncture, disassemble, mutilate, or short-circuit the battery.
- ❏ Do not expose the battery to heat, fire, or water.
- ❏ Do not use batteries that are leaking or damaged in any way.
- ❏ Do not charge the battery on battery chargers other than the one provided with this product.
- ❏ Do not charge the battery near open flame or in very hot locations.
- ❏ Keep the battery away from heat sources.
- ❏ Prevent the battery from coming into contact with metal objects that could short-circuit it, such as coins or keys.
- ❏ Do not solder wires or terminals directly to the battery.
- ❏ Do not touch battery terminals.
- ❏ Keep the battery away from open flame.
- ❏ If overheating, discoloration, distortion, a strange smell or any other abnormal situations occur, remove the battery from this product and do not use it.
- ❏ Keep batteries out of the reach of children.
- ❏ If charging has not finished after the regular charging time, stop charging.
- ❏ Do not place the battery into a high-pressured container or a microwave.
- ❏ Do not insert the battery into power outlets or other power sources such as cigarette lighters.
- ❏ Charge the battery before using it. The battery is not fully charged when you purchase it.

When storing the battery

- ❏ When not using this device for a long period, remove the battery from this product and store it separately.
- ❏ Do not store the battery where temperature or humidity is very high.
- ❏ Store the battery out of children's reach.
- ❏ Discharge the battery completely before storing it for a long time.
- ❏ When not using the battery for a long time, charge the battery and then discharge it completely about once a year during storage.

When disposing of the battery

Before disposing of the battery, make sure you discharge it completely.

Warning:

- ❏ *Be sure to completely cover both ends of the battery with tape to prevent combustion or explosion when disposing of it.*
- ❏ *Do not dispose of the battery as ordinary refuse. Instead, dispose of it in a collection or recycle box in accordance with local laws.*

For the Netherlands users:

Do not dispose of the battery with ordinary refuse. Instead, dispose of it as small chemical waste in accordance with local laws, and the following Dutch Government Gazette 45, KCA Marking:

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

For German users:

Do not dispose of the battery with ordinary refuse. Instead, dispose of it in a recycle box in accordance with local laws.

For North America and Canada Users:

This mark indicates that the battery will be recycled by RBRC. When you dispose of the battery, contact RBRC.

When using the battery charger

IMPORTANT SAFETY INSTRUCTIONS

Warning:
Read all relevant safety and operating instructions before using this product, as misuse could result in personal injury from fire, explosion, leakage, overheating, or electric shock.
These safety and operating instructions should be kept for future reference.

- ❏ Use only the Epson battery charger provided to charge the Epson Li-ion battery Model EU-85. Never attempt to charge other types of batteries in this charger as they may explode, leak, overheat, or cause personal injury.
- ❏ Do not charge primary (non-rechargeable) batteries.
- ❏ Do not handle the battery charger with wet hands or use it near water.
- ❏ Do not expose the battery charger to water or high humidity.
- ❏ Use only the type of power source indicated on the battery charger's label, and always supply power directly from a standard, domestic power outlet with a power cord that meets the relevant local safety standards.
- ❏ Place the battery charger near an electrical outlet where the power cord can be easily unplugged.
- ❏ The battery charger is designed for use and provided with this product. Do not attempt to use it with other electronic devices unless specified.

- ❏ The battery charger included is designed for use with this product. Use of any other battery charger could result in fire, electrical shock, or injury.
- ❏ Use only a power source that meets the power requirements indicated on the label attached to the product. If you are not sure of the power supply specifications in your area, contact your local power company or contact our Customer Support.
- ❏ Make sure the total amperage of all devices plugged into the power outlet does not exceed the power outlet's ampere rating.
- ❏ If you plan to use this product in Germany, the building installation must be protected by a 16 amp circuit breaker to provide adequate short-circuit protection and over-current protection for this product.
- ❏ Do not use a damaged or frayed battery charger.
- ❏ If you use an extension cord with this product, make sure the total amperage of all devices plugged into the extension cord does not exceed the cord's ampere rating.
- ❏ Never disassemble, modify, or attempt to repair the battery charger by yourself except as specifically explained in this guide.
- ❏ Do not use power outlets controlled by wall switches or automatic timers.
- ❏ Do not use power outlets on the same circuit as large motors or other appliances that may cause voltage fluctuations.
- ❏ Avoid using outlets on the same circuit as photocopiers or air conditioning systems that regularly switch on and off.
- ❏ Position this product's power cord so that it will not be stepped on or run over.
- ❏ Do not place any objects on the power cord or the battery charger.
- ❏ Keep the power cord straight at the ends and at the points where it enters the transformer.
- ❏ The power cord should be placed to avoid abrasions, cuts, fraying, crimping, kinking, and other damage.
- ❏ If you cannot insert the plug into the power outlet, contact an electrician.

For US and Canadian users:

Use the power cord provided or a 6 to 10 foot UL-approved type SPT-2 or heavier type, 2 X 18 AWG cord with a 125 V 10 A plug and 125 V 7 A connector.

When using a memory card

- ❏ Only memory cards designed for the product's specifications can be used.
- ❏ The methods for using memory cards vary according to card type. Be sure to refer to the documentation included with your memory card for details.
- ❏ Do not remove the memory card while the power switch is on.

When using the LCD

- ❏ The LCD monitor on this product may contain a few small bright or dark spots. These are normal and do not mean that your LCD monitor is damaged in any way.
- ❏ If the LCD monitor on this product is damaged, consult your dealer.
- ❏ If the liquid crystal solution contained in the LCD monitor on this product leaks out and gets onto your hands, wash them thoroughly with soap and water. If it gets into your eyes, flush them immediately with water. If discomfort or vision problems remain after a thorough flushing, see a doctor immediately.
- ❏ Only use a soft, dry cloth to clean the display. Do not use liquid or chemical cleaners.

When storing, maintaining, or transporting the camera

- ❏ Do not store this product outdoors.

- ❏ Do not store this product near water.
- ❏ Do not store this product in a location subject to high temperature or humidity.
- ❏ Do not store this product in a location subject to rapid changes in temperature or humidity.
- ❏ Do not store this product in a location subject to direct sunlight or strong light sources.

For United Kingdom, Hong Kong, and Singapore users

Replace fuses only with fuses of the correct size and rating.

For United Kingdom users

Safety information

Warning:
Refer to the rating plate for voltage and check that the appliance voltage corresponds to the supply voltage.

Important:
The wires in the mains lead fitted to this appliance are coloured in accordance to the following code:

Blue - Neutral

Brown - Live

If you have to fit a plug:

As the colours of the mains lead of this appliance may not match coloured markings used to identify the terminals in a plug, please proceed as follows:

The blue wire must be connected to the terminal in the plug marked with the letter N.

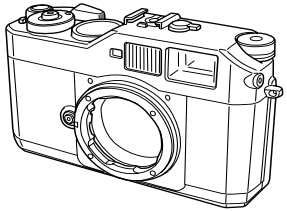
The brown wire must be connected to the terminal in the plug marked with the letter L.

If damage occurs to the plug, replace the cord set or consult a qualified electrician.

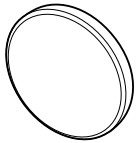
Getting Started

Unpacking Your Camera

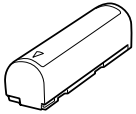
Make sure that your camera box contains all of the items shown below.



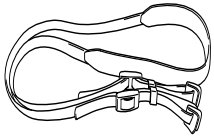
Camera body



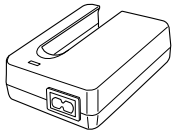
Lens hole cover



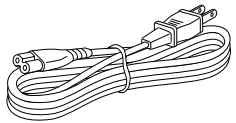
Li-ion battery



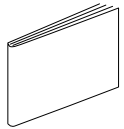
strap



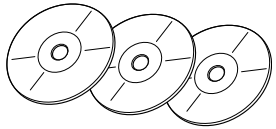
Battery charger



Power cable
(for battery charger)



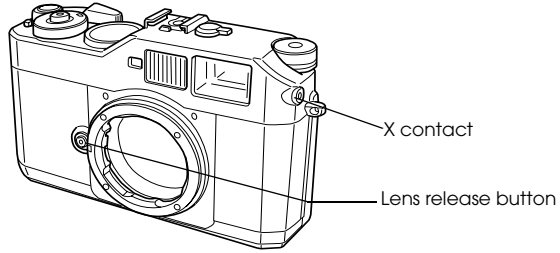
User's guide



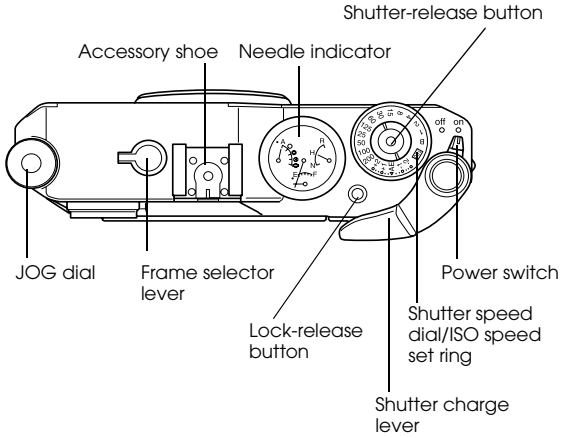
CD-ROM
(EPSON PhotoRAW/EPSON RAW Plug-In × 1, Adobe Photoshop Elements 2.0 × 2)

Camera Parts

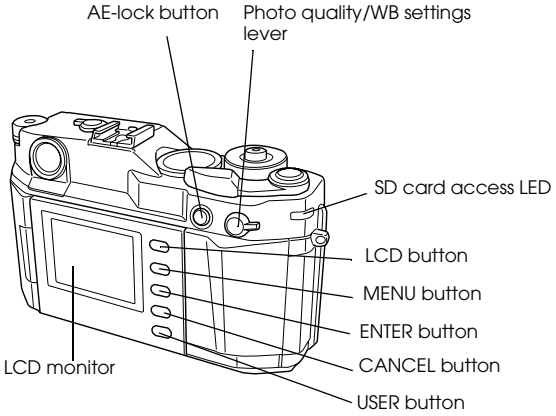
Front view



Top view



Back view



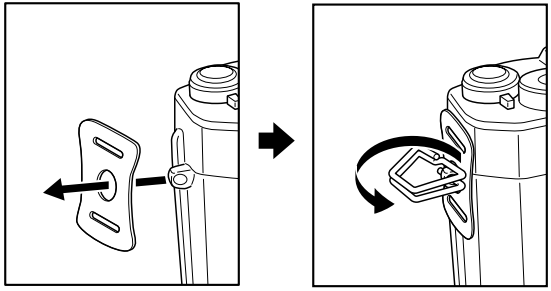
X contact	Used to mount an optional flash.
Lens release button	Used to mount or remove lenses.
AE-lock button	Locks exposure.
Photo quality/WB settings lever	Sets photo quality or white balance.
SD card access LED	Indicates the following statuses of the SD card. Lit: accessing a memory card Blinking: a memory card error occurring Unlit: not accessing a memory card
LCD button	Switches between the shooting mode and the playback mode.
MENU button	Displays the Main menu on the LCD monitor (available in the playback mode).
ENTER button	Defines the selected item or settings (available in the playback mode).
CANCEL button	Returns to the previous menu without making any settings (available in the playback mode).
USER button	Performs the function previously assigned to it.
LCD monitor	Displays a menu screen or photos.
Shutter-release button	Half-release: Press the shutter-release button halfway down to display the optimal shutter speed (i.e., optimal exposure value) in the viewfinder. Also, pressing this button halfway in the playback mode or the Power Save Timer mode returns the camera to the shooting mode. Full-release: Press this button fully down to take a photo.

Needle indicator	Displays the current settings information with 4 needles (number of remaining photos, photo quality, remaining battery power, and white balance settings). For details, see "About Indicator Needles" on page 24.
Accessory shoe	Used to mount optional equipment such as a flash or external viewfinder.
JOG dial	Navigates through the menus or photos displayed on the LCD monitor. For details, see "Menu structure" on page 41.
Frame selector lever	Sets a field angle for the finder.
Shutter charge lever	Winds up the shutter.
Power switch	Switches the power on/off.
Shutter speed dial/ISO speed set ring	Sets the shutter speed. Or pull this dial up and rotate it to set the ISO sensitivity.
Lock-release button	Unlocks the shutter speed dial.

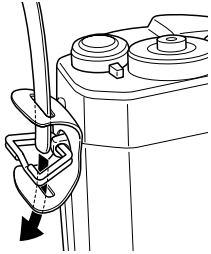
Attaching the Strap to Your Camera

Follow the steps below to attach the strap with the camera.

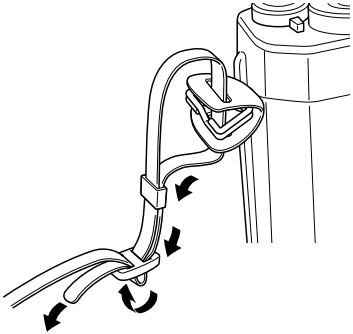
1. Attach the protective pad and the metal ring to one side of the camera.



2. Lace the strap end through the holes in the protective pad and the metal ring.



3. Lace the strap end through the two plastic fasteners.



4. Repeat steps 1 to 3 for the other end of the strap.

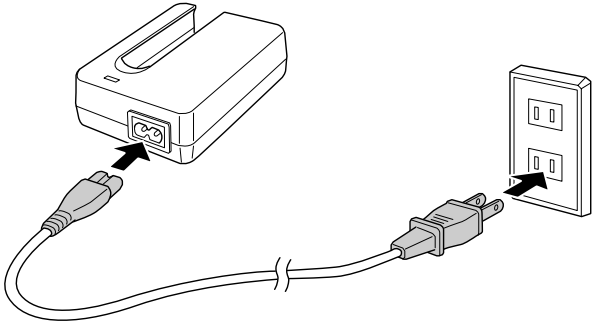
Using the Battery

Charging the battery

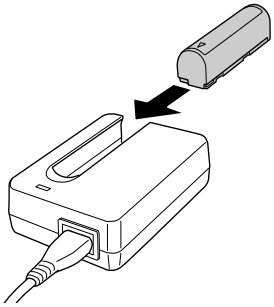
Your camera comes with a lithium-ion battery (EU-85). Be sure to charge the battery before using the camera for the first time or after long periods of disuse. It takes about 3.5 hours to charge the battery when no charge remains.

Follow the steps below to charge the battery.

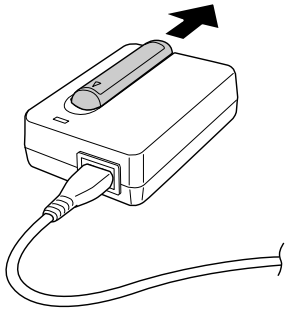
1. Connect the battery charger with the provided power cable, then insert the plug into a power outlet.



2. Place the battery into the battery charger.



3. Take the battery out when the charge lamp turns off. After charging the battery, unplug the battery charger's plug from the outlet.



Note:

- *The charging time for the battery may differ depending on the temperature or the battery's remaining charge.*
- *During charging, the red lamp indicates the following status:*

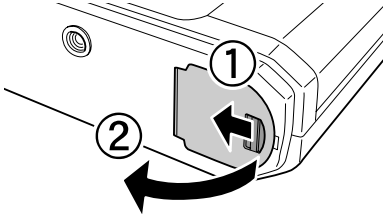
  Lit: *Indicates the battery is charging.*

  Unlit: *Indicates charging is complete or the battery is not set.*

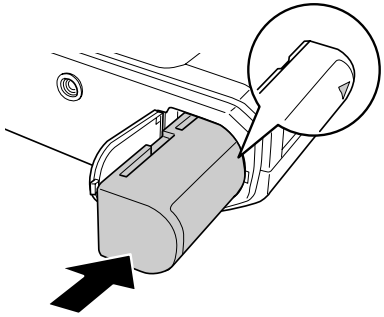
Inserting the battery

Your camera uses the lithium-ion battery (EU-85) provided. Under any circumstances, do not use another make or model of a battery.

1. Make sure that the camera is off, and then open the battery cover as shown below.



2. Insert the battery.
   Insert the battery into the camera until it clicks, making sure the orientation of the battery is correct.



3. Close the battery cover.

Note:

- ❏ *To check the battery's remaining charge, see "Remaining battery power" on page 24.*
- ❏ *If you find that your battery has run out soon after recharging it a number of times, make sure to discharge it completely before recharging it. Or, the battery's service life has ended. In that case, replace it with a new battery.*

Installing and Removing a Memory Card

You cannot take photos unless an SD memory card is installed in your camera.

Caution:

- ❏ *Do not use the SD memory card with dust or lint on the terminal. If the terminal of the card is dirty, data import or export may not be executed properly.*
- ❏ *Never insert or remove a memory card while the SD card access LED is being lit. Doing so may cause data in the card to be lost or damaged.*
- ❏ *Avoid using or storing the card in direct sunlight, or in places that are extremely hot, humid, or dusty.*
- ❏ *Keep the memory card slot cover closed while the memory card is loaded. This protects the memory card and the slot from dust and static; otherwise data on the memory card may be lost or damaged.*
- ❏ *Exposure of static electric shock to the memory card may cause this product to malfunction.*

Note:

To use a memory card correctly, read manuals provided with the memory card. When using other devices with a memory card, also read manuals provided with those devices.

Formatting a memory card

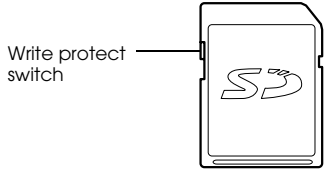
Format a memory card when you want to erase all the data on the card or when a message on the LCD monitor instructs you to do so.

Caution:

- ❏ *An SD memory card must be formatted in your camera. Using an SD memory card formatted in a different camera may cause reading or writing data errors. For details, see "Formatting a memory card" on page 38.*
- ❏ *When you format an SD memory card, all the data on the card is erased, including those locked with the camera's lock function.*
- ❏ *While formatting an SD memory card, do not take the card out of the camera.*

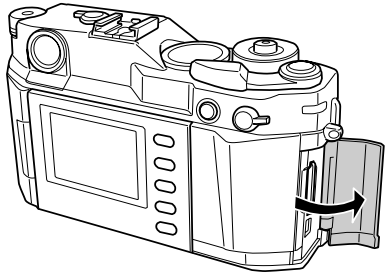
The write protect switch

A memory card is equipped with a write protect switch to prevent accidental loss of data. When this switch is in the lock position, photos on a memory card are locked and cannot be deleted or overwritten.

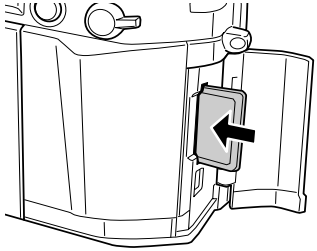


Installing a memory card

1. Make sure that the SD memory access LED is unlit, and then open the memory card cover.



2. Insert the card all the way into the memory card slot until it clicks.



Note:
When inserting the memory card, make sure the orientation of the memory card is correct and insert the card until it clicks.

3. Close the memory card cover.

Removing a memory card

1. Make sure the SD memory access LED is unlit, and then open the memory card cover.

Caution:
Never remove a memory card while the access lamp is on. Doing so may cause data in the card to be lost or damaged.

2. Push the memory card down until it clicks. When you release your finger, the SD memory card pops out.
   Note:
   If the memory card is not ejected, push the memory card down again.
3. Remove the memory card.
4. Close the memory card cover.

Mounting and Removing a Lens

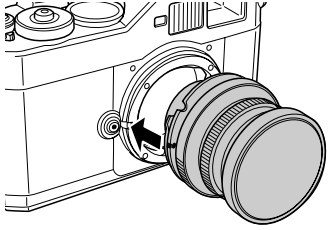
You can use M (Bayonet) mount lenses on the camera. In addition, you can also use L mount lenses by attaching the optional M-Bayonet adapter ring.

Caution:

- *Some M/L mount lenses cannot be used because of the structure of the camera. For example, lenses with external dimensions exceeding 20.5 mm cannot be used with this camera.*
  Lenses that cannot be used include:
  - HOLOGON 15 mm F8
  - SUPER ANGULON 21 mm F3.4
  - SUPER ANGULON 21 mm F4
  - ELMARIT 28 mm F2.8 (earliest model)
  -F2 (Dual Range SUMMICRON)
  When you mount a collapsible lens, do not collapse the lens after mounting it. Collapsing the lens into the camera by force or mounting the lens while it is collapsed may damage the camera or the lens.
  Lenses that can be used but must not be collapsed include:
  - HEKTOR 50 mm F2.5
  - ELMAR 50 mm F3.5
- *Even with the same lens, the image quality using this camera may differ from that of an image taken with an analog camera.*

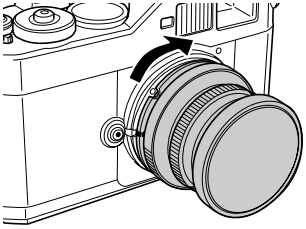
Mounting M (Bayonet) mount lenses

1. Match the red mark on the camera body with the red mark on the lens-barrel.



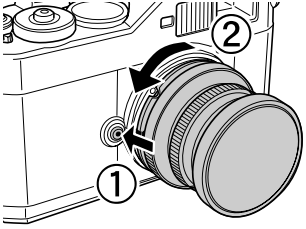
Caution:
Do not insert your finger into the camera or EM mount.

2. Insert the lens into the camera body and turn the lens clockwise until it clicks.

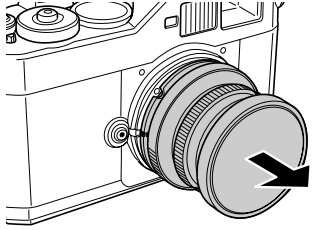


Removing M (Bayonet) mount lenses

1. Turn the lens all the way counterclockwise while keeping the lens release button pressed.



2. Lift the lens straight out of the mount.

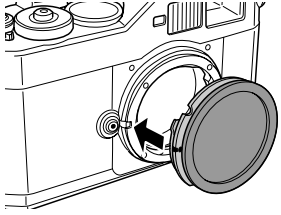


Mounting L mount lenses

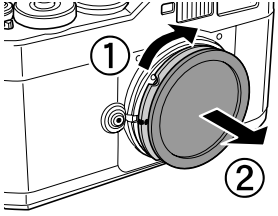
Note:

- ❏ *When you install an L mount lens, you need an optional M-Bayonet adapter ring.*
- ❏ *There are three sizes of M-Bayonet adapter rings, and any one of them can be used.*
- ❏ *For more information on mounting an M-Bayonet adapter ring on the camera body, see the M-Bayonet adapter ring manual.*

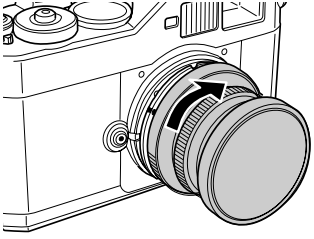
1. Mount an optional M-Bayonet adapter ring together with its cover on the camera body.



2. Turn the M-Bayonet adapter ring clockwise, then remove the cover.



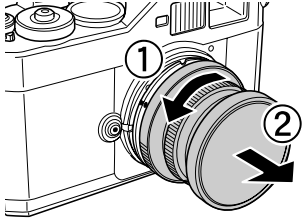
3. Align the lens mount screw with that of the M-Bayonet adapter ring, and turn the lens clockwise until it clicks.



Caution:
Be careful to not tighten the lens too tightly to the camera.

Removing L mount lenses

1. Turn the lens all the way counterclockwise and pull the lens straight out.



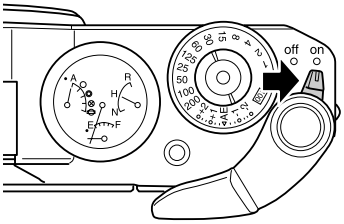
2. Remove the M-Bayonet adapter ring from the camera body.

Note:
For details about removing M-Bayonet adapter rings, see the manual provided with the M-Bayonet adapter ring.

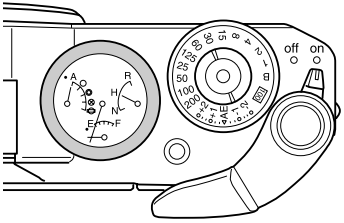
Setting Up Your Camera

Turning the power on

1. Turn the power switch to the on position.



When you turn your camera on, the current settings information (number of remaining photos, photo quality, remaining battery power, and white balance settings) is indicated on the needle indicator on the top of the camera. For details, see "About Indicator Needles" on page 24.



Note:
To turn the power switch off, turn the power switch to the off *position.*

Setting the date and time

When you turn on the camera the first time, you need to set the current date (month, day, and year) and time (hours and minutes) on the LCD monitor. Once these settings are made, the camera automatically records the date and time each time an image is taken.

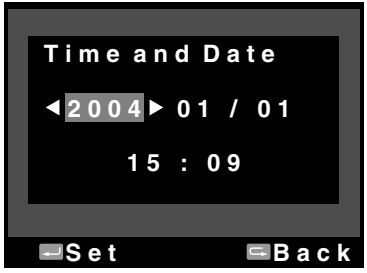
Note:

- ❏ *If you remove the battery from the camera, the date and time settings will be erased approximately two days at a maximum after the last time the camera was used.*
- ❏ *After changing the battery, make sure that the date and time is set correctly. If necessary, set the date and time again.*
- ❏ *You can change the settings later using the Basic Setup menu. For details, see "Basic Setup menu" on page 43.*

Follow the steps below to set the date and time.

1. Turn the power switch on.
2. Invert the LCD monitor toward you and press the LCD button. The Time and Date screen is displayed on the LCD monitor.
   For details about inverting the LCD monitor, see "How to Use the LCD Monitor" on page 41.

3. Confirm that the value for year is highlighted, and rotate the JOG dial clockwise or counterclockwise to change the value.



Note:
When you rotate the JOG dial clockwise, the value will be increased. To decrease the value, rotate the JOG dial counterclockwise.

4. Press the ENTER button. The value for year is set, and a value for month is highlighted.
5. Repeat steps 3 and 4 until you finish making all settings for date and time.
   The date and time setting is saved, and the screen returns to the Basic Setup menu.

Setting the date format

You can select display format for the date and time.

1. Select Date Format in the Basic Setup menu using the JOG dial, and press the ENTER button. The Date Format screen appears. For details on using the menu, see "Basic Setup menu" on page 43.
2. Select your desired display format for the year, month, and date using the JOG dial.

YYYY/MM/DD (default setting)	Year/Month/Day
DD/MM/YYYY	Day/Month/Year
MM/DD/YYYY	Month/Day/Year

3. Press the ENTER button.
   The Date Format setting is saved, and the screen returns to the Basic Setup menu.

Setting the language

You can select a desired language for messages or menus displayed on the LCD monitor.

1. Select Language in the Basic Setup menu using the JOG dial, and press the ENTER button. For details on using the menu, see "Basic Setup menu" on page 43.
2. Select the desired language using the JOG dial, and press the ENTER button.

The new setting is saved, and the screen returns to the Basic Setup menu.

Power save timer settings

If no operations are performed for a certain period although the power switch is on, the LCD monitor is turned off automatically and the camera enters the Power Save Timer mode to reduce the drain on the battery.

Note:

While the camera is in the Power Save Timer mode, you can press any button to return to the previous mode.

1. Select Power Save Timer in the Basic Setup menu using the JOG dial, and press the ENTER button. For details on using the menu, see "Basic Setup menu" on page 43.
2. Select the length of time using the JOG dial before the camera enters the Power Save Timer mode, and press the ENTER button.
   You can select from 3 min., 5 min. (default setting), 10 min., or 20 min.
   The new setting is saved, and the screen returns to the Basic Setup menu.

Assigning a function to the USER button

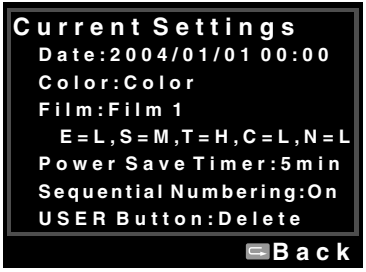
You can assign the one of the following functions to the USER button. Available functions are Delete, Lock, Magnify, Print, Settings (current settings), and Film. As a default setting, Delete is assigned to the USER button.

1. Select Assign User Button in the Camera Settings menu using the JOG dial, and press the ENTER button. For details on using the menu, see "Camera Settings menu" on page 42.
2. Select a function to be assigned using the JOG dial, and press the ENTER button.
   The selected function is assigned to the USER button, and the screen returns to the Camera Settings menu.

Confirming the current settings

You can check the current settings on the LCD monitor.

1. Select Current Settings in the Camera Settings menu using the JOG dial. For details on using the menu, see "Camera Settings menu" on page 42.
   The Current Settings screen is displayed.



2. After confirming the setting information, press the CANCEL button to return to the Camera Settings menu.

Resetting all settings to default values

If necessary, you can use this function to initialize all current settings to their default settings as shown below.

Setting item	Default setting
Color	Color
Film	Standard
Date	YYYY/MM/DD
Power Save Timer	5 min.
Sequential Numbering	On
LCD Brightness	5/8
Language	English
USER Button	Delete

Follow the steps below to reset the initial settings.

1. Select Initialize Settings in the Camera Settings menu using the JOG dial, and press the ENTER button. The Initialize Settings screen is displayed. For details on using the menu, see "Camera Settings menu" on page 42.
2. Confirm that OK is highlighted, and press the ENTER button. Camera Settings are initialized, and the screen returns to the Camera Settings menu.

Releasing the Shutter

Full and half-release

The shutter-release button has the following two-step function.

Half-release: When you press the shutter-release button halfway down, the optimal shutter speed (i.e., optimal exposure value) is displayed in the viewfinder. Also, pressing the shutter-release button halfway in the playback mode or the Power Save Timer mode returns to the shooting mode.

Full-release: Press the shutter-release button fully down to take a photo.

Focus

To set focus on a subject such as a group of people, superimpose the double images in the center of the viewfinder into one by rotating the focusing grip of the lens.

Note:

When focusing the subject, place your eye at the center of the rangefinder eyepiece.

More focusing

For accurate focusing of subjects with vertical lines, simply turn and adjust the lens so that the lines join together.

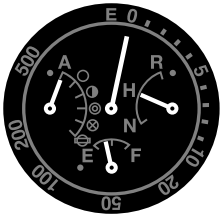
Taking Pictures

About Indicator Needles

With the needle indicator on the top of the camera, you can check the current status of the following four factors: the number of remaining photos, photo quality, remaining battery power, and white balance. The current statuses are indicated by 4 needles on the indicator.

Note:

When the needle indicator needs to be adjusted, you can calibrate the needles manually. For details, see "Calibrating Indicator Needles" on page 32.



The number of remaining photos

The long needle on the top of the meter indicates the number of remaining photos (0 to 500). When an SD card is not installed in the camera or an error occurs, the needle indicates E.

Note:

Although "500" is shown on the meter as the maximum number, the actual maximum number of remaining photos is 999.

Photo Quality

The short needle on the right-side of the meter indicates the photo quality setting. The current photo quality setting is indicated as N (Normal: 2240 × 1488 pixels), H (High: 3008 × 2000 pixels), or R (CCD-RAW) on the scale.

Remaining battery power

The short needle on the bottom of the meter indicates the remaining battery power. The current battery level is indicated on the scale from E (Empty) to F (Full).

White balance

The short needle on the left-side of the meter indicates the white balance setting. The following icons indicate the current white balance settings.

Icons on the needle indicator	White balance setting
A	Auto
○	Sunny
◑	Shade
◎	Cloudy
⊗	Incandescent
⊜	Fluorescent

Setting Photo Quality

Before taking photos using the camera, photo quality (image format, size, and compression ratio) must be specified. Set photo quality according to how you plan to use your image data.

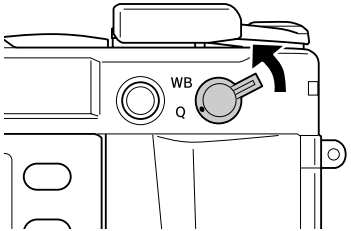
Photo quality setting

When taking photos using the camera, images are saved in JPEG or RAW format. The following table shows image formats and their compression ratios (RAW format is incompressible).

Image format and size	Compression ratio	Needle indicator	Average file size
2240 × 1488 (JPEG)	1/4 (unchangeable)	N	about 1.5MB
3008 × 2000 (JPEG)	1/4 (unchangeable)	H	about 3MB
CCD-RAW	-	R	about 10MB

Follow the steps below to set photo quality.

1. Switch the Photo quality/WB settings lever to the Q position.

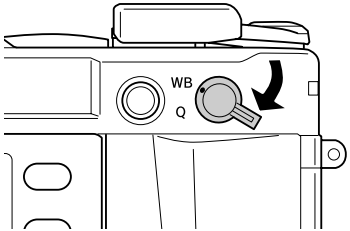


2. Rotate the JOG dial to select your desired photo quality.
   The selected photo quality is indicated on the needle indicator (the short needle on the right-side of the indicator). For details, see "About Indicator Needles" on page 24.
3. Return the Photo quality/WB settings lever to the center position.

Setting White Balance

The white balance function adjusts the camera for different kinds of lighting. It makes white look the same color in any situation. The camera has two white balance modes: automatic and manual. In the manual mode you can change the color setting according to your shooting objects or situations. Follow the steps below to adjust white balance manually.

1. Switch the Photo quality/WB settings lever to WB position.



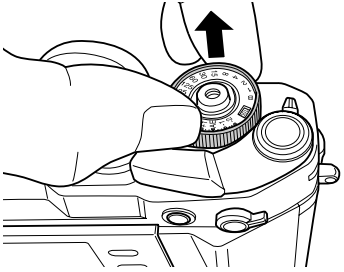
2. Rotate the JOG dial to select the desired white balance (light source). You can select from Auto, Sunny, Shade, Cloudy, Incandescent, or Fluorescent.

   Note:
   You can check the selected white balance setting on the needle indicator. For details, see "About Indicator Needles" on page 24.
3. Return the Photo quality/WB settings lever to the center position.

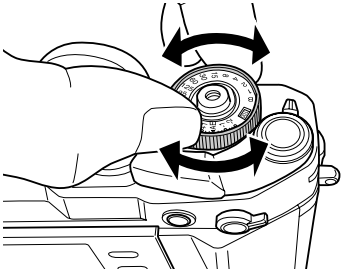
Setting ISO Sensitivity

Sensitivity is a measure of how quickly the camera reacts to light. You can change the light sensitivity for a specific purpose and time manually or let the camera select it automatically. Follow the steps below to select ISO sensitivity.

1. Pull up and hold the outside of the shutter speed dial (ISO speed set ring).



2. Rotate the ISO speed set ring. You can select ISO sensitivity from 200, 400, 800, or 1600.



3. Release the ISO speed set ring.

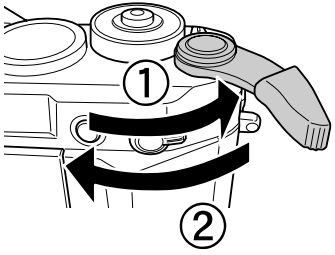
Note:
If the subject is dark, setting a higher ISO sensitivity allows faster focusing and less chance of blurring. However, your photos may contain noise (lose color) or become grainy.

Setting Auto Exposure (Aperture Priority)

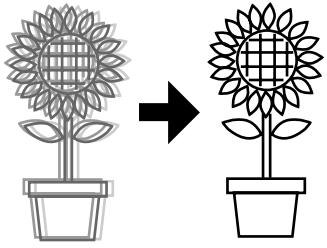
When you set the aperture, the most appropriate shutter speed settings are automatically selected. Follow the steps below to set the aperture for a photo.

1. Rotate the shutter speed dial to AE.
2. Rotate the aperture ring to select the desired value.

3. Maneuver the shutter charge lever.



4. Focus on the subject.



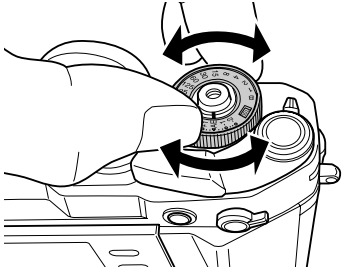
5. Press the shutter-release button all the way down.
   Shutter speed is automatically set in an appropriate exposure, and a picture is taken.

Note:

- ❏ *When you set NR (Noise Reduction) to Hi (High) in the Film Settings screen and set the exposure at more than 2 seconds, noise reduction is automatically performed after taking a photo. While the noise reduction is being performed, do not turn the power off until the SD card access LED is unlit. If you turn the power off before the noise reduction procedure is complete, the image before the noise reduction is saved.*
- ❏ *For brighter subjects, fast moving subjects or with a higher value film speed, a higher shutter speed is recommended.*
- ❏ *You can take photos locking the aperture value manually. For details, see "Setting Manual Aperture Locking" on page 29.*

Exposure compensation

Exposure compensation is used to alter the exposure suggested by the camera. Exposure can be set between AE -2.0 EV (underexposure) and AE +2.0 EV (overexposure).
You can change exposure compensation using the shutter speed dial.



Background is much brighter than the main subject	Select positive values
Background is much darker than the main subject	Select negative values

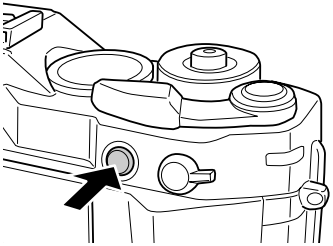
Note:

- ❏ *When you switch the shutter speed setting from AE (0) to another value, rotate the shutter speed dial while pressing the lock-release button.*
- ❏ *To cancel the exposure compensation, turn the shutter speed dial to* AE. *Exposure compensation value is set to zero.*

Locking exposure setting (AE lock)

The AE-lock button is used to take pictures using a locked exposure metering value. This function is useful when setting exposure before shooting a backlit subject.

1. Position the subject for which you want to set exposure, and press the AE-lock button. The exposure is locked and remains locked while the AE-lock button is held.



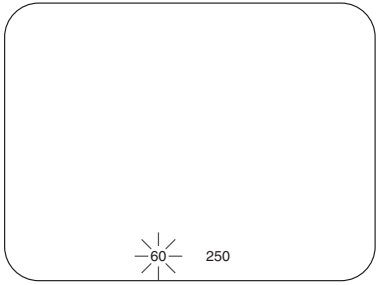
2. Keeping the AE-lock button pressed, recompose the subject and press the shutter-release button.
   A picture is taken with the exposure set when you pressed the AE-lock button.
   Note:
   Exposure is not locked even if you press the shutter-release button halfway.

Setting Manual Exposure (Shutter Speed Priority)

You can specify the shutter speed from 1 to 2000 sec., or B (Bulb) manually. This mode is useful for fast moving subjects or when you have little time to check focus.

To lock the shutter speed, follow the steps below.

1. Maneuver the shutter charge lever.
2. Rotate the shutter speed dial to the desired shutter speed value (1 to 2000).
   Note:
   To switch the shutter speed setting from auto to manual, rotate the shutter speed dial while pressing the lock-release button.
3. Press the shutter-release button halfway. The optimal shutter speed (i.e., optimal exposure value) blinks, and the current shutter speed is lighted, in the viewfinder.



4. Rotate the aperture ring until the optimal shutter speed matches the current shutter speed value. The display of the optimal shutter speed value changes from blinking to lighted.

5. Focus on the subject.
6. Press the shutter-release button all the way down to take a photo.

Note:

- ❏ *If you set the shutter speed at a high value, you can shoot even a fast moving subject as if it is a stationary subject.*
- ❏ *To avoid blurring, set the shutter speed faster than "1 sec./focal length." If you set a slow shutter speed, it is recommended to use a tripod.*

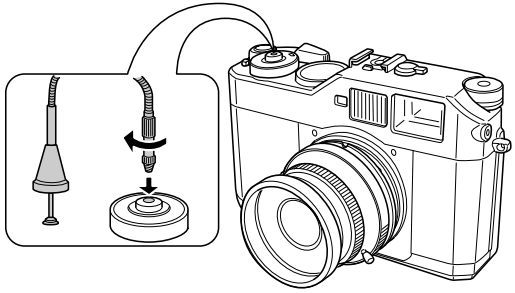
B (Bulb) shooting

The bulb shooting is used for taking photos of subjects such as a night scene or astronomical object by keeping the shutter open while it is pressed.

1. Rotate the shutter speed dial to B.
2. Rotate the aperture ring to select the desired value.
3. Maneuver the shutter charge lever.
4. Focus on the subject.
5. Keep the shutter-release button pressed until the desired exposure is acquired. When you release the shutter-release button, shooting is finished.

Note:

- ❏ *When you set NR (Noise Reduction) to Hi (High) in the Film Settings screen and set the exposure at more than 2 seconds, noise reduction is automatically performed after taking a photo. While the noise reduction is being performed, do not turn the power off until the SD card access LED is unlit. If you turn the power off before the noise reduction procedure is complete, the image before the noise reduction is saved.*
- ❏ *When taking photos with the bulb function, use a tripod or cable release to prevent the picture from blurring.*
- ❏ *To install or uninstall a cable release on the camera, follow the illustration below.*

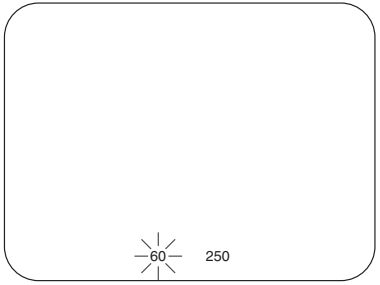


Setting Manual Aperture Locking

To lock the aperture manually, follow the steps below.

1. Maneuver the shutter charge lever.
2. Rotate the aperture ring to the desired value.

3. Press the shutter-release button halfway. The optimal shutter speed (i.e., optimal exposure value) blinks, and the current shutter speed is lighted, in the viewfinder.



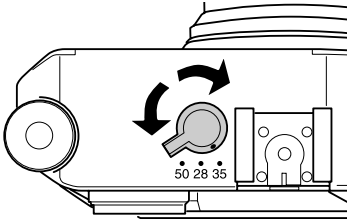
4. Rotate the shutter speed dial to the optimal shutter speed value.
5. Focus on the subject.
6. Press the shutter-release button all the way down to take a photo.

Note:

You can take photos even when specifying only an aperture value manually. For details, see "Setting Auto Exposure (Aperture Priority)" on page 26.

Selecting a Frame

Frame patterns can be selected from 28 mm, 35 mm, and 50 mm. Turn the frame selector lever to select the frame pattern according to the focal length of the lens being used. The parallax is automatically corrected according to the shooting distance of the lens to be used.



The frame is displayed in the viewfinder to show the range to be focused in with the lens attached.

Selecting Color/Monochrome

You can set the color to color or monochrome when taking photos. The default setting is Color. When you select Monochrome in the Color Setting screen, you can choose the filter color in the Monochrome Filter screen.

1. Select Color setting in the Camera Settings menu using the JOG dial, and press the ENTER button. The Color Setting screen is displayed. For details on using the menu, see "Camera Settings menu" on page 42.

2. Select Color or Monochrome.
   To set the color to color, select Color using the JOG dial and press the ENTER button. The color setting is complete and the screen returns to the Camera Settings menu.
   To set the color to monochrome, select Monochrome using the JOG dial and press the MENU button. The Monochrome Filter screen is displayed. Proceed to step 3.
3. Select one of the following monochrome filters using the JOG dial, and press the ENTER button.

Standard	No color filter is selected.
Green	Suitable for portraits.
Yellow	Suitable for landscape photos. The color contrast is enhanced in the order of Yellow, Orange, and Red.
Orange	
Red	

The color setting is complete and the screen returns to the Camera Settings menu.

Note:

When you select a monochrome filter, you can take monochrome pictures with a color filtered effect.

Selecting the Picture Settings (Image Type)

You can select the image type from Standard or Film1 to Film3.

Standard	Values for Edge Enhance, Saturation, Tint, and Contrast, are already set to Me (Medium), and NR (Noise Reduction) is set to Lo (Low) by default.
Film1 to Film3	You can set your desired value for Edge Enhance, Saturation, Tint, Contrast, and NR (Noise Reduction) using the JOG dial.

To make Film1 to Film3 settings, follow the steps below.

1. Select Film Setting in the Camera Settings menu using the JOG dial, and press the ENTER button. The Film Setting screen is displayed. For details on using the menu, see "Camera Settings menu" on page 42.
2. Select your desired image number (Film1 to Film3) and press the MENU button. The selected number of the Film Settings screen is displayed.
3. Select an item for which you want to change the setting using the JOG dial, and press the ENTER button. You can select the item from Edge Enhance, Saturation, Tint, Contrast, and NR (Noise Reduction) for each film number.
4. Change the value for the item using the JOG dial and press the ENTER button. You can set the value from Lo, Me, and Hi.
5. Repeat step 3 and 4 to change values for desired items.
6. After changing the value for each item, select Finish and press the ENTER button.
   The new values are saved, and the screen returns to the Camera Settings menu.

Using the Flash Function

An optional flash can be used when taking photos under poor lighting situations.

1. Install an optional flash to the accessory shoe or X contact on the camera.
2. Maneuver the shutter charge lever.
3. Set the shutter speed to 1/125 or below.

4. Focus on the subject and identify the length between the camera lens and the subject.
5. Set the corresponding aperture value from the length and aperture list. For the list of the length and aperture value, see the flash unit manual.
6. Rotate the aperture ring to select the desired value.
7. Focus on the subject again and press the shutter-release button down.

Note:
For more information on the flash, see the flash's manual.

Sequential Number Settings

You can select whether to store photos with sequential numbers.

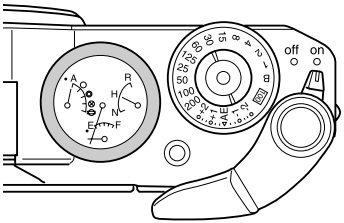
1. Select Sequential Numbering in the Basic Setup menu using the JOG dial, and press the ENTER button. For details on using the menu, see "Basic Setup menu" on page 43.
   The Sequential Numbering screen is displayed.

On (default)	The sequence of numbers continues even when the memory card is replaced.
Off	The sequence of numbers is reset and a new sequential number is given when replacing the memory card.

2. Use the JOG dial to highlight On or Off, and press the ENTER button. The new setting is saved and the screen returns to the Basic Setup menu.

Calibrating Indicator Needles

You can check the statuses of the following four factors: the number of remaining photos, photo quality, remaining battery power, and white balance using the needle indicator on the top of the camera. There are 4 needles on the indicator to indicate the statuses of these factors. If any of these needles becomes inaccurate, follow the steps below to adjust it.



1. Select Calibrate Needles in the Camera Settings menu using the JOG dial, and press the ENTER button. The Needle Calibration screen is displayed. For details on using the menu, see "Camera Settings menu" on page 42.

2. Select the needle to be adjusted using the JOG dial, and press the ENTER button.
   The needles indicate the following factors.

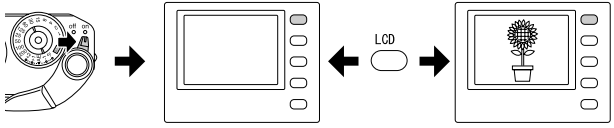
Needle display	Function
E (long needle on the top of the meter)	Number of remaining photos
R (short needle on the right-side of the meter)	Photo quality
E (short needle on the bottom of the meter)	Remaining battery power
A (short needle on the left-side of the meter)	White balance

   Note:
   For setting details, see "About Indicator Needles" on page 24.
3. Move the left or right arrow using the JOG dial and press the ENTER button. The selected needle is moved by one scale each time you press the ENTER button.
4. Repeat step 3 until the needle returns to its original position.
5. Select Finish using the JOG dial and press the ENTER button.
6. To calibrate another needle, repeat steps 2 to 5.
   To finish the needle calibration, select Finish using the JOG dial and press the ENTER button.
   The selected needle returns to the current value, and the screen returns to the Camera Settings menu.

Viewing and Managing Your Photos

Viewing Photos with the LCD Monitor

When turning the power switch on, the camera enters the shooting mode. To view the photos on the camera, invert the LCD monitor toward you and press the LCD button. The camera switches from the shooting mode to the playback mode, and the last recorded photo (photo with the largest number) is displayed. For details about inverting the LCD monitor, see "How to Use the LCD Monitor" on page 41.



Viewing the previous or next photo

Rotate the JOG dial clockwise or counterclockwise to display the previous or next photo.

Switching between display styles

In the playback mode, photos can be displayed in the following 7 styles. To switch between display styles, pull up the JOG dial to the upper position and rotate it clockwise or counterclockwise.

- Standard display (default setting)
- General information display
- Histogram display
- Highlight display
- Framing guide display
- Detailed information display
- 4-photo display

Note:
When viewing a photo in the playback mode for the first time, the photo is displayed in standard display. Next time you return to the playback mode, a photo is displayed in the last selected display style.

Display icons

The icons displayed on the bottom of the LCD monitor indicate the following functions or operations.

	Indicates you can operate the menu procedure by rotating the JOG dial clockwise or counterclockwise in the upper position.
	Indicates you can scroll a photo horizontally by rotating the JOG dial clockwise or counterclockwise in the upper position (displayed in the Magnify mode).
	Indicates you can scroll a photo vertically by rotating the JOG dial clockwise or counterclockwise in the upper position (displayed in the Magnify mode).
	Indicates you can display the previous or next photo by rotating the JOG dial clockwise or counterclockwise in the lower position.

	Indicates you can magnify or shrink of a photo by rotating the JOG dial clockwise or counterclockwise in the lower position (displayed in the Magnify mode).
	Appears when the ENTER button is available.
	Appears when the CANCEL button is available.
	Appears when the current photo display style is full screen.
	Appears when the current photo display style is 4-photo display.

Note:

- ❏ *When the battery is running low, the (battery) icon appears above the JOG dial icon.*
- ❏ *When the JOG dial is in the upper position, the (upper) icon turns green in the bottom left of the screen. Also, when the JOG dial is in the lower position, the (lower) icon turns green.*

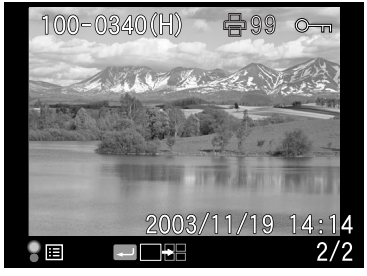
Display contents

Contents in the photo display styles are as follows:

Standard display

- ❏ Number of current photo/total number of images (9999 at a maximum)

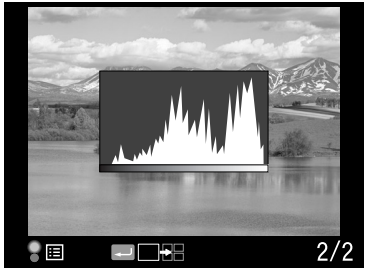
General information display



- ❏ Number of current photo/total number of images (9999 at a maximum)
- ❏ Date and time of photo
- ❏ File number
- ❏ Photo quality

❏ Lock (🔑) icon (displayed only when the file is locked)
❏ Print (🖨) icon with number of prints (displayed only when DPOF settings have been made)

Histogram display

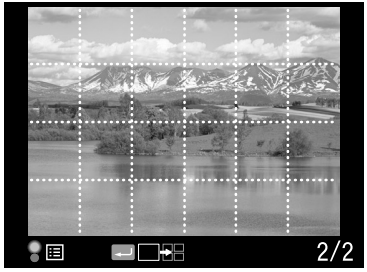


❏ Number of current photo/total number of images (9999 at a maximum)
❏ Histogram

Highlight display

❏ Number of current photo/total number of images (9999 at a maximum)
❏ Highlight display

Framing guide display



❏ Framing guide
❏ Number of current photo/total number of images (9999 at a maximum)

Detailed information display

- ❏ Number of current photo/total number of images (9999 at a maximum)
- ❏ Date and time of photo
- ❏ File name (file number and format)
- ❏ Image solution
- ❏ Photo quality
- ❏ Shutter speed (when the picture is taken with auto exposure, "AE" and the exposure compensation value are displayed. e.g., AE+1.3)
- ❏ ISO sensitivity
- ❏ White balance
- ❏ Film setting
- ❏ Lock (🔑) icon (displayed only when the file is locked)
- ❏ Print (🖶) icon with number of prints (displayed only when DPOF settings have been made)
- ❏ Color (color/monochrome) setting. When monochrome is set, the color of filter is also displayed.

4-photo display

- ❏ Number of current photo/total number of images (only for the selected photo)

Viewing Your Photos in a Slide Show

Images are played back in an automatic slide show with an interval of about 3 seconds between each image.

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Slide Show using the JOG dial, and press the ENTER button.
3. Select the direction for viewing slide show using the JOG dial.
   - ❏ When you rotate the JOG dial (in the upper position) clockwise, a slide show is done starting from the beginning of the stored images. The playback (▶) icon is displayed in the bottom of the screen.
   - ❏ When you rotate the JOG dial (in the upper position) counterclockwise, the slide show is done starting from the end of the stored images. The reverse playback (◀) icon displayed in the bottom of the screen.
4. Press the ENTER button. The slide show starts.

Note:

- ❏ *To stop the slide show, press the* ENTER *button. To restart, press the* ENTER *button again.*
- ❏ *To return to the Main menu, press the* CANCEL *button.*

Deleting Images

In the playback mode, you can delete the currently displayed image or all of the images at once in the LCD monitor.

Deleting an image

To delete the currently displayed image, follow the steps below.

1. Display the image you want to delete using the JOG dial, and press the MENU button. The Main menu is displayed.
2. Select Delete and press the ENTER button. The Delete menu is displayed.
3. Confirm that Delete 1 image is highlighted, and press the ENTER button. The confirmation screen is displayed.

   Note:

   ❏ *When rotating the JOG dial in the lower position, you can display another image to be deleted.*

   ❏ *You cannot delete the image displayed with the lock (🔑) icon.*
4. In the confirmation screen, select OK using the JOG dial and press the ENTER button.

Deleting all images

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Delete and press the ENTER button. The Delete menu is displayed.
3. Select Delete all images using the JOG dial in upper position, and press the ENTER button. The confirmation screen is displayed.
4. In the confirmation screen, select OK using the JOG dial and press the ENTER button.

Note:

❏ *You cannot delete the image displayed with the lock (🔑) icon. For details, see "Locking Images" on page 39.*

❏ *When an SD memory card is locked, the message "Cannot delete. The SD card is write-protected." is displayed. Remove the card from the camera, then unlock the card and try it again.*

Formatting a memory card

Format a memory card when you want to erase all the data on the card or when a message on the LCD monitor instructs you to do so.

To format a memory card, follow the steps below.

1. Select Format SD Card in the Camera Settings menu using the JOG dial, and press the ENTER button. The Format SD Card menu is displayed.
2. Select Quick Format or Full Format using the JOG dial, and press the ENTER button. The confirmation screen is displayed.
3. Select OK using the JOG dial, and press the ENTER button.

   The SD card formatting starts and the message "Formatting" is displayed.

   After the SD memory card is formatted, the screen returns to the Camera Settings menu.

Caution:

❏ *An SD memory card must be formatted in your camera before you take pictures.*

❏ *While formatting an SD memory card, do not take the card out of the camera.*

Note:

❏ *When you format an SD memory card, all the data on the card is erased, including protected pictures.*

❏ *When an SD memory card is locked, the message "Cannot format. The SD card is write-protected." is displayed. Remove the card from the camera, then unlock the card and try it again.*

Locking Images

This function is used to protect images from accidental deletion.

Note:

After locking images, they become read only.

Locking an image

1. In the playback mode, display the picture you want to lock and press the MENU button. The Main menu is displayed.
2. Select Lock using the JOG dial, and press the ENTER button. The Lock menu is displayed.

   Note:

   If the selected image has already been locked, the lock (🔑) icon is displayed on the top right of the image.
3. Select Lock/Unlock 1 image using the JOG dial in upper position, and press the ENTER button.

   Note:

   - ❏ *When rotating the JOG dial in the lower position, you can display another image to be locked.*
   - ❏ *Depending on whether the selected image is locked, the effect of the menu item "Lock/Unlock 1 image" changes.*
   - ❏ *When the image is locked, the lock (🔑) icon is displayed on the top right of the image.*

Locking all images

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Lock using the JOG dial, and press the ENTER button. The Lock menu is displayed.
3. Select Lock all images using the JOG dial, and press the ENTER button.

   All the images in the SD memory card are locked.

Caution:

When you format an SD memory card, all the data on the card is erased, including protected pictures.

Unlocking all images

To unlock all the protected images in the SD memory card, select Unlock all images using the JOG dial in step 3 described above, and press the ENTER button. When the selected images are unlocked, the lock (🔑) icon on the images is hidden.

Magnifying Images

You can zoom in an image displayed in the LCD monitor.

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Magnify using the JOG dial, and press the ENTER button. The Magnify mode(🔍) icon is displayed on the top left corner of the screen.
3. Rotate the JOG dial (lower position) clockwise to enlarge an image. To reduce an image, rotate the JOG dial (lower position) counterclockwise.

   Note:

   Rotate the JOG dial (upper position) and press the ENTER button to switch the direction from vertical to horizontal, or vice versa. The current direction setting is indicated by the ↔ (holizontal direction) icon or ↕ (vertical direction) icon in the bottom left of the screen.

LCD Brightness Settings

Brightness of the LCD monitor can be selected from 8 grades (default setting is 5).

1. Select LCD Brightness in the Basic Setup menu using the JOG dial, and press the ENTER button.
2. Select the desired brightness using the JOG dial and press the ENTER button.
   The new setting is saved, and the screen returns to the Basic Setup menu.

Setting Number of Prints (DPOF Setting)

When you want to print photos, you can specify the number of prints and information to be included on each photo. This setting is saved in a Digital Print Order Format (DPOF) file on the camera's memory card. You can apply these settings when using a printer or printing application that supports the DPOF standard. Also, in some countries you will find digital photo labs that support DPOF and can print according to the settings in your DPOF file.

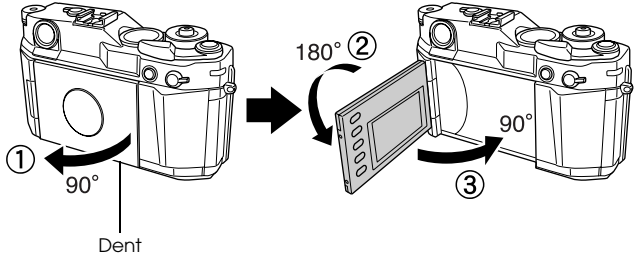
1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Print Order using the JOG dial, and press the ENTER button.
3. Select Set DPOF for one or Set DPOF for all using the JOG dial, and press the ENTER button.
   To specify the DPOF for the currently displayed image, select Set DPOF for one.
   To confirm the current DPOF setting, select View current DPOF.
   Note:
   When rotating the JOG dial in the lower position, you can display another image to be set DPOF.
4. Specify the number of prints using the JOG dial and press the ENTER button.
   Note:
   The number of prints cannot be specified for CCD-RAW data.

Chapter 4

Using the LCD Monitor

How to Use the LCD Monitor

You can use the LCD monitor to view photos in the playback mode or make settings for the camera functions. When using the LCD monitor, invert it toward you and press the LCD button. To invert the LCD monitor, insert your finger tip into the dent on the side of the monitor to open the LCD monitor 90° (1). Then rotate it 180° (2) and turn the monitor 90° again (3).



Caution:

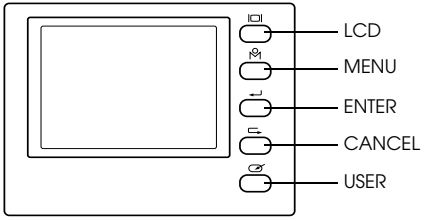
- ❏ *Do not operate or leave the LCD monitor while it is opened.*
- ❏ *Do not grab the LCD monitor or lift it up while holding it.*

Note:

- ❏ *When you turn the power switch on while the LCD monitor is inverted toward you, the camera enters the playback mode.*
- ❏ *When you perform one of the following in the playback mode, the LCD monitor is turned off and the camera returns to the shooting mode.*
  - *Press the* LCD *button*
  - *Press the shutter-release button halfway*
  - *Invert the LCD monitor*

Menu structure

In the playback mode, you can specify camera settings with various menus. To navigate through the menus or functions, use the JOG dial and buttons next to the LCD monitor.

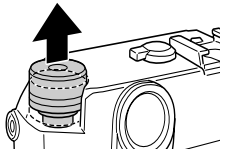


LCD button:	Switches from the shooting mode to playback mode, or vice versa.
MENU button:	Displays the Main menu on the LCD monitor.
ENTER button:	Used when you determine the currently selected value or option (or display sub menu items).

CANCEL button: Used when you exit without making any setting and the screen returns to the previous menu or function.

USER button: Used when you perform previously assigned function.

JOG dial: Rotate the JOG dial clockwise or counterclockwise to display the previous or next menu or photo. The JOG dial is used in either the upper or lower position depending on the menu or function. To use the JOG dial in the upper position, pull it up as shown below.



Main menu

When you press the MENU button in the playback mode, the Main menu is displayed first. All the operations can be started from this menu.

Main menu items

Function	Description
Delete	**Delete 1 image** or **Delete all images**
Magnify	Max 9.4 times (for JPEG images with 3008 × 2000 pixels) Max 2 times (for RAW images) Display position can be moved (vertical/horizontal).
Lock	**Lock/Unlock 1 image, Lock all images,** or **Unlock all images**
Print Order	**Set DPOF for one**, **Set DPOF for all** (0 - 99), or **View current DPOF**.
Slide Show	Playback photo images in a slide show.
Camera Settings	Displays the Camera Settings menu. For details, see "Camera Settings menu" on page 42.

Camera Settings menu

How to open the menu

To open the Camera Settings menu, follow the steps below.

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Camera Settings using the JOG dial, and press the ENTER button. The Camera Settings menu is displayed.

Camera Settings menu items

Function	Description
Current Settings	Displays current settings list.
Color Setting	**Color** or **Monochrome**

Function	Description
Film Setting	Available from **Film1** to **Film3**, or **Standard**. When selecting **Film1** to **Film3**, you can set a value for **Edge Enhance**, **Saturation**, **Tint**, **Contrast**, and **NR** (Noise Reduction).
Basic Setup	Displays the Basic Setup menu. See "Basic Setup menu" on page 43.
Format SD Card	**Quick Format** or **Full Format**
Assign USER Button	Assigns a function to the USER button. Available functions are **Delete, Lock, Magnify, Print, Settings,** and **Film**.
Calibrate Needles	Displays the Needle Calibration menu to adjust the following four needles: **E** (number of remaining photos), **R** (photo quality), **E** (remaining battery power), and **A** (white balance). These settings are indicated on the needle indicator.
Initialize Settings	Resets the current settings (except date and time settings) to their default settings.

Basic Setup menu

How to open the menu

To open the Basic Setup menu, follow the steps below.

1. Press the MENU button in the playback mode. The Main menu is displayed.
2. Select Camera Settings using the JOG dial, and press the ENTER button. The Camera Settings menu is displayed.
3. Select Basic Setup using the JOG dial, and press the ENTER button. The Basic Setup menu is displayed.

Basic Setup Menu items

Function	Description
Time and Date	Sets the date (**yea**r, **month**, and **day**) and time (**hours** and **minutes**).
Date Format	Selects date display format from the following: **YYYY/MM/DD** (default setting), **MM/DD/YYYY**, **DD/MM/YYYY**
Power Save Timer	Selects the length of time before the camera enters the Power Save Timer mode. Available from **3 min**, **5 min** (default setting), **10 min**, or **20 min**.
Sequential Numbering	Specifies whether to store images with a sequential number (included in the file name). **On** (default): sequential numbers continue even if the memory card is replaced. **Off**: sequential numbers end and new sequential number are given when the memory card is replaced.
LCD Brightness	Calibrates brightness of the LCD monitor.
Language	Selects a language displayed on the LCD monitor from the following: **Japanese**, **English**, **French**, **German**, **Italian**, **Spanish**, **Dutch**, **T-Chinese**

Chapter 5

Using the RAW Data Processing Software

Overview

When you take photos with CCD-RAW specified for photo quality, you can process these photos using the RAW data processing software. You can use the following software according to your needs:

EPSON PhotoRAW	Process ERF (EPSON RAW File) files provided from DSC (Digital Still Camera) in a batch using optional parameters.
EPSON RAW Plug-In	Used with Adobe Photoshop 7, Photoshop CS, or Adobe Photoshop Elements 2.0 to display ERF (EPSON RAW File) files on these applications.

Note:

- ❏ *To install the EPSON PhotoRAW or EPSON RAW Plug-In software, you need administrator privileges.*
- ❏ *For CCD-RAW files, only ERF format is supported.*
- ❏ *When processing ERF files, copy it from an SD memory card to the hard disk drive beforehand. If processing ERF files on a memory card, it may take a long time.*

System Requirements

The system requirements for using the camera with a computer are as follows:

Windows:	OS:	Microsoft® Windows® 98, 98 Second Edition, Me, 2000 Professional, XP Home Edition, XP Professional
	Hard Ware:	Pentium III 1 GHz or higher (Pentium IV 2 GHz or higher is recommended)
	Memory:	256 MB or more (512 MB or more is recommended)
	Hard Disk:	5 MB or more free memory is required for installation 170 MB or more free memory is required for operation
	Display:	SVGA (800 × 600) or higher, 24 bit color or higher
Macintosh:	OS:	Mac OS® 9.1 - 9.2.2 (CarbonLib compatible), Mac OS® 10.2 or later
	Hard Ware:	PowerPC G3 233 MHz or higher (PowerPC G4 1GHz or higher is recommended)
	Memory:	42 MB for application memory
	Hard Disk:	50 MB or more free memory is required for installation 170 MB or more free memory is required for operation
	Display:	800 × 600 or higher, 32000 colors or more

Caution:
EPSON PhotoRAW is available only for Windows.

Installing the Software

EPSON PhotoRAW

1. Insert the software CD-ROM into the CD-ROM drive.
   The EPSON Installer Program dialog box appears automatically.
   Note:
   - ❏ *If the EPSON Installation Program dialog box does not appear, click the* CD-ROM *icon, and then select* Open *from the File menu. Then double-click* EPSETUP. EXE.
   - ❏ *When the authentication dialog box for assigning administrator privileges appears, enter the user name and password, and then click* OK.
2. Follow the on-screen instructions until all of the software is installed. When a message appears to inform you that the installation is complete, click Finish.

Uninstalling the software

Perform one of the following to uninstall EPSON PhotoRAW.

- ❏ Click Start, point to Settings, and select Control Panel, Add/Remove Programs, and then click EPSON PhotoRAW.
- ❏ Click Start, point to Programs, and select EPSON PhotoRAW, and then click Uninstall.

EPSON RAW Plug-In

1. Insert the software CD-ROM into the CD-ROM drive.
   For Windows users:
   The EPSON Installer Program dialog box appears automatically.
   Note:
   - ❏ *To install the EPSON RAW Plug-In, you need administrator privileges.*
   - ❏ *If the EPSON Installation Program dialog box does not appear, click the* CD-ROM *icon, and then select* Open *from the File menu. Then double-click* EPSETUP. EXE.

   For Macintosh users:
   Double-click Ins EPSON RAW Plug-In icon inside the EPSON folder.
   Note:
   When the authentication dialog box for assigning administrator privileges appears, enter the user name and password, and then click OK.
2. Follow the on-screen instructions until all of the software is installed. When a message appears to inform you that the installation is complete, click Finish or Quit.
   Note:
   - ❏ *EPSON RAW Plug-In program is automatically installed in the plug-in folder of Adobe Photoshop 7, Adobe Photoshop CS, or Adobe Photoshop Elements 2.0.*
   - ❏ *If the plug-in folder of Adobe Photoshop 7, Adobe Photoshop CS, or Adobe Photoshop Elements 2.0 is not detected automatically, specify the folder manually.*

Uninstalling the software

Follow the steps below to uninstall EPSON PhotoRAW.

For Windows

Click Start, point to Settings, and select Control Panel, Add/Remove Programs, and then click EPSON RAW Plug-In.

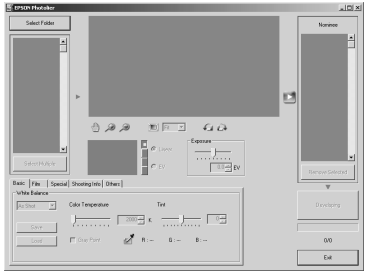
For Macintosh

Delete the EPSON folder in the plug-in folder of Adobe Photoshop 7, Adobe Photoshop CS, or Adobe Photoshop Elements 2.0.

Starting the Software

EPSON PhotoRAW

Click Start, point to All programs (or Programs), and select EPSON PhotoRAW, and then click EPSON PhotoRAW.
EPSON PhotoRAW is started and the main window is displayed.



EPSON RAW Plug-In

For Windows

1. Click Start, point to All programs (or Programs), and select Adobe, and then click Adobe Photoshop 7, Adobe Photoshop CS, or Adobe Photoshop Elements 2.0.
2. Click File, point to Open. The Open dialog box is displayed.
3. Select the ERF file and click the Open button.

   Note:

   ❏ *When the EPSON RAW Plug-In does not start automatically even if you select an ERF file, select* Open As *from the File menu, and select* EPSON RAW Plug-In *from the* Open as *drop-down list. Then select your desired ERF file.*

   ❏ *You cannot select an ERF file from a sub folder.*

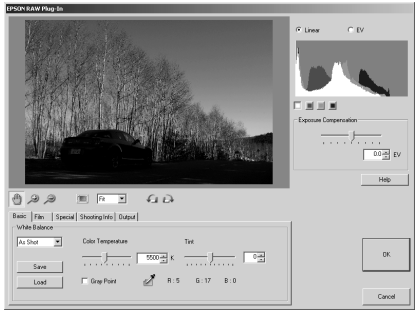
For Macintosh

Start Adobe Photoshop 7, Adobe Photoshop CS, or Adobe Photoshop Elements 2.0, and open the ERF file you want to process.
The main window of EPSON RAW Plug-In is displayed as shown below.

Note:

❏ *When the EPSON RAW Plug-In does not start automatically even if you select an ERF file, select* Open *from the File menu, and select* EPSON RAW Plug-In *from* Format *drop-down list. Then select your desired ERF file.*

❏ *You cannot select an ERF file from a sub folder.*



Finding More Information

For more information about each software, see online help.

Chapter 6

Maintenance and Troubleshooting

Cleaning the Camera

To keep your camera at its best, you should clean it thoroughly several times a year. Before you perform any maintenance on the camera, be sure to read the "Safety Instructions" on page 5. Then, follow these guidelines.

- ❏ Be sure to turn the camera off before cleaning.
- ❏ Use a clean, dry cloth to keep the camera free of dust.
- ❏ Do not use harsh or abrasive cleaners.
- ❏ If necessary, clean the battery contacts with a dry cloth.

Storing the Camera

If you are not planning to use the camera for a long period of time, remove the battery and store it at a low temperature in a dry location. This prevents damage to the camera from battery leaks or corrosion. Store the camera in its case. Do not store the camera in the following locations.

- ❏ Where it will be exposed to direct sunlight, for example, on a car dashboard
- ❏ Near sources of bright light or high humidity
- ❏ Near sources of heat or in a closed car
- ❏ In areas with excessive dirt or dust
- ❏ Where it will be exposed to strong vibrations or magnetic fields

Troubleshooting

When a problem occurs, an error message usually appears in the LCD monitor. Refer to the following section to solve the problem.

Status and error messages

Error message	Description
Cannot delete. The image is locked.	Unlock the image using the lock function in the Main menu and delete the image again.
Cannot delete. The SD card is write-protected.	Release the write-protect switch from the lock position, and delete again.
Cannot lock. The SD card is write-protected	The SD card is already locked as the write-protect switch is in the lock position.
Cannot unlock. The SD card is write-protected.	Release the write-protect switch from the lock position.

Contacting Customer Support

If your Epson product is not operating properly and you cannot solve the problem using the troubleshooting information in your product documentation, contact the customer support services for assistance. If customer support for your area is not listed below, contact the dealer where you purchased your product.

Customer support will be able to help you much more quickly if you give them the following information:

- ❏ Product serial number
  (The serial number label is usually on the back of the product.)
- ❏ Product model
- ❏ Product software version
  (Click About, Version Info, or similar button in the product software.)
- ❏ Brand and model of your computer
- ❏ Your computer operating system's, name and version
- ❏ Names and versions of the software applications you normally use with your product

For users in the United Kingdom and the Republic of Ireland

URL	http://www.epson.co.uk
Telephone (UK)	08701 637 766
(The Republic of Ireland)	01 679 9016

For users in the Middle East

URL	http://www.epson.com
E-mail	epson_support@compubase.co.ae
Telephone	+971 4 352 4488
Fax	+971 4 351 6617

For users in Scandinavia

URL	http://www.epson.com
Telephone	Denmark 80 88 11 27 Finland 0800 523 010 Norway 800 11 828 Sweden 08 445 12 58

For users in South Africa

URL	www.epson.co.za
Telephone	(011) 444-5223 or 0800 600 578

For user in France

Support Technique EPSON France,
0 892 899 999 (0,34 E/minute)
Ouvert du lundi au samedi de 9h00 à 20h00 sans interruption
http://www.epson.fr/support/selfhelp/french.htm pour accéder à l'**AIDE EN LIGNE.**
http://www.epson.fr/support/services/index.shtml pour accéder aux **SERVICES** du support technique.

For user in Germany

EPSON Service Center c/o Exel Hünxe GmbH
Werner-Heisenberg-Strase 2
46569 Hünxe

For user in Italy

EPSON Italia S.p.a.
Via M. Viganò de Vizzi, 93/95
20092 Cinisello Balsamo (MI)
Tel. 02.660.321
Fax. 02.612.36.22
Assistenza e Servizio Clienti
TECHNICAL HELPDESK
02.268.300.58
http://www.epson.it

For users in Spain

URL	http://www.epson.es
E-mail	soporte@epson.es
Telephone	902 40 41 42
Fax	93 582 15 16

For users in Portugal

URL	http://www.epson.pt
E-mail	apoio_clientes@epson.pt
Telephone	707 222 000
Fax	21 303 54 90

Appendix

Standards and Approvals

Camera

EMC Directive 89/336/EEC	EN55022 Class B EN55024

Lithium-ion battery

EMC Directive 89/336/EEC	EN55022 Class B EN55024

Battery charger

Low Voltage Directive 73/23/EEC EMC Directive 89/336/EEC	EN60950 EN55022 Class B EN55024

Specifications

Camera

Epson Rangefinder Digital Camera R-D1

General

Dimensions and weight:	Height:	88.5 mm (3.54 inches)
	Width:	142 mm (5.68 inches)
	Depth:	39.5 mm (1.58 inches)
	Weight:	Approx. 590 g (1.3 lb)
Temperature:	Operating: 5 to 35°C Storage: -20 to 60°C	
Humidity: (without condensation)	Operating: 30 to 80% Storage: 10 to 80%	
Memory card:	SD memory card: Up to 1GB	
Power sources:	Lithium-ion battery (EU-85)	

Image format

Recording format:	JPEG, CCD-RAW
File type:	Exif Ver.2.21, DCF (Design rule for Camera File system) 2.0, DPOF 1.1 compliant
Recorded image size:	JPEG: 2240 × 1488 pixels JPEG: 3008 × 2000 pixels CCD-RAW

JPEG compression ratio:	Locked at 1/4
PRINT image matching:	Supports PRINT Image Matching Ver.2.6 (JPEG only)

Optic system

Image sensor:	Primary-color CCD (APS size: 23.7 × 15.6 mm)
Available pixels:	6.1 M
Lens mount:	EM mount
Viewfinder:	Real image range finder type see-through viewfinder
Viewfinder magnification:	Real-size
Range finder:	With coupled coincidence-type range finder (interlocking range: 0.7m to infinity)
Visual field frame:	28/35/50 mm bright frame switching, parallax auto correction
Visual field ratio:	85% (at 3 m)
Shutter:	Electronically controlled vertically traveling focal plane shutter Shutter speed: 1/2000 - 1 sec, bulb
Flash:	Synchronous: 1/125 sec or less Supported only in synchronized shooting
Metering:	TTL screen surface direct actual-aperture center-weighted averaged metering
Exposure control:	Aperture priority auto exposure/manual

Display functions

LCD monitor:	Type 2 low-temperature polysilicon color LCD 235K pixels
Needle indicator:	4-needle indicator (number of remaining photos/photo quality/remaining battery power/white balance setting)
SD card access LED:	Lit/unlit/blinks red

Interface (external connector)

Memory card I/F:	SD card I/F
X contact:	For external flash (synchronizes at shutter speed downward than 1/125 sec)

Indicators for camera setting

Image size setting:	Normal (JPEG: 2240 × 1488 pixels) High (JPEG: 3008 × 2000 pixels) RAW (CCD-RAW)
White balance setting:	Auto (TTL metering auto white balance)/Sunny/Shade/Cloudy/Incandescent/Fluorescent
Number of remaining photos:	E (no card/card error), 0-500 (500 on display; up to 999 can be taken)
Remaining battery power:	Full - Empty
Exposure compensation setting:	-2.0 - +2.0 EV (1/3 EV steps)/AE (Auto)
Shutter speed setting:	1/2000 sec - 1 sec, bulb
ISO speed setting:	200/400/800/1600
Viewfinder angle setting:	28/35/50 mm

Viewfinder indicators

Exposure meter: Displays optimal shutter speed on LED based on metered value. Also displays current set value through shutter speed dial
(metered value: blinking/SS dial setting: lit).
Displayed shutter speed: 1/2000 - 1 sec, bulb

Internal clock

Internal clock: Records the shooting date on the photo (YYYY/MM/DD, H/M/S)
Contains a capacitor for clock back-up (24 hours without battery)

Power supply

Type of battery:	Li-ion battery
Model:	EU-85
Output voltage:	3.7 V
Capacity:	1500 mAh

Battery service life: Number of shots possible
Under shooting conditions 1*: Up to about 1000 shots
Under shooting conditions 2**: Up to about 360 shots (compliant with the CIPA standard)

* Shooting conditions 1:
Shooting six pictures per minute at a regular interval then turning the camera off for one minute before turning it on again and repeating this procedure, while the flash is off, a shutter speed of 1/250, ISO of 200, image size of **N** (JPEG; 2240 × 1488 pixels) and WB on Sunny.

** Shooting conditions 2:
Turning on the camera and waiting 30 seconds before taking the first picture, then taking nine more pictures at 30 second intervals before turning off the camera and removing the battery for 10 minutes and repeating this procedure, while using the flash - which is attached to the accessory shoe - on full for every second shot, with a shutter speed of 1/125, ISO of 200, image size of **H** (JPEG; 3008 × 2000 pixels) and WB on Auto.

Battery charger

Model No.:	A281H
Input voltage:	100 - 240 VAC, 50/60Hz
Charging method:	Constant voltage, constant current
Charging display:	Charging: Red LED lit Completed: LED unlit

Performance

File size of photos

Photo quality:	Compression ratio	Average file size
2240 × 1488 (JPEG):	Locked at 1/4	about 1.5MB
3008 × 2000 (JPEG):	Locked at 1/4	about 3MB
CCD-RAW:	Non-compressive	about 10MB

About Optional Accessories

The following options are available for the camera.

❏ Lithium-ion battery (Model: EU-85)

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