

# APPENDIX

<b>Accessories .....</b>	<b>108</b>
<b>Handling Precautions .....</b>	<b>109</b>
<b>Care and Storage .....</b>	<b>110</b>
<b>Troubleshooting .....</b>	<b>111</b>
<b>Using Your Digital Camera in Other Countries ..</b>	<b>114</b>
<b>About the Warranty and Servicing .....</b>	<b>115</b>
<b>Specifications .....</b>	<b>117</b>
<b>Recording Capacities .....</b>	<b>119</b>

# Accessories

Item	Model	Remarks	
AC adapter	AC-3	For drawing power directly from a household electrical outlet. See "Using an AC Adapter" (p.27).	
Lithium Ion Battery	DB-20	Rechargeable lithium ion battery.	
Remote Control Unit	DR-3	For remote operation of the camera's recording and playback functions.	
SmartMedia Memory Cards		A postage stamp-sized storage media with a thickness of 0.76 (mm).	
	4 M	FS-4	Capable of storing a maximum of (7) images recorded in 1600N mode.
	8 M	FS-8	Capable of storing a maximum of (15) images recorded in 1600N mode.
	16 M	FS-16	Capable of storing a maximum of (32) images recorded in 1600N mode.
	32 M	FS-32	Capable of storing a maximum of (67) images recorded in 1600N mode.
PC Card Adapter	FS-B53	Used to insert the SmartMedia memory card directly into the PC floppy disk drive.	
Floppy Disk Adapter	FS-B10	This floppy disk adapter makes it possible to load SmartMedia directly into the floppy disk drive of the personal computer.	

- All trademarked company and product names mentioned in this manual are the property of their respective owners.
- SmartMedia™ is a registered trademark of Toshiba Corporation.

# Handling Precautions

- This camera is not waterproof. Keep away from water, rain, beverages, etc. Consult your nearest Ricoh service office if any liquid gets into the camera.
- Be careful not to drop the camera or subject it to impacts.
- Do not use the flash more than necessary in continuous shots to avoid overheating.
- Never look through the viewfinder directly at the sun or intense light. Your eyesight may be impaired.
- Do not fire the flash close to a baby or infant's eyes.
- Do not fire the flash by aiming the camera at a driver behind the wheel. A traffic accident may result.
- Exercise caution to prevent sand or dust from getting into the camera in such environments as beaches or work sites.
- Do not leave the camera for any length of time in particularly hot or humid places, such as an automobile with the windows closed, beaches or bathrooms.
- Verify that the camera power is off before you attach the AC adapter.
- Direct sunlight and strong light striking the LCD monitor or the LCD panel will reflect white light, making it difficult to view.
- The LCD monitor or the LCD panel may contain some pixels that always or never illuminate and the brightness of some areas of the monitor may appear uneven. These are typical LCD performance characteristics and do not constitute malfunctions.
- Do not force any of the external moving parts, such as the card cover, terminal cover or battery cover.
- Do not lift the camera by the hard cover, terminal cover or battery cover.
- Be careful not to hit the lens unit or the LCD monitor while carrying the camera.
- Extreme temperature differentials may cause condensation to form inside the camera body and lens unit, reducing performance. To avoid this, place the camera in a plastic bag and let it slowly acclimate to the new temperature before exposing it.

## Potential Causes of Condensation

- Transporting the camera from a cold place to a warm place.
- Storing or using the camera in places subject to high humidity.
- Bringing the camera into a recently heated room or leaving it directly in the path of air conditioning.

# Care and Storage

## ■ Care

- Fingerprints or dirt on the lens will reduce performance so take extra care not to get it dirty.
  - Do not wipe dust or smears off the lens with your fingers. Use a lens blower, readily available at most photographic suppliers, to blow dust off, or a very soft cloth to wipe it lightly.
  - Be particularly diligent in cleaning the lens after use at the beach or around chemicals.
  - If your camera should malfunction, contact the Ricoh service center. This product generates high voltages and disassembly is hazardous. Under no circumstances should you attempt to disassemble it yourself.
  - Never use solvents, benzine, insecticides or other volatile substances on the equipment as this may deform or dissolve it.
  - Be careful not to let objects rub against the LCD monitor or the LCD panel as it is readily susceptible to scratching.
  - To clean the LCD monitor or the LCD panel, wipe it gently with a soft cloth that has been moistened in diluted detergent and well-wrung. Wipe off any moisture with a soft, dry cloth.
- \* Remove the batteries and AC adapter from the camera before commencing any of the above.

## ■ Storage

To prevent possible failures, avoid storing the camera in places that are:

- Hot and damp, or subject to sharp temperature or humidity changes.
- Sandy or dusty.
- Subject to strong vibrations.
- In contact with chemicals, such as insecticides, or rubber or PVC products for extended periods of time.
- Near sources of strong electromagnetism (such as motors, transformers, and magnets).


# Troubleshooting


Refer to the pointers listed below before submitting the equipment for repairs. If the problem persists after trying the suggestions, contact the Ricoh service center listed at the back of this manual.

## ■ Power Source

Problem	Cause	Solution	Page
Power will not come on	Battery dead, improperly installed or missing	Insert the battery correctly or recharge it.	25
	AC adapter not attached correctly	Attach correctly again.	27
Power cuts out	No buttons touched so auto power-off function was activated	Restart camera.	41
	Dead battery	Recharge with new battery.	27
Battery quickly consumed	Camera operated in extremely high or low temperature location	–	–
	Camera operated in dark area requiring frequent use of the flash	–	–




## ■ Recording and Playback

Problem	Cause	Solution	Page
Shutter release button pressed but no image recorded	Battery dead, improperly installed or missing	Recharge or reposition battery.	27
	No power, or mode dial is not set	Slide power on and set mode dial to [  ]	41
	Shutter release button only pressed halfway	Press shutter release button all the way.	46
	SmartMedia memory card not formatted (initialized)	Format SmartMedia memory card.	31
	No space on SmartMedia memory card	Erase unimportant files or replace SmartMedia memory card.	31, 86
	SmartMedia memory card not working (service life exceeded)	Replace SmartMedia memory card.	29
	Self-timer on	Press the self timer button to disengage the self timer recording mode.	59
	Flash is charging	Wait until flash LED ceases flashing.	46
SmartMedia memory card contact surface dirty	Clean contact surface with soft dry cloth.	29	
Cannot confirm a shot picture	The image confirmation time is too short.	Make the image confirmation time longer.	98
No image on the LCD monitor	The LCD monitor is turned OFF.	Press the DISPLAY button to turn ON the LCD monitor, or set [LCD Initialization] to [ON].	41, 99
Autofocus is on but camera not focusing	Dirty lens	Clean lens with blower or soft dry cloth.	–
	Subject not in the center of the autofocus field	Use focus lock	60
	Subject difficult to focus	Use focus lock or switch to manual focus.	60, 61

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>	<b>Page</b>
Flash won't fire, or won't charge	Camera not set to still mode	Use record menu to set record to still mode.	43
	Camera set to flash off mode	Cancel the flash off mode with flash button.	51
	White balance mode set to setting other than auto	Use record menu to set the white balance to auto.	56
	Batteries dead	Replace batteries.	25
Image is too bright	The camera is too close to the subject.	Retake picture without flash.	51
	Over-exposed	Use record menu to adjust exposure compensation.	54
	Brightness setting of LCD monitor not adjusted	Adjust brightness adjustment dial.	35
Image is too dark	Shot in low light area with camera set to flash off mode	Press the flash button disengage flash off mode.	51
	Under-exposed	Use record menu to adjust exposure compensation.	54
	Brightness setting of LCD monitor not adjusted	Adjust brightness adjustment dial.	35
Unnatural coloration of image	Shooting conditions difficult for white balance in auto mode	Place a white object near the subject, use the flash or select one of the manual white balance modes.	51, 56
Date and other recording data will not display	Screen display set to off	Press the ENTER button to switch screen display mode.	49
Can't playback or image won't appear	Camera not set to play mode	Set mode dial to [  ].	75
	SmartMedia memory card not installed or doesn't contain any files	Insert a SmartMedia memory card with recorded images.	30
	Use of a SmartMedia memory card not formatted by your camera	Use a SmartMedia memory card that has been formatted and recorded by your camera.	31
	SmartMedia memory card contains files in a format not read by the camera.	Check the format type	72
	Video interface cable poorly connected	Check connection.	73
	Source of interference, such as electric motor, nearby	Relocate camera away from source.	–
	SmartMedia memory card contact surface dirty	Clean contact surface with soft dry cloth.	29
Replay is not clear	Error with SmartMedia memory card	Test camera with another SmartMedia memory card. If second card displays well, problem is with card not camera.	–

Problem	Cause	Solution	Page
Display shut off	Dead battery	Recharge battery.	25
	Auto power-off activated	Slide power on again.	41
Remote control unit will not work	Obstruction between the remote control unit and camera sensor	Remove the obstruction. (Sensor is on the left side of the lens.)	–
	Dirty remote control transmitter or camera sensor	Clean with a soft dry cloth.	–
	Dead remote control batteries	Replace CR2032 lithium batteries.	–
LCD monitor brightness changes during autofocus operation	Area captured by autofocus field and the surrounding area have contrasting light levels or the entire subject is dark.	There is no malfunction.	–
Vertical lines appear on image	Phenomenon occurring with pictures of bright subjects, known as the smudge phenomenon	There is no malfunction. Never shoot the Sun, etc.	–

## ■ Miscellaneous

Problem	Cause	Solution	Page
SmartMedia memory card will not fit into slot	Wrong type of SmartMedia memory card	Use a SmartMedia memory card specified for the camera.	30
	SmartMedia memory card incorrectly oriented	Insert the SmartMedia memory card the correct way.	30
Camera will not operate even when buttons and switches are manipulated	Dead battery	Recharge battery.	25
	Camera malfunction	Slide the power off and on once. Turn the mode dial to [  ] or [  ]. If the problem persists, (1) reset the camera by sliding the power switch after removing the main batteries, and (2) reinstall the batteries and try to operate the camera again.	–
Date and time are wrong	Date and time setting is incorrect	Reset the date and time.	33
Date and time were set but disappeared	Battery removed	The date setting is reset if the battery has been removed for about 3 minutes or longer. Set the date again.	34
File won't erase or SmartMedia memory card won't format	Camera not set to erase mode	Turn the mode dial to [  ].	86
	Write protect pad on SmartMedia memory card	Remove pad from SmartMedia memory card.	29
	File protected	Use the play menu to reset the file's protection setting.	80
	Power switch off or auto power-off activated.	Slide power on and retry.	41
Mode settings have changed	Batteries have been removed	Reset keep setting.	94
Auto power-off will not activate	Auto power-off setting is disabled	Enable setting.	95
	Camera powered by AC adapter (auto power-off is automatically disabled when powered by an AC adapter)	–	–
No image on the TV screen	The television system setting is incorrect.	Select the correct television system.	97

# Using Your Digital Camera in Other Countries

## Ricoh AC-3 AC adapter

- The AC-3 AC adapter adjusts automatically to voltages ranging from 100V to 240V AC and frequencies of 50Hz to 60Hz.
- Some countries use electrical outlets which have different shapes. Before leaving on a trip, obtain the necessary plug adapter from a travel agent or electric store.

## Using a Local TV Receiver for Playing Pictures

- You can play pictures taken with this camera on a TV receiver (or monitor) furnished with a video input terminal. Use the video interface cable supplied.
- This camera supports two television systems: NTSC and PAL. Switch your camera's video system to meet the local video environment. See "Changing Video-Out Signal Method (NTSC/PAL)" (p.97).
- If you plan to take the camera with you on a trip abroad, identify the local television system beforehand.



# About the Warranty and Servicing

1. The Ricoh RDC-6000 camera is backed by a one-year limited warranty. During the warranty period, which starts from the date of purchase, any defective parts will be repaired free of charge. In the event of a camera malfunction, contact the dealer from which you purchased the camera or contact the nearest Ricoh service office. Please note that you will be charged for the cost of shipping the camera from the Ricoh service office to your residence.
2. This warranty does not cover any damage resulting from:
  - ① Failure to follow the instructions in this instruction manual;
  - ② Repair, modification or overhaul not conducted by an authorized service center;
  - ③ Fires or natural disaster;
  - ④ Improper storage, such as exposing the camera to high temperatures, humidity, or mothballs; storing it with leaking batteries; storing the camera in a dirty condition so that it becomes moldy; or otherwise insufficiently caring for the camera.
  - ⑤ Submergence; exposure to floods or spilled alcoholic or other beverages; allowing sand or mud to enter the camera; exposure to physical shocks; or dropping of the camera.
3. After a full year has passed from the purchase date, you will become responsible for all repair fees, including those incurred at an authorized service center.
4. Expenses for overhauls and thorough inspections as a result of a customer's special request will be charged to the customer, whether or not they are incurred during the warranty period.
5. This warranty only applies to the camera and not to the accessories, such as the hard case and wrist strap, nor does it apply to the consumables provided, such as batteries.
6. Any consequential damage arising from the failure of this camera, such as expenses for taking pictures or loss of expected profit, will not be reimbursed whether it occurs during the warranty period or not.
7. The above provisions refer to repairs offered free of charge, and do not limit your legal rights. The intention of the above provisions is also described in the warranty card provided with this camera.
8. Parts essential to the servicing of this camera - that is, components required to maintain the functions and quality of this camera - will be available for a period of seven years after the camera is discontinued. However, as some of those parts are kept for a longer period, do not hesitate to contact your distributor or the nearest Ricoh service representative even after the seven-year period.
9. Please note that, if the camera is seriously damaged from flooding, submergence, infiltration of sand or mud, violent shocks or dropping, the camera may not be repairable, and restoration to its original condition may be determined to be impossible.

Note

- Before sending the camera in for repair, check the batteries and read this instruction manual again to ensure proper operation.
- Some repairs require a significant amount of time to be completed. Please allow sufficient time for repairs.
- When sending the camera to a service representative, please include a note which describes the defective part and the problem as precisely as possible.
- Remove all accessories not related to the problem before sending the camera to a service representative.
- Before taking any important pictures (such as at weddings, on trips abroad, etc.) test the camera to check its operation and ensure proper functioning. We recommended that you keep this manual and spare batteries on hand.

# Specifications

## ■ General

- **Video Signal Protocol** : NTSC/PAL
- **Power Source and Voltage** : Batteries: 3.7 volts  
AC: 5 volts
- **Dimensions (W × H × D)** : 110 × 67.0 × 39.5 mm (4.33" × 2.64" × 1.56")
- **Weight** : Approximately 220 g (7 oz.) (excluding batteries)
- **Operating Range - Temperature** : 0° to 40° C (32° to 104 F)
- **Operating Range - Relative Humidity** : 85% or less
- **Storage** : -20° to 60°C (-4° to 140°F)

## ■ Camera

- **CCD** : 2,140,000 million square pixels
- **Lens** : Zoom lens F=2.8
  - Focal length : f= approx. 8.24 mm (equivalent to 40 mm on 35 mm camera format)
  - Minimum shooting range : Approximately 0.13 m (5.1")
- **Viewfinder**
  - Type : Reverse  
Galilean TYPE
  - Magnification : Telescope 0.54X
  - Parallax correction : No
- **Monitor**
  - Display Size : 1.8"
  - Drive System : D-TFD Active Matrix
  - Picture Elements : Approximately 71,760 pixels
- **White Balance** : Auto/Preset (Daylight, Cloudy (Overcast), Fluorescent Light, Tungsten Light, RGB/W/B)
- **Exposure Compensation**
  - Light Metering System : Centerweighted
  - Exposure Value Memory System : Auto backlighting detection  
Manual compensation, ±2.0 EV (in 0.25 EV increments)
  - Metering : TTL-CCD method
  - Flash Automatic Exposure : Yes (daylight synchro)
  - Shutter Speed : Still image: 1/4 sec. – 1/500 sec. (Mechanical)  
Motion picture: 1/30 sec. – 1/2000 sec. (Electronic)
  - ISO Sensitivity : Approximately equivalent to 100, 200,400
- **Distance Adjustment**
  - Autofocus Method : TTL-CCD AF
  - Autofocus Range : Normal: 0.3 m – infinity  
Macro: 0.13 m – 0.3 m

## ● Built-in Flash

- Type : Auto
- Range : About 0.3 m to 3.0 m
- Modes : Off/On (Forced flash/Slow synchro)/Red-eye reduction

## ■ Image Data Recording and Playback

### ● Image Resolution

: Still image; 1600 × 1200, 800 × 600, 640 × 480 pixels, 2000 × 1480 pixels (for Image Enlargement)  
Motion picture; 320 × 240, 160 × 120

### ● File Format

: JPEG (Exif2.1)

### ● Camera

: DCF is the abbreviation of the standard "Design rule for Camera File system" which was standardized by the JEIDA

### ● Compression Format

: JPEG baseline method

### ● Approximate File Sizes

- 1600 × 1200 : F mode: approx. 960 KB, N mode: approx. 480 KB, E mode: approx. 240 KB,
- 800 × 600 : F mode: approx. 240 KB, N mode: approx. 120 KB, E mode: approx. 60 KB
- 640 × 480 : F mode: approx. 154 KB, N mode: approx. 77 KB, E mode: approx. 39 KB
- 2000 × 1480 : F mode: approx. 1475 KB

## ■ Input/Output Terminal

- Power input : 5 V (AC adapter)
- Video output : 1.0 V<sub>p-p</sub> (75 ohm)
- RS-232 C/AUX/USB : Exclusive

## ■ Body

### ● Tripod Screw Hole

: Tapped (1/4-20 UNC)  
: Length: less than 6.0 mm

## ■ Power Supply

### ● Main Batteries

- Type : Rechargeable lithium-ion battery
- Voltage : 3.7 volts

### ● Date backup battery

: About 3 minutes

### ● Auto Power-Off

: Activated after more than 1, 3, 5 minutes

## ■ Compatible Memory Cards for Recording and Playback

- Type of Memory : SmartMedia memory card
- Capacity : 2, 4, 8, 16, 32, 64 MB
- Operating Voltage : 3.3 volts

# Recording Capacities

The table below gives approximate recording picture counts available by SmartMedia memory card capacity and by PIC mode.

			2MB	4MB	8MB	16MB	32MB	64MB
<b>2000</b>		<b>F</b>	1	3	8	16	33	68
1600		<b>F</b>	1	3	7	16	33	67
		<b>N</b>	3	7	15	32	67	135
		<b>E</b>	6	14	31	65	134	270
<b>800</b>		<b>F</b>	6	14	31	65	134	270
		<b>N</b>	12	29	63	131	268	541
		<b>E</b>	25	58	127	263	536	1082
640		<b>F</b>	9	23	49	102	209	422
		<b>N</b>	19	46	99	205	418	845
		<b>E</b>	39	92	198	411	837	1690
Motion pictures (sec.)	320 × 240 pixels	<b>F</b>	13	27	54	107	215	430
		<b>N</b>	20	40	79	158	317	634
	160 × 120 pixels	<b>F</b>	13	27	54	107	215	430
		<b>N</b>	20	40	79	158	317	634

\* The file sizes are as follows.

- 2000** : 2000 × 1480 pixels
- 1600 : 1600 × 1200 pixels
- 800** : 800 × 600 pixels
- 640 : 640 × 480 pixels

\* The picture quality (Compression ratio) is as follows:

- F** : Fine
- N** : Normal
- E** : Economy



- Recording capacity can be different from actual capacity because it depends on the shooting objects.



Declaration of Conformity

“The Product complies with the requirements of the EMC Directive 89/336/EEC.”



Declaration of Conformity

“The Product complies with the requirements  
of the EMC Directive 89/336/EEC and the Low  
Voltage Directive 73/23/EEC.”

## INFORMATION TO THE USER

### USA FCC Part15 Class B

The 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, user, 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. In this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help. (FCC 15.105B)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. (FCC 15.21) Properly shielded and grounded cables and connectors must be used for connection to a host computer in order to comply with FCC emission limits. (FCC 15.27) An AC adapter with a ferrite core must be used for RF interference suppression.

### COMPLIANCE INFORMATION STATEMENT

Product Name: IMAGE CAPTURING DEVICE

Model Number: RDC-6000

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.

RICOH CORPORATION

5 Dedrick Place, West Caldwell NJ, 07006 Tel.: 1-800-225-1899

### Note to Users in Canada

**Note:** This Class B digital apparatus complies with Canadian ICES-003

### Remarque Concernant les Utilisateurs au Canada

Avertissement: Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada

IMPORTANT SAFETY INSTRUCTIONS-SAVE THESE INSTRUCTIONS DANGER-TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, CAREFULLY FOLLOW THESE INSTRUCTIONS.

# Ricoh Service Offices

---

Ricoh Co., Ltd.  
Ohmori NM Building  
1-1 Ohmori-Kita 2-chome  
Ota-ku, Tokyo  
143-0016 JAPAN  
<http://www.ricoh.com>

Ricoh Factory Service Center  
3235 Sunrise Blvd.,  
Suite2 Rancho Cordova,  
CA 95742  
<http://www.ricohcpg.com/>

Ricoh Europe B.V.  
Photo Products Division  
P.O. Box 75640  
1118 ZR Schiphol  
The Netherlands  
<http://www.ricoh-red.com/>  
<http://www.ricoheurope.com/>  
E-mail:camera@ricoh.nl

Ricoh Europe B.V.Düsseldorf Branch  
Photo Products Division  
Oberrather Straße 6,  
D-40472 Düsseldorf  
Germany

Ricoh Photo Products (Asia), Ltd.  
Unit D, E & F  
24/F., China Overseas Building  
139 Hennessy Road, Wan Chai  
Hong Kong

Ricoh Australia Pty. Ltd.  
8 Rodborough Road  
Frenchs Forrest, N.S.W. 2086  
Australia  
<http://www.ricoh-aust.com.au>





**RICOH CO., LTD.**  
Ohmori NM Building  
1-1 Ohmori-kita 2 chome  
Ota-ku, Tokyo  
143-0016 Japan  
L 2152547

