

RICOH



CX1

Smooth Imaging Engine IV
CMOS Image Sensor
28-200mm Optical 7.1x Zoom
3.0-inch 920,000-dot VGA LCD monitor

The subtleties, shades, and colors of light: Once unseen beauty now yours to see.

Creating photographs as art every day.

The living color of a flower, the texture of a cloud, the depth of a smiling face, the feeling of air... such things and more will be revealed.

Even nuances of light and shadow, for invisible beauty made visible.

Create startlingly beautiful pictures to capture a moment's drama imaged in the heart:

Art diary.



Eye-opening superb image quality. Smooth Imaging Engine IV+CMOS sensor

The CX1 features the highly evolved image processing engine Smooth Imaging Engine IV together with a CMOS sensor that enables high-speed image processing. For maximum enhancement of image beauty, the CX1 has the imaging power to brilliantly isolate one instant in time, and for high-sensitivity shooting it achieves noise reduction without compromising sharp resolution or color reproduction.

Decisive reduction of overexposure/underexposure. Dynamic range double shot mode

It can be difficult to photograph scenes in which the level of brightness varies greatly. With dynamic range double shot mode, the CX1 shoots, consecutively at high speed, two still images with different exposures, and then it records an image that combines the properly exposed portions of each. Expanding the dynamic range up to a maximum equivalent to 12 EV makes it possible to record images that give an almost naked-eye impression.

*Compared to other modes, the shooting time is relatively long, so care should be taken to prevent hand-motion blur.



Dynamic range double shot mode



Normal Shoot

Suppress whiteout to recreate the beauty the eye sees. Pixel output interpolation algorithm

The addition of a customized circuit to the image processing engine has made it possible to include a pixel output interpolation algorithm that minimizes whiteout in high-contrast situations, thereby enabling you to faithfully capture the excitement seen by your eyes. With techniques that use R (red) and B (blue) information to interpolate G (green) information (which is prone to saturation), the CX1 expands dynamic range by up to +1 EV compared to conventional methods.

An amazing transformation for people photography. Multi-pattern auto white balance

For scenes with both sunlight and shadow and scenes mixing flash and natural light (or fluorescent light, etc.) during flash photography, this function can define white balance to fit the light source of each segregated area of the image. This new capability is very powerful for people photography in scenes which could not be adequately handled by past auto white balance functions, which used an average setting for the entire image.



WB: Multi-pattern AUTO



WB: AUTO



f=28mm 1/1520sec F5.0 ISO100 EV-1.0 WB:Multi-pattern AUTO

**Powerful lens in a compact body.
28-200 mm 7.1x optical zoom**

Ricoh's original [Double Retracting Lens System*] has made it possible to fit a 7.1x optical wide-angle zoom lens in a compact body that is both easy to carry and easy to operate. The lens can handle a wide range of shooting situations, including powerful telephoto shots as well as wide-angle shooting of both expansive landscapes and interior scenes with limited distance between camera and subject.

* Original Ricoh technology in which the lens can fit in a small space because part of it swings in a pendulum-like movement.



28mm



200mm

**Shoot seven images with different focal distances.
Multi-target AF**

Multi-target AF does high-speed consecutive shooting of seven images with different focal distances determined by the camera. It is effective for scenes (such as flowers) where there is a narrow range for a sharp focus. The camera automatically decides the seven focus points and does the high-speed consecutive shooting of seven images while shifting the focus to each point. After shooting, you can select the image with the preferred focus.

* The continuously shot still images are recorded together as a single MP file. With MP file images recorded by the CX1, a selected frame can be extracted and saved as an individual JPEG image within the camera.



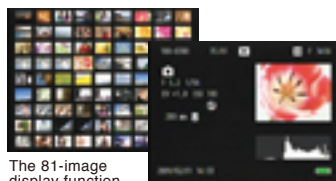
* Simulated image

**Large, high-definition 3.0-inch 920,000-dot
VGA LCD monitor**

The large, high-resolution LCD monitor has a wide viewing angle and high contrast, two features that can be very convenient both during shooting and playback. The screen has a fluorine coat to prevent soiling, a hard coat to prevent scratches, and an anti-reflection coat. With excellent visibility even outdoors, it provides a comfortable shooting environment.



* Simulated image



The 81-image display function

The histogram and detail information display function



f=200mm 1/36sec F5.2 ISO100 EV+0.3 WB:AUO

**Don't miss the decisive moment.
Enhanced high-speed continuous shooting functions**

Smooth continuous shooting. High-speed continuous shooting of approx. 4 frames/sec. at maximum pixels.

In continuous shooting mode, it is possible to do high-speed continuous shooting of still images while the shutter release button is pressed. Images with the maximum number of pixels can be recorded at a speed of approximately 4 frames/second.

* Continuous shooting speed will vary depending on shooting conditions, card type, card condition, etc.



Don't miss your target. M continuous shooting plus

This function does continuous shooting, saving the 30 images taken (at 30 frames/sec.) during the one second or so before the finger is removed from the shutter release button or the 30 images taken (at 15 frames/sec.) during the two seconds before. The CX1 will not miss your decisive moment.

* Image size fixed at N1728 (2M).

* The continuously shot still images are recorded together as a single MP file. With MP file images recorded by the CX1, a selected frame can be extracted and saved as an individual JPEG image within the camera.



**Continuous shooting at overwhelming speed.
120 frame/sec. ultra-high-speed continuous shooting**

With ultra-high-speed continuous shooting, the CX1 shoots 120 images (at 120 frames/sec.) during an interval of about one second after the shutter release button is pushed, or 120 images (at 60 frames/sec.) during an interval of about two seconds.

* Image size fixed at N640 (VGA).

* The continuously shot still images are recorded together as a single MP file. With MP file images recorded by the CX1, a selected frame can be extracted and saved as an individual JPEG image within the camera.



* Using the enclosed software "Irodio Photo & Video Studio", MP files can be displayed on a PC (Macintosh not supported). There are plans to release software enabling display on Macintosh computers (supported OS: Mac OS 10.4 to 10.5.5) at the end of March 2009.

Cooperation:
La Hacienda Riding School



f=32mm 1/55sec F3.6 ISO100 EV+1.0 WB:AUTO

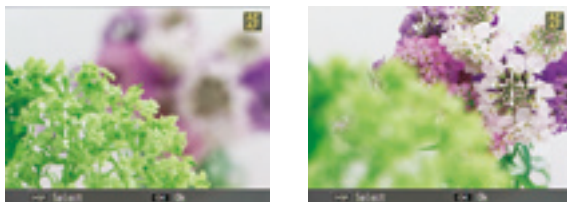
A different world with macro shooting at 1 cm. Macro shooting functions

Taking close-up photographs of subjects such as flowers and insects reveals a different world that usually goes unnoticed. Getting as close as 1 cm for wide-angle* and 25 cm for telephoto*, you can enjoy shooting powerful images that are only possible with macro.

* 32 mm equivalent for wide-angle and 200 mm equivalent for telephoto.

Support for shooting creativity. AE/AF target shift functions

In both normal and macro shooting, the AE (exposure) and AF (focus) targets can be shifted alone or together to any position on the screen. This enables you to take the desired shot by changing focus and exposure settings without moving the camera, even if it is fixed to a tripod.



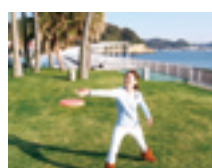
* Simulated image

Simple operation with only frequently used functions. Easy shooting mode

The shooting menu shows only "Pic Quality/Size." The camera also automatically switches to macro mode when shooting subjects close-up, so operations are simplified and there is less worry of errors. In addition, when shooting people in front of a bright background, the backlight compensation function helps avoid the problem of the subject ending up too dark.

Ten modes to match shooting conditions. Scene modes

Selecting the scene mode for the situation you want to photograph will enable you to shoot with the best settings for that scene.



Sports

- | | | |
|------------------|------------------|-----------------|
| Portrait | Face recognition | Sports |
| Landscape | Nightscene | Night portrait |
| High sensitivity | Zoom macro | Skew correction |
| | | Text |



f=32mm 1/73sec F3.6 ISO100 EV+1.3 WB:Multi-pattern AUTO

Eliminate hand and subject motion blur. Double <Blur reduction functions>

The image sensor shift blur reduction function reduces the hand-motion blurring that tends to occur in situations such as telephoto and macro shooting. For lowlight scenes (indoors, twilight, etc.), subject blurring can be reduced using auto high sensitivity, which enables faster shutter speeds by raising the maximum ISO sensitivity level. These functions can help you to capture the ambiance of the scene as you see it.

* Blur reduction functions are not guaranteed to work in all photographic conditions.

Recognize faces and portray them beautifully. Face recognition mode

Enhancing portrayal of facial expression and skin texture, this mode optimizes face focus, exposure, and white balance by identifying subject faces*.

* Identifies up to four faces.

* Face recognition mode is not guaranteed to work in all photographic conditions.

Quickly display desired images. Image flag function

You can flag up to three files that you want to be able to display immediately. By flagging images such as maps and timetables in advance, you can readily display them using the Fn (function) button in playback. This can also be conveniently used as a memo function.

Quick and accurate camera leveling. Electronic level

Using the level sound and the level indicator shown on the picture display, you can confirm that the image is level. This is convenient when shooting landscapes, buildings, and other subjects where tilting can be a problem.

Other Major Features

Convenient shooting functions

- Aspect ratio 1:1: Square format convenient for blog photographs
- Extensive bracketing functions: Color bracketing, auto bracketing, white balance bracketing, and focus bracketing
- "My Settings" mode: Two groups of original settings can be registered.
- Flash light intensity adjustment: Adjust flash intensity to fit the situation
- Step zoom: Enables zoom focal length to be fixed at seven steps.
- "Today's Shot" display function: Displays the number of pictures taken that day

Convenient playback functions

- Level compensation: Correct brightness and contrast in the camera
- White balance compensation: Correct color tone of still images in the camera



f=28mm 1/660sec F5.0 ISO100 EV+0.3 WB:AUTO

Creating photographs as art every day.

Art Diary

* Focal length indicated are 35mm film camera equivalents.



< Accessories included >

- ① USB Cable ② AV Cable ③ CD-ROM ④ Hand Strap
- ⑤ Rechargeable Lithium-Ion Battery (DB-70) ⑥ Battery charger (BJ-7)
- Instruction Manual (Camera User Guide)* Warranty Card
- * Software manual supplied on CD-ROM

■ CX1 Major Specifications

Item	Specifications
No. of Effective Pixels (Camera)	Approximately 9.29 million pixels
Image Sensor	1/2.3-inch CMOS (total pixels: approx. 10.29 million pixels)
Lens	Focal length
	f=4.95-35.4 mm (equivalent to 28-200 mm for 35 mm film cameras. With Step Zoom set, option of seven fixed focal lengths: 28 mm, 35 mm, 50 mm, 85 mm, 105 mm, 135 mm, and 200 mm)
F-aperture	F3.3 (Wide) - F5.2 (Telephoto)
	Shooting Distance
Zoom Magnification	Normal shooting: Approx. 30 cm - infinity (Wide), approx. 1.0 m - infinity (Telephoto) (from the front of the lens)
	Macro: Approx. 1 cm - infinity (Wide), approx. 25 cm - infinity (Telephoto), approx. 1 cm - infinity (Zoom Macro) (from the front of the lens)
Focus Mode	Multi AF (contrast AF method) / Spot AF (contrast AF method) / Multi-Target AF / Manual Focus / Fixed Focus (Snap) / Infinity (AF auxiliary light)
	Motion Blur Reduction
Shutter Speed *2	Still image
	Movie
Continuous Shooting	Continuous shooting speed*3
	Continuous shooting capacity
Exposure Control	Exposure metering Mode
	Exposure mode
ISO sensitivity (Standard Output Sensitivity)	Manual Exposure Compensation +/2.0EV (1/3EV Steps), Auto Bracket Function (-0.5EV, 0, +0.5EV)
	White Balance Mode
Flash	Built-in flash mode
	Built-in flash range
Monitor	Built-in LCD
	3.0-inch Transpare LCD (approx. 920,000 dots)
Shooting Mode	Auto Shooting Mode / Easy Shooting Mode / Dynamic Range Double Shot Mode / Continuous Shooting Modes (Continuous, M-Continuous Plus, Ultra-High-Speed Continuous) / Scene Modes (Portrait / Face / Sports / Night Portrait / Landscape / Nightscape / High Sensitivity / Zoom Macro / Skew Correction / Text) / My Settings Mode / Movie Mode
	Picture Quality Mode*4
No. of Pixels Recorded	Still image/multi-picture
	Movie
Recording Media	SD memory card (32, 64, 128, 256, 512 MB, 1GB, 2GB), SDHC memory card (4GB, 8GB, 16GB, 32GB), Internal memory (approx. 88MB)
	Storage Capacity (Pictures/Time)*5 (internal memory 88MB)
Recording File Format	Still Image
	Multi-picture
Other Major Shooting Functions	Continuous, Self-Timer (operation time: approx. 10 sec. / approx. 2 sec. / custom self-timer), Interval Timer (Shooting interval: 5 sec. - 1 hour (5 sec. steps)*9, Color Bracket function, Focus Bracket function, Fix. Min. Aperture, AE/AF Target Shift, Histogram, Grid Guide, Electronic Level
	Other Major Playback Functions
Interface	USB 2.0 (High-Speed USB) Mini-B, Mass storage compatible*9 / AV Out 1.0Vp-p (75Ω)
	Video Signal Format
Power Supply	Rechargeable Battery: DB-70 x1, AC adapter (AC-4g optional)
	Battery Consumption*10
External Dimensions	Weight
	Operating Temperature Range

*1. VGA image size
 *2. Shutter speed upper and lower limits vary depending on Shooting Mode and Flash Mode.
 *3. Values measured under Ricoh measurement conditions using a Panasonic PRO HIGH SPEED 8GB SDHC memory card. The continuous shooting speed and number of pictures will vary depending on the shooting conditions, the type of recording media used, the condition of the recording media, etc.
 *4. The picture quality modes which can be set vary depending on the image size.
 *5. Estimated number of still images it is possible to record and estimated amount of movie recording time.
 *6. The maximum length for one instance of movie recording is 90 minutes or the file size upper limit of 4GB.
 *7. Compatible with DCF and DPOF. DCF is the abbreviation of the JEITA standard "Design rule for Camera File system." (Full compatibility with other devices is not guaranteed).
 *8. With flash off.
 *9. Mass storage driver is compatible with Windows Me, 2000, XP, Vista, Mac OS 9.0-9.2.2, and Mac OS X 10.1.2-10.5.5.
 *10. Shooting capacity was measured using CIPA-standard parameters. This is only an estimate, and performance may vary according to usage conditions.
 *11. When LCD Auto Dim is off: approx. 250 pictures.

■ CX1 Optional Accessories

Product Name	Model Name
Rechargeable battery	DB-70
Battery charger	BJ-7
Soft case (black)	SC-90BK
Soft case (brown)	SC-90BN
Neck strap	ST-2
Cable switch	CA-1
AC adapter	AC-4g

■ CX1 Software

	Windows Vista	Windows XP	Windows 2000/Me
1. DL-10	○	○	○
2. Irdio Photo & Video Studio	○	○	○
3. Acrobat Reader	×	○	○

*When the version of Acrobat Reader on the CD-ROM is run on a Windows Vista system, there may be cases where an error message is displayed. If this happens, please go to the webpage of Adobe Systems Incorporated and download the latest version of this software.

■ CX1 System Requirements

	Windows
Operating Systems Supported	Windows 2000 Professional Service Pack 4 (Japanese version), Windows Me (Japanese version), Windows XP Home Edition Service Pack 3 (Japanese version) / Professional Service Pack 3 (Japanese version) / Windows Vista Service Pack 1 (Japanese version)
CPU	Windows 2000 / Me / XP: Pentium®III 500MHz or faster / Windows Vista: Pentium®III 1GHz or faster
Memory	Windows 2000 / Me / XP: 256MB or more, Windows Vista: 512MB or more
Hard Drive Space Required for Installation	160MB or more
Display Resolution	1024x768 dots or greater
Display Colors	65,000 colors or greater
CD-ROM Drive	A CD-ROM drive compatible with the above-mentioned computer
USB Port	A USB port compatible with the above-mentioned computer

*When the CX1 is connected to a PC, only a USB connection can be used. Serial connection is not supported. *It is necessary for the above OS to be preinstalled and for the USB port to be standard equipment. *The 64-bit OS version is not supported. *The CX1 is compatible with MAC OS 9.0 to 9.2.2 and Mac OS X 10.1.2 to 10.5.5 by mass storage connection.

■ SD Memory Card Storage Capacity (Number of Images and Time)

Mode	Quality	No. of Pixels Recorded	Internal Memory (80MB)	1GB	2GB	4GB	8GB	16GB	32GB
Still	F	3456 (9M)	24 images	266 images	539 images	1058 images	2113 images	4226 images	8452 images
		3456 (9M)	43 images	461 images	931 images	1828 images	3737 images	7477 images	15020 images
		3:2 (8M)	28 images	300 images	608 images	1195 images	2442 images	4893 images	9815 images
		1:1 (6M)	33 images	355 images	723 images	1419 images	2902 images	5814 images	11662 images
		3072 (7M)	53 images	575 images	1159 images	2277 images	4654 images	9324 images	18704 images
		2592 (5M)	73 images	785 images	1576 images	3094 images	6325 images	12671 images	25418 images
	N	2040 (3M)	109 images	1184 images	2363 images	4640 images	9486 images	19005 images	38125 images
		1280 (1M)	181 images	1948 images	3840 images	7541 images	15145 images	30882 images	61951 images
		640 (VGA)	705 images	7553 images	15359 images	30159 images	61643 images	123489 images	247716 images
		3456 (9M)	23 images	255 images	516 images	1014 images	2073 images	4152 images	8390 images
		3456 (9M)	40 images	428 images	865 images	1699 images	3474 images	6960 images	13922 images
		3:2 (8M)	26 images	285 images	579 images	1138 images	2327 images	4662 images	9332 images
set to [Multi-target AF]	F	1:1 (6M)	31 images	335 images	683 images	1341 images	2741 images	5491 images	11014 images
	N	3072 (7M)	48 images	521 images	1059 images	2090 images	4253 images	8520 images	17091 images
	N	2592 (5M)	64 images	694 images	1397 images	2743 images	5506 images	11231 images	22529 images
	N	2048 (3M)	91 images	990 images	1981 images	3882 images	7956 images	15940 images	31976 images
	N	1280 (1M)	136 images	1473 images	2926 images	5746 images	11745 images	23530 images	47202 images
	N	640 (VGA)	312 images	3357 images	6827 images	13407 images	27404 images	54898 images	110125 images
Text	3456x2592	43 images	461 images	931 images	1828 images	3737 images	7477 images	15020 images	
	2048x1536	109 images	1184 images	2363 images	4640 images	9486 images	19005 images	38125 images	
Movie	640x480 (15frames/sec.)	1'42"	18'20"	37'17"	76'41"	149'40"	299'50"	601'28"	
	640x480 (30frames/sec.)	51"	9'15"	18'49"	38'41"	75'31"	151'18"	303'31"	
	320x240 (15frames/sec.)	4'19"	46'19"	94'11"	193'41"	378'2"	757'18"	1519'7"	
M-Cont Plus	N	1728 (2MB)	143 images	1548 images	3072 images	6033 images	12332 images	24706 images	49561 images
	N	640 (VGA)	705 images	7553 images	15359 images	30159 images	61643 images	123489 images	247716 images

* The maximum recording time is the estimated total recording time. The maximum recording time per shooting is 90 minutes or the equivalent of 4 GB. * The maximum number of consecutive shots that can be taken using continuous mode is 999. When the number of remaining shots is 1000 or more, "999" is displayed on the picture display. * The maximum number of shots for M-Cont Plus and Speed Cont are the estimated total numbers of shots that can be recorded. The maximum number of shots that can be taken consecutively at one time is 30 for M-Cont Plus and 120 for Speed Cont. * The maximum number of shots for Multi-trgt AF is the estimated total number of shots that can be recorded. The number of shots that can be recorded at one time is 7. When the number of remaining shots is 9999 or more, "9999" is displayed on the picture display. * The number of remaining shots displayed on the picture display may differ from the actual number of shots, depending on the subject. * Movie recording time and the maximum number of still pictures may vary depending on the capacity of the recording destination (internal memory or SD memory card), shooting conditions, and the type and manufacturer of the SD memory card. * A high speed memory card is recommended when shooting for long periods.



For more information, visit:

http://www.ricoh.com/r_dc

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RICOH

RICOH COMPANY, LTD.

3-2-3, Shin-yokohama
 Kohoku-ku, Yokohama-shi 222-8530, Japan
 Phone: 045-477-1738 Fax: 045-477-1797 http://www.ricoh.com/r_dc

RICOH INTERNATIONAL B.V.

Oberrather Straße 6, D-40472
 Düsseldorf, Germany
 Phone: 0211-6546-0 Fax: 0211-6546-308 <http://www.ricohpmc.com>

RICOH UK LTD. (PMMC UK)

Ricoh House, 1 Plane Tree Crescent, Feltham,
 Middlesex, TW13 7HG, England
 Phone: 0208-261-4000 Fax: 0208-261-4288

RICOH FRANCE S.A.S. (PMMC FRANCE)

383, Avenue du Général de Gaulle – BP 307-931-13
 Clamart Cédex, France
 Phone: 01-4094-3267 Fax: 01-4094-3276

RICOH ESPANA, S.A. (PMMC SPAIN)

Av. Litoral Mar, 12-14, 08005
 Barcelona, Spain
 Phone: 093-295-7600 Fax: 093-295-7605

RICOH ITALIA S.p.A. (PMMC ITALY)

via Ponchielli, 3
 20063 Cernusco S/N Milano, Italy
 Phone: +39-02-92361217 Fax: +39-02-92361244

RICOH ASIA PACIFIC OPERATIONS LIMITED

Personal Multimedia Products Center
 21/F, One Kowloon, 1 Wang Yuen Street, Kowloon Bay, Hong Kong
 Phone: 2862-2888 Fax: 2566-3647/2866-1120