RICOH

F1.9 New GR LENS

GR DIGITAL Ⅲ

1/34sec, F4, ISO400, Full size photo; no trimming

4sec, F5.6, ISO100, EV-0.3, Full size photo; no trimming

1/1070sec, F8, ISO100, EV-1.0, Full size photo; no trimming

Focal length indicated are 35mm film camera equivalents.

1/39sec, F5.6, ISO100, EV+0.3, Full size photo; no trimming

What this “eye” sees is the greatest ever GR image quality.

Nothing stimulates a photographer’s artistic instincts like a great lens, and the GR Lens boasts surpassing sharpness and low distortion.
The story of the pocket-size professional camera enters a new chapter with the photographer’s creativity set free.
The enlightened eye opens: GR DIGITAL III.

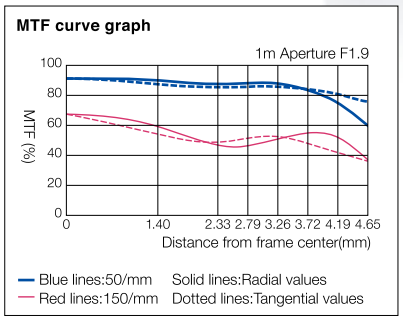
Enter a new dimension of high image quality and shooting flexibility: The new 28 mm/F1.9 GR Lens

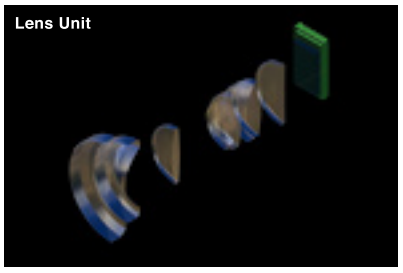
Seeking the photographer’s ideal lens: F1.9

As photography lovers themselves, the developers focused all their passion and creative vision on the creation of a new lens of unprecedented power: the 28 mm/F1.9 GR Lens. If image quality is the priority, set a lower-than-ever ISO sensitivity. If capturing a shutter chance is the priority, set a higher-than-ever shutter speed. F1.9 expands the freedom and scope of your photographic expression.

Pride of the GR series: Superb optical performance

So how was this lens able to control the various types of aberrations that increase as the aperture increases? While maintaining a basic configuration optimized for thin storage, frame aberration was reduced by adding two elements in one group to the rear. In addition, three special low-dispersion lenses were used to achieve high resolution and contrast while minimizing color aberration. The use of two high-precision aspherical lenses made distortion almost unnoticeable. In order to create this ultra-high-precision and high-performance lens, highly precise manufacturing processes and an exclusive control system were newly developed. It was dedication and tenacity that gave birth to this jewel of a lens.





New macro mode system controls field curvature

Minimum shooting distance is approx. 1 cm. A new system was adopted in which one part of a lens group which does not move during normal focusing is shifted into a special position for close-up photography. This corrects the field curvature that tends to be a problem in close-up shooting with retro-focus wide-angle lenses. The result is superb imaging power across the entire photo.

Every scene beautifully rendered. Imaging performance for “real” photographs.

GR ENGINE III for high image quality

Newly developed image processing engine GR ENGINE III enables precise noise reduction by processing the signal close to its CCD-output state. Various types of noise are effectively reduced while maintaining resolution and color saturation. Color reproduction and tonal gradation performance has also been significantly improved.

High performance in low light: 10 megapixel CCD

With the new CCD, rather than increasing the number of pixels, we have about doubled sensitivity compared to the previous model (GR DIGITAL II). Even at ISO 200, imaging performance is at or above the old ISO 100 level. This higher ISO sensitivity makes a clear difference in image quality.

Pixel output interpolation algorithm prevents whiteout

The pixel output interpolation algorithm is Ricoh's original image processing technique. Comparing the output of each pixel, the algorithm interpolates image data in whiteout areas. This expands dynamic range by up to +1 EV equivalent. Using this extensive data to generate the JPEG, even for 8-bit (256-tone) images, it is possible to create a more “real” look with less whiteout than in the past.

Imaging revolution: Multi-pattern auto white balance

In scenes mixing multiple light sources—such as sunlight and shadow, ambient light and flash—the optimum white balance of each is determined by segmenting the image. For both subject and background, you get well-balanced coloration closer to what you saw while shooting.

Enhanced image settings

Individual color settings have been added to the image settings. For each color (orange, green, sky blue, red, and magenta), hue and saturation can be set at five levels so you get the coloration you want. In addition, with the “vivid” setting, you can easily shoot intense high-saturation images.

1/5sec, F1.9, ISO100, EV-1.0, Full size photo; no trimming

Has there ever been a camera where the scene —in the photo was this close to the scene in life?

Well-honed quick shooting capabilities. GR understands the camera's mission.

Fast AF is strong in low-light situations

Smooth, quick AF is possible even in low-light scenes where contrast detection is necessary and focusing is generally slow. The excellent focusing response enhances shooting.

Full Press Snap to grab that shutter chance

With this quick-shooting function, AF operates when the shutter release button is pressed half way, but for a one-push full-press, the photo is taken at a set focal distance. (1m/2.5m/5m/∞). This distance setting can be easily changed. Since the AF does not operate for a one-push full press, you will not miss the moment.

*ON/OFF can be selected. This setting is only possible when focus is set to Multi AF or Spot AF.

Pre-AF shortens focusing time

Even if the shutter release button is not pressed half way, focusing follows the subject's movement. The pre-AF action accelerates focusing time.

*ON/OFF can be selected. This setting is only possible when focus is set to Multi AF or Spot AF.
*ON setting consumes battery power faster than OFF.

RAW evolution: Continuous shooting and high write speed.

With the expansion of buffer memory, continuous shooting of up to five images is possible even for RAW. This facilitates bracketing as well as the shooting of quickly moving subjects. The RAW card write speed has also been accelerated (under 3 seconds per image). These specs will help reduce your "shooting stress."

*When noise reduction is OFF. When it is Weak or Strong, the maximum is four images.

Direct operations increase speed and flexibility. Enhanced operability responds instantly to your will.

My Settings expanded to three sets

By just turning the mode dial, you can use My Settings to instantaneously switch to many different shooting functions. The number of sets which can be assigned has been increased to three so you can handle a wider range of shooting situations and creative intentions.

New facility: My Settings Box

Up to six My Settings sets can be stored in the My Settings Box. Then you can just choose the set you need and quickly assign it to MY1, MY2, or MY3. You can also name each set yourself to make it easy to choose the correct one.

My settings Box

Direct operation enhanced with two Fn buttons

There are now two Fn (function) buttons for one-push access to necessary functions. Assign frequently used functions to each to increase direct operability.

*It is also possible to assign different functions to Fn1 and Fn2 for each of the My Settings.
*The self-timer function is assigned to Fn2 as a factory default setting.
*The content registered in Fn1 and Fn2 can be checked as necessary on the shooting screen.

Operation function customization

To give the individual photographer the most natural operation feel, functions can be assigned to the up-down dial and the ADJ. lever. Increase shooting/playback flexibility by creating intuitive operations that minimize finger movement.

A true tool becomes part of the hand. Pride of the GR series: Traditional design.

Magnesium body for superior reliability

A light and highly rigid magnesium alloy is used for a body that has strong shock resistance and durability. It also has excellent heat radiation and magnetic shielding characteristics, important features for a digital camera. This is a camera that can stand up to a photographer's "hard use," providing both reliability and high operation precision.

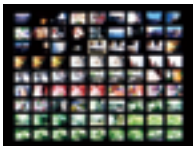
GR Design: Excellent portability and grip feel

The GR DIGITAL III inherits a traditional design born to carry out the camera's true mission of always being ready for the next shutter chance and reliably recording the result. Keeping the same pocketable form and hand-clinging grip, careful attention was given to enhancing operability and quality.

Responsive to your sensibilities and creative process, this will be your favorite camera.

Large, high-definition 3.0-inch VGA LCD panel

LCD panel visibility was further improved with VGA high resolution and an expansive 3.0-inch size. The sRGB comparison for color reproduction range is 100%. This has significantly improved the visual reality of the image during framing, the ability to search images and check shooting data, and the ease of making function settings.



Micro-thumbnail display

Up to 81 images are displayed on a single screen, greatly facilitating image search.

Shooting information display frame

Puts the shooting information outside the image to increase the visibility of both.

*The viewing angle is about 160 degrees both vertically and horizontally.

Expandability liberates your creative spirit. To a wider, brighter world...

Newly developed system accessories

In addition to the 21 mm wide conversion lens (GW-2) and the hood and adapter (GH-2, φ43mm), there are soft cases (GC-3 and GC-4 [GV-2 external VF compatible]) and an exclusive new external flash (GF-1) which can handle TTL flash using pre-flash.

Function-enhancing firmware

This is a camera to be used long and well so via firmware updates we regularly provide function improvements and newly introduced functions. GR DIGITAL cameras evolve in response to photographer requests.

*The latest firmware version can be downloaded from the Ricoh website page below.
http://www.ricoh.co.jp/dc/download

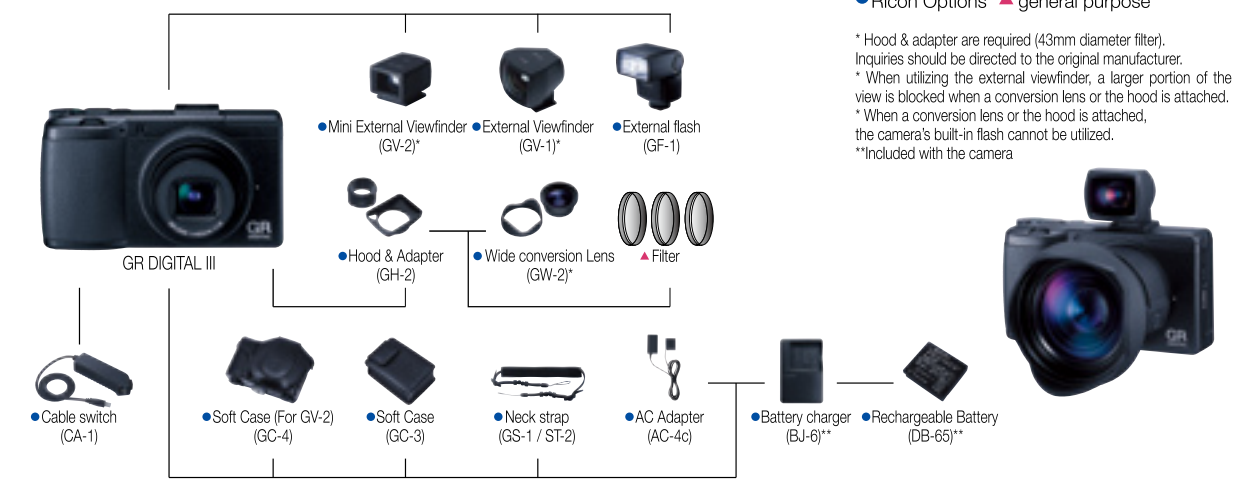
Other new functions

- Dynamic range double shot • Shutter speed priority AE
- Manual flash/synchro setting • AE/AF target shift
- Grid line display (3 types)

Main inherited functions

- Electronic level • S-continuous/M-continuous shooting
- Data display mode

System diagram



*When the 21 mm wide conversion lens (GW-2) is used, the hood and adapter (GH-2) are necessary.
*GR DIGITAL and GR DIGITAL II hood and adapter (GH-1), 21 mm wide conversion lens (GW-1), and 40 mm teleconversion lens (GT-1) cannot be used.

GR DIGITAL III Major Specifications

Item		Specifications
No. of Effective Pixels (Camera)		Approximately 10.00 million pixels
Image Sensor		1/1.7-inch CCD (total pixels: approx. 10.40 million pixels)
Lens	Focal length	f=6.0 mm (equivalent to 28 mm for 35 mm film cameras)
	F-aperture	F1.9 – F9 (exposure control with both aperture and ND filter when F8.0-F11 displays in auto shooting mode)
	Shooting Distance	Approx. 30cm from lens tip to infinity Approx. 1cm from lens tip to infinity(macro)
	Lens construction	8 elements in 6 groups (aspheric lens: 2 elements and 2 surfaces)
Digital Zoom Magnification		Digital Zoom: Approx. 4.0x; Auto Resize Zoom: Approx. 5.7x (VGA images)
Focus Mode		Multi AF (CCD method) / Spot AF (CCD method) / Manual Focus / Snap / Infinity (Focus lock and AF auxiliary light available. For Multi AF and Spot AF, full-press snap and pre-AF are possible.)
Shutter Speed *1	Still image	180, 120, 60, 30, 15, 13, 10, 8, 6, 5, 4, 3.2, 2.5, 2, 1.6, 1.3, 1 - 1/2000 sec. (maximum and minimum shutter speeds vary depending on shooting mode and flash mode)
	Movie	1/30 - 1/2000 sec.
Exposure Control	Exposure Metering Mode	Multi (256 segments), Centre Weighted Light Metering, Spot Metering (TTL-CCD metering method, AE lock possible)
	Exposure Modes	Program shift AE/Aperture priority AE/Shutter priority AE/Manual exposure
	Exposure Compensation	Manual Exposure Compensation +/-2.0EV (1/3EV Steps), Auto Bracket Function (-0.5EV, ±0, +0.5EV / -0.3EV, ±0, +0.3EV)
ISO Sensitivity (Standard Output Sensitivity)		AUTO, AUTO-HI, ISO64 / 100 / 200 / 400 / 800 / 1600
White Balance Mode		AUTO / Multi-Pattern AUTO / Outdoors / Cloudy / Incandescent / Fluorescent / Manual / Detail, White Balance Bracket Function
Flash	Built-in flash mode	Auto (during low light and when the subject is backlit), Red-eye-Reduction, Flash On, Slow Synchro, Manual Flash, Flash Off
	Built-in flash range	Approx. 20 cm - 3.0 m (ISO Auto)
	Flash compensation	+/-2.0EV (1/3EV Steps)
Monitor		3.0-inch Transparent LCD (approx. 920,000 dots)
Shooting Mode		Auto Shooting Mode / Program Shift Mode / Aperture Priority Mode / Shutter Speed Priority Mode / Manual Exposure Mode / Scene Modes (Text / Movie / Skew Correction / Dynamic Range Double Shot) / My Settings Mode
Picture Quality Mode *2		F (Fine) / N (Normal) / RAW (DNG file format)*3
No. of Pixels Recorded	Still image	[4:3] 3648×2736, 3264×2448, 2592×1944, 2048×1536, 1280×960, 640×480 [3:2] 3648×2432 [1:1] 2736×2736
	Movie	640x480, 320x240
	Text	3648x2736, 2048x1536
Recording Media		SD memory card, SDHC memory card, Internal memory (approx. 88MB)
Storage Capacity (Pictures/Time)*4; (internal memory 88MB)	Still Image	3648×2736 (RAW: 4, F: 22, N: 38) / 3648×2432 (RAW: 5, F: 25, N: 43) / 2736×2736 (RAW: 6, F: 29, N: 50) / 3264×2448 (N: 47) / 2592×1944 (N: 72) / 2048×1536 (N: 109) / 1280×960 (N:175) / 640×480 (N: 705) / Text: 3648×2736 (38), 2048×1536 (109)
	Movie *5	640×480: 30 frames/sec. (51 sec.), 640×480: 15 frames/sec. (1 min. 42 sec.), 320×240: 30 frames/sec. (2 min. 12 sec.), 320×240: 15 frames/sec. (4 min. 19 sec.)
Recording File Format	Still Image	JPEG (Exif ver. 2.21) *6, RAW (DNG)
	Movie	AVI (Open DML Motion JPEG Format compliant)
Other Major Shooting Functions		Continuous / S-Cont / M-Cont, Self-Timer (operation time: approx. 10 sec. / approx. 2 sec.), Interval Timer (shooting interval: 5 sec. - 1 hour (5 sec. steps) *7, Color Bracket function, B&W (TE), Color Space Setting, Noise Reduction, Histogram, Grid Guide, Depth of Field, Electronic Level, Hot Shoe
Other Major Playback Functions		Auto Rotate, Thumbnail view,Enlarged view (maximum 16x), Resize
Interface		USB 2.0 (High-Speed USB) Mini-B, Mass storage*8 / Audio Out 1.0Vp-p (75Ω)
Video Signal Format		NTSC, PAL switchable
Power Supply		Rechargeable Battery: DB-65 (3.7V) x1, AAA Dry Alkaline Battery x2, AAA Nickel-Metal Hydride Battery x 2, AC adapter (AC-4c option) 3.8V
Battery Consumption *9		Based on CIPA Standard: Using the DB-65, approx. 370 pictures / Using AAA Dry Alkaline Battery x2, approx. 25 pictures *10
External Dimensions		108.6 mm (W) x 59.8 mm (H) x 25.5 mm (D) (excluding projecting parts)
Weight		Approx. 188 g (excluding battery, SD memory card, strap), Accessories approx. 30 g (battery, strap)
Operating Temperature Range		0ºC-40ºC

*1. Shutter speed upper and lower limits vary depending on Shooting Mode and Flash Mode.
*2. The picture quality modes which can be set vary depending on the image size.
*3. A JPEG file in Normal 640 or Fine/Normal mode with the same size as the RAW file is recorded at the same time. The DNG file format is a RAW image file format and is the standard format of Adobe Systems.
*4. Estimated number of still images it is possible to record and estimated amount of movie recording time.
*5. The maximum length for one instance of movie recording is 90 minutes or the file size upper limit of 4GB.
*6. 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.)
*7. With flash off.
*8. Mass storage driver is compatible with Windows (R) 2000, XP, and Vista; Mac OS9.0-9.2.2 and Mac OSX10.1.2-10.5.6.
*9. Shooting capacity was measured using CIPA-standard parameters. This is only an estimate, and performance may vary according to usage conditions.
*10. Using Panasonic AAA alkaline batteries.

GR DIGITAL III

<Accessories included>

① AV Cable
② USB Cable
③ Hand Strap
④ Rechargeable Battery (DB-65)
⑤ Battery charger (BJ-6)
⑥ Software CD-ROM
● Instruction Manuals

Software manual supplied on CD-ROM

GR DIGITAL III Optional Accessories

Accessory Name			
External Viewfinder	GV-1	Soft Case (For GV-2)	GC-4
Mini External Viewfinder	GV-2	Soft Case	GC-3
Wide conversion Lens *1	GW-2	GR Bag	GB-1
Hood & Adapter	GH-2	Rechargeable Battery	DB-65
AC Adapter	AC-4c	Battery charger	BJ-6
Neck strap	GS-1	Cable switch	CA-1
Neck strap	ST-2	External flash	GF-1

*When the Mini External Viewfinder is used, if a conversion lens or hood is also attached, a larger portion of the viewfinder view will be blocked.
*When a conversion lens or the hood is attached, the camera's built-in flash cannot be utilized.
*1. When the 21 mm wide conversion lens (GW-2) is used, the hood and adapter (GH-2) are necessary.

GR DIGITAL III Softwares

	Windows Vista	Windows XP	Windows 2000
1. DL-10	○	○	○
2. Irodio Photo & Video Studio	○	○	○
3. Adobe Reader	○	○	○

Image editing software for Macintosh not included.

GR DIGITAL III System Requirements

	Windows
Operating system	Windows 2000 Professional Service Pack 4 Windows XP Home Edition Service Pack 3 Professional Service Pack 3 Windows Vista Service Pack 1
CPU	Windows 2000/XP : Pentium®III 500MHz or more Windows Vista : Pentium®III 1GHz or more
Memory	Windows 2000/XP : 256MB or more Windows Vista : 512MB or more
Hard Drive Space	Windows 2000/XP/Windows Vista : 160MB or more (Required for Installation)
Display Resolution	Resolution : 1024 ×768 dots or greater
Display Colors	65000 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 GR DIGITAL III 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 GR DIGITAL III is compatible with MAC OS 9.0 to 9.2.2 and Mac OS X 10.1.2 to 10.5.6 by mass storage connection.

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

Mode	Quality	Pixels	Internal Memory	1GB	2GB	4GB	8GB	16GB	32GB
Still	RAW	3648 x 2736	4 images	51 images	104 images	204 images	417 images	836 images	1677 images
	F	3648 x 2736	22 images	240 images	487 images	957 images	1957 images	3922 images	7867 images
	N	3648 x 2736	38 images	414 images	842 images	1653 images	3379 images	6769 images	13579 images
	RAW	3648 x 2432	5 images	57 images	116 images	229 images	469 images	939 images	1884 images
	F	3648 x 2432	25 images	269 images	548 images	1077 images	2202 images	4412 images	8851 images
	N	3648 x 2432	43 images	465 images	945 images	1856 images	3795 images	7602 images	15251 images
	RAW	2736 x 2736	6 images	68 images	138 images	271 images	554 images	1110 images	2227 images
	F	2736 x 2736	29 images	319 images	647 images	1270 images	2596 images	5202 images	10435 images
	N	2736 x 2736	50 images	544 images	1097 images	2155 images	4405 images	8824 images	17702 images
	N	3264 x 2448	47 images	512 images	1041 images	2045 images	4181 images	8376 images	16802 images
	N	2592 x 1944	72 images	775 images	1576 images	3094 images	6325 images	12671 images	24518 images
	N	2048 x 1536	109 images	1184 images	2363 images	4640 images	9486 images	19905 images	38125 images
	N	1280 x 960	175 images	1888 images	3840 images	7541 images	15415 images	30882 images	61951 images
	N	640 x 480	705 images	7553 images	15359 images	30159 images	61643 images	123489 images	247716 images
Text		3648 x 2736	38 images	414 images	842 images	1653 images	3379 images	6769 images	13879 images
		2048 x 1536	109 images	1184 images	2363 images	4640 images	9486 images	19905 images	38125 images
Movie	640 x 480 (15frames/sec.)		1'42"	18'20"	37'17"	76'41"	149'40"	299'50"	601'28"
	640 x 480 (30frames/sec.)		51"	9'15"	18'49"	38'41"	75'31"	151'18"	303'31"
	320 x 240 (15frames/sec.)		4'19"	46'19"	94'11"	193'41"	378'2"	757'18"	1519'7"
	320 x 240 (30frames/sec.)		2'12"	23'42"	48'13"	99'8"	193'30"	387'39"	777'37"

For shooting capacity, the number of images and time are estimates.

For more information, visit:

http://www.ricoh.com/r_dc

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