

## Dual Camera Xacti 2009 Line-up Specifications

### VPC-HD2000 and VPC-FH1 Specifications

Model		VPC-HD2000	VPC-FH1
Effective pixel count/Camera element		Stills: Approx. 8.0-Megapixels Videos: Approx. 5.31-Megapixels (in Full HD/HD mode), Approx. 2.00-Megapixels (in SD mode)	
Camera element		1/2.5 inch CMOS sensor, Approx. 8.1-Megapixels (total)	
Recording media		SD Memory Card, SDHC Memory Card (up to 32GB)	SD Memory Card, SDHC Memory Card (up to 32GB)
Recording file formats		Photos: JPEG (DCF <sup>*1</sup> , DPOF <sup>*2</sup> , Exif Ver2.2 <sup>*3</sup> ) Videos: ISO standard MPEG-4 AVC/H.264 (.MP4) Audio: 48kHz sampling, 16bit, 2ch, AAC	
Resolution (pixels)	Photos <sup>*4</sup> :	<b>12M:</b> 4000 x 3000 <sup>*4</sup> , <b>8M-H:</b> 3264 x 2448 (low compression) <b>8M-S:</b> 3264 x 2448 (standard compression) <b>6M[16:9]:</b> 3264x1840 <b>2M[16:9]:</b> 1920x1080 <b>2M:</b> 1600 x 1200 <b>0.9M[16:9]:</b> 1280x720 <b>0.3M:</b> 640x480	
	Sequential shots:	<b>8M:</b> 3264 x 2448 , 6fps/Max 9 photos, <b>4M:</b> 2288 x 1712 , 12fps/Max 15 photos	
	Videos <sup>*5</sup>	<b>Full-HR:</b> 1920 x 1080 (60 fps/ 24Mbps) <b>Full HD:</b> 1920 x 1080 (60fields/sec 16Mbps) <b>Full-SHQ:</b> 1920 x 1080 (30 fps/ 12Mbps) <b>HD-SHQ:</b> 1280 x 720 (30 fps/9Mbps) <b>TV-SHQ:</b> 640 x 480 (30 fps/3Mbps) <b>Web-SHR:</b> 448 x 336 (240 fps/8Mbps) <b>Web-UHR:</b> 192 x 108 (600fps/8Mbps)	
Lens		10x optical zoom lens; Aperture: F=1.8(W) – 2.5(T) Focus distance: f=6.3 to 63mm; Galvanometer method structure, Auto focus: 8 groups, 11 elements (3 aspheric elements, 5 aspheric surfaces), Built-in neutral density filter Photos: f=38-380mm(=35mm) Optical 10x zoom Videos: f=44.4-710mm(=35mm) 16x Adv. zoom	10x optical zoom lens; Aperture: F=2.0(W) – 2.8(T) Focus distance: f=5.95 to 59.5mm; Galvanometer method structure, Auto focus: 9 groups, 12 elements (4 aspheric elements, 8 aspheric surfaces), Built-in neutral density filter Photos: f=35.7-357mm(=35mm) Optical 10x zoom Videos: f=41.7-666.9mm(=35mm) 16x Adv. zoom
Photo range		Standard: 50cm to infinity (wide), 1.0m to infinity (tele) / Super macro: 1cm – 1m (wide)	
Digital zoom		Shooting: 10x max., Playback 62.5x max. ( <b>12M</b> mode, depending on the resolution)	
Low light sensitivity (video)		Approx. 6 lux (Auto mode, 1/30 sec.) Approx. 2 lux (High-sensitivity/ Lamp mode, 1/15 sec.)	Approx. 6 lux (Auto mode, 1/30 sec.) Approx. 2 lux (High-sensitivity/ Lamp mode, 1/15 sec.)
Stills sensitivity		Auto (ISO 50 – 200), Manual (ISO 50/100/200/400/800/1600/3200, Switching system)	
Digital Image Stabilizer		Photos: Digital Image Stabilizer (Multi-Calculation method), Videos: Digital Image Stabilizer (electronic)	
Audio		Microphone: Built-in stereo, Speaker: Built-in monaural (L+Rch mixed output)	
LCD monitor		2.7 inch, Low-temperature polysilicon TFT color widescreen LCD display, Approx. 230,000 pixels (7-level brightness, 285 degrees rotation)	3.0 inch, Low-temperature polysilicon TFT color widescreen LCD display, Approx. 230,000 pixels (7-level brightness, 285 degrees rotation)
Languages		English/ Japanese/ French/ German/ Spanish/ Italian/ Korean/ Simplified Chinese/ Traditional Chinese Dutch/ Russian/ Portuguese/ Turkish/ Japanese/ Thai/	
Interface		AV output* (Video: HDMI/D/ S-Video/ Composite video (NTSC/PAL) Audio: Stereo sound) Microphone input (plug-in power type: φ2.5mm, φ3.5mm adaptor bundled) Headphone output (φ3.5mm stereo mini-plug, 16Ω-32Ω) USB 2.0* (high-speed mode compatible) *When used with Docking Station	AV output (Video: HDMI/D/ S-Video/ Composite video(NTSC/PAL) Audio: Stereo sound) USB 2.0 (high-speed mode compatible)
Power source		Lithium-ion battery x 1 (DB-L50 included: 1900mAh) AC-adaptor	
Power consumption		When using battery: 4.3W (when filming videos)	
Approx. battery-use time <sup>*6</sup>		Photos: approx. ~ 355 shots (CIPA standard), Continuous video filming: ~ 135min/ Continuous playback: ~ 350 min.	Photos: approx. 355 shots (CIPA standard), Continuous video filming: ~ 135min./ Continuous playback: ~ 350 min.
Dimensions/Volume		90.0 (W) x 112.6 (H) x 54.5 (D)mm (maximum dimension, excluding protruding parts) Volume: approx. 272cc	53.3 (W) x 57.3 (H) x 105.0 (D)mm (maximum dimension, excluding protruding parts) Volume: approx. 253cc
Weight		~ 268g (main unit only), ~ 311g (including battery, approx 41 g, and SD card, approx 2 g)	

SD Memory Card Type	Video Recording Time (Total Time) <sup>*7</sup>								Audio Memo <sup>*9</sup>	
	Full-HR	Full-HD	Full-SHQ	HD-SHQ	TV-SHQ	Web-SHR <sup>*8</sup>	Web-UHR <sup>*8</sup>			
16GB	1hr28min	2hr11min	2hr54min	3hr51min	11hr06min	4hr19min	41hr19min	261hr		
SD Memory Card Type	Number of Photographs <sup>*7</sup>									
	12M	8M-H	8M-S	6.0M [16 : 9]	2M [16 : 9]	2M	0.9M [16 : 9]	0.3M	8M Seq.	4M Seq.
16GB	4,020	4,020	5,940	7,920	21,700	22,700	41,600	99,800	5,940	11,800

## VPC-CA9 and VPC-WH1 Specifications

Model		VPC-CA9	VPC-WH1
Effective pixel count/Camera element		Photos: ~9.0-Megapixels Videos: HD:~7.31-Megapixels SD: ~8.84-Megapixels	Photos: ~1.10-Megapixels Videos: HD:~0.97-Megapixels SD: ~1.10-Megapixels
Camera element		1/2.5 inch CMOS sensor, ~9.02-Megapixels (total)	1/6 inch CMOS sensor, ~1.10-Megapixels (total)
Recording media		SD Memory Card, SDHC Memory Card (up to 32GB) Internal memory: ~43 mb	SD Memory Card, SDHC Memory Card (up to 32GB) Internal memory: ~43 mb
Recording file formats		Photos: JPEG (DCF <sup>*1</sup> , DPOF <sup>*2</sup> , Exif Ver2.2 <sup>*3</sup> ) Videos: ISO standard MPEG-4 AVC/H.264 (.MP4) Audio: 48kHz sampling, 16bit, 2ch, AAC	
Resolution (pixels)	Photos <sup>*4</sup> :	<b>12M:</b> 4000 x 3000 <sup>*4</sup> , <b>9M-H:</b> 3456 x 2592 (low compression) <b>9M-S:</b> 3456 x 2592 (standard compression) <b>6.7M[16:9]:</b> 3456 x 1944 <b>2M:</b> 1600 x 1200 <b>0.9M[16:9]:</b> 1280 x 720 <b>0.3M:</b> 640 x 480	<b>2M:</b> 1600 x 1200 <sup>*4</sup> , <b>1.1M:</b> 1184 x 888 <b>0.9M[16:9]:</b> 1280 x 720 <b>0.3M:</b> 640 x 480
	Sequential shots:	<b>9M:</b> 3456 x 2592, 1.6fps/Max 13photos <b>2M:</b> 1600 x 1200, 7fps/Max 15 photos	<b>2M:</b> 1600 x 1200, 13fps/Max 29 photos <b>1.1M:</b> 1184 x 888, 13fps/Max 30 photos
	Videos <sup>*5</sup>	<b>HD-SHQ:</b> 1280 x 720 (30 fps/ 9Mbps) <b>TV-HR:</b> 640 x 480 (60 fps/6Mbps) <b>TV-SHQ:</b> 640 x 480 (30 fps/3Mbps)	<b>HD-SHQ:</b> 1280 x 720 (30 fps/ 9Mbps) <b>TV-HR:</b> 640 x 480 (60 fps/6Mbps) <b>TV-SHQ:</b> 640 x 480 (30 fps/3Mbps)
Lens		5x optical zoom lens; Aperture: F=3.5(W)-4.7(T) Focus distance: f=6.3 to 31.7mm; Galvanometer method structure, Auto focus: 8 groups, 11 elements (3 aspheric elements, 5 aspheric surfaces), Built-in neutral density filter Photos: f=38-190mm(=35mm) Optical 5x zoom Videos: f=38-190mm(=35mm) Optical 5x zoom	30x optical zoom lens; Aperture: F=1.8(W) – 4.3(T) Focus distance: f=2.5 to 75.0mm; Galvanometer method structure, Auto focus: 7 groups, 10 elements (2 aspheric elements, 3 aspheric surfaces), Built-in neutral density filter Photos: f=43-1290mm(=35mm) Optical 30x zoom Videos: f=43-1290mm(=35mm) Optical 30x zoom
Photo range		Standard: 50cm to infinity (wide), 1.0m to infinity (tele) Super macro: 1cm – 80cm (wide)	Standard: 50cm to infinity (wide), 1.0m to infinity (tele) Super macro: 1cm – 1m (wide)
Digital zoom		Shooting: 12x max., Playback 62.5x max. ( <b>12M</b> mode, depending on the resolution)	Shooting: 50x max., Playback 25x max. ( <b>2M</b> mode, depending on the resolution)
Low light sensitivity (video)		Approx. 16 lux (Auto mode, 1/30 sec.) Approx. 4 lux (High-sensitivity/ Lamp mode, 1/15 sec.)	Approx. 11 lux (Auto mode, 1/30 sec.) Approx. 3 lux (High-sensitivity/ Lamp mode, 1/15 sec.)
Stills sensitivity		Auto (ISO 50 – 400), Manual (ISO 50/100/200/400/800/1600, Switching system)	Auto (ISO 50 – 200), Manual (ISO 50/100/200/400/800/1600, Switching system)
Digital Image Stabilizer		Photos: Digital Image Stabilizer (electronic), Videos: Digital Image Stabilizer (electronic)	
Audio		Microphone: Built-in stereo, Speaker: Built-in monaural (L+Rch mixed output)	
LCD monitor		2.5 inch, Low-temperature polysilicon TFT color LCD display, Approx. 150,000 pixels (7-level brightness, 285 degrees rotation)	
Languages		English/ Japanese/ French/ German/ Spanish/ Italian/ Dutch/ Russian/ Portuguese/ Turkish/ Japanese/ Thai/ Korean/ Simplified Chinese/ Traditional Chinese	
Interface		AV output Video: Composite video, NTSC/PAL, USB 2.0 (high-speed mode compatible)	AV output Video: HDMI/Composite video, NTSC/PAL USB 2.0 (high-speed mode compatible)
Power source		Lithium-ion battery x 1 (DB-L20 included: 720mAh)	Lithium-ion battery x 1 (DB-L50 included: 1900mAh)
Power consumption		When using battery: 3.1W (when filming videos)	
Approx. battery-use time <sup>*10</sup>		Photos: approx. 170 shots (CIPA standard), Continuous video filming: ~70min. Continuous playback: ~220 min.	Photos: approx. 450shots (CIPA standard), Continuous video filming: ~200min. Continuous playback: ~570 min.
Dimensions/Volume		70.4 (W) x 111.4 (H) x 40.5 (D)mm (maximum dimensions, excluding protruding parts) Volume: approx. 192cc	58.7 (W) x 62.8 (H) x 112.4 (D)mm (maximum dimension, excluding protruding parts), Volume: approx. 327cc
Weight		~ 230g (main unit only), ~ 249g (including battery, approx 17 g, and SD card, approx 2 g)	

### VPC-CA9 Recording Time/Number of Photographs

SD Memory Card Type	Video Recording Time (Total Time) <sup>*7</sup>				Number of Photographs <sup>*7</sup>								
	HD-SHQ	TV-HR	TV-SHQ	Audio Memo <sup>*9</sup>	12M	9M-H	9M-S	6.7M [16:9]	2M	0.9M [16:9]	0.3M	9M Cont	2M Cont
16GB	3hr51min	5hr43min	11hr06min	261hr	3,370	3,080	4,260	5,360	11,600	15,100	19,200	4,260	11,600

### VPC-WH1 Recording Time/Number of Photographs

SD Memory Card Type	Video Recording Time (Total Time) <sup>*7</sup>				Number of Photographs <sup>*7</sup>					
	HD-SHQ	TV-HR	TV-SHQ	Audio Memo	2M	1.1M	0.9M [16 : 9]	0.3M	2M Seq.	1.1M Seq.
16GB	3hr51min	5hr43min	11hr06min	261hr	11,600	14,200	15,100	19,200	11,600	14,200

### VPC-CG10 and VPC-TH1 Specifications

Model		VPC-CG10	VPC-TH1
Effective pixel count/Camera element		Photos: ~ 10.0-Megapixels Videos: HD:~8.28-Megapixels / SD: ~10.00-Megapixels	Photos: ~ 1.10-Megapixels Videos: HD:~0.97-Megapixels SD: ~1.10-Megapixels
Camera element		1/2.33inch CMOS sensor~10.66-Megapixels (total)	1/6 inch CMOS sensor, ~ 1.10-Megapixels (total)
Recording media		SD Memory Card, SDHC Memory Card (up to 32GB) Internal memory: ~ 40 mb	SD Memory Card, SDHC Memory Card (up to 32GB) Internal memory: ~ 43 mb
Recording file formats		Photos: JPEG (DCF <sup>*1</sup> , DPOF <sup>*2</sup> , Exif Ver2.2 <sup>*3</sup> ) Videos: ISO standard MPEG-4 AVC/H.264 (.MP4) Audio: 48kHz sampling, 16bit, 2ch, AAC	
Resolution (pixels)	Photos <sup>*4</sup> :	<b>12M:</b> 4000 x 3000 <sup>*4</sup> , <b>10M-H:</b> 3648 x 2736 (low compression) <b>10M-S:</b> 3648 x 2736 (standard compression) <b>7.5M[16:9]:</b> 3648 x 2056 <b>2M:</b> 1600 x 1200 <b>0.9M[16:9]:</b> 1280 x 720 <b>0.3M:</b> 640 x 480	<b>2M:</b> 1600 x 1200 <sup>*4</sup> <b>1.1M:</b> 1184 x 888 <b>0.9M[16:9]:</b> 1280 x 720 <b>0.3M:</b> 640 x 480
	Sequential shots:	<b>10M:</b> 3648 x 2736, 1.3 fps/Max 11 photos <b>2M:</b> 1600 x 1200, 7 fps/Max 14 photos	<b>2M:</b> 1600 x 1200, 13fps/Max 29 photos <b>1.1M:</b> 1184 x 888, 13fps/Max 30photos
	Videos <sup>*5</sup>	<b>HD-SHQ:</b> 1280 x 720 (30 fps/ 9Mbps) <b>TV-HR:</b> 640 x 480 (60 fps/6Mbps) <b>TV-SHQ:</b> 640 x 480 (30 fps/3Mbps)	<b>HD-SHQ:</b> 1280 x 720 (30 fps/ 9Mbps) <b>TV-HR:</b> 640 x 480 (60 fps/6Mbps) <b>TV-SHQ:</b> 640 x 480 (30 fps/3Mbps)
Lens		5x optical zoom lens; Aperture: F=3.5(W)-3.7(T) Focus distance: f=6.8 to 34.0mm; Galvanometer method structure, Auto focus: 8 groups, 11 elements (3 aspheric elements, 6 aspheric surfaces), Built-in neutral density filter Photos: f=38-190mm(=35mm) Optical 5x zoom Videos: f=40-200mm(=35mm) Optical 5x zoom	30x optical zoom lens; Aperture: F=1.8(W) – 4.3(T) Focus distance: f=2.5 to 75.0mm; Galvanometer method structure, Auto focus: 7 groups, 10 elements (2 aspheric elements, 3 aspheric surfaces), Built-in neutral density filter Photos: f=43-1290mm(=35mm) Optical 30x zoom Videos: f=43-1290mm(=35mm) Optical 30x zoom
Photo range		Standard: 50cm to infinity (wide), 1.0m to infinity (tele) Super macro: 1cm – 1m (wide)	Standard: 50cm to infinity (wide), 1.0m to infinity (tele) Super macro: 1cm – 1m (wide)
Digital zoom		Shooting: 12x max., Playback 62.5x max. ( <b>12M</b> mode, depending on the resolution)	Shooting: 50x max., Playback 25x max. ( <b>2M</b> mode, depending on the resolution)
Low light sensitivity (video)		Approx. 16 lux (Auto mode, 1/30 sec.) Approx. 4 lux (High-sensitivity/ Lamp mode, 1/15 sec.)	Approx. 11 lux (Auto mode, 1/30 sec.) Approx. 3 lux (High-sensitivity/ Lamp mode, 1/15 sec.)
Stills sensitivity		Auto (ISO 50 – 400), Manual (ISO 50/100/200/400/800/1600, Switching system)	Auto (ISO 50 – 200), Manual (ISO 50/100/200/400/800/1600, Switching system)
Digital Image Stabilizer		Photos: Digital Image Stabilizer (electronic), Videos: Digital Image Stabilizer (electronic)	
Audio		Microphone: Built-in stereo, Speaker: Built-in monaural (L+Rch mixed output)	
LCD monitor		3.0 inch, Low-temperature polysilicon TFT color widescreen LCD display, Approx. 230,000 pixels (7-level brightness, 285 degrees rotation)	
Languages		English/ Japanese/ French/ German/ Spanish/ Italian/ Dutch/ Russian/ Portuguese/ Turkish/ Japanese/ Thai/ Korean/ Simplified Chinese/ Traditional Chinese	
Interface		AV output Video: Composite video, NTSC/PAL, USB 2.0 (high-speed mode compatible)	AV output Video: HDMI/Composite video, NTSC/PAL USB 2.0 (high-speed mode compatible)
Power source		Lithium-ion battery x 1 (DB-L80 included: 700mAh)	Lithium-ion battery x 1 (DB-L50 included: 1900mAh)
Power consumption		When using battery: 2.7W (when filming videos)	
Approx. battery-use time <sup>*10</sup>		Photos: approx. 180 shots (CIPA standard), Continuous video filming: ~ 70min/ Continuous playback: ~ 220 min.	Photos: approx. 470 shots (CIPA standard), Continuous video filming: ~200 min. Continuous playback: ~ 570 min.
Dimensions/Volume		72.0 (W) x 112.8 (H) x 38.0 (D)mm (maximum dimensions, excluding protruding parts) Volume: approx. 167cc	53.3 (W) x 57.3 (H) x 105.0 (D)mm (maximum dimension, excluding protruding parts), Volume: approx. 327cc
Weight		~ 171g (main unit only), ~ 188g (including battery, approx 15 g, and SD card, approx 2 g)	

### VPC-CG10 Recording Time/Number of Photographs

SD Memory Card Type	Video Recording Time (Total Time) <sup>*7</sup>				Number of Photographs <sup>*7</sup>								
	HD-SHQ	TV-HR	TV-SHQ	Audio Memo <sup>*9</sup>	12M	10M-H	10M-S	7.5M [16:9]	2M	0.9M [16:9]	0.3M	10M Seq.	2M Seq.
16GB	3hr51min	5hr43min	11hr06min	261hr	3,370	2,800	3,930	4,940	11,600	15,100	19,200	3,930	11,600

### VPC-TH1 Recording Time/Number of Photographs

SD Memory Card Type	Video Recording Time (Total Time) <sup>*7</sup>				Number of Photographs <sup>*7</sup>					
	HD-SHQ	TV-HR	TV-SHQ	Audio Memo	2M	1.1M	0.9M [16 : 9]	0.3M	2M Seq.	1.1M Seq.
16GB	3hr51min	5hr43min	11hr06min	261hr	11,600	14,200	15,100	19,200	11,600	14,200

- \*1 DCF is the abbreviation for Design rule for Camera File system, established by the Japan Electronics and Information Technology Association (JEITA).
- \*2 The DPOF (Digital Print Order Format) is a format for recording on storage media information such as the number of frames and copies desired for printing of images taken on the digital camera.
- \*3 Exif Ver2.2 is an industry standard established for file formatting of digital cameras.
- \*4 Based on the image information taken from the image sensor, the image is interpolated in real time, recording and generating image pixels.
- \*5 For these models 60fps is actually 59.94fps, 30fps is actually 29.97fps, 240fps is actually 239.76fps, and 600fps is actually 599.4fps.
- \*6 Amount of pictures based on CIPA standards. When using a Sandisk SD Memory Card (2GB) and bundled Lithium-ion battery. Videos are when filming in Full-HD mode. Playback is when in continuous playback. Through actual operation, time may vary.
- \*7 Figure projects time and amount of stills taken which will fill the recording medium. Amount varies by memory card maker, type of photo subject and photographic conditions.
- \*8 Continuous recording time for one video clip is approximately 10 seconds. No audio is recorded.
- \*9 Audio Memo: Maximum 13h00min. for one file, but will save file and continue recording longer, generating a new file after 13hrs., similar to the effects on the video after reaching 4GB
- \*10 Amount of pictures based on CIPA standards. When using a Sandisk SD Memory Card (2GB) and bundled Lithium-ion battery. Videos are when filming in HD-SHQ mode. Playback is when in continuous playback. Through actual operation, time may vary.

\*Specifications as of January 21, 2009, subject to change.

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