

# sd

*Quattro*



**SIGMA**

# Ultimate image quality. Ultimate camera.

In developing any product, SIGMA always has a primary objective in mind: fundamental performance that gives everyone the opportunity to take the perfect photograph. Offering breathtaking resolution, rich gradations and colors, and exceptional realism, the Foveon X3 Quattro direct image sensor is a symbol of this never-ending pursuit of excellence. It delivers image quality so distinctively intense that even the temperature, humidity, and scent of a scene seem to impress themselves upon the viewer.

Presenting the ultimate digital camera experience, the new SIGMA sd Quattro series leverages the image quality of the Foveon X3 Quattro direct image sensor to build a complete system compatible with all SIGMA GLOBAL VISION high-performance interchangeable lenses. The sd Quattro series allows photographers to express themselves with even more freedom and precision.

Believing that the lens is the key to the photograph, SIGMA has created a new camera for the true photographic artist that leverages the power of high-quality lenses. Test its performance with your own hands and eyes—and be amazed.





# Two new sd Quattro cameras

## sd *Quattro*

Featuring the 39-megapixel-equivalent Foveon X3 Quattro direct image sensor, this camera optimally balances outstanding image quality with fundamental performance.

Debuting in the new SIGMA dp Quattro series, the latest-generation Foveon X3 Quattro direct image sensor delivers superior resolution and expressive power. An APS-C size sensor, it offers 39-megapixel-equivalent resolution in combination with an optimal file size and efficient image processing speed. With its balanced performance, the SIGMA sd Quattro series sets a new standard for high-end cameras that leverage the capabilities of outstanding interchangeable lenses.

Designed for the artist who loves photography



## sd *Quattro H*

The first camera to feature the newly developed APS-H size Foveon X3 Quattro direct image sensor—with incredible 51-megapixel-equivalent resolution.

The SIGMA sd Quattro H features a Foveon X3 direct image sensor (generation name: Quattro) in an all-new bigger APS-H size. It has all the image quality of the Foveon X3 direct image sensor with even more resolution. In fact, the SIGMA sd Quattro H offers 51-megapixel-equivalent resolution—the highest among sensor sizes smaller than full-frame. This is the camera for those looking for even higher resolution from SIGMA's direct image technology.

Ultra-high resolution from an amazingly high-performance camera



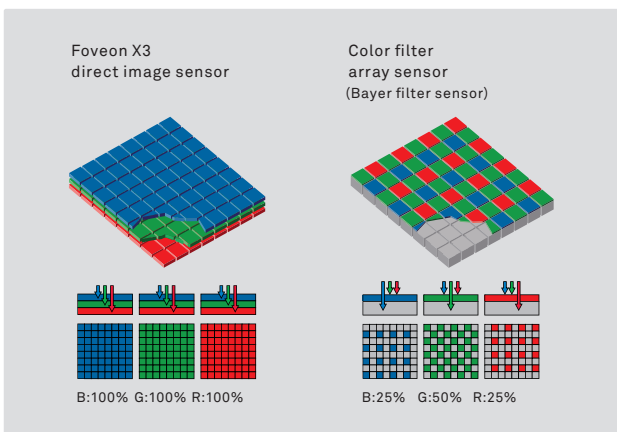


# An image processing system ready for higher resolution. Outstanding performance, next-level image quality.

With its three-layer structure, the Foveon X3 Quattro direct image sensor captures all of the information carried by visible light. This film-like capture system offers rich gradations and color and truly distinctive image quality. Optimized to match the enhanced resolution and other characteristics of the image data, the image processing system of the new SIGMA sd Quattro leverages the outstanding fundamental functions of the camera while taking overall image quality to the next level.

## ● Foveon X3 Quattro direct image sensor

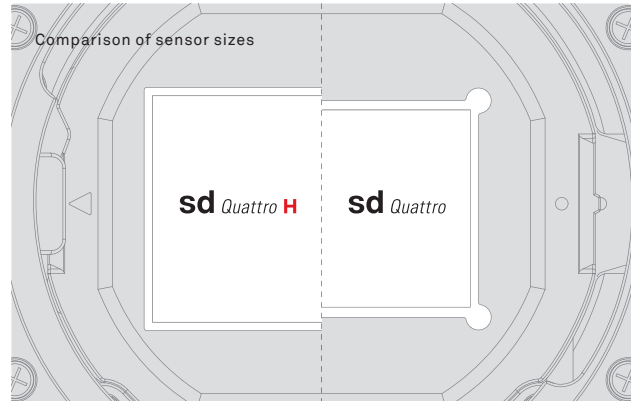
The world's only image capture system to use vertical color separation technology



Leveraging the light absorption characteristics of silicon, the Foveon X3 Quattro direct image sensor comprises three layers of photodiodes, each at a different depth within the silicon and each corresponding to a different RGB color. Since it is the only sensor to use this superior vertical color separation technology, it is also the world's only direct image sensor. Requiring no low-pass filter needed to correct the interference caused by a color filter array, the Foveon X3 Quattro direct image sensor is able to take full advantage of the information carried by light, including color information. The sensor features a pixel ratio of 1:1:4 in the bottom, middle, and top layers and applies the brightness data captured by the top layer to the middle and bottom layers. This unique structure makes possible fast resolution and high-speed data processing.

## ● Two sensor sizes available

An APS-C size Quattro sensor for medium format level image quality as well as a new APS-H size Quattro H sensor for 51 megapixel-equivalent ultra-high image quality



Other cameras typically use a single-layer photo sensor covered by a Bayer filter mosaic, which comprises 50% green, 25% blue, and 25% red squares. In contrast, the Foveon X3 Quattro direct image sensor uses no low-pass filter and is able to capture 100% of the data for blue, green, and red in each of its three layers. Due to this unique structure, the Foveon X3 Quattro direct image sensor can generate up to twice the resolution data of sensors using a Bayer filter. The SIGMA sd Quattro has an APS-C-size sensor with 19.6 megapixels in its top layer, giving it an equivalent total of approximately 39 megapixels and the outstanding image quality expected of a medium format camera. The SIGMA sd Quattro H features a newly developed APS-H size sensor (26.7 x 17.9mm) with 25.5 megapixels in its top layer for an equivalent total of approximately 51 megapixels. This larger sensor takes Foveon image quality to the next level, delivering more detailed images than ever before.

## ● Utilizing the dual TRUE III image processing engine

The "dual TRUE III" is a high-speed image processing engine capable of handling massive data equivalent to 51 megapixels



TRUE (Three-layer Responsive Ultimate Engine) III is the dedicated image processing engine for the Foveon X3 Quattro direct image sensor. SIGMA's original algorithm processes data without loss of color detail or other image degeneration to deliver extremely detailed image expression with a noticeable 3D pop. In addition, by using two separate TRUE III engines, the camera is able to process data from the Foveon X3 Quattro direct image sensor at extremely high speed.

● **Combination of two AF detection methods**

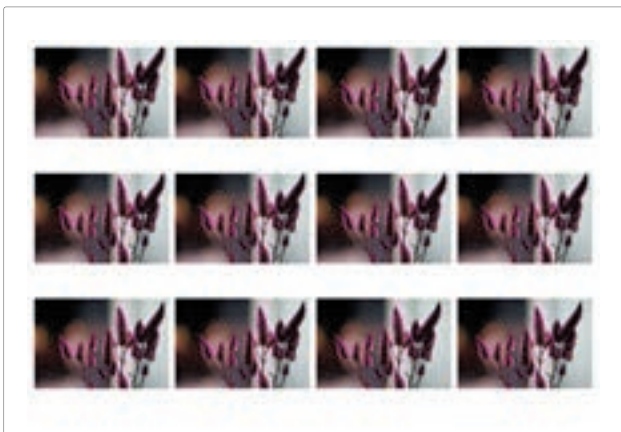
Speed versus focusing performance: two AF detection methods available for smoother and more accurate autofocusing



Phase detection AF is superior for speed performance, while contrast detection AF is superior for focusing accuracy. Combining these two methods in a single system delivers AF that is fast and precise at the same time. In addition, this approach to autofocus takes full advantage of the characteristics of high-performance lenses. The Single AF mode is optimal for everyday photography, while the Continuous AF mode is optimal for focusing on a moving object. In the latter mode, pressing the shutter button halfway causes autofocus to operate continuously, while Movement Prediction AF operates at the same time for more accurate autofocusing. A variety of other AF modes are also available. 9-Point Selection AF mode allows the user to select among nine focus frames. Free Movement AF mode allows the user to select the focus frame with high precision. Face Detection AF mode detects human faces and prioritizes focusing on them. The AF assist light incorporated in the camera body makes possible the use of AF even in low-light conditions.

● **Continuous shooting of up to 12 images in RAW format**

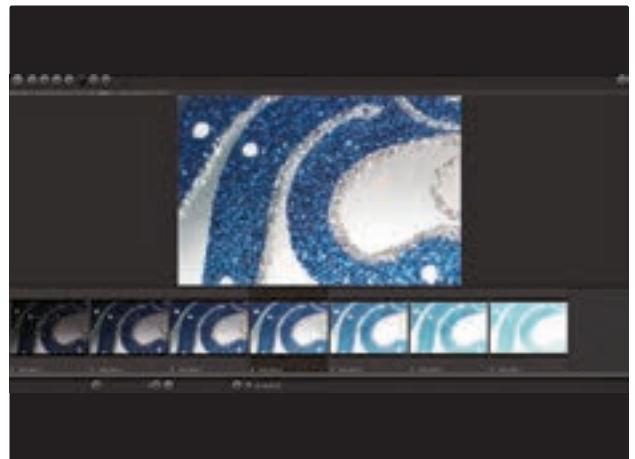
The high-volume memory allows the SIGMA sd Quattro to capture up to 12 RAW images continuously for ever smoother shooting



The DDRIII high-speed, high-volume memory is approximately twice the capacity of that of the SIGMA dp Quattro. This allows the SIGMA sd Quattro to capture up to 12 RAW images (X3F files) in High size during continuous shooting (SIGMA sd Quattro H: up to 10 images). As a further option, when Low size is used, the SIGMA sd Quattro offers a continuous shooting of up to 24 images (SIGMA sd Quattro H: up to 20 images).

● **New Super-Fine Detail exposure mode**

New SFD mode for lower-noise, higher-definition images



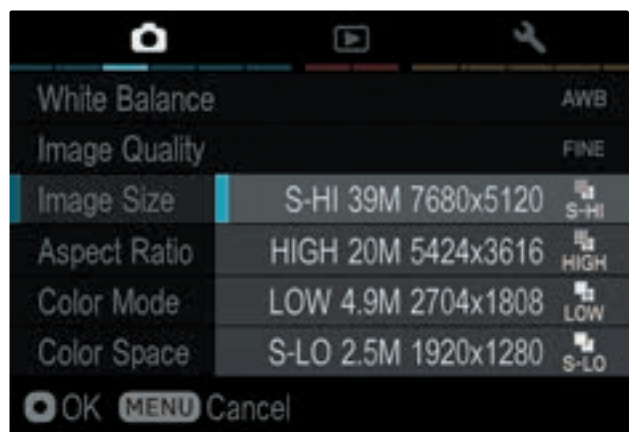
The new Super-Fine Detail (SFD) exposure mode brings out the full performance of the Foveon X3 Quattro direct image sensor. One push of the shutter generates seven different exposures, creating RAW data in the X3I file format. Using this data with the SIGMA Photo Pro software package, the photographer can create noiseless images with an extensive dynamic range. With this new mode, the more detailed imaging potential of the Foveon X3 Quattro direct image sensor is fully leveraged. From each X3I file, individual X3F files may also be generated. The value of SFD exposure mode is especially apparent in studio photography.

Note: To prevent camera shake, SIGMA recommends the use of a tripod.

● **High-resolution Super-High size images**

JPEG files in S-HI size

(SIGMA sd Quattro: 39 megapixels / SIGMA sd Quattro H: 51 megapixels)



A variety of file sizes is available to accommodate a wide range of user needs. Using High-size files brings out the best performance from the image sensor, while using Low-size files increases the number of shots that can be stored in memory. In both of these file sizes, the camera can simultaneously create RAW and JPEG data. In addition, the camera can create JPEG files in S-HI size (SIGMA sd Quattro: 39 megapixels; SIGMA sd Quattro H: 51 megapixels), appropriate for large prints, as well as in S-Lo size, which is ideal for online sharing.

# The essence of photographic expression: the ideal camera matched with the finest lenses.

The SIGMA GLOBAL VISION series of high-performance lenses comprises three distinct lines and concepts: Contemporary, Art, and Sports. SIGMA has developed each of the lenses in these three lines using the Foveon X3 direct image sensor to ensure their world-class optical performance. Offering the outstanding expression that photographers demand, the SIGMA sd Quattro series is a complete and powerful system compatible with these fine lenses.

● **The culmination of the SIGMA philosophy:  
“The lens is the key to the photograph”**

Top-performing lenses developed using the highest-resolution image sensor



Since their introduction in 2012, the SIGMA GLOBAL VISION series of lenses has received an enthusiastic welcome from photographers around the world. In order to create these fine lenses, SIGMA revolutionized its production system and aimed to endow them with ultimate quality in every respect: 1Design: All lens designs are based on a stringent and comprehensive development concept. 2Manufacturing: All lenses are made in Japan using the most advanced production technologies. 3Assessment: Performance standards for each lens are carefully developed and stringently applied. For example, all lenses are tested with the A1\* proprietary Modulation Transfer Function (MTF) measuring system using 46-megapixel Foveon direct image sensors.

\*A1 = AIZU 1

● **A system that treats lenses as true assets**

Optional SIGMA USB DOCK for customizing focus position and more available Mount Conversion Service for growing and maintaining lens assets



SIGMA supports the SIGMA GLOBAL VISION lineup with comprehensive products and services that help photographers get more value out of their fine lenses and enjoy using them over the long term. The SIGMA USB DOCK is a dedicated accessory for lenses in the Contemporary, Art, and Sports lines. Simply placing a lens in the DOCK and connecting it to a personal computer via a USB cable, photographers can use the exclusive SIGMA Optimization Pro software to update lens firmware and customize the focus position and other settings. Photographers can also select the autofocus speed and adjust the focus limiter and Optical Stabilizer (OS) function on lenses that have a custom mode switch. The Mount Conversion Service is available for all SIGMA GLOBAL VISION lenses. For a fee, SIGMA will convert a lens mount to a mount for a different camera body. This service helps photographers use valuable lens assets for many years to come, unrestricted by their original choice of camera system.











## Aiming for the ideal interchangeable lens camera

An sd Quattro series camera provides a feeling of solidity and superior usability when you take it in both hands to compose and shoot. Each is developed to have just the right weight and shape for portability and to offer better expandability as a complete system. Moreover, each features an ergonomic design to support an intuitive photographic experience.

### ● High-resolution electronic viewfinder

The high-resolution 2.36 mega-dots electronic viewfinder features near-100% viewfinder coverage and a 1.10 magnification ratio (sd Quattro H:0.96). The viewfinder incorporates three lenses with the outermost lens specially coated to ensure a clear field of view. Using a switch next to the viewfinder, the user can toggle between displaying the image in the viewfinder and the monitor. In AUTO mode, the camera automatically switches to the viewfinder display when the user is looking through it and to the monitor when he or she is not. This mode allows seamless use of the viewfinder to take photographs and use of the monitor to access settings and confirm results. For extra convenience, many functions of the monitor are available via the electronic viewfinder itself, such as setting values, grid lines, electronic level, zoom, focus peaking and more.

### ● Focus peaking function

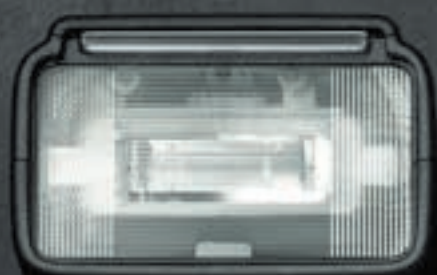
This function puts a colored outline (white, black, red, or yellow) around the subject in the viewfinder for instant confirmation of the person or object currently in focus.

### ● Dual monitors

In addition to the 1.62 mega-dots 3.0 inch TFT LCD main monitor, the rear of the camera features a sub-monitor that displays the number of remaining shots on the SD card, shutter speed, aperture value, ISO level, and more. This extra monitor makes it easy to watch the live view and confirm key information at the same time. A sheet of special material lies between the two LCDs and the protective glass that covers them. This sheet prevents air pockets from forming and minimizes reflections, ensuring excellent display visibility in sunlight.

### ● Intuitive user interface helps user focus attention on creative work

Building on the success of previous SIGMA user interfaces, the new UI is more intuitive than ever. Located next to the shutter button, the Quick Set button provides instant access to the Quick Set Menu, which allows the user to quickly adjust commonly used settings while continuing to look through the viewfinder. Located on the top of the body, the LOCK switch prevents the accidental pressing of buttons, helping keep the user's attention on the creative work. The buttons that are locked with this switch may also be customized by the user. Located on the rear of the camera near the selector are several controls for commonly used functions. Easily accessed with the thumb of the right hand, they include the menu button, focus frame button, and AEL/AF button with lever.



## Appearance and accessories

### sd Quattro



Front



Right



Back



Top

### Accessories



#### POWER GRIP (PG-41)

This accessory boosts the battery capacity of the camera by holding up to two dedicated batteries. In combination with the battery inside the camera, this accessory makes it possible to enjoy up to 200% more shooting time. Offering outstanding usability in both the horizontal and vertical positions, the grip incorporates an ON/OFF button, two command dials, an AF/AEL button, and a FUNC button. It is designed for an exceptionally comfortable grip and is dust-proof and splash-proof.



#### ELECTRONIC FLASH (EF-630 SA-STTL)

The high-power EF-630 flash enables S-TTL automatic flash metering. It has wireless flash connectivity and a high-speed synchronization function that can be used at high shutter speeds, giving photographers further scope for creative expression.



#### CABLE RELEASE (CR-31)


Mounting the camera on a tripod and connecting the cable release to the camera's USB port, the user can release the shutter without touching the camera. This function is useful when the user wishes to release the shutter from a distance, avoid camera shake, or shoot with a low shutter speed. Cable length is 1m.



#### FLASH USB DOCK (FD-11)

This accessory is used to dock the EF-630 and update its firmware in the exclusive SIGMA Optimization Pro software. The dock is connected to a personal computer via a USB cable.

# sd Quattro + sd Quattro H Specifications

Format	Format	Interchangeable-Lens Digital Camera			
	Compatible Lenses	SIGMA SA mount interchangeable lenses			
	Lens Mount	SIGMA SA bayonet mount			
Angle of View		sd Quattro	sd Quattro H		
		Equivalent to approx. 1.5 times the focal length of the lens (for 35mm cameras)		Equivalent to approx. 1.3 times the focal length of the lens (for 35mm cameras)	
Image Sensor	Image Sensor	Foveon X3 direct image sensor (CMOS)			
		sd Quattro	sd Quattro H		
	Image Sensor Size	23.4 × 15.5mm (0.9in. × 0.6in.)		26.7 × 17.9mm (1.0in. × 0.7in.)	
	Number of Pixels (T=Top M=Middle B=Bottom)	Effective Pixels: Approx. 29.5MP T: 5,440 × 3,616 / M: 2,720 × 1,808 / B: 2,720 × 1,808		Effective Pixels: Approx. 38.6MP T: 6,200 × 4,152 / M: 3,100 × 2,076 / B: 3,100 × 2,076	
		Total Pixels: Approx. 33.2MP		Total Pixels: Approx. 44.7MP	
Aspect Ratio	3:2				
Recording System	Storage Media	SD Card, SDHC Card, SDXC Card, Eye-Fi Card 			
	File Format	Lossless compression RAW data (14-bit), JPEG (Exif2.3), RAW+JPEG			
	JPEG Image Quality	FINE, NORMAL, BASIC			
	Color Mode	11 types (Standard, Vivid, Neutral, Portrait, Landscape, Cinema, Sunset Red, Forest Green, FOV Classic Blue, FOV Classic Yellow, Monochrome)			
File Size	RAW	HIGH	sd Quattro	sd Quattro H	
			T 5,424 × 3,616 M 2,712 × 1,808 B 2,712 × 1,808	T 6,192 × 4,128 M 3,096 × 2,064 B 3,096 × 2,064	
		LOW	T 2,704 × 1,808 M 2,704 × 1,808 B 2,704 × 1,808	T 3,088 × 2,056 M 3,088 × 2,056 B 3,088 × 2,056	
			JPEG	[21:9] HIGH LOW	5,424 × 2,328 2,704 × 1,160
		[16:9] HIGH LOW	5,424 × 3,048 2,704 × 1,520	6,192 × 3,480 3,088 × 1,736	
			[3:2] S-HI HIGH LOW S-LO	7,680 × 5,120 5,424 × 3,616 2,704 × 1,808 1,920 × 1,280	8,768 × 5,840 6,192 × 4,128 3,088 × 2,056 1,920 × 1,280
	[4:3] HIGH LOW	4,816 × 3,616 2,400 × 1,808		5,504 × 4,128 2,736 × 2,056	
		[7:6] HIGH LOW	4,480 × 3,616 2,224 × 1,808	5,152 × 4,128 2,560 × 2,056	
	[1:1] HIGH LOW		3,616 × 3,616 1,808 × 1,808	4,128 × 4,128 2,048 × 2,048	
		White Balance Settings	12 types (Auto, Auto (Lighting Source Priority), Daylight, Shade, Overcast, Incandescent, Fluorescent, Color Temperature, Flash, Custom 1, Custom 2, Custom 3)		
	Viewfinder	Type	Electronic viewfinder (approx. 2,360,000 dots, color LCD monitor)		
		Viewfinder Frame Coverage	approx. 100%		
Viewfinder Magnification		sd Quattro	sd Quattro H		
		approx. 1.10x (-1m <sup>-1</sup> , 50mm F1.4 at infinity)		approx. 0.96x (-1m <sup>-1</sup> , 50mm F1.4 at infinity)	
Eye point		approx. 21mm (-1m <sup>-1</sup> / Distance from rear lens surface)			
Diopter Adjustment Range	approx. -4m <sup>-1</sup> to +2m <sup>-1</sup>				
Autofocus	Auto Focus Type	Phase difference detection system + Contrast detection system			
	AF Point	9 points select mode, Free move mode (It is possible to change the size of Focus Frame to Spot, Regular and Large.), Face Detection AF Mode			
	AF Operating Range	EV-1 ~ EV 18 (ISO100 F14)			
	Focus Mode	Single AF, Continuous AF (with AF motion prediction function), Manual			
	Focus Lock	AEL / AF button is pressed or shutter release button is pressed halfway			
Exposure Control	Metering Systems	Evaluative Metering, Spot Metering, Center-Weighted Average Metering			
	Metering Range	EV 0 to EV17 (50mm F1.4 ISO100)			
	Exposure Control System	(P) Program AE (Program Shift is possible), (S) Shutter Speed Priority AE, (A) Aperture Priority AE, (M) Manual			
	ISO Sensitivity	ISO 100-6400			
	Exposure Compensation	±5EV (in 1/3 stop increments)			
	AE Lock	AEL/AF button is pressed or shutter release button is pressed halfway			
	Auto Bracketing	Number of shots: 3, or 5 (Appropriate, under, over; 1/3EV steps up to ±3EV for appropriate exposure)			
Shutter	Shutter Type	Electronically Controlled Focal Plane Shutter			
	Shutter Speed	1/4000 - 30 sec., Bulb (With Extended Mode: Max. 2 min.)			
	External Flash Sync.	X-Sync (1/180)			
Flash	Accessory shoe	Hot shoe (contact X synchronization at 1/180 sec. or less, with dedicated flash linking contact)			
	Sync Terminal	Available			
LCD Monitor	TFT color LCD monitor, Size 3.0", Approx. 1,620,000 dots, 100% coverage, Grid line, Electronic level display				
Playback	Reviewing Images	Single frame display, Multi display [9 frames], Zoom, Slide Show			
Menu	LCD Monitor Language	English / Japanese / German / French / Spanish / Italian / Simplified Chinese / Traditional Chinese / Korean / Russian / Dutch / Polish / Portuguese / Danish / Swedish / Norwegian / Finnish			
Interfaces	USB (USB3.0, micro B), HDMI (type C mini-pin HDMI connector), Remote				
Power Source	Li-ion Battery Pack BP-61, Battery Charger BC-61, AC adapter SAC-7 (optional) [DC connector CN-31, AC cable (supplied)]				
		sd Quattro	sd Quattro H		
Dimensions and Weight	Dimensions	147mm / 5.79"(W) × 95.1mm / 3.74"(H) × 90.8mm / 3.57"(D)		147mm / 5.79"(W) × 95.1mm / 3.74"(H) × 90.8mm / 3.57"(D)	
	Weight	625g / 22oz (without battery and card)		630g / 22oz (without battery and card)	
Operating Temperature	0 - +40°C				
Accessories	<ul style="list-style-type: none"> <li>● Li-ion Battery Pack BP-61</li> <li>● Battery Charger BC-61</li> <li>● Battery charger cable</li> <li>● USB cable</li> <li>● Strap</li> <li>● Body cap</li> <li>● Instruction manual</li> <li>● Limited warranty</li> <li>● Warranty sticker</li> </ul>				
Optional Accessories	<ul style="list-style-type: none"> <li>● Power Grip PG-41</li> <li>● Cable Release Switch CR-31</li> <li>● Electronic Flash EF-630</li> <li>● AC adapter SAC-7 [DC connector CN-31, AC cable (supplied)]</li> <li>● Li-ion Battery Pack BP-61</li> <li>● Battery Charger BC-61 (AC cable is supplied)</li> </ul>				

# SIGMA

**SIGMA CORPORATION**

2-4-16 Kurigi Asao-ku Kawasaki-shi,  
Kanagawa 215-8530 Japan  
Tel.81-44-989-7437 Fax.81-44-989-7448  
[www.sigma-global.com](http://www.sigma-global.com)