

SONY
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FCB-EH3150



FCB-EH3310



FCB-EH3410



FCB-EH6300



FCB-EH6500

FCB-EH Series

Color Block Cameras

Exmor

INTRODUCTION

Sony, a leader in high-definition (HD) technology, is enhancing its FCB-EH Block Camera Series with the new FCB-EH6500, and upgrading the FCB-EH3400 and FCB-EH3300 cameras. As demand grows for high-quality, high-resolution images that only HD can deliver, the FCB-EH Series now offers a range of 12x to 30x optical zoom lenses with outstanding features for surveillance, intelligent traffic, unmanned vehicles, photo booths, police vehicles, low vision and videoconferencing applications.

The flagship FCB-EH6500 camera incorporates a 1/2.8-type Exmor® CMOS image sensor with Full HD (1920 x 1080) resolution, and achieves excellent zoom performance with a 30x optical zoom lens. The FCB-EH6300 is also equipped with the same image sensor to deliver Full HD resolution with a 20x optical zoom lens.

The other models in the series all incorporate a 1/4-type Exmor CMOS image sensor with HD (1280x720) resolution. The newly upgraded models, the FCB-EH3410 and FCB-EH3310, deliver improved image sharpness compared to their predecessors (the FCB-EH3400 and FCB-EH3300), making them ideal for security applications. And the smallest camera in the FCB-EH Series is the cost effective FCB-EH3150, which along with its HD resolution sensor, features a 12x optical lens.

All of these cameras inherit a multitude of features from Sony's renowned FCB Series such as Wide-D*, Auto ICR, and Spherical Privacy Zone Masking. With this breadth of choice, it has never been easier to select the right Sony camera for your specific imaging applications.

	FCB-EH6500	FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150
Imager sensor	1/2.8-type		1/4-type		
Lens	30x	20x	28x	20x	12x
Picture quality	Full HD 1080p (1920 x 1080)		HD 720p (1280 x 720)		
Minimum illumination*	0.5 lx (F1.6, 50%)		0.25 lx (F1.35, 50%)		0.3 lx (F1.6, 50%)
Digital zoom	12x (360x with optical zoom)	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x with optical zoom)
Wide-D (Wide dynamic range)	●	●	●	●	●
Image stabilization	●		●		
StableZoom	●		●		
Auto ICR (Auto IR-cut Filter Removal)	●	●	●	●	●
Spherical privacy zone masking	●	●	●	●	●
Noise reduction	●	●	●	●	●
Slow AE response	●	●	●	●	●

* High sensitivity mode, ICR off.

KEY FEATURES

■ Excellent high-definition (HD) picture quality

■ Exmor® CMOS sensor achieves high image quality and high sensitivity

■ Powerful zoom capability

■ Bright, fast, and robust 30x zoom lens

The FCB-EH6500 incorporates a new 30x bright zoom lens with F1.6. This lens has a fast-zooming capability (approx. 3.2 seconds from tele end to wide end) and high durability.

■ Various output modes

HD (High Definition)

Analog: Component (Y/Pb/Pr)

Digital: Y/Cb/Cr 4:2:2 via LVDS (Y: 8-bit, C: 8-bit, V-sync, H-sync, Field, and Clock)

SD (Standard Definition)

VBS

■ Simple connection – one cable, one connector

- Covering video, VISCA communication, and power supply with a single cable
- Supports both 30-pin micro coaxial (digital and analog output) and 24-pin FFC (analog output only)*1 interfaces

■ Image Stabilization*2

The FCB-EH6500 and FCB-EH3410 are equipped with an Image-stabilization function which minimizes the appearance of shaky images caused by low-frequency vibration. This function is useful for outdoor surveillance and traffic monitoring applications.

■ StableZoom™

StableZoom mode uses a predetermined optical zoom ratio to enable the Image-stabilization function of the camera. Once stabilization begins, it gradually combines the optical and digital zoom to absorb shaky movements. In StableZoom mode, this function starts naturally without bringing an abrupt change to the horizontal angle of view.

■ Video mode changes on the fly

Without any power cycle, this function makes it possible to change the video mode remotely, from 1080p/29.97 to 720p/59.94 mode for example. This function enables the user to change the video resolution of the camera through the software power reset function.

■ Security-oriented functions include:

- Wide-D technology (On/Off/Auto/Ratio fix)
- Day/Night function (On/Off/Auto/Threshold enabled)
- Digital noise reduction (up to five levels)
- Spherical Privacy Zone Masking (24 zones with various PTZ controls)
- Motion detection alarm (four zones with several triggering and threshold modes)

Other Features

- Various modes for White Balance (Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp Fix/Auto, One-push, Manual)
- Picture effects (E-Flip, Nega Art, Black & White, Mirror Image, Color Enhancement)
- Picture freeze
- Temperature readout
- Slow AE response (approx. five minutes)
- Title display (20 characters per line, max. 11 lines)
- Camera mode display (English)
- Electronic shutter/slow shutter
- Spot AE
- High Resolution mode
- IR Focus Correction function
- Four presets for gamma control
- Four levels of chrominance suppression

*1 The FCB-EH3150 does not have a 24-pin FFC.

*2 When image stabilization is activated, residual movement may appear at the top and bottom of the image.

FCB-EH6500

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SPECIFICATIONS

Camera		FCB-EH6500	FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150
Image sensor	Type	1/2.8-type Exmor CMOS			1/4-type Exmor CMOS	
	Number of effective pixels	Approx. 3.27 Megapixels			Approx. 1.43 Megapixels	
Image size (H x V)		1920 x 1080, 1280 x 720, 720 x 480, 720 x 576			1280 x 720, 720 x 480, 720 x 576	
Lens		30x optical zoom f=4.6 mm (wide) to 138.0 mm (tele) F1.6 to F4.7	20x optical zoom f=4.7 mm (wide) to 94.0 mm (tele) F1.6 to F3.5	28x optical zoom f=3.5 mm (wide) to 98.0 mm (tele) F1.35 to F3.7	20x optical zoom f=3.5 mm (wide) to 70.0 mm (tele) F1.35 to F3.4	12x optical zoom f=3.7 mm (wide) to 44.4 mm (tele) F1.6 to F2.5
Digital zoom		12x (360x with optical zoom)	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x with optical zoom)
Angle of view (H)	1080p mode	59.5° (wide end) to 2.1° (tele end)	55.4° (wide end) to 2.9° (tele end)	-		
	720p mode	40.6° (wide end) to 1.4° (tele end)	37.6° (wide end) to 2.0° (tele end)	55.9° (wide end) to 2.1° (tele end)	55.9° (wide end) to 2.9° (tele end)	53.4° (wide end) to 4.6° (tele end)
Minimum object distance		10 mm (wide end) to 1,200 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,500 mm (tele end) (Default: 300 mm)		10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)
Sync system		Internal				
Minimum illumination (50%)	High sensitivity mode	0.5 lx (F1.6, ICR off) 0.095 lx (F1.6, ICR on)			0.25 lx (F1.35, ICR off) 0.03 lx (F1.35, ICR on)	0.3 lx (F1.6, ICR off) 0.06 lx (F1.6, ICR on)
	Normal mode	1.7 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)			1.0 lx (F1.35, ICR off) 0.1 lx (F1.35, ICR on)	1.2 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)
Recommended illumination		100 lx to 100,000 lx				
S/N ratio		More than 50 dB				
Signal system	HD	1080p/30, 1080p/29.97, 1080p/25, 1080i/60 (30 PsF), 1080i/59.94 (29.97 PsF), 1080i/50 (25 PsF), 720p/30, 720p/59.94, 720p/50, 720p/29.97, 720p/25	1080p/29.97, 1080p/25, 1080i/59.94 (Frame out: 29.97 PsF), 1080i/50 (Fram out: 25 PsF), 720p/59.94, 720p/50, 720p/29.97, 720p/25	720p/59.94, 720p/50, 720p/29.97, 720p/25		
	SD	NTSC, PAL				
Video output	HD	Analog: Component (Y/Pb/Pr), Digital: Y/Cb/Cr 4:2:2 via LVDS, (Signal format conforms to SMPTE274/SMPTE296.)				
	SD	VBS				
Camera control interface		VISCA (CMOS 5 V level), Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, Stop bit: 1 bit				
Electronic shutter speed		1/1 to 1/10,000 s, total 22 steps				
White balance		Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual				
Gain		Auto/Manual (-3 dB to +28 dB, +2 dB step/total 16 steps), Max. Gain Limit (+6 dB to +28 dB, +2 dB step/total 12 stpes)				
AE control		Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE				
Focusing system		Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF, Focus compensation in ICR on				
EV compensation		No				
Backlight compensation		Yes				
Aperture control		16 steps				
Preset		6 positions				
Camera Features						
Wide-D*		Yes (On/Off/Auto)**		Yes (On/Off/Auto)		
Image stabilization		Yes	No	Yes	No	
StableZoom		Yes	No	Yes (33x)	No	
Digital output		Yes				
Auto ICR		Yes				
Spherical privacy zone masking		Yes				
Noise reduction		Yes (On/Off) (Level 5 to 1/Off total 6 steps)				
Motion detection		Yes				
Alarm		Yes				
Slow AE response		Yes (Approx. 5 minutes)				
Picture effects		Yes (E-Flip, Nega Art, Black & White, Mirror image, Color enhancement)				
Picture freeze		Yes				
Slow shutter		Yes				
Temperature readout		Yes				
Title display		Yes (20 characters/line, max. 11 lines)				
Camera mode display		Yes				
Key switch control		No				
Camera operation switch		No				
General						
Storage temperature		-4°F to 140 °F (-20°C to +60 °C)				
Storage humidity		20% to 95%				
Operating temperature		23°F to 140°F (-5°C to +60°C)				
Operating humidity		20% to 80%				
Power requirements		6.0 V to 12.0 V DC				
Power consumption		3.3 W (zoom/focus inactive) / 3.8 W (zoom/focus active)	3.2 W (zoom/focus inactive) / 3.8 W (zoom/ focus active)	2.7 W (zoom/focus inactive) / 3.4 W (zoom/focus active)		
Weight		Approx. 9.3 oz (265 g)	Approx. 9.2 oz (260 g)	Approx. 8.5 oz (240 g)		Approx. 5.3 oz (150 g)
Dimensions (W x H x D)		2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)	2 x 2 3/8 x 3 1/2 inches (50.0 x 60.0 x 87.9 mm)	2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)		1 13/16 x 1 7/8 x 7/8 inches (44.8 x 46.9 x 71.8 mm)

* Wide dynamic range. ** Half frame rate when Wide-D is On.

PIN ASSIGNMENTS

CN601 30-pin Micro Coaxial

(for power supply/communication/video out (analog/digital))

Pin No.	Name	Level
1	TXOUT3+	
2	TXOUT3-	
3	TXCLKOUT+	
4	TXCLKOUT-	
5	TXOUT2+	
6	TXOUT2-	
7	TXOUT1+	
8	TXOUT1-	
9	TXOUT0+	
10	TXOUT0-	
11	GND	
12	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
13	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
14	DC IN	6 to 12 V DC
15	DC IN	6 to 12 V DC
16	DC IN	6 to 12 V DC
17	DC IN	6 to 12 V DC
18	DC IN	6 to 12 V DC
19	GND	
20	GND	
21	GND	
22	GND	
23	GND	
24	GND	
25	NC	
26	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
27	VBS OUT	
28	Y OUT	HD Analog Component
29	Pb OUT	HD Analog Component
30	Pr OUT	HD Analog Component

Connector: USL00-30L-C (KEL Corp.)

CN501 * 24-pin FFC

(for power supply/communication/video out (analog))

Pin No.	Name	Level
1	GND	
2	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
3	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
4	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
5	GND	
6	NC	
7	GND	
8	NC	
9	GND	
10	VBS OUT	
11	GND	
12	Y OUT	HD Analog Component
13	GND	
14	Pb OUT	HD Analog Component
15	GND	
16	Pr OUT	HD Analog Component
17	GND	
18	DC IN	6 to 12 V DC
19	DC IN	6 to 12 V DC
20	DC IN	6 to 12 V DC
21	DC IN	6 to 12 V DC
22	GND	
23	DC IN	6 to 12 V DC
24	GND	

Connector: 046240024006800+ (Kyocera Eloc)

* The FCB-EH3150 does not have a 24-pin FFC.