

FCB-HD Series • EV Series

Wide dynamic range*
 Visibility Enhancer (VE)

FCB-EV7520 (NEW)
FCB-EV7320 (NEW)

FCB-EV7500
FCB-EV7300
FCB-EV7310
FCB-EV7100



* Wide dynamic range will be supported by firmware update.

Outline

Sony expands the FCB-EV Series camera block line-up with the introduction of four new high-sensitive, high-quality cameras. The new FCB-EV7520 and FCB-EV7320 incorporate a 1/2.8-type Exmor CMOS sensor which provides Full-HD video with extraordinary sensitivity. In addition, these cameras incorporate STARVIS™ technology to realize high picture quality in visible light and near-infrared light.

Exmor CMOS Sensor
 FCB-EV7520/EV7320
 1/2.8-type Exmor R CMOS Sensor (2.13 megapixel)
 FCB-EV7500/EV7300/EV7310/EV7100
 1/2.8-type Exmor CMOS Sensor (2.38 megapixel)

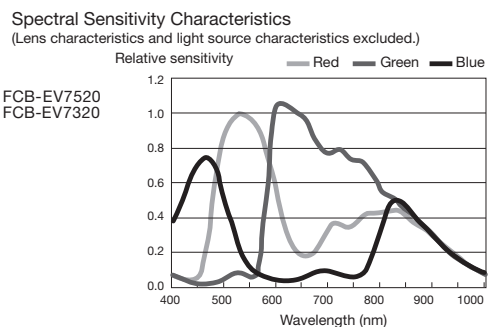
Auto Focus Zoom Lens
 FCB-EV7520/EV7500
 30x Auto Focus Zoom Lens
 f = 4.3 mm (wide) to 129.0 mm (tele), F1.6 to F4.7
 FCB-EV7320/EV7300/EV7310
 20x Auto Focus Zoom Lens
 f = 4.7 mm (wide) to 94.0 mm (tele), F1.6 to F3.5
 FCB-EV7100
 10x Auto Focus Zoom Lens
 f = 3.8 mm (wide) to 38.0 mm (tele), F1.8 to F3.4

Features

- **Image signal**
 HD: 1080p/60, 1080p/59.94, 1080p/50, 1080p/30, 1080p/29.97, 1080p/25, 1080i/60, 1080i/59.94, 1080i/50, 720p/60, 720p/59.94, 720p/50, 720p/30, 720p/29.97, 720p/25
 SD: NTSC/PAL
- **Image output pixels (H x V)**
 1920 x 1080, 1280 x 720

- **Image output**
 FCB-EV7500/EV7300/EV7100
 HD : Digital : Y/Pb/Pr 4 : 2 : 2 (LVDS)
 (SMPTE 274M/SMPTE 296M)
 Analog : Component Y/Pb/Pr
 FCB-EV7520/EV7500/EV7320/
 EV7300/EV7310/EV7100
 HD : Digital : Y/Pb/Pr 4 : 2 : 2 (LVDS)
 (SMPTE 274M/SMPTE 296M)
 SD : VBS 1.0 Vp-p (sync negative)

■ **Near-infrared Response**



- **Wide dynamic range (Wide-D) :**
 FCB-EV7520/EV7500/EV7320/EV7300/EV7100
 Wide-D image processing technology gives the ability to see clear, detailed images in high-contrast or backlit environments. All models now support an exceptionally wide 130 dB* dynamic range, which is activated via VISCA command. *With some exception
- **Visibility Enhancer (VE)**
 Depending on the imaging scene, the Visibility Enhancer function makes the darker part of a camera image brighter, and automatically correct brightness and contrast to show bright parts clearly.

Digital Video Camera XCL

Analog Video Camera XCG
 XC (TV Format)
 XC (Non-TV Format)

Accessories

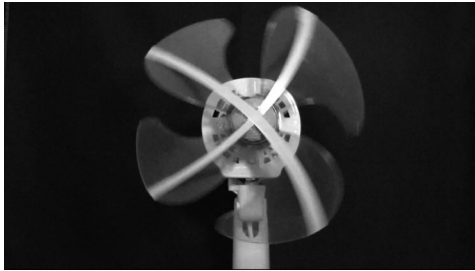
Color Camera Block
 FCB-4K
 FCB-HD
 FCB-SD

■ Defog

When the surrounding area of the subject is foggy and low contrast, the defog mode will eliminate the fog and make the subject appear clearer. The effect level can be automatically adjusted according to the fog density.

■ Focus planedistortion Reduction

FCB-EV series captures a high-speed moving image with distortion reduction.



■ Noise Reduction (3D, 2D, 3D+2D)

The Noise Reduction removes noise (both random and non-randum) to rprovide clearer images.

■ Auto ICR

An infrared (IR) Cut-Filter can be disengaged from the image path for increased sensitivity in low light environments. The ICR will automatically engage depending on the ambient light, allowing the camera to be effective in day/night environments.

■ Digital Zoom (12x)

■ Privacy Zone Masking

Privacy Zone masking protects private objects and areas such as house windows, entrances, and exits which are within the camera's range of vision but not subject to surveillance.

Privacy zone masking can be masked on the monitor to protect privacy.

■ Motion Detection

■ Auto ICR

■ Color Enhancement

A captured color image is converted to 256 levels of gray, and you can set a color to all levels brighter than the threshold value, and another color to all levels darker than the threshold value.

- You can select a color for high and low brightness from nine color (yellow, cyan, green, magenta, red, blue, black and grey)

■ Slow AE Response

The slow AE response function slows down the response speed of automatic exposure. Usually, it is set so that adequate exposure adjustment can be performed in about one second.

■ Image Stabilizer

FCB-EV7520/EV7500/EV7300

■ StableZoom™

StableZoom is a function that performs corrections in accordance with the zoom magnification by using the image stabilizer function, and zooms in an image by combining the optical zoom and electronic zoom.

■ Picture Effects

- Horizontal and vertical fl ips
- Freeze
- Negative art
- Black & white

■ Temperature readout

The camera unit's internal temperature can be read from tenpertrure sensor in stabled in the circuit board

■ Picture Effects

■ E-Flip

■ Internal synch

■ VISCA protocol (CMOS 5 V Level)

Exmor R

The Exmor R is a Sony's CMOS image sensor with significantly enhanced imaging characteristics including sensitivity and low noise by changing fundamental structure of Exmor pixel adopted column parallel A-D converter to back-illuminated type.

STARVIS

The STARVIS is back-illuminated pixel technology used in CMOS image sensors for surveillance camera applications. It features a sensitivity of 2000 mV or more per 1 μm^2 (color product, when imaging with a 706 cd/m² light source, F5.6 in 1 s accumulation equivalent), and realizes high picture quality in the visible-light and near infrared light regions.

Specifications

		FCB-EV7520	FCB-EV7500
Camera			
Image sensor		1/2.8-type Exmor R CMOS	1/2.8-type Exmor CMOS
Image sensor (Number of effective pixels)		Approx.2.13 Megapixels	Approx.2.38 Megapixels
Signal system		1080p/59.94,1080p/50, 1080p/60, 1080p/30, 1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 1080i/60, 1080i/30, 720p/59.94, 720p/50, 720p/60, 720p/30, 720p/29.97, 720p/25, NTSC*1, PAL*1	
Minimum illumination (50%)	High sensitivity mode	Color: 0.01 lx (F1.6, AGC on, 1/30 s)	Color: 0.35 lx (F1.6, AGC on, 1/30 s)
	Normal mode	Color: 0.1 lx (F1.6, AGC on 1/30 s)	Color: 1.4 lx (F1.6, AGC on 1/30 s)
S/N ratio		More than 50 dB	
Gain	Auto/Manual 0 dB to 50.0dB (0 to 28 steps +2 step/total 15 steps)	Auto/Manual 0 dB to 43.1 dB (0 to 28 steps +2 step/total 15 steps)	
	Max. Gain Limit 10.7 dB to 50.0 dB (6 to 28 steps +2 tep/total 12 steps)	Max. Gain Limit 9.2 to 43.1 dB (6 to 28 steps +2 step/total 12 steps)	
Shutter speed		1/1 s to 1/10,000 s, 22 steps	
Sync system		Internal	
Exposure control		Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE, Spot Exposure	
Backlight compensation		Yes	
Aperture control		16 steps	
White balance		Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual	
Lens		30x optical zoom f = 4.3 mm (wide) to 129.0 mm (tele) F1.6 to F4.7	
Digital zoom		12x (360x with optical zoom)	
Focusing system		Auto (Sensitivity: normal, low), One-push AF, Manual, Interval AF, Zoom Trigger AF, Focus compensation in ICR on	
Horizontal viewing angle	1080p mode	63.7° (wide end) to 2.3° (tele end)	
	720p mode	63.7° (wide end) to 2.3° (tele end)	
	SD	47.8° (wide end) to 1.7° (tele end)	
Minimum object distance		10 mm (wide end) to 1200 mm (tele end) (Default: 300 mm)	
Camera Features			
Auto ICR		Yes	Yes
Wide-D ²		Yes ³	Yes
Visibility Enhancer		Yes	Yes
De-fog		Yes	Yes
HLC		Yes	Yes
Noise reduction		Yes (6 steps)	
Image stabilization		Yes	Yes
StableZoom		Yes	Yes
Spherical privacy zone maskin		Yes	Yes
Motion detection		Yes	Yes
Alarm		Yes	Yes
Slow AE response		Yes	Yes
Picture effects		E-Flip, Nega Art, Black & White, Mirror image, Color enhancement	
Picture freeze		Yes	Yes
Slow shutter		Yes	Yes
Temperature readout		Yes	Yes
Title display		20 characters/line, max. 11 lines	
Camera mode display		Yes	Yes
Key switch control		No	No
Camera operation switch		No	No
Interface			
Video output	HD	N/A	Analog: Component (Y/Pb/Pr)
	SD	Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE 274/SMPTE 296.) VBS	
Camera control interface		VISCA (CMOS 5 V level) Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, 115.2 Kbps, Stop bit: 1 bit	
General			
Power requirements		6.0 V to 12.0 V DC	
Power consumption	3.2 W (zoom/focus inactive)		2.9 W (zoom/focus inactive)
	4.0 W (zoom/focus active)		3.7 W (zoom/focus active)
Operating temperature		-5°C to +60°C (23°F to 140°F)	
Storage temperature		-20°C to +60°C (-4°F to 140 °F)	
Operating humidity		20% to 80%, Absolute humidity: 36 g/m ³	
Storage humidity		20% to 95%, Absolute humidity: 36 g/m ³	
Dimensions (W x H x D)		50.0 x 60.0 x 89.7 mm (2 x 2 3/8 x 3 5/8 inches)	
Mass		255 g (9.0 oz)	260 g (9.2 oz)

*1 Non-standard video format

*2 Wide dynamic range

*3 Wide dynamic range will be supported by firmware update.

* Exmor and StableZoom are trademarks of Sony Corporation.

Specifications

		FCB-EV7320	FCB-EV7300	FCB-EV7310	FCB-EV7100
Camera					
Image sensor		1/2.8-type Exmor R CMOS		1/2.8-type Exmor CMOS	
Image sensor (Number of effective pixels)		Approx.2.13 Megapixel		Approx.2.38 Megapixels	
Signal system		1080p/59.94,1080p/50, 1080p/60, 1080p/30, 1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 1080i/60, 1080i/30, 720p/59.94, 720p/50, 720p/60, 720p/30, 720p/29.97, 720p/25, NTSC*1, PAL*1			
Minimum illumination (50%)	High sensitivity mode	Color: 0.1 lx (F1.6, AGC on, 1/30 s)			Color: 0.35 lx (F1.8, AGC on, 1/30 s)
	Normal mode	Color: 0.4 lx (F1.6, AGC on, 1/30 s)			Color: 1.4 lx (F1.8, AGC on, 1/30 s)
S/N ratio		More than 50 dB			
Gain	Auto/Manual 0 dB to 50.5dB (0 to 28 steps +2 step/total 15 steps)	Auto/Manual 0 dB to 48.8 dB (0 to 28 steps +2 step/total 15 steps)	Auto/Manual 0 dB to 47.8 dB (0 to 28 steps +2 step/total 15 steps)	Auto/Manual 0 to 43.5 dB (0 to 28 steps +2 step/total 15 steps)	Auto/Manual 0 to 43.5 dB (0 to 28 steps +2 step/total 15 steps)
	Max Gain Limit 10.8 dB to 50.5 dB (6 to 28 steps +2 steps/total 12 steps)	Max Gain Limit 17.4 dB to 48.8 dB (6 to 28 steps +2 steps/total 12 steps)	Max Gain Limit 17.1 dB to 47.8 dB (6 to 28 steps +2 steps/total 12 steps)	Max Gain Limit 9.3 to 43.5 dB (6 to 28 steps +2 step/total 12 steps)	Max Gain Limit 9.3 to 43.5 dB (6 to 28 steps +2 step/total 12 steps)
Shutter speed		1/1 s to 1/10,000 s, 22 steps			
Sync system		Internal			
Exposure control		Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE, Spot Exposure			
Backlight compensation		Yes			
Aperture control		16 steps			
White balance		Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual			
Lens		20x optical zoom f = 4.7 mm (wide) to 94.0 mm (tele) F1.6 to F3.5			10x optical zoom f = 3.8 mm (wide) to 38 mm (tele) F1.8 to F3.4
Digital zoom		12x (240x with optical zoom)			12x (120x with optical zoom)
Focusing system		Auto (Sensitivity: normal, low), One-push AF, Manual, Interval AF, Zoom Trigger AF, Focus compensation in ICR on			
Horizontal viewing angle	1080p mode	59.5° (wide end) to 3.3° (tele end)			67.0° (wide end) to 7.6° (tele end)
	720p mode	59.5° (wide end) to 3.3° (tele end)			67.0° (wide end) to 7.6° (tele end)
	SD	44.6° (wide end) to 2.5° (tele end)			50.3° (wide end) to 5.7° (tele end)
Minimum object distance		10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)			10 mm (wide end) to 800 mm (tele end) (Default: 320 mm)
Camera Features					
Auto ICR		Yes	Yes	Yes	Yes
Wide-D*2		Yes ³	Yes	No	Yes
Visibility Enhancer		Yes	Yes	Yes	Yes
De-fog		Yes	Yes	Yes	Yes
HLC		Yes	Yes	Yes	Yes
Noise reduction		Yes (6 steps)			
Image stabilization		No	Yes	No	No
StableZoom		Yes	Yes	Yes	Yes
Spherical privacy zone maskin		Yes	Yes	Yes	Yes
Motion detection		Yes	Yes	Yes	Yes
Alarm		Yes	Yes	Yes	Yes
Slow AE response		Yes	Yes	Yes	Yes
Picture effects		E-Flip, Nega Art, Black & White, Mirror image, Color enhancement			
Picture freeze		Yes	Yes	Yes	Yes
Slow shutter		Yes	Yes	Yes	Yes
Temperature readout		Yes	Yes	Yes	Yes
Title display		Yes	Yes	Yes	Yes
Camera mode display		Yes	Yes	Yes	Yes
Key switch control		No	No	No	No
Camera operation switch		No	No	No	No
Interface					
Video output	HD	N/A	Analog: Component (Y/Pb/Pr)	N/A	Analog: Component (Y/Pb/Pr)
	SD	Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE 274/SMPTE 296.) VBS VISCA (CMOS 5 V level)			
Camera control interface		Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, 115.2 Kbps, Stop bit: 1 bit			
General					
Power requirements		6.0 V to 12.0 V DC			
Power consumption	3.2 W (zoom/focus inactive)	3.0 W (zoom/focus inactive)	2.4 W (zoom/focus inactive)	3.4 W (zoom/focus inactive)	
	3.6 W (zoom/focus active)	3.5 W (zoom/focus active)	2.9 W (zoom/focus active)	3.7 W (zoom/focus active)	
Operating temperature		-5°C to +60°C (23°F to 140°F)			
Storage temperature		-20°C to +60°C (-4°F to 140 °F)			
Operating humidity		20% to 80%, Absolute humidity: 36 g/m ³			
Storage humidity		20% to 95%, Absolute humidity: 36 g/m ³			
Dimensions (W x H x D)		50.0 x 60.0 x 87.9 mm (2 x 2 3/8 x 3 1/2 inches)			45.6 x 48.8 x 78.0 mm (1 13/16 x 1 15/16 x 3 1/8 inches)
Mass		265 g (9.3 oz)	270 g (9.6 oz)		210 g (7.4 oz)

*1 Non-standard video format

*2 Wide dynamic range

*3 Wide dynamic range will be supported by firmware update.

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