

### FCB Series

FCB-EX780S/EX780SP  
 FCB-EX480A/EX480AP  
 FCB-EX48A/EX48AP  
 FCB-IX47A/IX47AP  
 FCB-IX45A/IX45AP  
 FCB-IX10A/IX10AP

### Component/OEM



### OUTLINE

Sony's new FCB Series is an evolution of color block cameras. Inheriting the excellent features of Sony's conventional block cameras, these new members of the FCB family incorporate a newly developed Digital Signal Processing (DSP) and firmware that greatly enhances their operability and picture quality.

Divided into two categories, FCB-EX cameras are ideally suited for security dome, police vehicle and traffic monitoring applications. The FCB-IX cameras will appeal to numerous general-purpose applications ranging from pipe inspection and photo booths to document stands.

The FCB-EX models\* feature a variety of functions such as Spot AE, Privacy Zone Masking and Auto ICR (IR Cut filter Removal, FCB-EX780S/EX780SP and FCB-EX480A/EX480AP models only) adding to their indoor/outdoor application appeal. The FCB-EX780S/EX780SP cameras are equipped with a powerful 25x AF lens with a 300x zoom ratio (25x optical, 12x digital), near-infrared sensitivity (0.02 lx) and an image stabilizer function that minimizes the appearance of shaky images caused by low frequency vibration. The FCB-EX480A/EX480AP and FCB-EX48A/EX48AP incorporate a 1/4 type CCD with EXview HAD®

technology with an incredible industry-leading sensitivity level of 0.7 lx for low-light environments!

The FCB-IX models\*\* incorporate a 1/4 type CCD with Sony's "next generation" Super HAD CCD™ and feature a variety of functions such as digital zoom and built-in field memory (FCB-IX47A/IX47AP and FCB-IX10A/IX10AP only). The FCB-IX10A/IX10AP color cameras are equipped with a 40x zoom ratio (10x optical, 4x digital) and their ultra-compact and light weight size make them ideal for space restricted applications. The FCB-IX47A/IX47AP and FCB-IX45A/IX45AP cameras feature a 72x zoom ratio (18x optical, 4x digital) and a minimum illumination of 1.0 lx - expanding their vast application appeal. The FCB-IX47A/IX47AP cameras are equipped with some additional features such as slow shutter and field memory/freeze mode, useful for low vision and document stands.

With such a strong line-up, the FCB Series is sure to deliver the camera that is exactly suited to your demanding applications.

\* FCB-EX780S/EX780SP, FCB-EX480A/EX480AP and FCB-EX48A/EX48AP  
 \*\* FCB-IX47A/IX47AP, FCB-IX45A/IX45AP and FCB-IX10A/IX10AP

### FEATURES

- Newly developed Digital Signal Processing (DSP)
- High-speed serial interface (max. 38.4 Kb/s) and TTL signal level control (VISCA control) for quick command processing
- High-quality image in both digital-zoom and slow-shutter modes (excluding FCB-IX45A/IX45AP)
- Various AF modes including newly added Zoom trigger and Interval mode
- Various AE modes including a newly added Spot AE mode to optimize the brightness within the specific area
- Expanded mode parameter for shutter speed and gain level
- Superb sensitivity
- Various customizable settings
- Low power consumption (minimum 1.5 W)
- EEPROM backup system without battery
- Lead-free solder mounting board (excluding FCB-EX780S/EX780SP)
- Auto ICR (IR Cut filter Removal, FCB-EX780S/EX780SP and FCB-EX480A/EX480AP only)

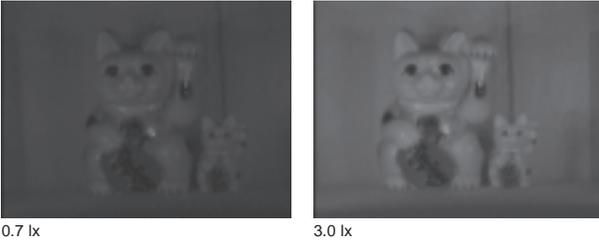
# FEATURES DESCRIPTION

## ■ EXview HAD CCD

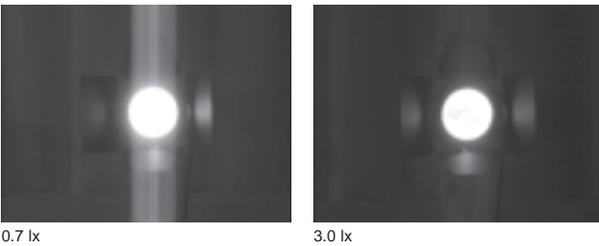
(FCB-EX480A/EX480AP and FCB-EX48A/EX48AP)

The adoption of Sony's new EXview HAD CCD technology provides for improvements in basic camera features such as superb sensitivity of 0.7 lx (typical), low smear levels and D-range compared to previous FCB models.

### IR sensitivity



### Smear

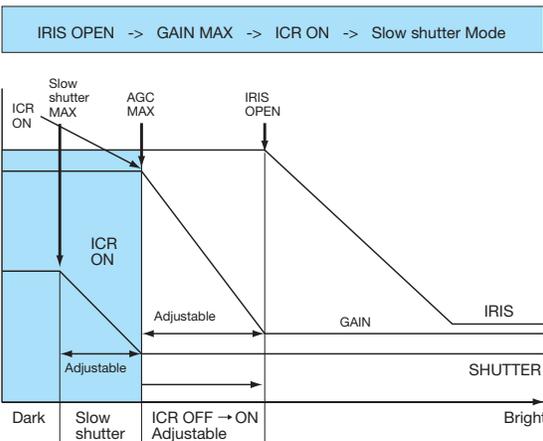


## ■ Auto ICR (IR Cut filter Removal) mode

(FCB-EX780S/EX780SP, FCB-EX480A/EX480AP)

The Auto ICR function automatically switches the settings to attach or remove the IR Cut filter for increased sensitivity. With a set level of darkness, the IR Cut filter is automatically disabled (ICR ON), and the infrared sensitivity is increased. With a set level of brightness, the filter is automatically enabled (ICR OFF). The ICR will automatically engage depending on the ambient light, allowing the cameras to be effective in day/night environments.

When auto slow shutter is on



## ■ Image stabilizer

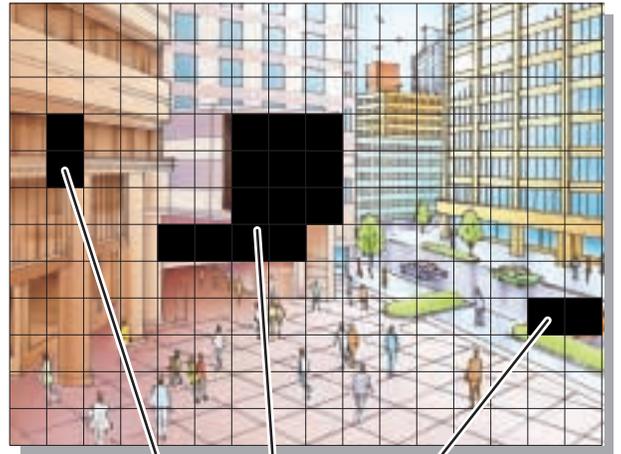
(FCB-EX780S/EX780SP)

The image stabilizer function minimizes the appearance of shaky images caused by low frequency vibration and maintains a normal horizontal resolution. This function is useful for outdoor surveillance and traffic monitoring applications.

## ■ Privacy Zone Masking

(FCB-EX780S/EX780SP, FCB-EX480A/EX480AP, FCB-EX48A/EX48AP)

If a subject requires special treatment due to privacy reasons, prohibited areas of an image can be masked and not captured. Allowing for up to six preset positions, this function is very useful when monitoring outside environments.



Maximum six positions within 16 (H) : 12 (V) can be preset







# SPECIFICATIONS

## EX models

	FCB-EX780S	FCB-EX780SP	FCB-EX480A	FCB-EX480AP	FCB-EX48A	FCB-EX48AP
Image sensor	1/6 type Super HAD CCD		1/4 type EXview HAD CCD			
Number of effective pixels	Approx. 680,000 pixels	Approx. 800,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Lens	25x zoom, f=2.4 mm (wide) to 60 mm (tele), F1.6 to F2.7		18x zoom f=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0			
Digital zoom	12x (300x with optical zoom)		12x (216x with optical zoom)			
Angle of view (H)	45° (wide end) to 2.0° (tele end)		48° (wide end) to 2.7° (tele end)			
Minimum working distance	35 mm (wide end), 800 mm (tele end)					
Sync. system	Internal/External (V-Lock)					
Minimum illumination	3.0 lx (Typical) (50 IRE)		0.7 lx (Typical) (F1.4, normal shutter speed)			
S/N ratio	49 dB		More than 50 dB			
Electronic shutter	1/1 to 1/10,000 s, 22 steps					
White Balance (WB)	Auto, ATW, Indoor, Outdoor, One-Push, Manual					
Gain	Auto/Manual (-3 to 28 dB, 16x 2 dB steps)					
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Back-light compensation					
EV compensation	-10.5 to +10.5 dB (1.5 dB steps)					
Back-light compensation	On/Off					
Privacy Zone Masking	On/Off					
Flicker cancel	Auto	-	Auto	-	Auto	-
Focusing system	Auto (Sensitivity: Normal, Low), One-Push AF, Manual, Infinity Interval AF, Zoom Trigger AF					
Picture effect	Neg. Art, Black & White, Mirror Image					
Camera operation switch	Zoom tele, Zoom wide					
Video output	VBS: 1.0 Vp-p (Sync. Negative) Y/C Output					
Camera control interface	VISCA (TTL signal level) Baud Rate 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s Stop bit 1/2 selectable					
Storage temperature	-20° C to 60° C (-4° F to 140° F)					
Operating temperature	0° C to 50° C (32° F to 122° F)					
Power consumption	6 to 12 V DC/1.5 W (inactive motors), 2.7 W (active motors)		6 to 12 V DC/1.5 W (inactive motors), 2.5 W (active motors)			
Weight	Approx. 8.1 oz (230 g)					
Dimensions (W x H x D)	2 x 2 <sup>3</sup> / <sub>8</sub> x 3 <sup>1</sup> / <sub>4</sub> inches (50 x 57.5 x 81.8 mm)		2 <sup>1</sup> / <sub>8</sub> x 2 <sup>3</sup> / <sub>8</sub> x 3 <sup>1</sup> / <sub>2</sub> inches (52 x 57.4 x 88.5 mm)		2 x 2 <sup>3</sup> / <sub>8</sub> x 3 <sup>1</sup> / <sub>2</sub> inches (50 x 57.5 x 88.5 mm)	

## IX models

	FCB-IX47A	FCB-IX47AP	FCB-IX45A	FCB-IX45AP	FCB-IX10A	FCB-IX10AP
Image sensor	1/4 type Super HAD CCD					
Number of effective pixels (H x V)	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Lens	18x zoom, f=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0				10x zoom, f=4.2 mm (wide) to 42 mm (tele), F1.8 to F2.9	
Digital zoom	4x (72x with optical zoom)				4x (40x with optical zoom)	
Angle of view (H)	48° (wide end) to 2.7° (tele end)				46° (wide end) to 5.0° (tele end)	
Minimum working distance	10 mm (wide end), 800 mm (tele end)				10 mm (wide end), 1000 mm (tele end)	
Sync. system	Internal					
Minimum illumination	1.0 lx (50IRE)				2.0 lx (50IRE)	
S/N ratio	More than 50 dB					
Electronic shutter	1/1 to 1/10,000 s, 22 steps		1/60 s to 1/10,000 s, 16 steps	1/50 to 1/10,000 s, 16 steps	1/1 s to 1/10,000 s, 22 steps	
White Balance (WB)	Auto, ATW, Indoor, Outdoor, One-Push, Manual					
Gain	Auto / Manual (-3 to 28 dB 2 dB steps)					
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Back-light compensation					
EV compensation	-10.5 to +10.5 dB (1.5 dB steps)					
Back-light compensation	On/Off					
Privacy Zone Masking	On/Off					
Flicker cancel	Auto					
Focusing system	Auto (Sensitivity: Normal, Low), One-Push AF, Manual, Infinity Interval AF, Zoom Trigger AF					
Picture effect	Neg. Art, Black & White, Mirror Image					
Camera operation switch	Zoom tele, Zoom wide					
Video output	VBS: 1.0 Vp-p (Sync. Negative) Y/C Output					
Camera control interface	VISCA (TTL/RS-232C signal level) Baud Rate 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s Stop bit 1/2 selectable					
Storage temperature	-20° C to 60° C (-4° F to 140° F)					
Operating temperature	0° C to 50° C (32° F to 122° F)					
Power consumption	6 to 12 V DC/1.5 W (inactive motors), 2.0 W (active motors)				6 to 12 V DC/1.6 W (inactive motors), 2.1 W (active motors)	
Weight	6.0 oz (170 g)				3.4 oz (95 g)	
Dimensions (W x H x D)	1 <sup>15</sup> / <sub>16</sub> x 2 <sup>1</sup> / <sub>4</sub> x 3 <sup>3</sup> / <sub>4</sub> inches (48.2 x 56.6 x 92.3 mm)				1 <sup>9</sup> / <sub>16</sub> x 1 <sup>13</sup> / <sub>16</sub> x 2 <sup>5</sup> / <sub>8</sub> inches (39.3 x 44.8 x 65 mm)	

\* When used for 24 hours continuously, initialization of lens system once a day is recommended because this will extend the life of lens.  
The Initialize Lens Command takes a little less than 3 seconds to initialize the focus and zoom.

# PIN ASSIGNMENT

## EX models

### ■ CN901

Pin No.	Name	Level
1	RxD	CMOS 5 V (low: max 0.8 V, high: min 2.0 V)
2	TxD	CMOS 5 V (low: max 0.1 V, high: min 4.4 V)
3	GND (for RD&TD)	
4	DC IN	9.0 ± 3V
5	GND (for DC IN)	
6	VBS OUT	1.0 ± 0.2 V
7	GND (for VBS OUT)	
8	V LOCK PULSE	External VD-Lock Pulse (EX.FV: Negative, 3 Vp-p 50% duty)
9	GND (VL PULSE)	

Connector: ELCO 00 6200 509 13000

### ■ CN902

Pin No.	Name
1	Y_Out
2	GND (for Y signal)
3	C_Out
4	GND (for C signal)

Connector: JST S4B-ZR-SM3A-TF

## IX models

### ■ CN903

For DC and video connector  
(FCB-IX47A/IX47AP and FCB-IX45A/IX45AP)

Pin No.	Name	Level
1	Power In	6 V – 12 V
2	GND (power)	
3	NC	
4	Video Out	Composite video signal
5	GND (for video)	
6	Y_Out	1.0 ± 0.2 V
7	GND (for Y signal)	
8	C_Out	
9	GND (for C signal)	

Connector: JST S9B-ZR-SM3A-TF

### ■ CN901 IF Board

For DC and video connector  
(FCB-IX10A/IX10AP)

Pin No.	Name	Level
1	Power In	6 V – 12 V
2	GND (power)	
3	NC	
4	Video Out	Composite video signal
5	GND (for video)	
6	Y_Out	
7	GND (for Y signal)	
8	C_Out	
9	GND (for C signal)	

Connector: JST S9B-ZR-SM3A-TF

### ■ CN901 MC-Board

For communication connector  
(FCB-IX10A/IX10AP)

Pin No.	Name	Level
1	T x D IN	RS-232C Level
2	NC	
3	NC	
4	R x D IN	RS-232C Level
5	TD	TTL Level
6	NC	
7	NC	
8	RD	TTL Level
9	GND	
10	AF_LED	

Connector: JST S10B-ZR-SM3A-TF

### ■ CN701

For Keypad connector  
(FCB-IX models only)

Pin No.	Name
1	GND
2	GND
3	KEY_AD0
4	KEY_AD1
5	KEY_AD2
6	KEY_AD3
7	KEY_AD4
8	KEY_AD5
9	KEY_AD6
10	KEY_AD7
11	NC
12	Strobe

Connector: Molex 52689-1297 FFC (0.5 mm)

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- Sony of Canada Ltd. (CANADA)
- Sony Broadcast & Professional Europe HQ

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France  
UK  
Nordic  
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