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## FCBEX985EP

E-series camera module with digital outputs and a fast 28x zoom lens

The FCB-EX985E/P is available in both PAL (FCB-EX985EP) and NTSC (FCB-EX985E) and adopts a number of new features designed for the digital age, including a new interlaced scan 1/4-type Super HAD CCD II, high resolution (up to 550 TV line) and a digital output option, supporting the future demands of digital video infrastructure.

The camera module includes the same 28x zoom lens as the FCB-EX985E/P and thus incorporates new StableZoom™ technology. This feature combines image stabilisation with digital zoom in order to enhance the picture and maintain horizontal angle of view, resulting in a equivalent zoom ratio of 33x optical zoom. The 28x lens is highly durable supporting an extremely fast zoom capability (2.5 seconds from tele end to wide end).

The FCB-EX985E/P brings out the best in performance capability of the 'bright' nature of the new lens by combined the lens with a new Interlaced Scan Super HAD CCD II sensor, the result means the FCB-EX985E/P can operate at a minimum illumination of 0.25 lx (F1.35 measured at 50IRE). The picture quality at low light is further enhanced via the combined 2D/3D superior Enhanced Noise Reduction capability - with 5 levels. This together with an auto ICR function makes the FCB-EX985E/P particularly suitable for challenging outdoor video surveillance.

The FCB-EX985E/P also comes equipped with ever-more sophisticated additional specifications, including a wider operating temperature range, temperature readout, Colour Enhancement and Slow AE Response (beyond 10 minutes) as well as other features inherited from earlier FCB EX series cameras. These make the FCB-EX985E/P the definitive choice for security and monitoring systems, but also suitable for inspection and UAV applications which require a combination of high zoom ratio with excellent minimum illumination capability.

## Features

### Excellent High Resolution Picture Quality

The FCB-EX985E/P incorporates a 1/4 type Super HAD CCD II Interlaced Scan sensor that offers unparalleled sensitivity and colour reproduction. By

combining a powerful DSP with this CCD with a new 28x zoom lens, the camera achieves a high horizontal resolution of 550 TV lines with a minimum illumination of 0.25 lx providing very clear and detailed images under very challenging light conditions.

### Digital Output

The camera is equipped with a digital interface (Y/Cb/Cr 4:2:2) which is comparable to ITU-R BT656. The video output is therefore free from signal deterioration. Furthermore no external analogue/digital converter is required between the camera and other equipment, bringing down the overall integration cost.

### Enhanced Noise Reduction

By combining 2D and 3D noise reduction, the camera offers a wide selection of noise-reduction settings, from Level 1 to Level 5. This lets you choose the best level according to environmental conditions.

### Image Stabilisation

In StableZoom™ mode, image stabilization starts naturally without bringing an abrupt change to the horizontal angle of view. With StableZoom™ activated, an equivalent of 33x optical zoom is possible.

### Compact and Lightweight Design

With a compact and lightweight design (approx. 238g/8.4 oz), the camera can be integrated into a variety of space-restricted environments. The dimensions of the FCB-EX985E/P are the same as previous 26x FCB models allowing for easy upgrade to existing systems.

### Slow AE Response Function

The camera's Auto Exposure speed for adapting to changes in lighting conditions can be set as slow as required, even as slow as 10 minutes. The speed of adaptation can be slowed down in order to suit some conditions. For example, such as an underground car park where without a change in AE response, the camera could miss some important images when car headlights appear in the scene causing an abrupt change in lighting conditions.

### Auto IR-cut Filter Removal (Auto ICR)

### Advanced Spherical Privacy Zone Masking

### Electronic Flip (E-Flip)

Multi-line On-screen Display  
 Video Motion Detection  
 Picture Freeze  
 SMART (Sony Modular Automatic Lens Reset Technology)  
 Gain Limit Setting

Zoom Limit Setting  
 Zoom Speed-up in Zoom Direct Mode (Focus Trace On/Off)  
 Focus Compensation in ICR Mode  
 Alarm Signal Output in Auto ICR Mode  
 Image Stabilization Hold

## Technical Specifications

Generic Specifications	
Image sensor	1/4-type Super HAD CCD II (Interlaced Scan)
Signal system	FCB-EX985EP; PAL / FCB-EX985E; NTSC
Horizontal resolution	550 TV lines
Number of total pixels	PAL- Approx. 440,000 pixels / NTSC - Approx. 380,000 pixels
Lens	28x optical zoom, f=3.5 mm (wide) to 98.0 mm (tele), F1.35 to F3.7
Digital zoom	12x (336x with optical zoom)
Angle of view (H)	55.8° (wide) to 2.1° (tele)
Minimum object distance	10 mm (wide) to 1500 mm (tele), Default: 300mm
Sync system	Internal / External (V-lock)
Minimum illumination	0.25 lx (F1.35, 50IRE)
S/N ratio	More than 50 dB
Electronic shutter	1/1 to 1/10,000 s, 22 steps
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (fix/auto), One-push, Manual
Gain	Auto, Manual, Priority Mode, Bright, EV compensation, Backlight compensation, Slow AE
EV compensation	Yes
Backlight compensation	Yes
Privacy zone masking	On / Off (24 positions, 8 positions per screen, 14 colours & mosaic)
Camera operation switch	Yes (Zoom Tele, Zoom Wide)
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom trigger AF, Focus Compensation in ICR On mode
Picture effects	E-Flip, Nega Art, Black & White, Mirror Image, Colour Enhancement

Video output	Analogue: VBS: 1.0 Vp-p (sync negative), Y/C Digital: Y/Cb/Cr 4 :2 :2 (comparable to ITU-R BT656)
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 to 60 °C
Operating temperature	-5 °C to +60 °C
Power requirements	6 to 12 V DC
Power consumption	2.2 W (motors inactive), 4.6 W (motors active)
Mass	Approx. 238g (8.4 oz)
Dimensions (WxHxD)	50.0 x 57.5 x 89.8 mm
Wide-D Auto mode	No
Wide-D IS/PS mode	No
Image Stabilisation	Yes
StableZoom	Yes (33x)
Digital output	Yes
Enhanced Noise Reduction	Yes
Auto ICR	Yes
Spherical Privacy Zone Masking	Yes
Motion Detection	Yes
Alarm	Yes
Slow AE response	Yes (Longer than 10 minutes)
Picture freeze	Yes
Slow shutter	Yes
Temperature readout	Yes
Title display	Yes (20 characters/line, max. 11 lines)
Camera mode display	Yes (English*/Chinese) *default
Key switch control	Yes
Multi-line OSD	Yes
E-flip	Yes
Flicker Cancel	Yes (NTSC)

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