

SNC-VB770

Ultra High Sensitivity 4K Network Camera with 35 mm Full-frame Exmor™ CMOS Sensor



Overview

Thanks to ultra-high sensitivity of ISO 409600*, the SNC-VB770 4K network camera features top levels of minimum illumination of less than 0.004 lx - to capture exceptionally detailed 4K/30 fps colour video, even at night and in similar extreme lighting environments.

The SNC-VB770 4K network camera achieves this illumination by using its highly-sensitive 35 mm full-frame Exmor sensor, optimised E mount lenses to maximise the performance of the sensor, and its signal processing engine. This enables the camera to capture crisp, clear 4K/30 fps colour video with much less noise in extreme low-light conditions.

The new camera enables smooth 4K/30 fps colour video in almost pitch-black conditions such as night-time starlight or indoors with a poor lighting source when it is a challenge for the human eye to see the object. Also, the camera captures blur-less images with high-speed electronic shutter so that it gives users ability to track letters (characters), numbers and human facial expression clearly in poorly-lit conditions.

This camera is the first to adopt an E mount FE lens** within our existing network camera line-up. The wide-range of high-quality interchangeable lenses used for consumer digital cameras and professional camcorders gives users the flexibility to adjust the viewing angle to fit various environments and applications. It also maximises the benefits of 4K resolution, allowing detailed analysis of specific areas in a scene, together with a wide-area situational overview.

The SNC-VB770 4K network camera provides smart analytic functions to enable more efficient, cost-effective operation in a wide range of video monitoring applications. Intelligent Tracking plus Multi Tracking can recognise and dynamically track multiple subjects in separate windows, together with its wide-area situational overview. Intelligent Coding captures selected areas of interest in maximum detail, while reducing bit-rates in the other areas of the image to save network bandwidth. Intelligent Scene Capture automatically selects the optimum picture settings responding to environments such as weather, time, and lighting conditions to provide optimum picture quality for any scene, day or night.

*Standard ISO 100–102400, expandable to 50–409600

**Compatible E mount FE lenses include the SEL35F14Z (35 mm, F1.4), SEL35F28 (35 mm, F2.8), SEL28F20 (28 mm, F2.0), and SEL55F18Z (55 mm, F1.8).

Features

- **Ultra-high sensitivity of ISO 409600* captures clear colour video even in near darkness**

Thanks to the ultra-high sensitivity of expandable ISO 409600, the SNC-VB770 features a minimum illumination of less than 0.004 lx to capture exceptionally detailed 4K/30 fps colour video, even at night and in similar extreme lighting environments.

The SNC-VB770 uses the 35 mm full-frame Exmor sensor, which is developed based on Sony's most advanced image processing technology. The sensor captures significantly more incident light than conventional camera sensors to bring drastic improvements to the sensitivity.

The camera also uses a Sony-developed image processing engine to achieve extremely high sensitivity and low noise at the same time. Area-specific noise reduction selectively divides the image into areas based on patterns (such as edges, textures and evenly coloured areas like blue skies) to efficiently reduce noise and improve image quality. Detail reproduction technology helps to accurately depict details with a more natural sense of dimension.

E mount lenses maximise the performance of the 35 mm full-frame sensor, keeping high resolution across the entire image area from the centre to fringe.

*Standard ISO 100–102400, expandable to 50–409600

- **Overview and close-up at the same time with Intelligent Cropping**

Intelligent Cropping gives a wide area situational overview of the whole scene and a closer view of specific areas of interest at the same time. Operators can see the whole scene with Full HD resolution, plus up to four VGA cropped image areas. This allows more efficient management of network bandwidth, reducing data storage requirements by up to 50% compared with conventional solutions. In addition, Multi Tracking can recognise and dynamically track multiple subjects in these separate windows. This can reduce the risk of missing suspicious activity, letting operators see unidentified subjects as cropped images whenever they come into the frame.

- **Maximum detail where it matters with Intelligent Coding**

Intelligent Coding optimises efficient management of network bandwidth while maintaining 4K resolution where it's needed. It gives selected of-interest areas maximum detail, while reducing bit-rates in the other areas of the image to save network bandwidth by up to 50% and minimise storage costs compared with conventional network cameras.

- **Best picture quality around the clock with Intelligent Scene Capture**

Enjoy the best picture quality in any scene, any time of day or night without adjusting camera settings. Intelligent Scene Capture automatically selects optimum picture settings responding to environments such as weather, time, and lighting conditions and providing the best picture quality for the scene. Picture settings can also be adjusted manually, or set according to time schedules.

Technical Specifications

Camera	
● Image Sensor	35mm full frame Exmor CMOS sensor
● Number of Effective Pixels	Approx. 12.2 Megapixels
● Sync System	Internal synchronization
● Minimum Illumination (50 IRE)	0.007 lx (ISO409,600, 1/30 s, F1.4)
● Minimum Illumination (30 IRE)	0.004 lx (ISO409,600, 1/30 s, F1.4)
● Dynamic Range	Equivalent to 100 dB with View-DR Technology
● Gain	Auto/Manual (0 dB to +72 dB)
● Shutter Speed	1/1 s to 1/10,000 s
● Exposure Control	Exposure compensation, AGC, Shutter speed, Iris
● White Balance	ATW, ATW-PRO, Fluorescent lamp, Mercury lamp, Sodium vapour lamp, Metal halide lamp, White LED, One push WB, Manual, Indoor, Outdoor
● Lens	E-mount FE lens (option)
● Easy Zoom	Yes Clear image zoom 2.0x Digital zoom 2.0x
● Easy Focus for Setup	Yes

Camera Features	
● Day/Night	No
● Wide-D	View-DR
● Tone Correction	Visibility Enhancer
● Defog Image Processing	Yes
● Highlight Compensation	Yes
● Flicker Reduction	Yes
● Distortion Correction	Yes
● Noise Reduction	XDNR
● Intelligent Scene Capture	Yes
● Privacy Masking (number)	24
● Privacy Masking (shape)	Quadrangle formed by any four corner points
● Privacy Masking (color/effect)	Opaque 14 colors (Black, White, Red, Green, Blue, Cyan, Yellow, Magenta, Gray (6 scales)), Mosaic
● Edge Storage	Yes
● Hours Meter	Yes
● Superimpose Number	4 independent positions for characters (Codec, Date & Time, Event, Text (Max. 64 characters)), 1 independent position for a logo mark

● Superimpose Language	English
● Menu Language	English, Japanese, Chinese (simplified), Chinese (traditional), French, Spanish, German, Italian, Korean, Portuguese, Russian, Arabic, Hindi, Vietnamese, Thai, Turkish, Polish

Video	
● Resolution	4240 x 2832, 3840 x 2160, 2880 x 2160, 1920 x 1080, 1440 x 1080, 1440 x 960, 1280 x 720, 960 x 720, 640 x 480, 640 x 360, 320 x 240, 320 x 180
● Resolution via HDMI	3840 x 2160, 720 x 480, 720 x 576
● Compression Format	H.264 (High/Main Profile), JPEG H.264 (B-picture) is supported for 3840 x 2160 and 2880 x 2160 resolution.
● Maximum Frame Rate	H264: 30 fps (3840 x 2160) JPEG: 2.5 fps (4240 x 2832)
● Bitrate Control Mode	CBR/VBR (selectable)
● Range of Bit Rate Setting	64 Kbps to 32 Mbps
● Intelligent Cropping (Mode)	Dynamic/Static
● Intelligent Cropping (Number)	2 (1920 x 1080), 4 (640 x 480)
● Intelligent Coding (Mode)	Auto/Manual
● Intelligent Coding (Number)	Up to 8 (up to 4 for Auto mode)
● Evidence Shot	12 Megapixels (4240 x 2832)
● Multi streaming Capability	Yes (5)
● Number of Clients	20

Intelligent Video/Audio Analytics	
● Analytics Architecture	DEPA Advanced
● Intelligent Motion Detection	Yes
● Face Detection	Yes
● Tamper Alarm	Yes
● Scene Analytics	Intrusion, Passing, Existing, Disappearance, Capacity, Left object, Removed object
● Multi Tracking	Up to 4

Audio	
● Compression Format	G.711 (bit rate: 64 kbps, sampling frequency: 8 kHz) G.726 (bit rate: 40, 32, 24, 16 kbps, sampling frequency: 8 kHz) AAC-LC (bit rate: 64 kbps, sampling frequency: 16 kHz) AAC-LC (bit rate: 128 kbps, sampling frequency: 48 kHz)

System Requirements	
● Operating System	Windows 7 (32/64 bit) Ultimate, Professional Edition Windows 8.1 Pro (32/64 bit) Windows10 Pro (32/64 bit)
● Processor	Intel Core i7 3.4GHz or higher* For 4K (3840 x 2160) output at 30 fps, a GPU capable of 3840 x 2160 resolution and decoding 4K/H.264 is required.
● Memory	8 GB or more
● Web Browser	Microsoft Internet Explorer Ver. 11.0 Firefox Ver. 44.0 Google Chrome Ver. 48.0
● SNC toolbox	Yes

● SNC toolbox mobile	Yes
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Network	
● Protocols	IPv4, IPv6, TCP, UDP, ARP, ICMP, ICMPv6, IGMP*, MLD*, HTTP, DHCP, DHCPv6, DNS, NTP, RTP/RTCP, RTSP over TCP, SMTP {client}, HTTPS, FTP (client), SNMP (v1, v2c, v3), TLS {v1.0} *SSM (Source Specific Multicast) is supported.
● QoS	DSCP
● Multicast Streaming Support	Yes
● ONVIF Conformance	Profile S
● Wireless Network	Yes for setup (IEEE802.11b/g/n with optional IFU-WLM3)
● Authentication	IEEE802.1X
● Analog Video Output	No
● Digital Video Output	HDMI (type D) x1
● Microphone Input	Mini jack (monaural, 2.2 kΩ, plug-in-power)
● Line Input	Mini jack (monaural)
● Line Output	No* * Supported by future version-up
● Network Port	10BASE-T/100BASE-TX (RJ-45)
● Alarm Input (Sensor Input)	x2, make contact, break contact
● Alarm Output	x2, Max. AC 24 V/DC 12 V, 0.4 A (solid-state relay outputs electrically isolated from the camera)
● Wireless LAN Terminal	Yes
● Card Slots	SD x1
● Confirmed SD Card Type	SDHC/SDXC (Max. 128 GB)
● SD OFF Switch	Yes

General	
● Power Requirements	IEEE 802.3af compliant (PoE) Class 3, DC 12 V ± 25 %, AC 24 V ± 20 %, 50/60 Hz
● Power Consumption	Max. 16 W (including E-mount FE lens)
● Operating Temperature	-5 °C to +50 °C 23°F to 122°F
● Cold Start Temperature	0 °C to +50 °C 32°F to 122°F
● Storage Temperature	-20 °C to +60 °C -4°F to 140°F
● Operating Humidity	20 % to 80 % (no condensation)
● Storage Humidity	20 % to 80 % (no condensation)
● Dimensions (W x H x D)*1	104 mm x 84.6 mm x 118 mm (without lens) 4 1/8 inches x 3 3/8 inches x 4 3/4 inches (without lens)
	Approx. 720 g (without lens)

● Mass	Approx.1 lb 9.4 Oz (without lens)
● External Material	Front panel: Mg Die-cast Main case:AL Rear panel:PC SD memory cover:TEEE HDMI cover:TEEE IF panel:PC
● External Color	Munsell 1.5B 1.97/0.34
● Safety Regulations	Japan Telecom Law UL2044, IEC60950-1 VCCI (Class A), FCC Part15B (Class A), IC ICES-003 (Class A) Emission: EN55032 (Class A) Immunity: EN55024 + EN50130-4 Emission: AS/NZS CISPR32(EN55032) Class A KC SDoC (IEC60950-1) MSIP EMC KN32 (Class A), KN35 EAC(EMC-TR) CISPR32 (Class A), CISPR24
● Supplied Accessories	Wire rope (1) Screw (M4 × 8) (1) 9pin connector for I/O (1) 2pin connector for DC12V (1) 3pin connector for AC24V (1) Operating Instructions - Download site Information (1) Safety Regulations (1) Warranty booklet (1-year) (1) Body cap (1)

Note	
● *1	The values for dimensions are approximate.

Accessories

Lenses and Lens Adaptors



SEL2470Z

ZEISS Vario-Tessar T* FE 24-70mm F4 ZA OSS zoom lens



SEL2870

35mm full frame E-mount zoom lens FE 28-70mm F3.5-5.6 OSS



SEL35F28Z

ZEISS Sonnar T* FE 35mm F2.8 ZA wide-angle Prime lens



SEL55F18Z

ZEISS 35mm full frame E-mount standard prime lens Sonnar T* FE 55mm F1.8 ZA



SEL70200G

35mm full frame E-mount telephoto zoom lens FE 70-200mm F4 G OSS



SELP28135G

35mm full frame powered E-Mount zoom lens 28-135mm F4.0 OSS