Zoom chassis camera

VK-S655N/EN

HITACHI
Inspire the Next

- 36x optical zoom lens with 12x digital zoom
- Minimum sensitivity : 1.0 lx
- Dual protocol camera control
- Electronic Image Stabilization
- 8bit digital output(REC656)
- Operating Temp. -10℃~60℃

36x OPTICAL ZOOM | D.S.P. Digital Signal Processor | F.N.R Frame Noise Reduction | IR FILTER ON/OFF | DIGITAL SLOW SHUTTER | WIDE DYNAMIC RANGE PROGRESSIVE SCAN | EIS Electronic Image Stabilizer | 8bit DIGITAL Output Device | PRIVACY ZONE MASKING | MOTION DETECT

Made in Japan

High-performance digital surveillance camera with 36x optical zoom

Advanced digital signal processing (DSP) technology ensures outstanding color reproduction and low light performance, capable of capturing details such as facial features, clothing, and automobile colors that can serve as vital evidence. Setting a new standard for imaging quality, night or day, the Hitachi VK-S655N/EN marks another phase in the evolution of high-quality digital surveillance systems.

36x optical zoom lens with 12x digital zoom

Optical zoom permits confirmation of facial features.

Enhanced peripheral resolution

A newly designed 36x auto-focus optical zoom lens delivers enhanced resolution, clearly capturing subject details at a distance. Proprietary Hitachi auto-focus control makes it possible to track rapidly moving subjects, while the addition of a 12x digital zoom delivers a maximum zoom factor of 432x. The improved lens design produces crisp clear details, even in peripheral areas of the image.

Sharp Image Details with Accurate Colors

One extremely important requirement in the surveillance and crime prevention fields is the reproducibility of actual colors. The Hitachi VK-S655N/EN recreates the actual color to the fullest extent possible not just in well-lit areas, but in darker ones, allowing more accurate depiction of the surveillance area.

Technology for low-light performance

High-performance CCD teams with digital signal processing to achieve outstanding low-light performance, capable of capturing images in standard mode at a minimum subject illumination of 1.0 lx.

Frame noise reduction

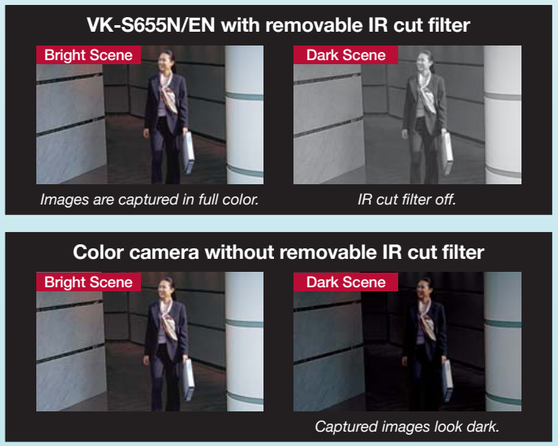
F.N.R. off. *F.N.R. on.*

Hitachi's frame noise reduction minimizes random noise and after-images often associated with moving subjects, making this high-performance unit suited to a variety of surveillance scenarios. Producing clear, sharp images even in challenging low-light conditions, this technology also facilitates image compression in network camera systems.

Digital slow shutter

Digital processing boosts sensitivity to a maximum of 1/1-second (VK-S655N) or 1/0.75-second (VK-S655EN) exposure time, making it possible to capture bright, clear images in a variety of lighting situations.

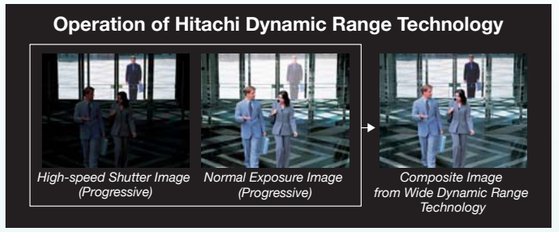
Removable IR cut filter

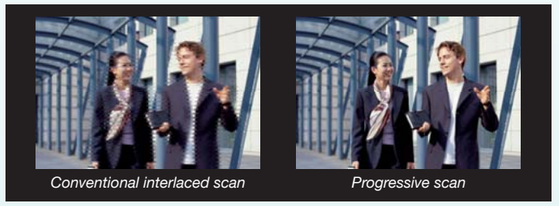


The degree of the removable IR cut filter's effectiveness varies with the type and intensity of the light source.

In daylight conditions, the IR cut filter ensures clear, high-quality color images. At night or in other very low light situations, the IR cut filter is automatically removed to allow capture of bright, high-contrast black and white images.

Engineered for exceptional image quality





Wide dynamic range

When a surveillance scene includes bright and dark areas, alternate images are captured at optimum exposure for both levels of illumination, and the resulting two fields are combined into a single frame. This produces clear, glare-free images in a variety of lighting conditions, such as entrances with varying levels of indoor/outdoor illumination and situations where backlighting can make it difficult to identify facial features.

Progressive scanning

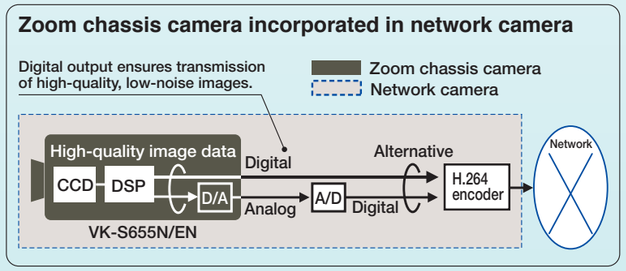
Conventional surveillance camera systems using interlaced scanning are not capable of producing clearly identifiable images of moving cars or people. The interlace method uses two scans to create a single image frame, producing jumpy, poorly defined images when still images are captured from the video feed. Progressive scanning incorporated in the Hitachi VK-S655N/EN records the frame in a single sequential scan, creating sharp, high resolution still images, with clearly defined lines and contours.

Electronic image stabilization

Based on Hitachi's track record of pioneering image stabilization technology, electronic image stabilization compensates for vibration or movement of the camera, automatically minimizing image blur.

Digital output provides simpler design, cleaner signal to encoder

The Hitachi VK-S655N/EN offers digital output for lossless, noise-free image data, maximizing camera performance and preserving the exceptional quality of captured images.



Digital output is a REC656 data stream (YUV422, 8-bit singal timing reference codes, interlaced output), compatible with a large number of encoder ICs.

Digital output frequency & resolution*

	VK-S655N(NTSC)	VK-S655EN(PAL)
Clock frequency	28.6MHz	28.5MHz
Output resolution	752(H) X 480(V)	736(H) X 576(V)

*Due to high-resolution CCD (NTSC 410K/PAL 470K), frequency and resolution differ from REC656 specifications.

Micro coaxial cable can be used for digital interface.

We also offer both FFC(Flexible Flat Cables) and micro coxial cables.

35x compatibility mode available

VK-S655N/EN can also provide the same 35x zoom mode as in the VK-S654N/EN. A 35x compatibility mode is available to ensure that no picture display problems occur even due to changes in the angle of view. Switching from the VK-S654N/EN will pose no problems caused by the difference in magnification.

AFP (Ack control based on Function Protocol) communication

With previous protocol function, which used EAP(Echo control based on Address Protocol), it was not possible to confirm command response. However, AFP communication, which is a new protocol, makes it possible to confirm command response, using error detection and function completion confirmation.

Extended operating temperature

We have extended the operating temperature range of -10℃ to ensure operability in colder locations, making camera design even easier.

Full basic functions for video surveillance

- Digital image flip
- Motion detect function
- Privacy mask settings
- RoHS compliance

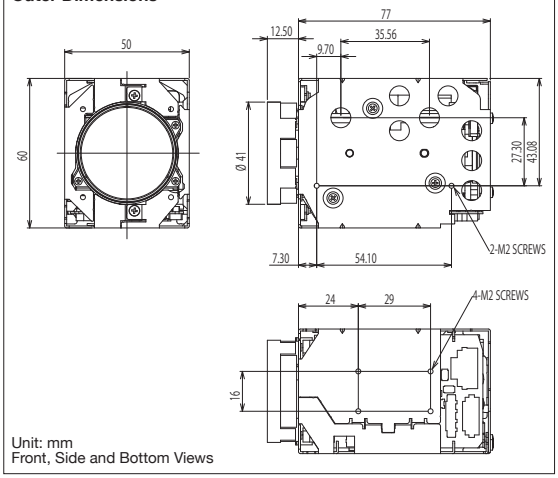
・Images simulated. All images are for explanation purpose only.

Specifications

Model Number(Signal Format)		VK-S655N (NTSC)	VK-S655EN (PAL)
CCD Image Sensor			
Image Size		4.5mm Dia. (TYPE 1/4)	
Total Pixels		410k (811 x 508)	470k (795 x 596)
Effective Pixels		380k (768 x 494)	440k (752 x 582)
Progressive Scan		YES	
Lens			
Optical Zoom Magnification		36 x	
35 x compatibility mode		YES	
Practical f-value		36 x (3.3-119mm) / 35 x (3.4-119mm)	
Practical H.angle		36 x (60.2˚(w)* - 1.8˚(t)) / 35 x (58.2˚(w)* - 1.8˚(t))	
F-value		F1.4(w) - F4.2(t)	
Zoom Speed (Manual)		4.6s*/6.6s	
(In Preset : Trace / No-)		3.2s/2.0s	
Focus			
Auto		VAF	
Manual (Far/Near)		Provided	
Focal Range (Setting)		infinity-1.5m(t) - 0.01m(w)*	
IR Cut Filter Removable			
Auto		Pro. AER+* (OFF - ON - 1/4* - 1/4k)	Pro. AER+* (OFF - ON - 1/3* - 1/4k)
Manual (ON/OFF)		Provided	
Durability			
Zoom/Focus/Iris		500k cycles	
IR Removable		50k cycles	
DSP		DSP-8	
Serial interface	Method : speed	RS-232C : 57.6k / 38.4k / 19.2k / 9.6k / 4.8k* bps	
	Command Protocol	EAP(Echo control based on Address Protocol)/ AFP（Ack control based on Function Protocol）	
	RS232C logic voltage level	5V	
Functions	Digital Slow Shutter	YES w/o WDR	
	Frame Output	OFF*/ON	
	Wide Dynamic Range	OFF*/ON (Auto* [offset]/Manual)	
	Frame Noise Reduction	OFF/ON*	
	Image Stabilizer	OFF*/ON (Digital Zoom max. 1.3X)	
	Image Reverse	OFF*/ON	
	Mirror	OFF*/ON	
	Vertical Invert	OFF*/ON	
	Image Freeze	OFF*/ON	
	B&W	OFF*/ON	
	Privacy Masking	OFF/ON* [2 zone 2-D(2/1 screen)*/8 zone 3-D(4/1 screen)]	
	Fixed Privacy Masking	OFF*/ON [optional：12 x 24 units]	
	Title Display	OFF*/ON [optional：24 characters]	
	Motion Detect	OFF*/ON	
	Motion Tracking	YES(area assignable)	
	Various Customizable Settings	YES [Preset store (max.111), WB tuning]	
	Dynamic Spot Cancel	YES	
	Slow Response AE	1x* - 254x	
Digital Zoom			
Zoom Magnification		OFF*/ON (max. 12X)	
Electrical Shutter			
Auto		Pro. AE (1/60 - 1/4ks)	Pro. AE (1/50 - 1/4ks)
Auto (+DS Shutter)		Pro.AE+*(1/2-1/4*-1/4ks:Seamless)	Pro.AE+*(1/1.5-1/3*-1/4ks:Seamless)
Manual		Shutter priority 1/1-1/30ks	Shutter priority 1/0.75-1/30ks
		Exposure priority F1.4 - F32 AGC priority 0 - 30 dB	
Manual (Sensitivity)		64X, 32X, 16X, 8X, 4X, 2X	
Iris		Auto*/Manual	
BLC (in WDR OFF mode)		OFF*/ON	
White Balance		Auto*/Manual	
Horizontal Resolution(Typ.)			
Normal (1/60s)(NTSC)/(1/50s)(PAL)		typ.540 min.520 TVL	
Luminance S/N Ratio		More than 50 dB	
Min. Sensitivity (Typ.)			
IR-cut ON (1/60s)(NTSC)/(1/50s)(PAL)		1.0 lx	
IR-cut ON (1/4s)(NTSC)/(1/3s)(PAL)		0.1 lx	
IR-cut OFF (1/4s)(NTSC)/(1/3s)(PAL)		Approx. 0.01 lx (B/W)	
Condition		(F1.4(w), 50IRE)	
Sync System		Internal/External (60Hz)	Internal/External (50Hz)
Power			
Supplied Voltage		9 - 12V DC	
Supplied Current (@9V)		290mA	
Supplied Current Max.(@9V)		380mA	
Consumption (@9V) all motors inactive		2.6W	
Consumption Max.(@9V) Forcus/Zoom Motors active		3.4W	
Video Output (NTSC/PAL)		VBS:1.0Vp-p, Y/C Output	
Video Output (Digital output)		YUV422 8bit output (REC656 type)	
Dimensions (W x H x D)		50 x 60 x 89.5mm (w/ M-case)	
Weight		Approx. 235g (w/ M-case)	
No. of Connectors		4 [(9pin/4pin : Analog Output) , (24pin/30pin : Digital Output)]	
Operating Temp. (Recommended)		-10˚C - 60˚C (0˚C - 40˚C)	

** Default mode.*

Outer Dimensions



Unit: mm
Front, Side and Bottom Views

- Design and specifications are subject to change without notice.
- The expanded image and comparison photos in this catalog are simulations.

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