



*i-VMD Type2 : Intruder Detection / Loitering Detection / Direction Detection / Scene Change Detection / Object Detection / Cross Line Detection

Full HD / 1,920 x 1,080 60 fps H.264 Vandal Resistant Network Camera featuring Super Dynamic (WV-SFV631L)

HD / 1,280 x 720 60 fps H.264 Vandal Resistant Network Camera featuring Super Dynamic (WV-SFV611L)

Key Features

- **1080p Full HD / 720p HD images up to 60 fps^{*1}**
- Approximate 1/3 inches, high sensitivity MOS image sensor
- Super high resolution at Full HD/1,920 x 1,080 created by high sensitivity MOS image sensor. (WV-SFV631L only)
- **Multiple H.264 (High profile) streams (max. 4 streams)** and JPEG streams ensure simultaneous real time monitoring and high resolution recording.
- Maximum Screen Size is 2,048 x 1,536* @30 fps, H.264 (WV-SFV631L only)
 - * Used by super resolution techniques
- **Enhanced Super Dynamic^{*1}** and ABS (Adaptive Black Stretch) technologies deliver **133 dB** wider dynamic range compared to conventional cameras.
- **Smart coding Technology : Group of Pictures (GOP) control** function removes unnecessary information from the frame for realizing efficient encoding. **Auto VIQS** (Variable Image Quality on Specified area) function recognizes the no movement area in a video automatically and lowering the resolution of it to reduce the data size.

With the latest bit rate reducing technology, **GOP control**, **Auto VIQS**, **3D-MNR** (Multi process Noise Reduction) and **FDF** (Frequency Divided Filter), the network bandwidth and the disk space of recorder can be saved.
- High sensitivity with Day/Night (ICR*) function:
 WV-SFV631L: 0.04 lx (Color), 0.01 lx (B/W) at F1.3
 WV-SFV611L: 0.01 lx (Color), 0.003 lx (B/W) at F1.3
 *ICR: IR Cut filter Removal
- **IR LED** equipped: The equipped infrared LED makes it possible to take pictures at zero lx.
- **IR LED** is controlled to match the environment, thereby the camera provides clear images of human faces without white blur.
- New camera attachment bracket allows an **easy camera installation** toward all four directions.
- **High Speed ABF (Auto Back Focus) and Motorized Zoom** ensures easy installation.
- Newly developed lens with aperture control function realizes the best focus in any environment.
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated **eight areas** to retain higher image quality while the excluded area will have a decreased image quality, which enables to use lower image file size and bit rate.
- Cropping function enables to provide whole image and the part image simultaneously. Up to 4 image capture areas can be specified, and it is also possible to control the sequence.
- **Face Super Dynamic** technology ensures clear face image.
- Lens distortion compensation for the distorted images can be adjusted 256 steps.
- Selectable light control modes:
 - Outdoor scene, Indoor scene (50 Hz) / Indoor scene (60 Hz), Fix shutter**
 - Indoor scene (50 Hz/60Hz):** Flicker caused by fluorescent lightning will be automatically compensated.
- 3x (WV-SFV631L), 2x (WV-SFV611L) extra optical zoom at 640 x 360 resolution
- 2x, 4x digital zoom controlled by browser
- **VMD** (Video Motion Detection) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- **Privacy Zone** can mask up to 8 private areas, such as house windows and entrances/exits.
- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic alarm protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.
- **Prioritized stream control:** One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- **Double SDXC/SDHC/SD Memory card slots** for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (H.264 / JPEG).
 - Realize long-term recording and auto backup function.
- Newly developed dome cover provides clearer images above the horizontal. Thereby, it expands the tilting range of the lens.
- **Face detection** function detects the position of human face and the information is sent by XML or video stream. (Optional)
- Can be added new intelligent extension software (Optional) in addition to built-in VMD (Video Motion Detection), alarm function.
- **Fog compensation function** equipped as standard.
- **HLC (High Light Compensation)** technology reduces strong light sources such as vehicle headlights to prevent camera being blinded.
- **Super Chroma Compensation** function realizes a better color reproducibility even in low illumination.
- H.264 max. bit rate/client and Total bit rate control allows flexible network traffic management.
 - Frame rate priority mode controls bit rate and compression ratio to provide the specified frame rate.
- Internet mode: H.264 images can be transmitted over HTTP protocol.
- Multi-language: English / Italian / French / German / Spanish / Portuguese / Russian / Chinese / Japanese
- Supports SSL, DDNS (viewnetcam, RFC2136)
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4X(UL50), NEMA 4X compliant.
- Dehumidification device for use with various weather conditions
- Vandal resistant mechanism for high reliability

*1 Super Dynamic function is automatically set off on 60 fps mode.

Specifications

Camera	Image Sensor	Approx. 1/3 type MOS image sensor
	Scanning Mode	Progressive scan
	Scanning Area	WV-SFV631L : 5.28 mm (H) x 3.30 mm (V) (7/32 inches (H) x 1/8 inches (V)) WV-SFV611L : 4.86 mm (H) x 3.65 mm (V) (3/16 inches (H) x 5/32 inches (V))
	Minimum Illumination	WV-SFV631L : Color : less than 0.04 lx, BW : 0.01 lx (F1.3, Maximum shutter : Max. 1/30s, Gain : On(High)) Color : less than 0.003 lx, BW : 0.0007 lx (F1.3, Maximum shutter : Max. 16/30s, Gain : On(High)) ^{*1}
		WV-SFV611L : Color : less than 0.01 lx, BW : 0.003 lx (F1.3, Maximum shutter : Max. Off (1/30s), Gain : On(High)) Color : less than 0.0007 lx, BW : 0.0002 lx (F1.3, Maximum shutter : Max. 16/30s, Gain : On(High)) ^{*1}
	IR LED Light	Off / Auto (High / Mid / Low)
	IR LED irradiation distance	Approx. 30 m (98.43 feet)
	White Balance	AWC (2,000 - 10,000 K), ATW1 (2,700 - 6,000 K), ATW2 (2,000 - 6,000 K)
	Light Control Mode	Outdoor scene : Automatic integration of ALC and ELC Indoor scene [50 Hz] : Automatic integration of ALC and ELC with flickerless Indoor scene [60 Hz] : Automatic integration of ALC and ELC with flickerless
	Shutter Speed	[2 mega pixel [16 : 9] (60 fps mode) / 1.3 mega pixel [16 : 9] (60 fps mode)] Off (1/60), 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
		Other than [2 mega pixel [16 : 9] (60 fps mode) / 1.3 mega pixel [16 : 9] (60 fps mode)] Off (1/30), 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
	Super Dynamic ^{*2}	On (High) / On (Normal) / Off
	Face Super Dynamic	On / Off (Only when Super Dynamic : On)
	Adaptive Black Stretch	On / Off (Only when Super Dynamic : Off)
	Fog compensation	On / Off (Only when Super Dynamic / Adaptive black stretch : Off)
	AGC	On (Low) / On (Mid) / On (High) / Off
	Electronic Sensitivity UP	max. 1/1000 s, max. 1/500 s, max. 1/250 s, max. 1/100 s, max. 1/60 s, max. 1/30 s, max. 2/30 s, max. 4/30 s, max. 6/30 s, max. 10/30 s, max. 16/30 s
	Day/Night (ICR)	Off / On / Auto1 (Normal) / Auto2 (IR Light) / Auto3 (SCC)
	Dynamic Range	133 dB typ. (Super Dynamic : On, Light Control Mode : indoor)
	Digital Noise Reduction	High / Low
Video Motion Detection	4 areas, Sensitivity : 15 steps, Detection size : 10 steps	
Privacy Zone	Up to 8 zones	
VIQS	Up to 8 zones	
Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks)	
Electric Zoom	TELE / WIDE, Auto Coarse adjustment of Focus	
Focus Adjustment	ABF / MANUAL (Htmi only)	
Lens Distortion Compensation	256 steps	
Lens	Vari Focal Length	2.8 - 10mm (1/8 inches - 13/32 inches)
	Angular Field of View	WV-SFV631L [16 : 9 mode] Horizontal : 28.8° (TELE) - 102.6° (WIDE) Vertical : 16.0° (TELE) - 56.0° (WIDE) [4 : 3 mode] Horizontal : 23.7° (TELE) - 84.3° (WIDE) Vertical : 17.8° (TELE) - 62.4° (WIDE)
		WV-SFV611L [16 : 9 mode] Horizontal : 26.4° (TELE) - 93.7° (WIDE) Vertical : 14.8° (TELE) - 51.6° (WIDE) [4 : 3 mode] Horizontal : 26.4° (TELE) - 93.7° (WIDE) Vertical : 20.0° (TELE) - 69.3° (WIDE)
	Maximum Aperture Ratio	1 : 1.3 (WIDE) - 1 : 3.0 (TELE) *with Smart DoF (Depth of Field) mode
Focusing Range	0.3 m - ∞	
Adjusting Angle	Horizontal : ±180°, Vertical : 0-85° Image tilt adjustment range : -45° (Left) to +300° (Right)	
Browser GUI	Cropping	H.264(1) / H.264(2) / H.264(3) / H.264(4) / H.264(all) / JPEG(1) / JPEG(2) / JPEG(3) Up to 4 image capture areas can be specified
	Camera Control	Brightness, AUX On / Off
	Display Mode	Spot, Quad : Image from 16 cameras can be displayed in 4 different Quad screens or 16 split screen (JPEG only), 20 characters camera title available.
	Digital Zoom	1x, 2x, 4x controlled by browser GUI
	Camera Title	Up to 20 alphanumeric characters
	Clock Display	Time : 12H/24H, Date : 5 formats on the browser, Summer time (Manual)
	Alarm Control	Reset
	One Shot Capture	A still picture will be displayed on a newly opened window.
	Audio	Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High Audio Output : On / Off Volume adjustment : Low / Middle / High
	SD Memory Data Download	Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded.
	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
	System Log	Up to 100 (Internal) Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs
	Supported OS ^{*3}	Microsoft® Windows® 10 Microsoft® Windows® 8.1 Microsoft® Windows® 8 Microsoft® Windows® 7 Microsoft® Windows Vista®
	Supported Browser	Windows® Internet Explorer® 11 (32-bit) Windows® Internet Explorer® 10 (32-bit) Windows® Internet Explorer® 9 (32-bit) Windows® Internet Explorer® 8 (32-bit) Windows® Internet Explorer® 7 (32-bit) Safari*, Google Chrome*, Mozilla Firefox* * with limitations in the part of setting screen
	Network	Network IF
Image Resolution		WV-SFV631L *2 mega pixel [16 : 9] (30/60 fps) 1,920 x 1,080 / 1,280 x 720 / 640 x 360 / 320 x 180 / 160 x 90 *2 mega pixel [4 : 3] (30 fps) 1,600 x 1,200 / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120 *3 mega pixel [4 : 3] (30 fps) 2,048 x 1,536* / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120 * Used by super resolution techniques
		WV-SFV611L *1.3 mega pixel [16 : 9] (30/60 fps) 1,280 x 720 / 640 x 360 / 320 x 180 / 160 x 90 *1.3 mega pixel [4 : 3] (30 fps) 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120
Transmission Mode		Constant bit rate / Variable bit rate / Framerate priority / Best effort / Advanced VBR
Frame Rate		1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 / 60 fps
Bit Rate/Client		64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 6,144 / 8,192 / 10,240 / 12,288 / 14,336 / 16,384 / 20,480 / 24,576 kbps
Image Quality		Low / Normal / Fine
Smart Coding mode		On (Low / Mid / High) / Off (Only when "Variable bit rate" is selected)
Refresh interval		0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5s
Transmission Type		Unicast / Multicast

Network	JPEG	Image Quality	10 steps
		Refresh interval	0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying both JPEG and H.264 images.)
		Transmission Type	Pull / Push
	Audio Compression	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps / AAC-LC	
	Audio Mode	Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)	
	Authentication for Audio	Level 1 only / Level 2 higher / All users	
	Total Bit Rate	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 2,048 / 4,096 / 8,192 kbps / Unlimited	
	Supported Protocol	IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, MLD, ICMP, ARP, DiffServ IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP, DiffServ	
	FTP Client	Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDXC/SDHC/SD memory card is available.)	
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)	
	SDXC/SDHC/SD Memory Card (Option)	H.264 recording : Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure JPEG recording : Manual REC / Alarm REC (Pre/Post) / Backup upon network failure Compatible SD (SDHC/SDXC) card : Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB**, 64 GB** model *SDHC card, **SDXC card (except miniSD card and microSD card)	
	Employment of two SD cards	Dual Recording for Redundancy Series Recording for long time	
	Cellular Phone Compatibility	JPEG image, AUX control (by access level)	
	Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later), Android™ mobile terminals	
	Alarm	Alarm Source	3 terminals input, VMD, Command alarm, Audio detection alarm
Alarm Actions		SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification Indication on browser, FTP image transfer, Panasonic protocol output	
Alarm Log		With SDXC/SDHC/SD memory card : Up to 50,000 logs for each SD memory card	
Schedule		Alarm / VMD / Access permission / H.264 recording / Scene file	
Input / Output	Monitor Output (for adjustment)	VBS : 1.0 V (p-p)/75 Ω, NTSC / PAL composite, ø3.5mm mini jack MONITOR OUT conversion plug included	
	Microphone/Line Input	MIC IN and Line IN are selectable. ø3.5 mm monaural mini jack (monaural input) (Applicable microphone: Plug-in power type) Supply voltage: 2.5 V ±0.5 V	
	Audio Output	Input impedance : Approx. 2 kΩ (unbalanced) ø3.5 mm stereo mini jack (monaural output) Output impedance : Approx. 600 Ω (unbalanced)	
	External I/O Terminals	ALARM IN 1(DAY/NIGHT IN), ALARM IN 2(ALARM OUT), ALARM IN 3(AUX OUT)	
General	Safety	UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1	
	EMS	FCC (Part15 ClassA), ICES003 ClassA, EN55022 ClassB, EN55024	
	Power Source and Power Consumption	When IR LED is ON WV-SFV631L DC power supply : DC12 V / 1080 mA / Approx. 12.9 W PoE (IEEE802.3af compliant) Device : DC48 V / 270 mA / Approx. 12.95 W* (Class 0 device) WV-SFV611L DC power supply : DC12 V / 1010 mA / Approx. 12.1 W PoE (IEEE802.3af compliant) Device : DC48 V / 270 mA / Approx. 12.95 W* (Class 0 device) * Maximum power consumption on the camera power input side. ** ONLY CONNECT DC12 V CLASS 2 POWER SUPPLY.	
	Ambient Operating Temperature	-45 °C to +50 °C (-49 °F to 122 °F)	
	Ambient Operating Humidity	10 to 90 % (no condensation)	
	Water and Dust Resistance	IP66, IEC60529 measuring standard compatible, Type 4X(UL50), NEMA 4X compliant	
	Shock Resistance	Compliant with 50J IEC60068-2-75	
Dimensions	ø164 mm x 139 mm (H) (ø6-15/32 inches x 5-15/32 inches (H)) Dome radius 42 mm (1-21/32 inches)		
Mass (approx.)	1.6 kg (3.53 lbs.)		
Finish	Main body : Aluminum die cast, light gray Dome section : Clear polycarbonate resin		

*1 Converted value

*2 Super Dynamic function is automatically set off on 60 fps mode.

*3 Refer to "Notes on Windows Vista® / Windows® 7 / Windows® 8 / Windows® 8.1 / Windows® 10" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 10 or Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

*4 Transmission for 4 streams can be individually set.

