Panasonic
ideas for life

Preliminary

WV-SF539   WV-SF538

i-PRO SmartHD

MEGA *SuperDynamic*

Onvif

day/night IR removable (WV-SF539)   day/night (WV-SF538)

VIQS — Variable Image Quality on Specified area

H.264 JPEG   FULL HD Full High Definition 1080   Face Detection   Auto Back Focus

Full HD / 1,920 x1,080 H.264 Network Camera featuring Super Dynamic

Key Features

- Super high resolution at Full HD/1,920 x 1,080 created by 3.1Megapixel high sensitivity MOS Sensor.
- 1080p Full HD images up to 30 fps and 360p image up to 30fps simultaneously.
- Combining enhanced "UniPhier®", Panasonic's proprietary System LSI platform and **2 areas VIQS** (Variable Image Quality on Specified area) function can decrease maximum 50%[1] network bandwidth.
- Cropping function enables to provide whole image (1,920 x 1,080) and the part image (640 x 360) simultaneously.
  Up to 4 image capture areas can be specified, and it is also possible to control the sequence.
- Picture in picture function: A cropping image or an alarm image can be added to an image and transmitted.
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by enhanced "UniPhier®".
- **Super Dynamic** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- Face Super Dynamic Range technology ensures clear face image.
- High sensitivity with Day & Night (IR) function:0.5 lx (Color), 0.06 lx (B/W) at F1.3 (WV-SF539)
- High sensitivity with Day & Night (Electrical) function:0.5 lx (Color), 0.3 lx (B/W) at F1.3 (WV-SF538)
- Using Panasonic distinctive LDC (Lens Distortion Compensation) function, natural image without distortion can be monitored though using wide angle lens.
- ABF (Auto Back Focus) ensures easy installation.
- ABF ensures stable focus in both color and B/W modes. (WV-SF539)
- Digital Noise Reduction: 3D-DNR ensures noise reduction in various conditions.
- Progressive scan ensures clear images with less motion blur and no tearing even when the subject is moving.
- Superior color reproduction by primary (RGB) color filter.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Selectable light control modes: Outdoor scene / Indoor scene (50 Hz) / Indoor scene (60 Hz) / ELC / Fixed electronic shutter
  Outdoor scene: Electronic shutter and ALC lens iris control are automatically controlled depending on the mode and luminance level.
  Indoor scene (50 Hz / 60 Hz): Flicker caused by fluorescent lightning will be automatically compensated.
  ELC: Up to 1/10,000 Electronic shutter is automatically applied for a fix iris lens.
  Fixed electronic shutter: Up to 1/10,000 fixed electronic shutter can be selectable.
- 3x Extra optical zoom at 360p resolution. (Picture Mode : 2 Mega pixel [16:9])
- VMD (Video Motion Detection) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Face detection function detects the position of human face and the information is sent by video stream.

- Privacy Zone can mask up to 2 private areas, such as house windows and entrances/exits.
- 2x, 4x digital zoom controlled by browser.
- Camera title display: Up to 20 alphanumeric characters on the browser
- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/SDHC/SD memory recording(WV-SF539), 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. (WV-SF539)
- JPEG Image compression ratio can be changed by alarm so that higher quality image can be provided.
- 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.
- SDXC/SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG) (WV-SF539)
- 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 / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported.
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via the Internet.
- Onvif compliant model
- 2.8 ~ 10.0 mm, 3.6x Varifocal Auto Iris Lens

[1] Compared with WV-NP502. Reduction effect may vary depending on object and image quality setting conditions.

Standard Accessories

- Installation Guide .... 1 pc.
- CD-ROM[1] .... 1 pc.
- Code Label[2] .... 1 pc.

The followings are for installation.
- Power Cord Plug .... 1 pc.
- External I/O Terminal Plug............ 1 pc.

- Installation Template Label .... 1 pc.
- Cable Tie .... 2 pcs. (incl. 1 spare)

[1] The CD-ROM contains the operating instructions (PDFs) and different kinds of tool software programs.
[2] This label may be required for network management. The network administrator shall retain the code label.

Optional Accessories

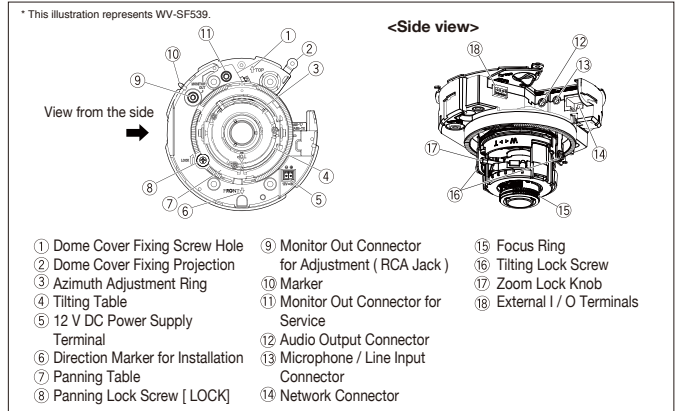| Embedded Ceiling Mount Bracket (Sail white) **WV-Q174**	Smoke Dome Cover **WV-CF5S**	Ceiling Mount Bracket **WV-Q105** (PAL only)

Specifications

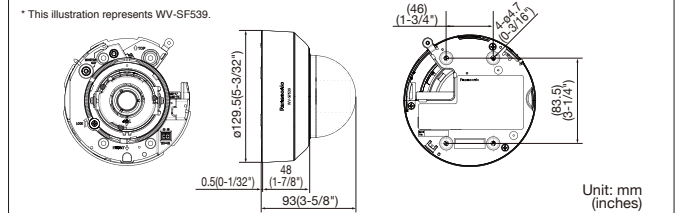| TV System		NTSC	PAL
Camera	Image Sensor	1/3 type MOS Sensor	
	Effective Pixels	Approx. 3.1 megapixel	
	Scanning Mode	Progressive scan	
	Scanning Area	4.51 mm (H) x 3.38 mm (V) {3/16 inches (H) x 1/8 inches (V)}	
	Minimum Illumination	WV-SF539: Color: 0.5 lx, BW: 0.06 lx (F1.3, Auto slow shutter: Off (1/30s), Gain:On(High)) Color: 0.03 lx, BW 0.004 lx (F1.3, Auto slow shutter: Max. 16/30s, Gain:On(High)) *1 WV-SF538: Color: 0.5 lx, BW: 0.3 lx (F1.3, Auto slow shutter: Off (1/30s), Gain:On(High)) Color: 0.03 lx, BW 0.02 lx (F1.3, Auto slow shutter: Max. 16/30s, Gain:On(High)) *1	
	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 (up to 1/100 s) Indoor scene [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s) ELC: (up to 1/10,000 sec.)	
	Shutter Speed	Fix shutter: 1/30, 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 (only at Super Dynamic Off)	
	Super Dynamic	ON / OFF	
	Dynamic Range	52 dB typ. (Super Dynamic: ON, Light Control Mode: indoor)	
	Face Super Dynamic	ON / OFF (Only at Super Dynamic: ON)	
	Adaptive Black Stretch	ON / OFF (Only at Super Dynamic: OFF)	
	AGC	ON (LOW, MID, HIGH) / OFF	
	Electronic Sensitivity UP	OFF / AUTO (Max. 2x (2/30 s), 4x (4/30 s), 6x (6/30 s), 10x (10/30 s), 16x (16/30 s))	
	Day & Night	WV-SF539: IR Mode: AUTO1 / AUTO2 / ON / OFF, Level:High / Low, with external control WV-SF538: Electrical Mode: OFF / AUTO	
	Digital Noise Reduction	High / Low	
	Video Motion Detection	4 areas, Sensitivity: 15 steps, Detection size: 10 steps	
	Privacy Zone	Up to 2 zones, Gray	
	Upside Down	ON / OFF	
	VIQS	Up to 2 zones	
	Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks)	
	Focus Adjustment	ABF/MANUAL	
	Lens Distortion Conpensation	256 steps	
Lens	Focal Length	2.8 mm - 10 mm, 3.6x (8.4 mm - 30 mm 10.8x with Extra optical zoom (at 360P))	
	Angular Field of View*2	H: 24.2 °(TELE) ~ 80.6 °(WIDE)	
	Maximum Aperture Ratio	1 : 1.3 (WIDE) ~ 1 : 3.0 (TELE)	
	Focusing Range	0.3 m ~ ∞	
Adjusting Angle		Horizontal: 180 ° (clockwise), 170 ° (counterclockwise), Vertical: ±75 °, Image tilt adjustment range: ±100 °	
Browser GUI	Cropping	H.264(2) / JPEG(VGA or 640 x 360) / JPEG(QVGA or 320 x 180) Up to 4 image capture areas can be specified	
	Camera Control	Brightness, AUX ON / OFF, Zoom (1x, 2x 4x)	
	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 (Only at WV-SF539)	
	SD Memory Data Download	Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded. (Only at WV-SF539)	
	GUI/Setup Menu Language	English, Japanese, Italian, French, German, Spanish, Chinese, Russian	
	System Log	Up to 100 (Internal) Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs (Only at WV-SF539)	
	Supported OS *3 *4	Microsoft® Windows® 7, Microsoft® Windows Vista®,Microsoft® Windows® XP SP3	
	Supported Browser	Windows® Internet Explorer® 9.0 (32 bit), Windows® Internet Explorer® 8.0 (32 bit), Windows® Internet Explorer® 7.0 (32 bit), Microsoft® Internet Explorer® 6.0 SP3	
Network	Network IF	10Base-T / 100Base-TX, RJ-45 connector	
	Image Resolution — Image Capture Mode: 2 mega pixel [16:9]	H.264: 1,920 x 1,080 / 640 x 360 / 320 x 180, up to 30 fps JPEG (MJPEG): 1,920 x 1,080 / 640 x 360 / 320 x 180, up to 30 fps	
	Image Capture Mode: 1.3 mega pixel [16:9]	H.264: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps JPEG (MJPEG): 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps	
	Image Capture Mode: 1.3 mega pixel [4:3]	H.264: 1,280 x 960 / VGA(640 x 480) / QVGA(320 x 240), up to 30 fps JPEG (MJPEG): 1,280 x 960 / VGA(640 x 480) / QVGA(320 x 240), up to 30 fps	
	Image Capture Mode: 3 mega pixel [4:3]	H.264: 1,280 x 960, up to 15 fps JPEG (MJPEG): 2,048 x1,536, up to 15 fps	
	H.264 *5 — Transmission Mode	Constant bitrate / Framerate priority / Best effort	
	Frame Rate	1 / 3 / 5 / 7.5 / 12 / 10 / 15 / 20 / 30 fps	
	Bit Rate/Client	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 8,192 / 10,240 / 12,288 / 14,336 kbps	
	Image Quality	LOW / NORMAL / FINE	
	Refresh Interval	0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5 s	
	Transmission Type	UNICAST / MULTICAST	
	JPEG — Image Quality	10 steps	
	Refresh Interval	0.1 fps ~ 30 fps	
	Transmission Type	PULL / PUSH	
	Audio Compression *Only at WV-SF539	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps	
	Audio Mode *Only at WV-SF539	OFF / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)	
	Authentication for Audio *Only at WV-SF539	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,ICMP,ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP,FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP,IGMP,ICMP,ARP	
	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. *) *Only at WV-SF539	
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)	
	SDXC/SDHC/SD Memory Card (Option) *Only at WV-SF539	H.264 recording: Manual REC / Alarm REC (Pre/Post) / Schedule REC JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure Compatible SD (SDHC/SDXC) card: Panasonic 1 GB, 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64GB** model *SDHC card, ** SDXC card (except miniSD card and microSD card)	
	Cellular Phone Compatibility	JPEG image	

TV System		NTSC	PAL
Network	Mobile Terminal Compatibilty*6	iPad, iPhone, iPod touch (iOS 4.2.1 or later) , Android™ mobile terminals	
	Face Detection	ON / OFF (with XML notification)	
Alarm	Alarm Source	WV-SF539 3 terminals input, VMD, Command alarm WV-SF538 1 terminal input, VMD, Command alarm	
	Alarm Actions	SDXC/SDHC/SD memory recording*, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output *Only at WV-SF539	
	Alarm Log	With SDXC/SDHC/SD memory card*: 5,000 logs, without SDXC/SDHC/SD memory card: 1000 logs *Only at WV-SF539	
	Schedule	Alarm / VMD / Access permission / H.264 recording	
Input/ Output	Monitor Output (for adjustment)	VBS: 1.0 V [p-p]/75 Ω, NTSC composite, RCA Jack	VBS: 1.0 V [p-p]/75 Ω, PAL composite, RCA Jack
	Microphone/Line Input *Only at WV-SF539	MIC IN and Line IN are selectable. ø3.5 mm stereo mini jack (monaural input) (Applicable microphone: Plug-in power type) Supply voltage: 2.5 V ±0.5 V Input impedance: approx. 2 kΩ	
	Audio Output *Only at WV-SF539	ø3.5 mm stereo mini jack (monaural output) Line level	
	External I/O Terminals	WV-SF539 ALARM IN 1/DAY/NIGHT IN, ALARM IN 2/ALARM OUT, ALARM IN 3/AUX OUT WV-SF538 ALARM IN , ALARM OUT, AUX OUT	
General	Safety/EMC Standard	UL (UL60950-1), FCC (Part15 ClassA), C-UL (CAN/CSA C22.2 No.60950-1), DOC (ICES003 ClassA)	CE, IEC60950-1 (EN55022 ClassB, EN55024)
	Power Source and Power Consumption	WV-SF539 12V DC: 530 mA *, PoE (IEEE802.3af compliant) / PoE 48 V: 120 mA (Class 2 device) WV-SF538 12V DC: 510 mA *, PoE (IEEE802.3af compliant) / PoE 48 V: 115 mA (Class 2 device) * FOR UL LISTED MODEL(S), ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY.	
	Ambient Operating Temperature	-10 °C ~ +50 °C (14 °F ~ 122 °F)	
	Ambient Operating Humidity	Less than 90 % (no condensation)	
	Dimensions	ø129.5 mm x 93 mm (H) {ø5-1/8 inches x 3-11/16 inches (H)}	
	Mass (approx.)	450 g (0.99 lbs)	
	Finish	Main body: ABS resin, sail white Dome section: Clear acrylic resin	

*1 Converted value
*2 If "1.3 megapixel [4:3]" is selected for the imaging mode, the viewing angle will become narrower.
*3 Refer to "Notes on Windows Vista® / Windows® 7" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 7 or Microsoft® Windows Vista®.
*4 When using IPv6 for communication, use Microsoft® Windows® 7 or Microsoft® Windows Vista®.
*5 Transmission for 2 streams can be individually set in the same compression method.
*6 For further information about compatible devices, refer to our website (http://panasonic.net/pss/security/support/info.html).

Part Names and Functions

* This illustration represents WV-SF539.

<Side view>

View from the side

① Dome Cover Fixing Screw Hole
② Dome Cover Fixing Projection
③ Azimuth Adjustment Ring
④ Tilting Table
⑤ 12 V DC Power Supply Terminal
⑥ Direction Marker for Installation
⑦ Panning Table
⑧ Panning Lock Screw [LOCK]
⑨ Monitor Out Connector for Adjustment (RCA Jack)
⑩ Marker
⑪ Monitor Out Connector for Service
⑫ Audio Output Connector
⑬ Microphone / Line Input Connector
⑭ Network Connector
⑮ Focus Ring
⑯ Tilting Lock Screw
⑰ Zoom Lock Knob
⑱ External I / O Terminals

Appearance

* This illustration represents WV-SF539.

ø129.5(5-3/32")
48 (1-7/8")
93(3-5/8")
0.5(0-1/32")
(46) (1-3/4")
4-ø4.7 (0-3/16")
(83.5) (3-1/4")

Unit: mm (inches)

DISTRIBUTED BY:

Panasonic®