

Preliminary



360 degree Vandal Resistant Network Camera featuring Super Dynamic

Key Features

- 360° monitoring with a wide variety of transmission modes: Wall Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264/VGA)
- 1080p Full HD images up to 30 fps.
- 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.
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by enhanced "UniPhier[®]".
- Smooth PTZ operation without mechanical action
- Built-in distortion correction function
- A fish-eye lens control function realizes intelligible screen operation intuitively.
- Smartphone monitoring : Direct camera control from smartphone
- **Super Dynamic** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- High sensitivity with Day/Night (Electrical) function: 1.5 lx (Color), 1.2 lx (B/W) at F2.4
- 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: Indoor scene (50 Hz) / Indoor scene (60 Hz) / ELC (maximum exposure time)
Indoor scene (50 Hz/60 Hz): Flicker caused by fluorescent lightning will be automatically compensated.
ELC (maximum exposure time): The lightning control will be automatically performed by adjusting shutter speed in the range of ELC.
- VMD (Video Motion Detector) 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 XML or video stream.
- Privacy Zone can mask up to 4 private areas, such as house windows and entrances/exits.
- 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, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.

- 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)
- 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 Internet.
- Vandal resistant mechanism for high reliability
- Operating temperature -10 °C ~ +50 °C (-14 °F ~ 122 °F)
- Low profile design for discrete installation
- Mechanical shutter:
The Mechanical shutter is situated above the lens and can be opened and closed as necessary.
When the Mechanical shutter is closed, a black image is transmitted to protect privacy.

^{*1} Compared with WV-NP502, reduction effect is decreased by object and image quality setting conditions

Standard Accessories

- Installation Guide..... 1 pc.
- CD-ROM^{*1} 1 pc.
- Code label^{*2} 1 pc.

The following is used during installation procedures:

- Camera attachment..... 1 pc.
- Audio cable..... 1 pc.
- Power cord plug 1 pc.
- External I/O terminal plug..... 1 pc.
- Installation template label..... 1 pc.
- Cable tie 2 pcs. (incl. 1 spare)
- Bit for tamperproof screw 1 pc.

^{*1} The CD-ROM contains the operating installations and installation guide (PDF).

^{*2} This label may be required for network management. The network administrator shall retain the code label.

Optional Accessory

Ceiling Mount Bracket
WV-Q105
(E models only)



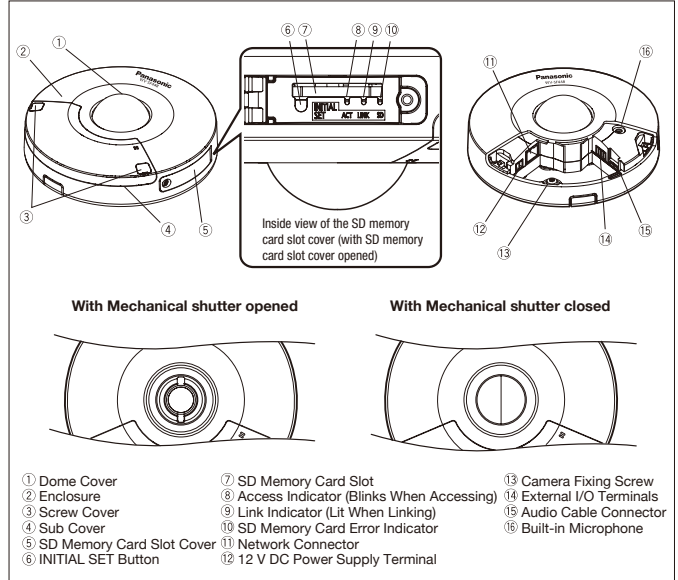
Specifications

TV System	NTSC	PAL
Camera		
Image Sensor	1/3 type MOS Sensor	
Effective Pixels	Approx. 3.1 megapixels	
Scanning Mode	Progressive	
Scanning Area	4.51 mm (H) x 3.38 mm (V) (3/16 inches (H) x 1/8 inches (V))	
Minimum Illumination	Color: 1.5 lx (F2.4, Auto slow shutter: Off (1/30s), Gain:On(High)) Color: 0.1 lx (F2.4, Auto slow shutter: Max. 16/30s, Gain:On(High)) *1 BW: 1.2 lx (F2.4, Auto slow shutter: Off (1/30s), Gain:On(High)) BW: 0.08 lx (F2.4, Auto slow shutter: Off (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	Indoor scene (50 Hz / 60 Hz) / ELC	
Shutter Speed	With Super Dynamic On ELC (1/30 s) With Super Dynamic Off ELC (1/30 s), ELC (3/100 s), ELC (3/120 s), ELC (2/100 s), ELC (2/120 s), ELC (1/100 s), ELC (1/120 s), ELC (1/250 s), ELC (1/500 s), ELC (1/1,000 s), ELC (1/2,000 s), ELC (1/4,000 s), ELC (1/10,000 s)	
Super-Dynamic	ON / OFF	
Dynamic Range	52 dB typ. (only at Super-Dynamic On)	
Adaptive Black Stretch	On/Off (only at Super-Dynamic Off)	
AGC	ON (HIGH) / ON (MID) / ON (LOW) / OFF	
Electronic Sensitivity UP Day & Night (electrical)	OFF / AUTO	
Digital Noise Reduction	HIGH / LOW	
Video Motion Detection	ON / OFF, 4 areas available	
Video analytics Face Detection	Off/On/On with face frame display However, face detection is not supported when "Fisheye" or "Quad streams" is selected for the image type.	
Auto mode:	Auto pan/ Preset sequence Auto mode can only be used when the image type is Quad PTZ or Single PTZ.	
Self return:	10 s / 20 s / 30 s / 1 min / 2 min / 3 min / 5 min / 10 min / 20 min / 30 min / 60 min Self return can only be used when the image type is Quad PTZ or Single PTZ.	
Privacy Zone	ON / OFF (up to 4 zones available)	
Mechanical shutter	OPEN / CLOSE	
VIOS	On/Off (up to 2 areas available) However, the VIOS function is not supported when "Quad PTZ", "Single PTZ" or "Quad streams" are selected.	
Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks), On/Off However, you can specify characters to be displayed on each of the four screens when "Quad streams" is selected.	
Lens		
Focal Length	0.837 mm	
Angular Field of View	Horizontal: 182 °, Vertical: 176 °	
Maximum Aperture Ratio	1:2.4 (Fixed)	
Focusing Range	0.3 m - ∞	
Browser GUI		
Camera Control	Pan/Tilt/Digital Zoom, Preset, Auto Mode, Self Return, Fisheye 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 (Quad PTZ or Single PTZ mode) 1x - 4x (Panorama, Double Panorama, 3M Fisheye mode)	
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 GUI/Setup Menu Language System Log	Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded. English, Italian, French, German, Spanish, Russian, Chinese, Japanese Up to 100 (Internal), up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG), error logs	
Supported OS *2 *3	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 (female)	
Image Resolution *4	2M Panorama [16:9]: H.264(1): 1920x1080 / 640x360 / 320x180, up to 30 fps H.264(2): 640x360 / 320x180, up to 30 fps 2M Double Panorama [16:9]: JPEG: 1920x1080 / 640x360 / 320x180, up to 30 fps H.264(1): 1280x720 / 640x360 / 320x180, up to 30 fps H.264(2): 640x360 / 320x180, up to 30 fps 1.3M Panorama [16:9]: JPEG: 1280x720 / 640x360 / 320x180, up to 30 fps 1.3M Double Panorama [16:9]: H.264(1): 1280x960 / 640x480 / 320x240, up to 15 fps H.264(2): 640x360 / 320x180, up to 15 fps JPG: 1280x960 / 640x480 / 320x240, up to 15 fps • When using distribution of "Wall Panorama" or "Double panorama" H.264(1): 1920x1080 / 640x360 / 320x180, up to 15 fps JPG: 1920x1080 / 640x360 / 320x180, up to 15 fps • When using distribution of "Quad PTZ" or "Single PTZ" H.264(1): 1280x960 / 640x480 / 320x240, up to 15 fps JPG: 1280x960 / 640x480 / 320x240, up to 15 fps VGA Quadstreams Ch1-Ch4 640x480 max.30 fps * Only for H.264 images. * There are specification limitations such as the SD memory card function being unavailable.	
3M Fisheye	H.264(1): 1280x960, up to 15 fps JPG: 2048x1536, up to 15 fps	
H.264	Transmission Mode Constant bitrate / Best effort Frame Rate 1 / 3 / 5 / 7.5 / 10 / 12 / 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 1 fps - 30 fps Transmission Type UNICAST / MULTICAST	
JPEG	Image Quality 10 steps Refresh Interval 0.1 fps - 30 fps Transmission Type PULL / PUSH	
Audio Compression	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps	
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 IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SD memory card is available.)	
FTP Client	Up to 14 users (Depends on network conditions)	
No. of Simultaneous Users	Up to 14 users (Depends on network conditions)	
SDXC/SDHC/SD Memory Card (Option)	Manufactured by Panasonic SDXC memory card: 4 GB SDHC memory card: 4 GB, 8 GB, 16 GB, 32 GB SD memory card: 1 GB, 2 GB (except miniSD card and microSD card)	
Face Detection	ON / OFF (with XML notification) **3M Fisheye [4:3], "1.3M Fisheye [4:3]", and "VGA Quad streams" modes cannot use the Face Detection function.	

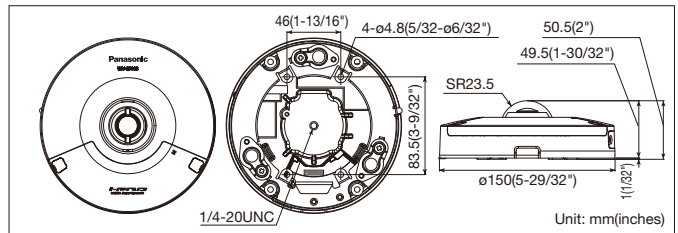
TV System	NTSC	PAL
Network		
Cellular Phone Compatibility	JPEG image, AUX control (by access level)	
Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals	
Alarm		
Alarm Source	VMD, Command alarm	
Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output	
Alarm Log	With SDXC/SDHC/SD memory card: 5,000 logs, without SDXC/SDHC/SD memory card: 1,000 logs	
Schedule	VMD	
Input/ Output		
Microphone/Line Input	Internal microphone, ø3.5 mm monoaural mini jack, Input impedance: Approx. 2 kΩ	
For microphone input	Applicable microphone: Plug-in power type, Supply voltage: 2.5 V ±0.5 V	
For line input	Input level: Approx. -10 dBV	
Audio Output	ø3.5 mm stereo mini jack (monoaural output), Output impedance: Approx. 600 Ω, Line level	
External I/O Terminals	ALARM IN 1/ PRIVACY ACTION IN, ALARM IN 2/ ALARM OUT, ALARM IN 3/ AUX OUT (x1 for each)	
General		
Mounting method	Ceiling/ Wall/ Tripod	
Safety/EMC Standard	UL (UL60950-1, FCC (Part15 ClassA), CE, IEC60950-1 C-UL (CAN/CSA C22.2 No.60950-1), (EN55022 ClassB, EN55024) DOC (ICES003 ClassA)	
Power Source and Power Consumption	12V DC, PoE (IEEE802.3af compliant) 12 V DC*: 610 mA/ 7.3 W PoE 48 V: 140 mA/ 6.7 W (Class 0 devices) * FOR UL LISTED MODEL(S), ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY.	
Ambient Operating Temperature	-10 °C to +50 °C (14 °F to 122 °F)	
Ambient Operating Humidity	Less than 90 % (no condensation)	
Shock Resistance	Compliant with 20 J (IEC 60068-2-75)/IK10 (IEC 62262)	
Dimensions	ø150 mm x 50.5 mm (H) {ø5-29/32 inches x 2 inches (H)}	
Mass (approx.)	Main body: Approx. 590 g (1.30 lbs) Camera attachment: Approx. 90 g (0.20 lbs)	
Finish	Main body: Aluminum die cast, sail white Dome section: Clear polycarbonate resin	

- *1 Converted value
- *2 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®.
- *3 When using IPv6 for communication, use Microsoft® Windows® 7 or Microsoft® Windows Vista®.
- *4 Transmission for 2 streams can be individually set in the same compression method.
- * When the camera is faced toward spot light or other bright lights and light reflecting objects ghost may appear.

Part Names and Functions



Appearance



Trademarks and registered trademarks

- Microsoft, and Windows are registered trademarks of Microsoft Corporation in the U.S. and other countries.
- iPad, iPhone and iPod touch are registered trademarks of Apple Inc.
- UniPhier is a registered trademark of Panasonic Corporation.
- "Super Dynamic", "SDII", "SDIII", "SD5", "SD5Link", "i-PRO" and "i-PRO SmartHD" logos are trademarks or registered trademarks of Panasonic Corporation.
- All other trademarks identified herein are the property of their respective owners.

Important

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.
- Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.
- Masses and dimensions are approximate.
- Specifications are subject to change without notice.
- These products may be subject to export control regulations.
- All product pictures are NTSC models.

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