



360-degree Vandal Resistant Network Camera featuring Super Dynamic

Key Features

- 360° monitoring with a wide variety of transmission modes: 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 fisheye 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.
- With the Intelligent Resolution technology, 3 areas - outlines, detailed texture areas and soft gradation areas - are automatically detected and optimum signal processes are performed to each area. Apart from the uniform enhancement of sharpness, the innovative technology Intelligent Resolution precisely performs signal processing pixel by pixel in the most effective way for it. As a result, images are naturally clear and crisp suitable for all surveillance applications.
- 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
- 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, Panasonic protocol output, and HTTP notification.

- 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
- **Privacy Mode:**
The lens unit can be moved and hidden so that images cannot be displayed.
When the Privacy mode is used, 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. | • Code label ² 1 pc. |
| • CD-ROM ¹ 1 pc. | |

The following is used during installation procedures:

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



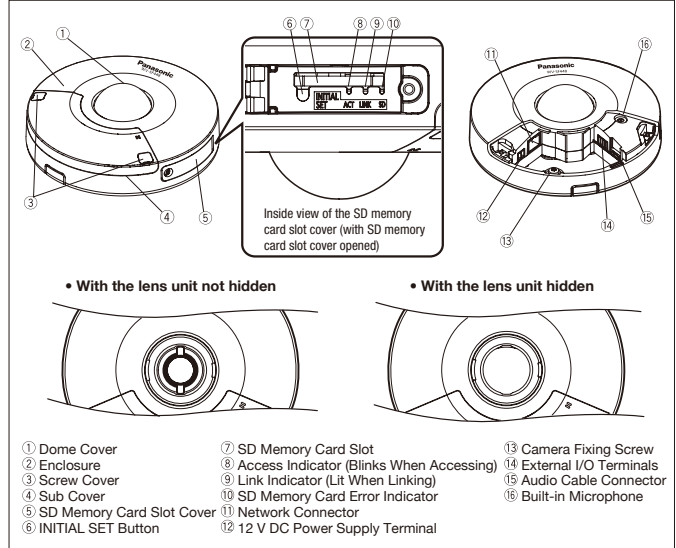
Specifications

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	OFF (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 (electrical)	OFF / AUTO	
	Digital Noise Reduction	HIGH / LOW	
	Video Motion Detection	ON / OFF, 4 areas available	
	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)		
Privacy Mode	On / Off		
VIQS	On / Off (up to 2 areas available) However, the VIQS 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 (Panorama, Double Panorama, Fisheye mode) 1x - 4x (Quad PTZ or Single PTZ 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 Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded. English, Italian, French, German, Spanish, Russian, Chinese, Japanese	
SD Memory Data Download GUI/Setup Menu Language		Up to 100 (Internal), Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs	
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 *2 *3	Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, Microsoft® Windows® XP SP3		
Supported Browser	Windows® Internet Explorer® 10.0 (32 bit), 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 1M Panorama [16:9]: H.264(1): 1280x720 / 640x360 / 320x180, up to 30 fps H.264(2): 640x360 / 320x180, up to 30 fps 1M Double Panorama [16:9]: JPEG: 1280x720 / 640x360 / 320x180, up to 30 fps • When using distribution of "Panorama" or "Double panorama" H.264(1): 1920x1080 / 640x360 / 320x180, up to 15 fps JPEG: 1920x1080 / 640x360 / 320x180, up to 15 fps • When using distribution of "Quad PTZ" or "Single PTZ" H.264(2): 1280x960 / 640x480 / 320x240, up to 15 fps JPEG: 1280x960 / 640x480 / 320x240, up to 15 fps Panorama + Quad PTZ / Double Panorama + Quad PTZ / Double Panorama + Single PTZ: H.264(1): 1920x1080 / 640x360 / 320x180, up to 15 fps JPEG: 1920x1080 / 640x360 / 320x180, up to 15 fps VGA: Ch1-Ch4 640x480 max. 30 fps * Only for H.264 images. Quadstreams: * There are specification limitations such as the SD memory card function being unavailable. 3M Fisheye [4:3]: H.264(1): 1280x960 / 640x480 / 320x240, up to 15 fps JPEG: 2048x1536, up to 15 fps 1.3M Fisheye [4:3]: H.264(1): 1280x960 / 640x480 / 320x240, up to 30 fps H.264(2): 640x480 / 320x240, up to 30 fps JPEG: 1280x960 / 640x480 / 320x240, up to 30 fps H.264: Transmission Mode: Constant bitrate / Framerate priority / 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: 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: 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 FTP Client: Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional 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 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*, 64 GB** model *SDHC card, ** SDXC card (except miniSD card and microSD card)	

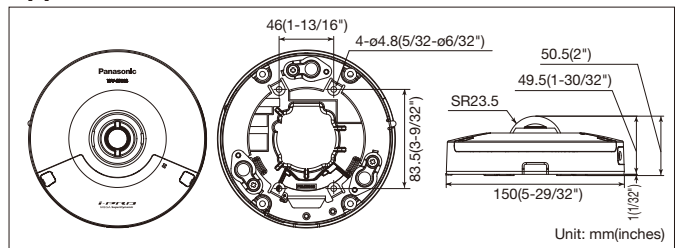
Network	Cellular Phone Compatibility	JPEG image, AUX control (by access level)
	Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals
Alarm	Alarm Source	3 terminals input, VMD, Command alarm
	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output, HTTP notification, Privacy action
	Alarm Log	With SDXC/SDHC/SD memory card: 5,000 logs, Without SDXC/SDHC/SD memory card: 1,000 logs
	Schedule	Alarm / VMD / Access permission / H.264 recording
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	CE, IEC60950-1 (EN55022 ClassB, EN55024)
	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: 560 g (1.23 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 / "Windows" 8" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.
*3 When using IPv6 for communication, use Microsoft® Windows® 8 or 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



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- 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 cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.
- Masses and dimensions are approximate.
- Specifications are subject to change without notice.
- These products may be subject to export control regulations.

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