Panasonic
BUSINESS

360-degree Indoor Dome 9 Megapixel Network Camera
WV-SFN480

*i-VMD Type3 : Intruder detection / Object detection / Cross line detection / Loitering detection / Scene change detection / Heat-map / People Counting / MOR(Moving Object Remover)

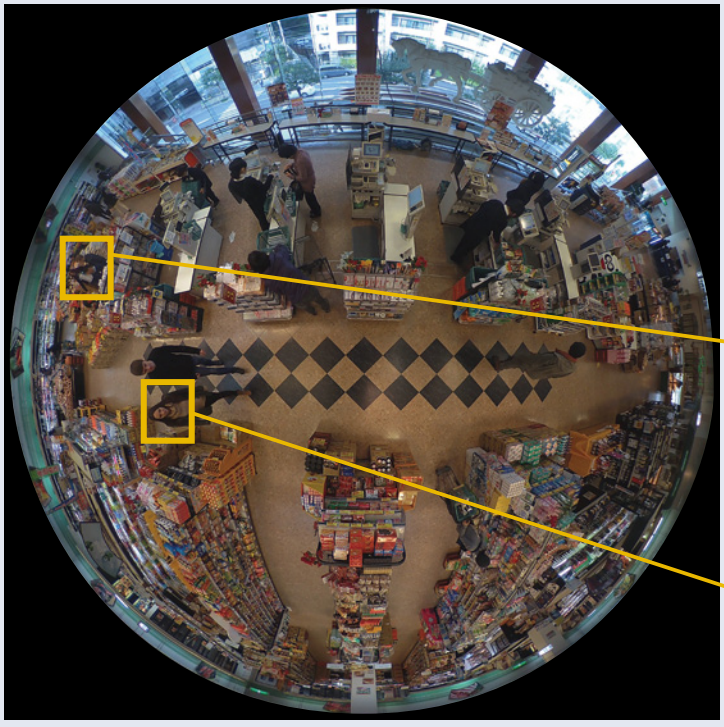
High resolution, sensitivity, and built-in intelligent features

Key Features

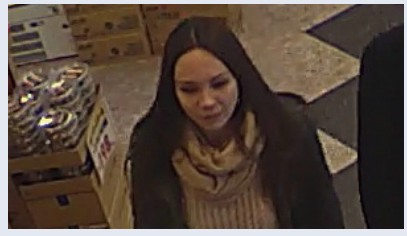
- 360° monitoring with a wide variety of transmission modes : Panorama, Double Panorama, Quad PTZ, Single PTZ, and Quad streams (H.264)
- **9 Megapixel** images up to 15 fps.
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated eight areas to retain higher image quality while the excluded area will have a decreased image quality, which enables to use lower image file size and bit rate. Only for fisheye image.
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by new **4K ULTRA HD engine**.
- 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
- ***Wide dynamic range*** and ABS (Adaptive Black Stretch) technologies deliver wider dynamic range.
- **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.
  GOP control and **Auto VIQS** can save the network bandwidth and the disk space of recorder effectively.
- High sensitivity with Day/Night (Electrical) function :
  0.3 lx (Color), 0.2 lx (B/W) at F1.9
- **Built-in ABF** enables automatic focus adjustment for sharp image, and corrects the focus shift that caused by temperature difference. You can install the camera even in the environment having drastic changes in temperature without focal blur.
- 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
- Privacy Zone can mask up to 8 private areas, such as house windows and entrances/exits.
  Configurable only on the fisheye image.
- 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, HTTP notification, and Panasonic 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.
- SDXC/SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG)
- Can be added new intelligent extension software (Extension software)in addition to built- in VMD (Video Motion Detection), alarm function.
- **Intelligent function** (Extension software) such as Intruder / Loitering / Scene change / Object / Cross line detection,
  People Counting (Cross line), MOR(Moving Object Remover) Function, Heat-map (High Traffic Zone / Long-stay Zone)
- Super Chroma Compensation function realizes a better color
- 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
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- Operating temperature
  : –10°C to +50°C (14°F to 122°F) (Ceiling / Wall / Camera mount bracket)
  : –10°C to +40°C (14°F to 104°F) (Desktop/ Tripod)
- Low profile design for discrete installation
- ONVIF compliant model

GUI Example

9 Megapixel Fisheye mode



9M (3K × 3K) high-resolution performance enables sharp rendering of objects and people's faces at the edge sections of the fisheye image.



*Sample screen from 9 Megapixel Fisheye mode

Double Panorama mode

Panorama mode

Quad PTZ mode

Single PTZ mode

Specifications

Camera	Image Sensor		1/2 type MOS image sensor, Built-in primary color filter
	Scanning Mode		Progressive
	Scanning Area		5.54 mm(H) × 5.54mm (V) {7/32 inches (H) × 7/32 inches (V)}
	Minimum Illumination		Color : 0.3 lx (F1.9, Maximum shutter : Off (1/30 s), AGC : High) Color : 0.02 lx(F1.9, Maximum shutter : max. 16/30 s, AGC : High)*1 BW : 0.2 lx (F1.9, Maximum shutter : Off (1/30 s), AGC : High) BW : 0.01 lx(F1.9, Maximum shutter : max. 16/30 s, AGC : 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
	Maximum shutter		max. 1/10000 s, max. 1/4000 s, max. 1/2000 s, max. 1/1000 s, max. 1/500 s, max. 1/250 s, max. 1/120 s, max. 1/100 s, max. 2/120 s, max. 2/100 s, max. 3/120 s, max. 3/100 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
	Wide dynamic range		On / Off
	Adaptive Black Stretch		On / Off (only when Wide Dynamic range : Off)
	AGC		On(High) / On(Mid) / On(Low) / Off
	Day/Night (Electrical)		Off / Auto
	Digital Noise Reduction		High / Low
	Video Motion Detection		On / Off, 4 areas available
	Number of the preset positions		16 Preset can only be used when the image type is Quad PTZ or Single PTZ.
	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 8 zones available)
	VIQS		On / Off (Up to 8 zones) Only for fisheye image.
	Camera Title (OSD)		On / Off Up to 20 characters (alphanumeric characters, marks) * You can specify characters to be displayed on each of the four screens when “Quad streams” is selected.
	Back focus		Auto back focus / Focus / Adjusting method (Auto/ Preset/ Fix)
	Video analytics		Optional Alarm : Intruder detection, Object detection, Cross line detection, Loitering detection, Scene change detection Others: Heat-map, People Counting, MOR(Moving Object Remover) * Alarm and others don't work as the same time.
	Rotation		mechanical : -45° to 45°, electrical : Panorama/Double Panorama : 90°,180°, 270°, Fisheye : N/A
Lens	Focal Length		1.38 mm {1/16 inches}
	Angular Field of View		Horizontal : 180° Vertical : 180°
	Maximum Aperture Ratio		1 : 1.9
	Adjusting angle		±45°
	Image rotation		Mechanical Image rotation, about every 3.3°
Browser GUI	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.
	Zoom		electronic zoom
	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 *2		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)
Network	Network IF		10Base-T / 100Base-TX, RJ45 connector
	Resolution: H.264 JPEG (MJPEG)	<Ceiling> <Wall>	•**9M Fisheye mode** (Factory default mode) max.15 fps 2992×2992 / 1280×1280 / 640×640 / 320×320 •**4M Fisheye mode**max.30 fps 2048×2048 / 1280×1280 / 640×640 / 320×320
		<Ceiling>	•**Double Panorama mode** max.15 fps 2560×1440 / 1920×1080 / 1280×720 / 640×360 / 320×180 •**Quad PTZ / Single PTZ mode** max.15 fps 2560×1920 / 2048×1536 / 1600×1200 / 1280×960 / 800×600 / 640×480 / 320×240 •**8M Fisheye + Double Panorama mode** max.7.5 fps (Fisheye) 2816×2816 / 1280×1280 / 640×640 / 320×320 (Double Panorama)1280×720 / 640×360 •**4M Fisheye + Double Panorama mode** max.15 fps (Fisheye) 2048×2048 / 1280×1280 / 640×640 / 320×320 (Double Panorama)1280×720 / 640×360 •**8M Fisheye + Quad PTZ mode** max.7.5 fps (Fisheye) 2816×2816 / 1280×1280 / 640×640 / 320×320 (Quad PTZ) 1280×960 / 800×600 / 640×480 •**4M Fisheye + Quad PTZ mode** max.15 fps (Fisheye)2816×2816 / 1280×1280 / 640×640 / 320×320 (Quad PTZ) 1280×960 / 800×600 / 640×480 •**Quad streams mode** (H.264 only) (Ch1 - Ch4) 1280×960 / 800×600 / 640×480 / 320×240 max.15 fps (Quad PTZ) 2560×1920 / 2048×1536 / 1280×960 / 800×600 / 640×480 / 320×240 max.5 fps
		<Wall>	•**Panorama mode** max.15 fps 2560×1440 / 1920×1080 / 1280×720 / 640×360 / 320×180 •**Quad PTZ / Single PTZ** mode max.15 fps 2560×1920 / 2048×1536 / 1600×1200 / 1280×960 / 800×600 / 640×480 / 320×240 •**8M Fisheye + Panorama mode** max.7.5 fps (Fisheye) 2816×2816 / 1280×1280 / 640×640 / 320×320 (Panorama) 1280×720 / 640×360 •**4M Fisheye + Panorama mode** max.15 fps (Fisheye) 2048×2048 / 1280×1280 / 640×640 / 320×320 (Panorama) 1280×720 / 640×360

Network Image compression method	H.264*3	Transmission Mode	Constant bit rate / VBR / Frame rate / Best effort / Advanced VBR
		Frame Rate	<When VBR / Frame rate / Advanced VBR is selected> 1 fps/ 3 fps/ 5 fps*/ 7.5 fps*/ 10 fps*/ 12 fps*/ 15 fps*/ 20 fps*/ 30 fps* * “Frame rate*” is limited to "Bit rate". When a value with an asterisk (*) on the right of it is selected, the actual frame rate may be lower that the value selected.
		Max Bit Rate/ Client	64 kbps / 128 kbps* / 256 kbps* / 384 kbps* / 512 kbps* / 768 kbps* / 1024 kbps* / 1536 kbps* / 2048 kbps* / 3072 kbps* / 4096 kbps* / 6144 kbps* / 8192 kbps* / 10240 kbps* / 12288 kbps* / 14336 kbps* / 16384 kbps* / 20480 kbps* / 24576 kbps* / 30720 kbps* * The available range of the H.264 bit rate varies depending on the setting selected for “Image capture size”.
		Image Quality	<When Constant bit rate/ Best effort is selected> Low/ Normal/ Fine <When VBR is selected> 0 SUPER FINE / 1 FINE / 2 / 3 / 4 / 5 NORMAL / 6 / 7/ 8 / 9 LOW
		Smart Coding mode	On (Low / Mid / High) / Off (Only when "Variable bit rate" is selected)
		Transmission Type	Unicast / Multicast
	JPEG (MJPEG)	Image Quality	0 SUPER FINE / 1 FINE / 2 / 3 / 4 / 5 NORMAL / 6 / 7 / 8 / 9 LOW (10 steps : 0-9)
		Transmission Type	Pull / Push
		Transmission interval	0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying both JPEG and H.264 images.)
Network	Audio Compression		G.726 (ADPCM) 32 kbps/16 kbps, G.711 64 kbps / AAC-LC*4 64kbps / 96kbps / 128kbps
	Total Bit Rate		Unlimited / 64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 2,048 / 4,096 / 8,192 kbps
	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)		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)
	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, 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 *5		VBS : 1.0 V [p-p]/75 Ω, composite, ø3.5 mm mini jack (monaural) An NTSC or PAL monitor can be connected to the camera (the monitor type can be changed by the software). Audio out or monitor out can be selected for the audio/monitor output plug
	Microphone/Line Input		Built-in microphone or ø3.5 mm stereo mini jack
		For microphone input	Recommended applicable microphone : Plug-in power type Supply voltage : 2.5 V ±0.5 V Recommended sensitivity of microphone : -48 dB±3 dB (0 dB=1 V/Pa, 1 kHz)
		For line input	Input level : Approx. –10 dBV
	Audio Output		ø3.5 mm stereo mini jack Output impedance : Approx. 600 Ω (unbalanced) Output level : –20 dBV
	External I/O Terminals		ALARM IN1, ALARM IN2(ALARM OUT), ALARM IN3(AUX OUT)
General	Mounting method		Ceiling / Wall / Camera Mount bracket / Desktop / Tripod
	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		DC 12 V, PoE (IEEE802.3af compliant) / DC 12 V : 910 mA / Approx. 10.9 W PoE DC 48 V : 200 mA / Approx. 9.6 W (Class 0 device)
	Ambient Operating Temperature		–10 °C to +50 °C {14 °F to 122 °F} (Ceiling / Wall / Camera mount bracket) –10 °C to +40 °C {14 °F to 104 °F} (Desktop / Tripod)
	Ambient Operating Humidity		10% to 90 % (no condensation)
	Dimensions		When using the attachment plate : ø150 mm × 52.1 mm (H) {ø5-29/32 inches × 2-1/16 inches (H)} When using the desktop cover : ø150 mm × 63.0 mm (H) {ø5-29/32 inches × 2-15/32 inches (H)}
	Mass (approx.)		When using the camera and attachment plate : Approx. 480 g {1.06 lbs} When using the camera and desktop cover : Approx. 440 g {0.97 lbs}
	Finish		Main body : ABS resin, sail white

*1 Converted value

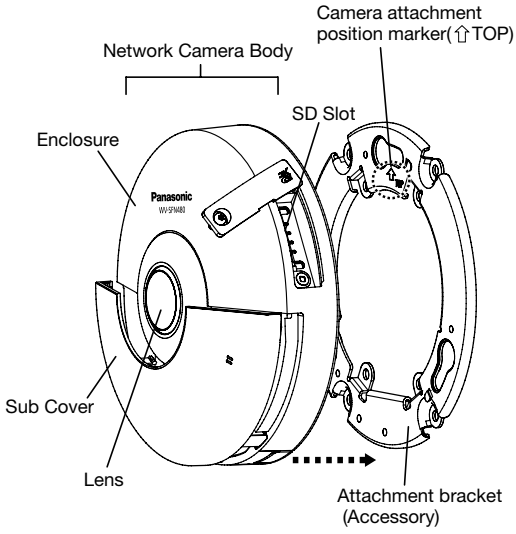
*2 Refer to “Notes on Windows Vista® / Windows® 7 / Windows® 8" / Windows® 8.1" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

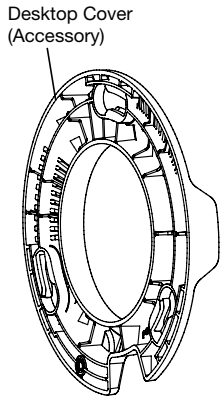
*3 Transmission for 2 streams can be individually set.

*4 When recording audio on an SD memory card, only AAC-LC (Advanced Audio Coding - Low Complexity) can be used.

*5 In order to be able to switch the monitor output, “9M Fisheye” or “4M Fisheye” must be selected for “Image capture mode”. For information about usage limitations, refer to “10.1 Configure the basic settings [Basic]” of the Operating Instructions.

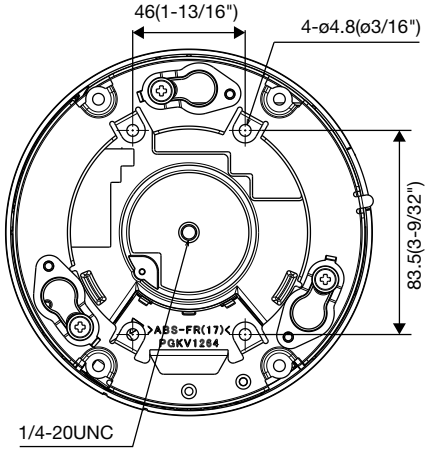
Part Names and Functions

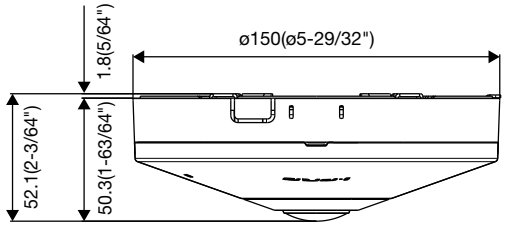




Appearance

Unit : mm (inches)





Optional Accessory

Ceiling Mount Bracket

WV-Q105A

(Use when installing the WV-SFN480 on weak ceiling boards, etc.)

Important
– Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
– Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.

• All product pictures are NTSC models.
• Masses and dimensions are approximate.
• Specifications are subject to change without notice.

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