



HD / 1,280 x 720 H.264 Camera featuring 45x extra optical zoom and Super Dynamic

Key Features

- 720p HD images up to 30 fps
- Super high resolution at HD / 1,280 x 720
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording.
- Full frame (Up to 30 fps) transmission at 1,280 x 960 image size
- **45x extra optical zoom at 1,280 x 720 (30x optical zoom)**
90x extra optical zoom at 640x360 resolution with 12x digital zoom enabling 1080x zoom.
- **Super Dynamic** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- **Face Super Dynamic** technology ensures clear face image.
- High sensitivity with Day/Night (ICR*) function:
0.3 lx (Color), 0.04 lx (B/W) at F1.6
* ICR: IR Cut filter Removal
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated **2 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.
VIQS can be set on preset position (1 to 8) and except preset.
- 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.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Selectable light control modes:
Outdoor scene / Indoor scene (50 Hz) / Indoor scene (60 Hz) / Fix shutter
Indoor scene (50 Hz / 60 Hz): Flicker caused by fluorescent lightning will be automatically compensated.
- **360 degrees endless Panning**
- Advanced auto tracking: The camera automatically pans and tilts to follow a moving subject and keep it in the center of the image.
- PTZ control can be taken very smoothly on the user friendly GUI with 16 speeds pan/tilt and "Drag and Zoom" operation enabling finer control. 256 speeds available for system with WV-CU950 system controller.
- Up to 256 preset positions
- 360 map shot: 8 thumbnail images at 45 deg. intervals make it simple to direct the camera easily by clicking on a thumbnail.
- Industrial grade Pan / Tilt / Zoom mechanism for high reliability
- VMD (Video Motion Detection) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Privacy Zone can mask up to 32 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 alarm 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 (H.264 / 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 / Portuguese / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- ONVIF compliant model
- **Fog compensation function** equipped as standard.
- Dust-resistant design: Minimize degradation of pan/tilt mechanism

Standard Accessories

• Installation Guide.....1 pc.	The followings are for installation.
• CD-ROM*11 pc.	• Camera Mount Bracket 1 pc.
• Code Label*21 pc.	• Camera Fixing Screw (M3) 2 pcs. (incl. 1 spare)
	• Decorative Cover.....1 pc.
	• Power cable Plug 1 pc.

*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

Ceiling Mount Bracket WV-Q105A	Embedded Ceiling Mount Bracket WV-Q126A	Wall Mount Bracket WV-Q119	Smoke Dome Cover WV-CS5S	Clear Dome Cover WV-CS5C

* This catalog is provided for all over the world. Some accessories may not be available in some countries.

Specifications

Camera	Image Sensor	Approx. 1/3 type MOS image sensor
	Scanning Mode	Progressive scan
	Scanning Area	5.38 mm(H) x 3.02 mm(V) [7/32 inches(H) x 1/8 inches(V)]
	Minimum Illumination	Color: 0.3 lx, BW: 0.04 lx (F1.6, Auto slow shutter: Off (1/30s), Gain: On(High)) Color: 0.019 lx, BW: 0.003 lx (F1.6, 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) Fix shutter
	Shutter Speed	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	On / Off
	Face Super Dynamic	On / Off (Only when Super Dynamic: On)
	Dynamic Range	105 dB typical (Super Dynamic: On, Light Control mode: Indoor)
	Adaptive Black Stretch	On / Off (Only when Super Dynamic: Off)
	Fog compensation	On / Off
	Gain (AGC)	On (Low) / On (Mid) / On (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 (ICR)	Mode: AUTO1 / AUTO2 / AUTO3 / On / Off, Level: High / Low, with external control
	Digital Noise Reduction	High / Low
	Video Motion Detection	4 areas, Sensitivity: 15 steps, Detection size: 10 steps
	Privacy Zone	Gray / Mosaic / Off (up to 32 zones available)
	VIOS	Up to 2 zones at preset position 1-8 and except preset
	Auto Image Stabilizer	On / Off
	Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks)
	Focus distance	Limited / Unlimited
	Focal Length	4.3 mm to 129.0 mm {3/16 inches - 5-3/32 inches}
	Zoom Ratio	30x / 45x with extra optical zoom (at 1280 x 720)
	Digital (Electrical) Zoom	12x (Max. 1080x combined with extra optical zoom at 640 x 360)
Angular Field of View	H: 2.34° (TELE) - 65.1° (WIDE), V: 1.36° (TELE) - 38.4° (WIDE) ([16:9] mode) [*] H: 1.7° (TELE) - 4.7° (WIDE), V: 1.4° (TELE) - 38° (WIDE) ([4:3] mode)	
Maximum Aperture Ratio	1 : 1.6 (WIDE) - 4.7 (TELE)	
Focusing Range	2.0 m - ∞	
Aperture Range	F1.6 - Close	
Panning Range	360° endless	
Panning Speed	Manual: approx. 0.065°/s - 120°/s, Up to 256 steps (depending on the controller) Preset: up to approx. 300°/s	
Tilting Range	-25° to 205° (upward-level-downward) Selectable tilting angle: 10° 5° 3° 0° -3° -5° -10° -15° -20° -25°	
Tilting Speed	Manual: approx. 0.065°/s to 120°/s, Preset: up to approx. 300°/s	
Proportional Pan/Tilt Control	Yes	
Number of Preset Positions	256	
Auto Mode	Auto track/ Auto pan/ Preset sequence/ 360 map-shot/ Patrol	
Image Hold	On / Off	
PTZ Position Display	On / Off	
Self Return	10 s / 20 s / 30 s / 1 min / 2 min / 3 min / 5 min / 10 min / 20 min / 30 min / 60 min	
Map Shot	360° map shot / Preset map shot	
Browser GUI	Camera Control	Pan/Tilt (256 steps), Zoom, Focus, Click centering, Drag zoom, Iris, Preset position call and program, Auto mode
	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.
	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® 10, Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, Microsoft® Windows® XP SP3	
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
	Image Resolution	• Image Capture Mode[16 : 9](30 fps) 1,280 x 720 / 640 x 360 / 320 x 180 • Image Capture Mode[4 : 3](30 fps) 1,280 x 960 / 800 x 600 / 640 x 480 / 320 x 240
	H.264 ³	Transmission Mode Constant bit rate / Frame rate priority / Best effort / Advanced VBR 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 / 6,144 / 8,192 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 to 30 fps Transmission Type Pull / Push
	Audio Compression	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps, AAC ⁴
	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, RTSP, RTP, RTP/RTCP, 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.) Up to 14 users (Depends on network conditions)
	Maximum concurrent access number	Up to 14 users (Depends on network conditions)

• Masses and dimensions are approximate.
• Specifications are subject to change without notice.

Network	SDXC/SDHC/SD Memory Card (Option)	H.264 recording (Audio recording is enable): 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)
	Cellular Phone Compatibility	JPEG image_panning/tilting/zoom/focus control, AUX control (by access level)
Alarm	Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals
	Alarm Source	3 terminals input, VMD, Command alarm, Audio detection
Input/ Output	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
General	Schedule	Alarm / VMD / Access permission / H.264 recording / Audio detection
	Monitor Output (for adjustment)	VBS: 1.0V[p-p] / 75Ω, NTSC / PAL composite, ø3.5 mm monaural mini jack
Power Source and Power Consumption	Microphone/Line Input	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	ø3.5 mm stereo mini jack (monaural output) Line level
Ambient Operating Temperature	External I/O Terminals	ALARM IN 1 (DAY/NIGHT IN), ALARM IN 2 (ALARM OUT), ALARM IN 3 (AUX OUT)
	Safety/EMC Standard	<Safety> UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1 <EMC> FCC Part15 Class A, ICES-003 Class A, EN55022 Class B, EN55024
DC power supply	Power Source and Power Consumption	DC power supply: DC12 V / 1.0 A / 12 W PoE (IEEE802.3af compliant): DC48 V / 250 mA / Approx. 12 W (Class 0 device) * FOR UL LISTED MODEL(S), ONLY CONNECT DC12 V CLASS 2 POWER SUPPLY (UL 1310/CSA 223) or LIMITED POWER SOURCE (IEC/EN/UL/CSA 60950-1).
	Ambient Operating Temperature	PoE: -10 °C to +55 °C (14 °F to 131 °F)
Ambient Operating Humidity	Ambient Operating Humidity	Less than 90 % (no condensation)
	Dimensions	ø185 mm x 211 mm (H) (ø7-9/32 inches x 8-5/16 inches (H)) (including the decorative covers)
Mass (approx.)	Mass (approx.)	Approx. 1.5 kg (3.31 lbs)
	Finish	Camera : ABS resin (Coating color: Black) Decorative cover: ABS resin (Resin color: Sail white)

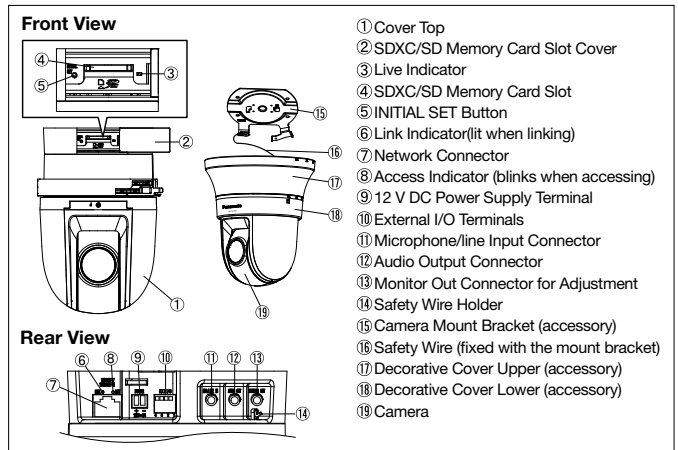
*1 Converted value

*2 For further information about PC system requirements and precautions for when using Microsoft® Windows® 10, Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, or Windows® Internet Explorer®, click "Manual" - "Open" from the supplied CD-ROM and refer to "Notes on Windows® / Internet Explorer® versions".

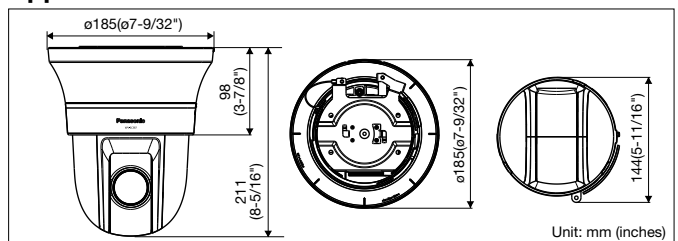
*3 Transmission for 2 streams can be individually set.

*4 AAC (Advanced Audio Coding) is only used when recording audio on an SD memory card.

Part Names and Functions



Appearance



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Important

- Safety Precaution: Carefully read the 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.

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