Panasonic
BUSINESS

i-PRO SmartHD

MEGA *SuperDynamic*

VIQS — Variable Image Quality on Specified area

H.264 JPEG

HD 720/30p ICR — day/night ICR — Advanced Auto Tracking — HLC — Fog sand Compensation

HD 45x EXTRA OPTICAL ZOOM

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HD / 1,280 x 720 H.264 Camera featuring 45x HD 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
- **30x optical zoom, 45x HD extra optical zoom at 1,280 x 720**
  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:
  0.1 lx (Color), 0.013 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.
- **Smart coding Technology** : Group of Pictures (GOP) control function removes unnecessary information from the frame for realizing efficient encoding.
- 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.

- 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
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- **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*1 ....1 pc.	• Camera Mount Bracket ....1 pc.
• Code Label*2 ....1 pc.	• Camera Fixing Screw (M3)
*1 The CD-ROM contains the operating instructions (PDFs) and different kinds of tool software programs.	.... 2 pcs. (incl. 1 spare)
*2 This label may be required for network management. The network administrator shall retain the code label.	• Decorative Cover...........................1 pc.
	• Power cable Plug ....1 pc.

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	5.35 mm(H) x 3.34 mm(V) [7/32 inches(H) x 1/8 inches(V)]
	Minimum Illumination	Color: 0.1 lx, BW: 0.013 lx (F1.6, Auto slow shutter: Off (1/30s), Gain: On(High)) [1] Color: 0.007 lx, BW: 0.001 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
	Dynamic Range	105 dB typical (Super Dynamic: On, Light Control mode: Indoor) *Theoretical value. Conventional measuring method: 52dB
	Adaptive Black Stretch	On / Off
	Fog compensation	On / Off (Super Dynamic and Adaptive black stretch: Off)
	Gain (AGC)	On (High) / On (Mid) / On (Low) / Off
	Auto slow shutter	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 (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)
	VIQS	On / Off Up to 2 zones at preset position 1-8 and except preset
	Auto Image Stabilizer	On / Off
	Camera Title (OSD)	On / Off Up to 20 characters (alphanumeric characters, marks)
	Focus distance	Limited {around 1.5m(4.9 ft)} / Unlimited

Lens		
	Focal Length	4.3 mm to 129.0 mm {3/16 inches - 5-3/32 inches}
	Zoom Ratio	30x / 45x HD 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: 2.3° (TELE) - 64° (WIDE), V: 1.3° (TELE) - 38° (WIDE) ([16:9] mode)* H: 1.7° (TELE) - 46° (WIDE), V: 1.3° (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

Pan and Tilt		
	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
	Camera position display	Off / Pan-Tilt degree · Zoom ratio display / Direction display
	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®
	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
	H.264
	JPEG (MJPEG)
			• **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 / Variable 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 / 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	0 SUPER FINE / 1 FINE / 2 / 3 / 4 / 5 NORMAL / 6 / 7 / 8 / 9 LOW (10 steps: 0-9)
		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.)
	Maximum concurrent access number		Up to 14 users (Depends on network conditions)

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**, 128 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)
	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, Audio detection
	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	Alarm / VMD / Access permission / H.264 recording / Audio detection

Input/ Output		
	Monitor Output (for adjustment)	VBS: 1.0V[p-p] / 75Ω, NTSC / PAL composite, ø3.5 mm monaural mini jack
	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
	External I/O Terminals	ALARM IN 1 (DAY/NIGHT IN), ALARM IN 2 (ALARM OUT), ALARM IN 3 (AUX OUT)

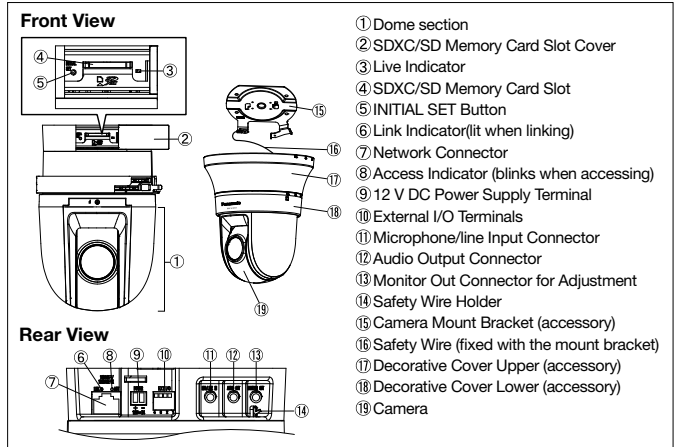| General		
	Safety/EMC Standard	<Safety> UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1 <EMC> FCC Part15 Class A, ICES-003 Class A, EN55022 Class B, EN55024
	Power Source and Power Consumption	DC power supply: DC12 V / 1.0 A / 12 W PoE (IEEE802.3af compliant): DC48 V / 250 mA / Approx. 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	10 % to 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.)	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
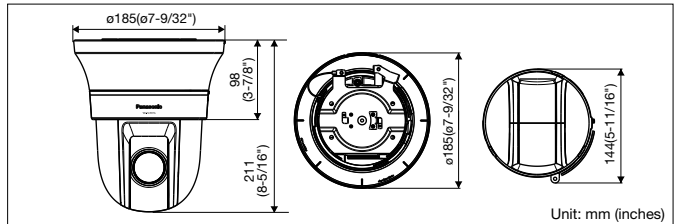 CD-ROM and refer to "Notes on Windows® / Internet Explorer® versions".
*3 Transmission for 2 streams can be individually set.
*4 When recording audio on an SD memory card, only AAC-LC (Advanced Audio Coding - Low Complexity) is used.

Part Names and Functions

Front View

Rear View

① Dome section
② SDXC/SD Memory Card Slot Cover
③ Live Indicator
④ SDXC/SD Memory Card Slot
⑤ INITIAL SET Button
⑥ Link Indicator(lit when linking)
⑦ Network Connector
⑧ Access Indicator (blinks when accessing)
⑨ 12 V DC Power Supply Terminal
⑩ External I/O Terminals
⑪ Microphone/line Input Connector
⑫ Audio Output Connector
⑬ Monitor Out Connector for Adjustment
⑭ Safety Wire Holder
⑮ Camera Mount Bracket (accessory)
⑯ Safety Wire (fixed with the mount bracket)
⑰ Decorative Cover Upper (accessory)
⑱ Decorative Cover Lower (accessory)
⑲ Camera

Appearance

ø185(ø7-9/32")
98 (3-7/8")
211 (8-5/16")
ø185(ø7-9/32")
144(5-1/16")

Unit: mm (inches)

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

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