



## HD/1,280 x 960 H.264 Camera featuring Optical 36x zoom and Super Dynamic

### Key Features

- 720p HD images up to 30 fps
- Newly developed 1.3 Megapixel double speed MOS Sensor
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by “UniPhier”, Panasonic’s proprietary System LSI platform.
- Full frame (Up to 30 fps) transmission at 1,280 x 960 image size
- **36x optical zoom** with 12x digital zoom enabling 432x zoom.  
72x extra optical zoom under VGA resolution with 12x digital zoom enabling 864x zoom.
- **Super Dynamic** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared with conventional cameras.
- **Face Super Dynamic** technology ensures clear face image.
- H.264 and MPEG-4 are selectable for system migration.
- High sensitivity with Day/Night function : 0.5 lx (Color), 0.06 lx (B/W) at F1.4 (Wide)
- Adaptive Digital Noise Reduction : 2D-DNR and 3D-DNR integration ensures reduced noise and motion blur in various conditions.
- Superior color reproduction by primary (RGB) color filter
- Electronic sensitivity enhancement : Auto (Up to 16x) / OFF
- Selectable light control modes : Outdoor / Indoor / Fixed electronic shutter  
Outdoor / Indoor : Electronic shutter and ALC lens iris control are automatically controlled depending on the mode and luminance level.  
Fixed electronic shutter : Up to 1/10,000 fixed electronic shutter can be selectable.
- **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 new “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 8 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 SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic protocol output.



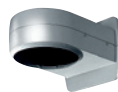

- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.
- JPEG image compression ratio can be changed by alarm so that higher quality image can be provided.
- Prioritized stream control: One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG)
- H.264/MPEG-4 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.
- Multi-language : English / Italian / French / German / Spanish / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Analog Monitor output for easier installation
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- Onvif compliant model
- Supports Power over Ethernet (PoE) IEEE 802.3af
- Fog compensation

### Standard Accessories

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

\*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 <b>WV-Q105A</b> 	Embedded Ceiling Mount Bracket <b>WV-Q126 , WV-Q126A</b> 	Wall Mount Bracket <b>WV-Q118A , WV-Q118B</b> 	Smoke Dome Cover <b>WV-CS4S , WV-CS4SA</b> 
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# Specifications

TV System	NTSC	PAL		
<b>Camera</b>	Image Sensor	1/4 type MOS Sensor		
	Effective Pixels	Approx. 1.3 megapixel		
	Scanning Mode	Progressive scan		
	Scanning Area	3.6 mm (H) x 2.7 mm (V) [5/32 inches (H) x 11/100 inches (V)]		
	Minimum Illumination	Color: 0.5 lx, B/W: 0.06 lx at F1.4 (Shutter: 1/30 s, AGC: High), Color: 0.031 lx, B/W: 0.004 lx at F1.4 (Shutter: 16/30 s, AGC: High)		
	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) / Outdoor scene / Fix shutter		
	Shutter Speed	Fix shutter: OFF (1/30), 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000		
	Super Dynamic	On/Off		
	Face Super Dynamic	On/Off (only when Super Dynamic : On)		
	Dynamic Range	52 dB typical (Super Dynamic : On, Light Control mode : Indoor)		
	Adaptive Black Stretch	On/Off		
	AGC	On (Low) / On(Mid), On(High) / Off		
	Electronic Sensitivity UP	OFF, max. 2/30 s, max. 4/30 s, max. 6/30 s, max. 10/30 s, max. 16/30 s		
	Black and White Mode	Mode : AUTO1 / AUTO2 / AUTO3 / On/Off		
	Digital Noise Reduction	High / Low		
	Video Motion Detection	4 areas, Sensitivity : 15 steps, Detection size : 10 steps		
	Privacy Zone	Up to 8 zones, Gray / Mosaic		
	Auto Image Stabilizer	On/Off		
	Camera Title (OSD)	Up to 20 alphanumeric characters (3 selectable character sizes)		
<b>Lens</b>	Focal Length	3.3 mm - 119 mm		
	Zoom Ratio	36x / 72x with extra optical zoom (at VGA)		
	Digital (Electronic) Zoom	12x (Max. 864x combined with extra optical zoom at VGA)		
	Angular Field of View	H : 1.7° (Tele) - 60.2° (Wide), V : 1.3° (Tele) - 46.0° (Wide)		
	Maximum Aperture Ratio	1 : 1.4 (Wide) - 4.8 (Tele)		
	Focusing Range	2.0 m - ∞		
	Aperture Range	F1.4 - 22, 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. 400°/s		
	Tilting Range	-15° - 185° (upward-level-downward) Tilting angle limit : 10° / 5° / 3° / 0° / -3° / -5° / -10° / -15°		
Tilting Speed	Manual : approx. 0.065°/s - 120°/s, Up to 256 steps (depending on the controller) Preset : up to approx. 400°/s			
<b>Pan and Tilt</b>	Proportional Pan/Tilt Control	Yes		
	Number of Preset Positions	256		
	Auto Mode	preset sequence / auto pan / auto track / 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		
	<b>Browser GUI</b>	Camera Control	Pan/Tilt (16 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/AUTO)	
		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 SDHC/SD memory card can be downloaded.	
GUI/Setup Menu Language		English, French (Installation required for French)	English, French, Italian, Spanish, German, Russian (Installation required except for English)	
System Log		Up to 100 (Internal), Up to 4,000 (SDHC/SD memory when the recording format is set to JPEG.) error logs		
Supported OS *1 *2 *3		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) Microsoft® Internet Explorer® 7 (32 bit)		
<b>Network</b>		Network IF	10Base-T / 100Base-TX, RJ45 connector	
		Image Resolution *4 *5	Aspect ratio: H.264 : 1,280 x 960 / 800 x 600 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps [4 : 3] MPEG-4 : VGA (640 x 480) / QVGA (320 x 240), up to 30 fps JPEG (MJPEG) : 1,280 x 960 / 800 x 600 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps	
		H.264/ MPEG-4 *4	Aspect ratio: [16 : 9]	H.264 : 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps JPEG (MJPEG) : 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps
	Transmission Mode		Constant bitrate / 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 / 8,192 kbps / Unlimited * H.264 mode only	
	Image Quality	Image Quality	Low / Normal / Fine	
		Refresh Interval	0.2 s / 0.25 s / 0.33 s / 0.5 s / 1 s / 2 s / 3 s / 4 s / 5 s	
	Transmission Type	Transmission Type	Unicast / Multicast	
		Transmission Type	10 steps	
	JPEG (MJPEG)	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, ICMP, ARP IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP			

TV System	NTSC	PAL	
<b>Network</b>	FTP Client	Alarm image transfer, Periodic image transfer (When the FTP periodic transmission is failed, backup on an optional SDHC/SD memory card is available.)	
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)	
<b>Alarm</b>	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) card: Panasonic 256 MB, 512 MB, 1 GB, 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB* model * SDHC card	
	Cellular Phone Compatibility	JPEG image, panning/tilting/zoom control, AUX control (by access level)	
	Alarm Source	3x Terminal inputs, VMD, Command alarm, Auto track	
<b>Input / Output</b>	Alarm Actions	SD memory recording, E-mail notification, Indication on browser, Camera positioning, Preset position 1 - 64, FTP image transfer, Terminal output, Panasonic protocol output, Auto track	
	Alarm Log Schedule	With SD memory card: 5,000 logs, Without SD memory card: 1,000 logs	
<b>General</b>	Monitor Output (for adjustment)	1.0 V [P-P] / 75 Ω, NTSC composite, BNC	1.0 V [P-P] / 75 Ω, PAL composite, BNC
	Microphone/Line Input	MIC IN and Line IN are selectable. ø3.5 mm monaural mini jack (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	
<b>General</b>	External I/O Terminals	ALARM IN 1 (DAY/NIGHT IN), ALARM IN 2 (ALARM OUT), ALARM IN 3 (AUX OUT)	
	Safety/EMC Standard	UL (UL60950-1), FCC (Part15 ClassA), C-UL (CAN/CSA C22.2 No.60950-1), DOC (ICES003 ClassA)	CE (EN55022 ClassB, EN55024)
	Power Source/Consumption	12 V DC : approx. 1A PoE : approx. 48 V 250 mA (IEEE802.3af compliant, Class 0 device)	
	Ambient Operating Temperature/Humidity	-10 °C ~ +50 °C (14 °F ~ 122 °F), 90 % or less (without condensation)	
	Dimensions	ø135 x 196 mm (H) (ø5-31/100" x 7-18/25")	
Mass (approx.)	Camera : 1.2kg (2.65 lbs) Accessories (Camera mount bracket, decorative cover) : Approx. 200 g (0.44 lbs)		

\*1 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®.

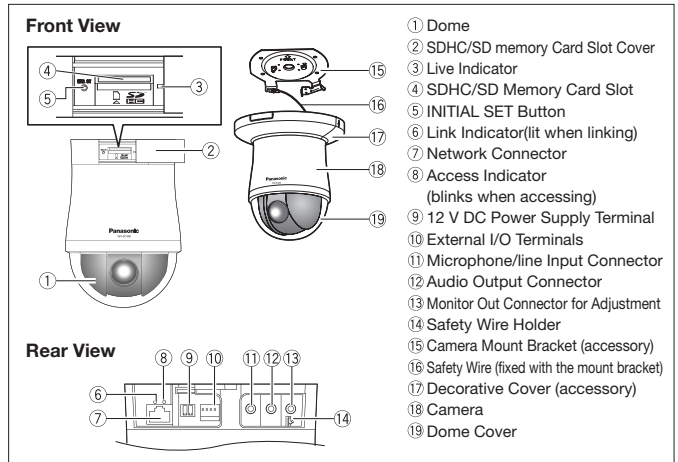
\*2 When using IPv6 for communication, use Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

\*3 Microsoft Windows 7 Starter, Microsoft Windows Vista Starter and Microsoft Windows XP Professional 64-bit Edition are not supported.

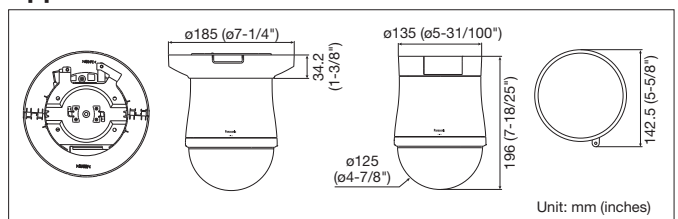
\*4 H.264 and MPEG-4 are alternative.

\*5 [4 : 3] and [16 : 9] are alternative.

## 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.
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### 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 TV pictures are simulated.
- Masses and dimensions are approximate.
- Specifications are subject to change without notice.
- All product pictures are NTSC models.

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