



## 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.  
**GOP control** can save the network bandwidth and the disk space of recorder effectively.
- 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)                    |
|                                | • Decorative Cover.....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<br><b>WV-Q105A</b> | Embedded Ceiling Mount Bracket<br><b>WV-Q126A</b> | Wall Mount Bracket<br><b>WV-Q119</b> | Smoke Dome Cover<br><b>WV-CS5S</b> | Clear Dome Cover<br><b>WV-CS5C</b> |
|  |   |                                      |                                    |                                    |

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

# Specifications

|                                  |   |  |
|----------------------------------|---|--|
| <b>Camera</b>                    | 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))<br>Color: 0.007 lx, BW: 0.001 lx (F1.6, Auto slow shutter: Max. 16/30s, Gain: On(High)) <sup>1</sup>  |
|                                  | 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<br>Indoor scene [50 Hz]: Automatic integration of ALC and ELC (up to 1/100 s)<br>Indoor scene [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s)<br>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)<br>*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)   |
|                                  | VIOS  | 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   |  |
| 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)<br>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  |  |
| <b>Pan and Tilt</b>              | Panning Range   | 360° endless   |
|                                  | Panning Speed   | Manual: approx. 0.065°/s - 120°/s, Up to 256 steps (depending on the controller)<br>Preset: up to approx. 300°/s   |
|                                  | Tilting Range   | -25° to 205° (upward-level-downward)<br>Selectable tilting angle: 10° / 5° / 3° / 0° / -3° / -5° / -10° / -15° / -20° / -25°<br>Manual: approx. 0.065°/s to 120°/s, Preset: up to approx. 300°/s   |
|                                  | Tilting Speed   |  |
|                                  | 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   |
| <b>Browser GUI</b>               | Map Shot  | 360° map shot / Preset map shot  |
|                                  | 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<br>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  |
| <b>Network</b>                   | System Log  | Up to 100 (Internal)   |
|                                  | Supported OS <sup>2</sup>   | Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG) error logs<br>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 IF  | 10Base-T / 100Base-TX, RJ45 connector  |
|                                  | Image Resolution  | • <b>Image Capture Mode[16 : 9](30 fps)</b><br>1,280 x 720 / 640 x 360 / 320 x 180<br>• <b>Image Capture Mode[4 : 3](30 fps)</b><br>1,280 x 960 / 800 x 600 / 640 x 480 / 320 x 240  |
|                                  | H.264 <sup>3</sup>  | Transmission Mode: Constant bit rate / Variable bit rate / Frame rate priority / Best effort / Advanced VBR<br>Frame Rate: 1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 fps<br>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<br>Image Quality: Low / Normal / Fine<br>Smart Coding mode: On (Low / Mid / High) / Off (Only when "Variable bit rate" is selected.)<br>Refresh Interval: 0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5 s<br>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)<br>Refresh Interval: 0.1 fps to 30 fps<br>Transmission Type: Pull / Push   |
|                                  | Audio Compression   | G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps, AAC <sup>4</sup>   |
|                                  | 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<br>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<br>(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)  |  |

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

|   |                                   |  |
|---|-----------------------------------|--|
| <b>Network</b>                            | SDXC/SDHC/SD Memory Card (Option) | H.264 recording (Audio recording is enable):<br>Manual REC / Alarm REC(Pre/Post) / Schedule REC / Backup upon network failure<br>JPEG recording:<br>Manual REC / Alarm REC (Pre/Post) / Backup upon network failure<br>Compatible SD (SDHC/SDXC) card:<br>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, AUC control (by access level)  |
| <b>Alarm</b>                              | 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   |
| <b>Input/ Output</b>                      | 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  |
|   | Monitor Output (for adjustment)   | VBS: 1.0V(p-p) / 75Ω, NTSC / PAL composite, ø3.5 mm monaural mini jack   |
| <b>General</b>                            | 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  |
| <b>Power Source and Power Consumption</b> | External I/O Terminals            | ALARM IN 1 (DAY/NIGHT IN), ALARM IN 2 (ALARM OUT), ALARM IN 3 (AUX OUT)  |
|   | Safety/EMC Standard               | <Safety><br>UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1<br><EMC><br>FCC Part15 Class A, ICES-003 Class A, EN55022 Class B, EN55024   |
| <b>Ambient Operating Temperature</b>      | DC power supply                   | DC12 V / 1.0 A / 12 W  |
|   | Power Consumption                 | PoE (IEEE802.3af compliant): DC48 V / 250 mA / Approx. 12 W (Class 0 device)<br>* 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).  |
| <b>Ambient Operating Humidity</b>         | Ambient Operating Temperature     | PoE: -10 °C to +55 °C (14 °F to 131 °F)  |
|   | Ambient Operating Humidity        | 10 % to 90 % (no condensation)   |
| <b>Dimensions</b>                         | Mass (approx.)                    | ø185 mm x 211 mm (H) (ø7-9/32 inches x 8-5/16 inches (H)) (including the decorative covers)  |
|   | Finish                            | Approx. 1.5 kg (3.31 lbs)<br>Camera : ABS resin (Coating color: Black)<br>Decorative cover: ABS resin (Resin color: Sail white)  |

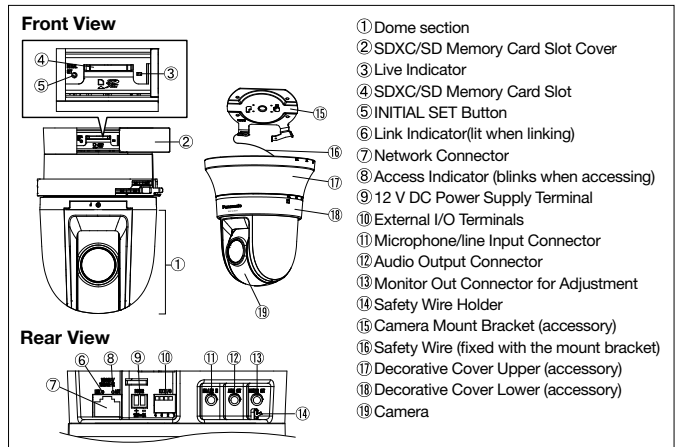
<sup>1</sup> Converted value

<sup>2</sup> 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".

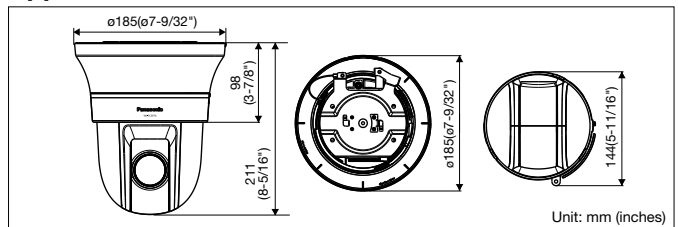
<sup>3</sup> Transmission for 2 streams can be individually set.

<sup>4</sup> When recording audio on an SD memory card, only AAC-LC (Advanced Audio Coding - Low Complexity) is used.

## Part Names and Functions



## Appearance



### Trademarks and registered trademarks

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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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