



**i-PRO SmartHD**

**MEGA SuperDynamic**

**VIQS**  
Variable Image Quality on Specified area

**H.264 JPEG**

**FULL HD**  
Full Resolution 1080/30p

**day/night ICR**

**Weather Resistant**

**RAIN WASH COATING**

**NO HUMIDIFICATION**

**Advanced Auto Tracking**

**HLC**

**Fog and Sand Compensation**

**IP66 standard**

**90x EXTRA OPTICAL ZOOM**

**ONVIF | S G**

## Full HD / 1,920 x1,080 H.264 Weather Proof Camera featuring Optical 30x zoom and Super Dynamic

### Key Features

- 1080p Full HD images up to 30 fps
- Super high resolution at Full HD / 1,920 x 1,080 created by 2.4 Megapixel high sensitivity MOS image sensor
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by new "UniPhier®", Panasonic's proprietary System LSI platform.
- Full frame (Up to 30 fps) transmission at 1,920 x 1080 image size
- **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:  
0.5 lx (Color), 0.06 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 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 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 (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 / 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
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4x(UL50), NEMA 4x compliant.
- Dehumidification device for use in various weather conditions
- Rain wash coat dome cover
- Ambient Operating Temperature : -50 °C to +55 °C (-58 °F to 131 °F)
- Fog and Sandstorm compensation
- AEM (Auto Eyelid Mechanism) offers images that are more natural and easy to watch reducing doubled images when direction of the lens moved above the horizontal.

### Standard Accessories

|                                      |       |  |                        |
|--------------------------------------|-------|--|------------------------|
| • CD-ROM*1 .....                     | 1 pc. | • Front/Rear Sun Shield .....  | 1 set                  |
| • Installation Guide.....            | 1 pc. | • Front/Rear Sun Shield Fixing Screws .....  | 2 pcs. (incl. 1 spare) |
| The followings are for installation. |       |  |                        |
| • Protection Cover .....             | 1 pc. | • Code Label*2 .....   | 1 pc.                  |
| • RJ45 connector .....               | 1 pc. | *1 The CD-ROM contains the operating instructions (PDFs) and different kinds of tool software programs.      |                        |
| • 8P Alarm Cable.....                | 1 pc. | *2 This label may be required for network management. The network administrator shall retain the code label. |                        |
| • Connector Kit for 24 V AC .....    | 1 pc. |  |                        |

### Optional Accessories

|                                       |  |
|---------------------------------------|--|
| Wall Mount Bracket<br><b>WV-Q122A</b> | Ceiling Mount Bracket<br><b>WV-Q121B</b> |
|---------------------------------------|--|

# Specifications

|                               |  |  |   |
|-------------------------------|--|--|---|
| <b>Camera</b>                 | Image Sensor   | Approx. 1/3 type MOS image sensor  |   |
|                               | Effective Pixels   | Approx. 2.4 mega pixels  |   |
|                               | 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: 0.5 lx, BW: 0.06 lx (F1.6, Auto slow shutter: Off (1/30s), Gain: On(High))<br>Color: 0.03 lx, BW 0.004 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  | Fix shutter: 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 (only at Super Dynamic Off)   |   |
|                               | 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   |   |
|                               | AGC  | On (Low, Mid, 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   | Up to 8 zones / Up to 32 zones, Gray / Mosaic  |   |
|                               | Image Stabilizer   | On / Off   |   |
|                               | VIOS   | Up to 2 zones at preset position 1-8 and except preset   |   |
|                               | Double Image Reduction   | On / Off   |   |
|                               | Camera Title (OSD)   | Up to 20 characters (alphanumeric characters, marks)   |   |
|                               | Focus distance   | Limited / Unlimited  |   |
|                               | <b>Lens</b>  | Focal Length   | 4.3 mm - 129.0 mm, 30x  |
| Zoom Ratio                    |  | 30x / 90x with extra optical zoom (at 640 x 360)   |   |
| Digital (Electrical) Zoom     |  | 12x (MAX. 1080x combined with extra optical zoom at 640 x 360)   |   |
| Angular Field of View         |  | H: 2.6° (TELE) - 64.6° (WIDE), V: 1.6° (TELE) - 38.2° (WIDE)   |   |
| 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)<br>Preset: up to approx. 300°/s   |   |
| Tilting Range                 |  | -15° to 195° (upward-level-downward)<br>Auto Eyelid Mechanism (Double image reduction)<br>Selectable tilting angle: 0° / -5° / -10° / -15°   |   |
| Tilting Speed                 | Manual: approx. 0.065°/s to 120°/s, Up to 256 steps (depending on the controller)<br>Preset: up to approx. 300°/s  |  |   |
| 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 (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 / Russian / Chinese / Japanese   |   |
|                               | System Log   | Up to 100 (Internal)<br>Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG) error logs  |   |
| Supported OS <sup>2 3</sup>   | 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) |  |   |
| <b>Network</b>                | Network IF   | 10Base-T / 100Base-TX, RJ45 connector  |   |
|                               | Image Resolution   | Image Capture Mode: H.264 : 1,920 x 1,080 / 640 x 360 / 320 x 180, up to 30 fps<br>2 mega pixel [16:9]<br>JPEG (MJPEG): 1,920 x 1,080 / 640 x 360 / 320 x 180, up to 30 fps  |   |
|                               |  | Image Capture Mode: H.264 : 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps<br>1.3 mega pixel [16:9]<br>JPEG (MJPEG): 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps  |   |
|                               |  | Image Capture Mode: H.264 : 1,280 x 960 / VGA(640 x 480) / QVGA(320 x 240), up to 30 fps<br>1.3 mega pixel [4:3]<br>JPEG (MJPEG): 1,280 x 960 / VGA(640 x 480) / QVGA(320 x 240), up to 30 fps                                 |   |
|                               | H.264 <sup>4</sup>   | 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 / 2,048 / 4,096 / 8,192 kbps / Unlimited / 4,096 / 6,144 / 8,192 / 10,240 / 12,288 / 14,336 kbps |
|                               | JPEG   | 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   |
|                               | Audio Compression  | G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps for transmitting, AAC for audio recording and sound detection   |   |
|                               | 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<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 (When the FTP transmission is failed, backup on an optional SDXC/SDHC/SD memory card is available.)  |  |   |
| No. of Simultaneous Users     | Up to 14 users (Depends on network conditions)   |  |   |

|                      |                                    |  |
|----------------------|------------------------------------|--|
| <b>Network</b>       | SDXC/SDHC/SD Memory Card (Option)  | H.264 recording (Audio recording is enable): Manual REC / Alarm REC (Pre/Post) / Schedule REC<br>JPEG recording: Manual REC / Alarm REC (Pre/Post) / Backup upon network failure<br>Compatible SD (SDHC/SDXC) card: Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64GB** model<br>*SDHC card, ** SDXC card (except miniSD card and microSD card) |
|                      | Cellular Phone Compatibility       | JPEG image   |
| <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, Sound 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  |
| <b>Input/ Output</b> | Monitor Output (for adjustment)    | VBS : 1.0V(p-p) / 75Ω, NTSC / PAL composite, BNC 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)<br>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                | <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   |
|                      | Power Source and Power Consumption | AC24 V : 3.5 A, 55 W<br>PoE+ : 470 mA, 25 W (IEEE802.3at compliant)<br>POE Injector (60 W) : 1.0 A, 50 W   |
|                      | Ambient Operating Temperature      | AC24 V and Tested PoE Injector (60 W) : -50 °C to +55 °C (-58 °F to 131 °F) * with limitations<br>POE+ : -30°C to +55°C (-22 °F to 131 °F)   |
|                      | Ambient Operating Humidity         | Less than 90 % (no condensation)   |
|                      | Impact Protection                  | IEC 62262 : 2002 IK10 (Impact energy 20J)  |
|                      | Water and Dust Resistance          | IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4x(UL50), NEMA 4x compliant.  |
|                      | Dimensions                         | ø229 mm x 392 mm(H) (ø9-1/32 inches x 15-7/16 inches(H))<br>diameter of the dome 160 mm(6-5/16 inches)   |
|                      | Mass (approx.)                     | Approx. 5.0 kg { 11.04 lbs}  |
|                      | Finish                             | Main body : Aluminum die cast, Natural silver<br>Sunshields : ASA resin coating, Natural silver<br>Dome section : Clear polycarbonate resin  |

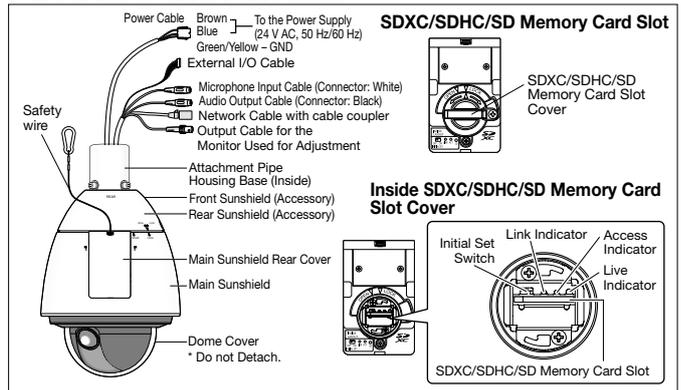
<sup>1</sup> Converted value

<sup>2</sup> 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®.

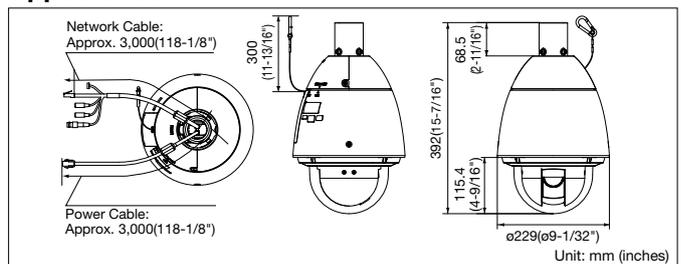
<sup>3</sup> When using IPv6 for communication, use Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

<sup>4</sup> Transmission for 2 streams can be individually set in the same compression method.

## Part Names and Functions



## Appearance



### Trademarks and registered trademarks

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### Important

- Safety Precaution: Carefully read the operating instructions and installation manual before using this product.
- Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.
- Masses and dimensions are approximate. • Specifications are subject to change without notice.
- All product pictures are NTSC models.

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