



### HD/1,280 x 960 H.264 PTZ Dome Network Camera.

#### Key Features

- 720p HD images up to 30 fps
- Newly developed 1.3 Megapixel 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
- 18x optical zoom. 36x extra optical zoom at VGA resolution with 8x digital zoom enabling 288x zoom.
- Wide Dynamic Range and ABS (Adaptive Black Stretch) technologies deliver wider dynamic range compared with conventional cameras.
- Face Wide Dynamic Range technology ensures clear face image.
- H.264 and MPEG-4 are selectable for system migration.
- High sensitivity with Day/Night function : 0.6 lx (Color), 0.5 lx (B/W) at F1.6 (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.
- Panning with auto flip function can be performed 0 to 360 degrees.
- PTZ control can be taken 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 64 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 Detector) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Face detection function detects the position of human face and the information is sent by XML or video stream.
- Meta data for VMD is supplied to work with the WJ-ND400 playback VMD function.
- Privacy Zone can mask up to 2 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 GUI and setup menu: English, French, Italian, Spanish, German, Russian (PAL) / English, French (NTSC) \* Installation required except for English
- 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

#### Standard Accessories

|  |                        |  |       |
|--|------------------------|--|-------|
| • CD-ROM*1 .....                             | 1 pc.                  | • Decorative Cover.....  | 1 pc. |
| • Installation Guide.....                    | 1 pc.                  | • Power Cable Plug.....  | 1 pc. |
| The followings are for installation.         |                        | • Code Label*2 .....   | 1 pc. |
| • Camera Mount Bracket (w/safety wire) ..... | 1 pc.                  | *1 The CD-ROM contains the operating instructions (PDFs) and different kinds of tool software programs.      |       |
| • Camera Fixing Screw .....                  | 2 pcs. (incl. 1 spare) | *2 This label may be required for network management. The network administrator shall retain the code label. |       |

#### Optional Accessories

|  |   |  |
|--|---|--|
| Inner Dome Cover<br><b>WV-Q157</b><br>  | Indoor Dome Covers<br><b>WV-Q156C</b> (Clear)<br><b>WV-Q156S</b> (Smoke)<br> | Embedded Ceiling Mount Brackets<br><b>WV-Q155C</b> (Clear)<br><b>WV-Q155S</b> (Smoke)<br> |
| Wall Mount Brackets<br><b>WV-Q154C</b> (Clear)<br><b>WV-Q154S</b> (Smoke)<br> | Ceiling Mount Bracket<br><b>WV-Q105</b><br>                                  |  |

\* Not compatible with optional accessories of conventional cameras

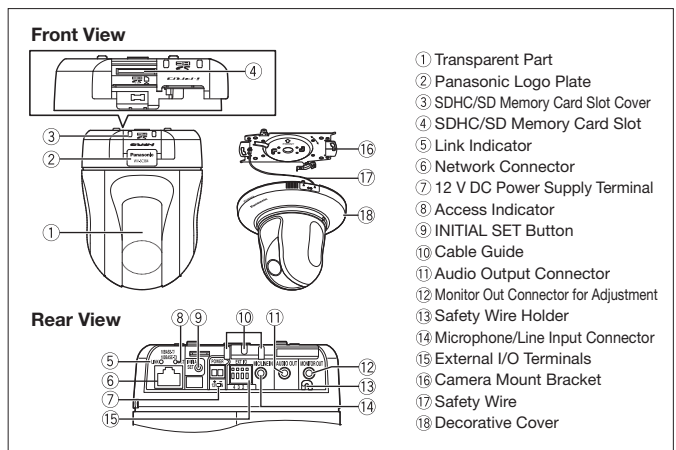
# Specifications

| TV System                | NTSC   | PAL   |  |   |  |  |
|--------------------------|--|---|--|---|--|--|
| Camera                   | Image Sensor   | 1/3 type MOS Sensor   |  |   |  |  |
|                          | Effective Pixels   | Approx. 1.3 megapixel   |  |   |  |  |
|                          | Scanning Mode  | Progressive scan  |  |   |  |  |
|                          | Scanning Area  | 4.8 mm (H) x 3.6 mm (V) (3/16" (H) x 5/32" (V))   |  |   |  |  |
|                          | Minimum Illumination   | Color: 0.6 lx (F1.6, Auto slow shutter: Off (1/30 s), AGC: High, WDR Off)<br>0.038 lx (F1.6, Auto slow shutter: max. 16/30 s, AGC: High, WDR Off)<br>BW: 0.5 lx (F1.6, Auto slow shutter: Off (1/30 s), AGC: High)<br>0.031 lx (F1.6, Auto slow shutter: max. 16/30 s, AGC: High) |  |   |  |  |
|                          | White Balance  | ATW1 / ATW2 / AWC   |  |   |  |  |
|                          | Light Control Mode   | Indoor scene (60 Hz / 60 Hz) / Outdoor scene / Fix shutter  |  |   |  |  |
|                          | Shutter Speed  | 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   |  |   |  |  |
|                          | Wide Dynamic Range   | ON / OFF  |  |   |  |  |
|                          | Face Wide Dynamic Range  | ON / OFF  |  |   |  |  |
|                          | Adaptive Black Stretch   | ON / OFF  |  |   |  |  |
|                          | AGC  | ON (LOW, MID, HIGH) / 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   |  |   |  |  |
|                          | Simple Black and White Mode  | OFF / AUTO  |  |   |  |  |
|                          | Digital Noise Reduction  | High / Low  |  |   |  |  |
|                          | Video Motion Detection   | ON / OFF, 4 areas available   |  |   |  |  |
|                          | Privacy Zone   | ON / OFF (up to 2 zones available)  |  |   |  |  |
|                          | Up Side Down   | Ceiling mount only  |  |   |  |  |
|                          | Image Stabilizer   | ON / OFF  |  |   |  |  |
|                          | Camera Title (OSD)   | ON / OFF  |  |   |  |  |
|                          | Lens   | Focal Length  | 4.7 mm - 84.6 mm   |   |  |  |
|                          |  | Zoom Ratio  | 18x / 36x with extra optical zoom (at VGA resolution)  |   |  |  |
|                          |  | Digital (Electronic) Zoom   | 8x (Max. 288x combined with extra optical zoom under VGA)  |   |  |  |
|                          |  | Angular Field of View   | H: 3.2° (Tele) - 55.2° (Wide), V: 2.4° (Tele) - 42.1° (Wide)   |   |  |  |
|                          |  | Maximum Aperture Ratio  | 1 : 1.6 (Wide) - 2.8 (Tele)  |   |  |  |
| Focus Range              |  | 1.5 m - ∞   |  |   |  |  |
| Aperture Range           |  | F1.6 - 22, Close  |  |   |  |  |
| Panning Range            |  | 0° - 350°   |  |   |  |  |
| Panning Speed            |  | Manual: approx. 0.5°/s - 100°/s, Preset: up to approx. 300°/s   |  |   |  |  |
| Tilting Range            |  | -30° - 90° (upward-level-downward)  |  |   |  |  |
| Pan and Tilt             | Tilting Speed  | Manual: approx. 0.5°/s - 100°/s, Preset: up to approx. 100°/s   |  |   |  |  |
|                          | Proportional Pan/Tilt Control  | Yes   |  |   |  |  |
|                          | Number of Preset Positions   | 64  |  |   |  |  |
|                          | Auto Mode  | Auto pan / Preset sequence / 360 map-shot / Preset map-shot   |  |   |  |  |
|                          | 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  |  |   |  |  |
|                          | Pan/Tilt flip *1   | ON / OFF  |  |   |  |  |
|                          | Map Shot   | 360 map shot / preset map shot  |  |   |  |  |
|                          | Browser GUI  | 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 characters (alphanumeric characters, marks), Character size: Small  |   |  |  |
|                          |  | 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<br>(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  | Microsoft® Windows® 7 Professional 64 bit/32 bit, Microsoft® Windows Vista® Business SP1 32 bit, Microsoft® Windows® XP Professional SP3   |   |  |  |
|                          |  | Supported Browser   | The language of the OS must be same as selected GUI language.<br>Windows® Internet Explorer® 8.0 (32 bit) (Microsoft® Windows® 7 Professional 64 bit/32 bit), Windows® Internet Explorer® 7.0 (Microsoft® Windows Vista® Business SP1 32 bit), Microsoft® Internet Explorer® 6.0 SP3 (Microsoft® Windows® XP Professional SP3) |   |  |  |
|                          |  | Network   | Network IF   | 10Base-T / 100Base-TX, RJ-45 connector              |  |  |
|                          |  |   | Image Resolution *2 *3   | Aspect ratio: [4 : 3]                               | H.264: 1,280 x 960 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps<br>MPEG-4: VGA (640 x 480) / QVGA (320 x 240), up to 30 fps<br>JPEG (MJPEG): 1,280 x 960 / 640 x 480 / 320 x 240, up to 30 fps |  |
|                          |  |   |  | Aspect ratio: [16 : 9]                              | H.264: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps<br>JPEG (MJPEG): 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps  |  |
|                          | Transmission Mode  |   |  | Constant bitrate / Framerate priority / Best effort |  |  |
| H.264/ MPEG-4 *2         | Frame Rate   |   | 1 / 3 / 5 / 7.5 / 10 / 15 / 20 / 30 fps   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  |   | LOW / NORMAL / FINE  |   |  |  |
| JPEG (MJPEG)             | 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  |   | UNICAST / MULTICAST  |   |  |  |
| Transmission Interval    | Image Quality  |   | 0 SUPER FINE / 1 FINE / 2 / 3 / 4 / 5 NORMAL / 6 / 7 / 8 / 9 LOW (10 steps: 0-9)   |   |  |  |
|                          | 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<br>IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP |   |  |   |  |  |
| FTP Client               | Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDHC/SD memory card is available.)                               |   |  |   |  |  |
| Multi-Screen             | Up to 16 camera images can be displayed simultaneously on a multi-screen. (Including the camera itself)  |   |  |   |  |  |

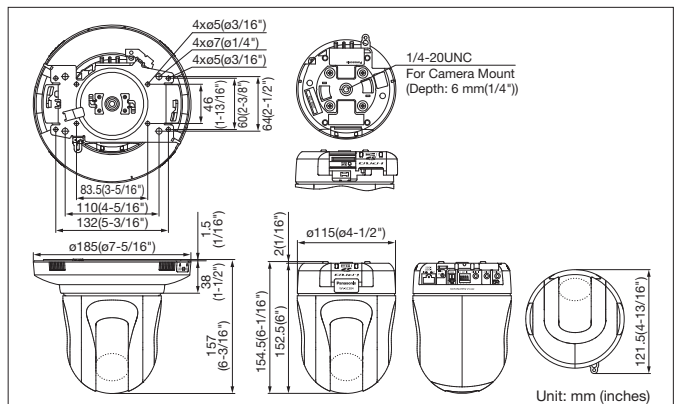
| TV System    | NTSC                                   | PAL  |   |  |
|--------------|--|--|---|--|
| Network      | Maximum Concurrent Access Number       | Up to 14<br>(Depends on network conditions)  |   |  |
|              | SDHC/SD Memory Card (Option)           | H.264 recording: Manual REC / Alarm REC (PRE/Post) / Schedule REC<br>JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure<br>Compatible SD (SDHC) card: Panasonic 256 MB, 512MB, 1GB, 2 GB, 4 GB*, 8 GB*, 16GB*, 32GB* model *SDHC card |   |  |
|              | Face Detection                         | ON / OFF (with XML notification)   |   |  |
|              | Cellular Phone Compatibility           | JPEG image, panning / tilting / zoom control, AUX control (by access level)  |   |  |
|              | Alarm                                  | Alarm Source   | 3x Terminal inputs, VMD, Command alarm  |  |
|              |  | 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  | With SD memory card: 5,000 logs, Without SD memory card: 1,000 logs   |  |
|              |  | Schedule   | Alarm/VMD/Access permission, Preset position call, Position refresh, H.264 recording  |  |
|              | Input / Output                         | Monitor Output (per adjustment)  | 1.0 V [p-p] / 75 Ω, NTSC composite, ø3.5 mm mini jack   | 1.0 V [p-p] / 75 Ω, PAL composite, ø3.5 mm mini jack |
|              |  | Microphone/Line Input  | ø3.5 mm monoaural mini jack, Input impedance: approx. 2 kΩ  |  |
| Audio Output |  | ø3.5 mm stereo mini jack (monoaural output) Line level<br>Output impedance: Approx. 600 Ω, Line level  |   |  |
| General      | External I/O Terminals                 | ALARM IN 1, ALARM IN 2 / ALARM OUT, ALARM IN 3 / AUX OUT (x1 each)   |   |  |
|              | Safety/EMC Standard                    | UL (UL60065), FCC (Part15 ClassA), CE (EN60065, EN55022 ClassB, C-UL (CAN/CSA C22.2 No.60065), EN55024), GOST (GOST R 51558) DOC (ICES003 ClassA)  |   |  |
|              | Power Source/Consumption               | 12 V DC, PoE (IEEE802.3af compliant)<br>12 V DC : 690 mA, PoE 48 V : 10 W / 190 mA (Class 0 device)  |   |  |
|              | Ambient Operating Temperature/Humidity | -10 °C ~ +50 °C (14 °F ~ 122 °F),<br>90% or less (without condensation)  |   |  |
|              | Dimensions                             | ø115 mm x 155 mm (H) (ø4-17/32" x 6-3/32" (H)) (excluding the 12 V DC power cord plug)<br>Mass (approx.) 900 g (1.99 lbs.)   |   |  |

\*1 The pan/tilt-flip function cannot be activated by clicking live images. When the zoom ratio is adjusted to the "TELE" side, images will be partially hidden even if the pan/tilt-flip function is activated. \*2 H.264 and MPEG-4 are alternative. \*3 [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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- ONVIF and the ONVIF logo are trademarks of ONVIF Inc.

### Important

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.
- Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.

• All TV pictures are simulated. • Masses and dimensions are approximate. • Specifications are subject to change without notice. • These products may be subject to export control regulations. • All product pictures are NTSC models.

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Printed in Japan (2A-073AL)