



## 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<sup>®</sup>", 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
- 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

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

\* Not compatible with optional accessories of conventional cameras

# Specifications

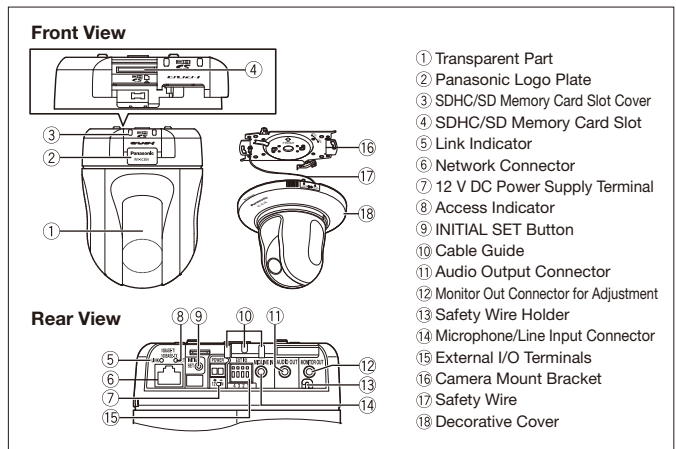
TV System	NTSC	PAL
Camera	1/3 type MOS Sensor Effective Pixels: Approx. 1.3 megapixel Scanning Mode: Progressive scan Scanning Area: 4.8 mm (H) x 3.6 mm (V) (3/16" (H) x 5/32" (V)) Minimum Illumination: Color: 0.6 lx (F1.6, Auto slow shutter: Off (1/30 s), AGC: High, WDR Off) 0.038 lx (F1.6, Auto slow shutter: max. 16/30 s, AGC: High, WDR Off) BW: 0.5 lx (F1.6, Auto slow shutter: Off (1/30 s), AGC: High) 0.031 lx (F1.6, Auto slow shutter: max. 16/30 s, AGC: High)	
	White Balance: ATW1 / ATW2 / AWC Light Control Mode: Indoor scene (50 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: [4 : 3] H: 3.2° (Tele) ~ 55.2° (Wide), V: 2.4° (Tele) ~ 42.1° (Wide) [16 : 9] H: 3.2° (Tele) ~ 55.2° (Wide), V: 1.9° (Tele) ~ 31.9° (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°	
Pan and Tilt	Panning Speed: Manual: approx. 0.5°/s ~ 100°/s, Preset: up to approx. 300°/s Tilting Range: -30° ~ 90° (upward-level-downward) Tilting angle limit: 10° / 5° / 3° / 0° / -3° / -5° / -10° / -15° / -20° / -25° / -30° 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 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® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, Microsoft® Windows® XP SP3 Supported Browser: Windows® Internet Explorer® 10.0 (32 bit)/Windows® Internet Explorer® 9.0 (32 bit) Windows® Internet Explorer® 8.0 (32 bit), Windows® Internet Explorer® 7.0 (32 bit), Microsoft® Internet Explorer® 6.0 SP3	
Network	Network IF: 10Base-T / 100Base-TX, RJ-45 connector Image Resolution *2 *3: Aspect ratio: H.264: 1,280 x 960 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps MPEG-4: VGA (640 x 480) / QVGA (320 x 240), up to 30 fps JPEG (MJPEG): 1,280 x 960 / 640 x 480 / 320 x 240, up to 30 fps Aspect ratio: 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 H.264/ MPEG-4 *2: Transmission Mode: Constant bitrate / Framerate priority / Best effort / Advanced VBR 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 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 JPEG (MJPEG) *2: 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 Transmission Interval: 0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying both JPEG and H.264/MPEG-4 images.) 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 IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTSP/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)	

- 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.

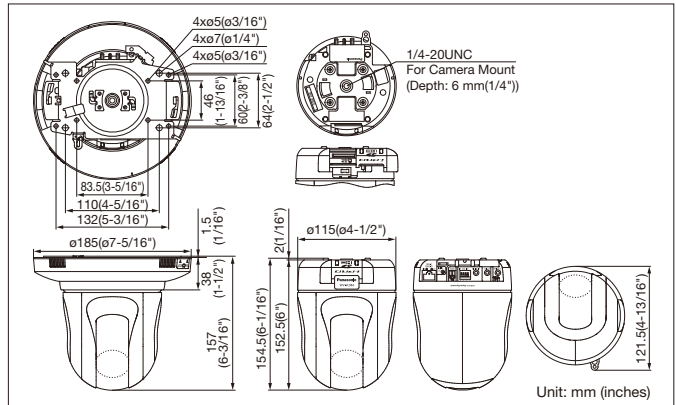
TV System	NTSC	PAL
Network	Maximum Concurrent Access Number: Up to 14 (Depends on network conditions) SDHC/SD Memory Card (Option): H.264 recording: Manual REC / Alarm REC (PRE/Post) / Schedule REC JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure Compatible SD (SDHC) card: Panasonic 256 MB, 512MB, 1GB, 2 GB, 4 GB*, 8 GB*, 16GB*, 32GB* model *SDHC card 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 Alarm Log Schedule: With SD memory card: 5,000 logs. Without SD memory card: 1,000 logs Alarm/VMD/Access permission, Preset position call, Position refresh, H.264 recording	
Input / Output	Monitor Output (for 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 monaural mini jack, Input impedance: approx. 2 kΩ Audio Output: ø3.5 mm stereo mini jack (monaural output) Line level Output impedance: Approx. 600 Ω, Line level External I/O Terminals: ALARM IN 1, ALARM IN 2 / ALARM OUT, ALARM IN 3 / AUX OUT (x1 each)	
General	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) 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), 90% or less (whitout condensation) Dimensions: ø115 mm x 155 mm (H) (ø4-17/32" x 6-3/32" (H)) (excluding the 12 V DC power cord plug) 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

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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.

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