# Panasonic
## ideas for life

**i-PRO SmartHD**

**MEGA SuperDynamic**

**ONVIF**

HD HighDefinition · H.264 MPEG-4 JPEG · 72x EXTRA OPTICAL ZOOM · Face Detection · day/night IR removable

# 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 at 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: 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
- Face detection function detects the position of human face and the information is sent by XML or video stream.
- Meta data for VMD works with the WJ-ND400 playback VMD function.
- 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

## Standard Accessories

- CD-ROM*1 .....................................1 pc.
- Installation Guide...........................1 pc.

The followings are for installation.
- Camera Mount Bracket
  .......................................................1 pc.
- Camera Fixing Screw (M3)
  ............................. 2 pcs. (incl. 1 spare)

- Decorative Cover...........................1 pc.
- Power Cord Plug ...........................1 pc.
- Code Label*2 ................................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 Accessory

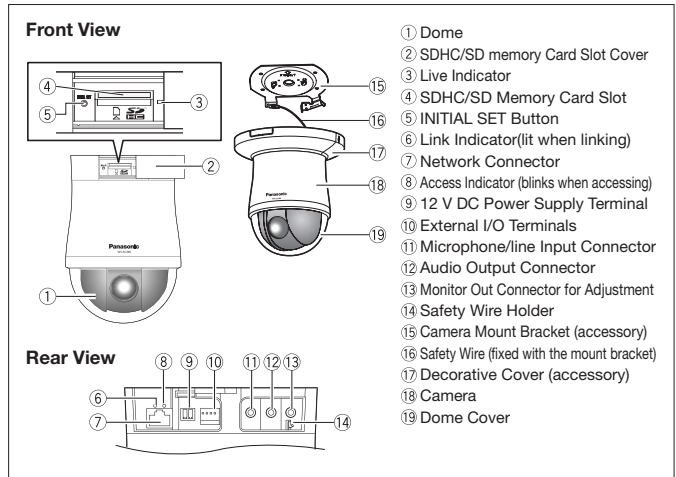| Ceiling Mount Bracket **WV-Q105** | Embedded Ceiling Mount Bracket **WV-Q126** | Wall Mount Bracket **WV-Q118A** | Smoke Dome Cover **WV-CS4S** |
|---|---|---|---|

# Specifications

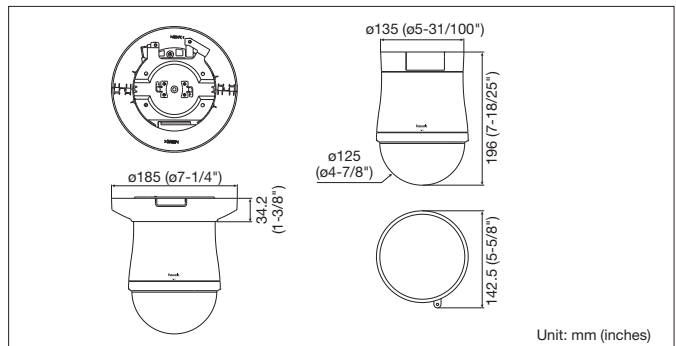| TV System | | NTSC | PAL |
|---|---|---|---|
| Camera | Image Sensor | 1/4 type MOS Sensor | |
| | Effective Pixels | Approx. 1.3 megapixel | |
| | Scanning Mode | Progressive scan | |
| | Scanning Area | 3.6 mm (H) x 2.7 mm (V) {5/32 inches (H) × 11/100 inches (V)} | |
| | Minimum Illumination | Color: 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 at Super Dynamic: ON) | |
| | Dynamic Range | 52 dB typical (Super Dynamic: ON, Light Control mode: Indoor) | |
| | Adaptive Black Stretch | ON / OFF | |
| | AGC | ON (LOW, MID, 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) | |
| Lens | 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 | |
| Pan and Tilt | 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 | |
| | 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 | |
| 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 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 | Microsoft® Windows® 7 Microsoft® Windows Vista® Microsoft® Windows® XP SP3 | |
| | Supported Browser | 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: [4 : 3] | H.264: 1,280 × 960 / 800 × 600 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps MPEG-4: VGA (640 × 480) / QVGA (320 × 240), up to 30 fps JPEG (MJPEG): 1,280 × 960 / 800 × 600 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps | |
| | Aspect ratio: [16 : 9] | H.264: 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps JPEG (MJPEG): 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps | |
| | H.264/ MPEG-4 *2 — Transmission Mode | Constant bitrate / Framerate priority / Best effort | |
| | 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 | 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) — Image Quality | 10 steps | |
| | 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 IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP | |

| TV System | | NTSC | PAL |
|---|---|---|---|
| Network | 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) | |
| | 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 | |
| | 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 , Auto track | |
| | 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 (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 | |
| | External I/O Terminals | ALARM IN 1 / DAY/NIGHT IN, ALARM IN 2 / ALARM OUT, ALARM IN 3 / AUX OUT (x1 each) | |
| General | 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 (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 Microsoft Windows 7 Starter, Microsoft Windows Vista Starter and Microsoft Windows XP Professional 64-bit Edition are not supported.  *2 H.264 and MPEG-4 are alternative.  *3 [4 : 3] and [16 : 9] are alternative.

## Part Names and Functions

### Front View



① Dome
② SDHC/SD memory Card Slot Cover
③ Live Indicator
④ SDHC/SD Memory Card Slot
⑤ INITIAL SET Button
⑥ Link Indicator(lit when linking)
⑦ Network Connector
⑧ Access Indicator (blinks when accessing)
⑨ 12 V DC Power Supply Terminal
⑩ External I/O Terminals
⑪ Microphone/line Input Connector
⑫ Audio Output Connector
⑬ Monitor Out Connector for Adjustment
⑭ Safety Wire Holder
⑮ Camera Mount Bracket (accessory)
⑯ Safety Wire (fixed with the mount bracket)
⑰ Decorative Cover (accessory)
⑱ Camera
⑲ Dome Cover

### Rear View



## Appearance



ø135 (ø5-31/100")
ø185 (ø7-1/4")
ø125 (ø4-7/8")
196 (7-18/25")
142.5 (5-5/8")
34.2 (1-3/8")

Unit: mm (inches)

• 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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