# Panasonic

# WV-SF332

**i-PRO SmartHD**

**ONVIF**

H.264 MPEG-4 JPEG    day/night

## SVGA/800 x 600 H.264 Fixed Dome Network Camera

### Key Features

- Super high resolution at SVGA/800 x 600 created by newly developed 1.3 Megapixel high sensitivity 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 SVGA/800 x 600 image size
- 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 Simple Day/Night function: 0.2 lx (Color), 0.13 lx (B/W) at F1.3 (Wide)
- VIQS (Variable Image Quality on Specified area) technology allows the designated area 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.
- Focus Assist ensures easy installation.
- 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.
- 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.
- 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.
- 2x extra zoom at VGA resolution
- 2x, 4x digital zoom controlled by browser
- Camera title display: Up to 20 alphanumeric characters on the browser, Up to 20 alphanumeric characters embedded in the image
- Alarm sources including 1 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.
- Alarm log, Manual REC log, FTP error log saved in the SDHC/SD memory card is displayed on the browser GUI and can be downloaded to the client PC. Playback or Image data download through the log is also available.
- Internet mode: H.264/MPEG-4 images can be transmitted over HTTP protocol.
- Multi-language: English / Italian / French / German / Spanish / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Supports DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- Analog Monitor output for easier installation
- 2.8 mm ~ 10 mm, 3.6x Varifocal Auto Iris lens
- ONVIF compliant model
- Fog compensation

### Standard Accessories

- Installation Guide ......................... 1 pc.
- CD-ROM*1 .................................... 1 pc.
- Code Label*2 ............................... 1 pc.

The followings are for installation.
- Power Cord Plug .......................... 1 pc.
- External I/O Terminal Plug............ 1 pc.

- Installation Template Label .......... 1 pc.
- Cable Tie .............. 2 pcs. (incl. 1 spare)

*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

| Embedded Ceiling Mount Bracket (Sail white) **WV-Q174** | Embedded Ceiling Mount Bracket (AV-light gray) **WV-Q168** | Smoke Dome Cover **WV-CF5S** | Ceiling Mount Bracket **WV-Q105** |
|---|---|---|---|
| | * Different from the color of the camera. | | |

# Specifications

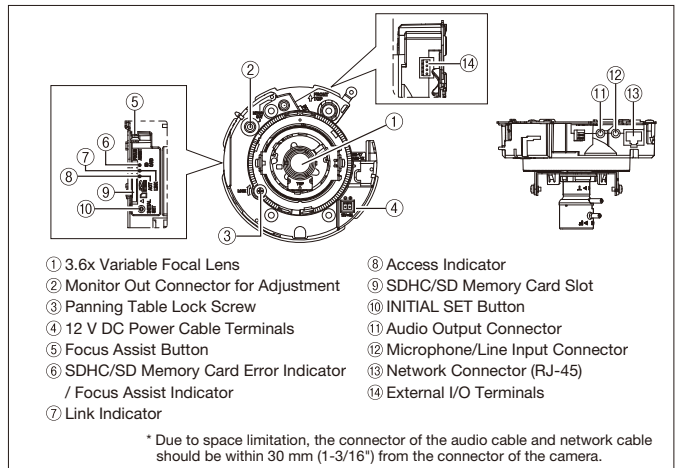| TV System | | NTSC | PAL |
|---|---|---|---|
| Camera | Image Sensor | 1/3 type MOS Sensor | |
| | Effective Pixels | Approx. 1.3 megapixel | |
| | Scanning Mode | Progressive scan | |
| | Scanning Area | 4.8 mm (H) x 3.6 mm (V) {3/16 inches (H) x 5/32 inches (V)} | |
| | Minimum Illumination | Color: 0.2 lx, B/W: 0.13 lx at F1.3 (Shutter: 1/30 s, AGC: High), Color: 0.013 lx, B/W: 0.009 lx at F1.3 (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 | Outdoor: Automatic integration of ALC and ELC | |
| | | Indoor [50 Hz]: Automatic integration of ALC and ELC (up to 1/100 s) | |
| | | Indoor [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s) | |
| | 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 | |
| | Wide Dynamic Range | ON / OFF | |
| | Face Wide Dynamic Range | ON / OFF (Only at Wide Dynamic Range: ON) | |
| | Adaptive Black Stretch | ON / OFF (Only at Wide Dynamic Range: 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)) | |
| | Simple Day/Night Mode | AUTO / OFF | |
| | Digital Noise Reduction | High / Low | |
| | Video Motion Detection | 4 areas, Sensitivity: 15 steps, Detection size: 10 steps | |
| | Privacy Zone | Up to 2 zones, Gray | |
| | VIQS | ON / OFF | |
| | Camera Title (OSD) | Up to 20 alphanumeric characters | |
| | Focus Adjustment | Focus Assist | |
| Lens | Vari Focal Length | 2.8 mm ~ 10 mm, 3.6x varifocal | |
| | Angular Field of View | H: 27.7° (Tele) ~ 100.3° (Wide), V: 20.8° (Tele) ~ 73.5° (Wide) | |
| | Maximum Aperture Ratio | 1 : 1.3 (Wide) ~ 1 : 3.1 (Tele) | |
| | Focusing Range | 0.3 m ~ ∞ | |
| Adjusting Angle | | Horizontal: 180° (clockwise), 170° (counterclockwise) | |
| | | Vertical: ±75°, Imaging tilt adjustment range: ±100° | |
| Browser GUI | Camera Control | Brightness, AUX ON / OFF | |
| | 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. | |
| | Digital Zoom | 1x, 2x, 4x controlled by browser GUI | |
| | Camera Title | Up to 20 alphanumeric characters | |
| | Clock Display | Time: 12H/24H, Date: 5 formats on the browser, Summer time (Auto / 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, 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, Italian, French, German, Spanish, Russian, Chinese, Japanese | |
| | 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 *1 *2 — Aspect ratio: [4 : 3] | H.264: 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: 800 × 600 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps | |
| | Aspect ratio: [16 : 9] | H.264: 640 × 360 / 320 × 180, up to 30 fps | |
| | | JPEG: 640 × 360 / 320 × 180, up to 30 fps | |
| | H.264/MPEG-4 *1 — Transmission Mode | Constant bitrate / Framerate 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 / 1,536 / 2,048 / 3,072 / 4,096 / Unlimited | |
| | 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 — 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, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, ICMPv6 | |
| | | IPv4: TCP/IP, UDP/IP, HTTP, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP | |
| | FTP Client | Alarm image transfer, Periodic image transfer, Active/Passive selectable (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) | |

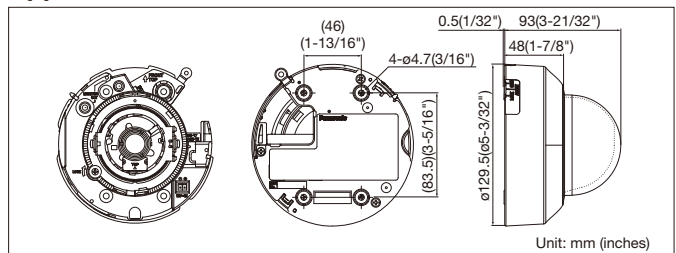| TV System | | NTSC | PAL |
|---|---|---|---|
| Network | SDHC/SD Memory Card (Option) | H.264 recording: Manual REC / Alarm REC (Pre/Post) JPEG recording: Manual REC / Alarm REC (Post) / Backup upon network failure  Compatible SD (SDHC) card: Panasonic  256 MB, 512 MB, 1 GB, 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB* model  * SDHC card | |
| | Cellular Phone Compatibility | JPEG image | |
| | Mobile Terminal Compatibility *3 | iPad, iPhone, iPod touch (iOS 4.2.1 or later), Android™ mobile terminals | |
| Alarm | Alarm Source | 1 terminal input, VMD, Command alarm | |
| | Alarm Actions | SDHC/SD memory recording, E-mail notification, Alarm terminal output, Indication on browser, FTP image transfer, Panasonic protocol output | |
| | Alarm Log | With SDHC/SD memory card: 5,000 logs, without SDHC/SD memory card: 1,000 logs | |
| | Schedule | Alarm / VMD / Access permission / H.264 recording | |
| Input/ Output | Monitor Output (for adjustment) | 1.0 V [p-p] / 75 Ω, NTSC composite, RCA Jack | 1.0 V [p-p] / 75 Ω, PAL composite, RCA 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) 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,  ALARM OUT,  AUX OUT | |
| General | Safety/EMC Standard | UL (UL60065), FCC (Part15 ClassA), C-UL (CAN/CSA C22.2 No.60065), DOC (ICES003 ClassA) | CE (EN55022 ClassB, EN55024) |
| | Power Source and Power Consumption | 12 V DC: 280 mA, PoE (IEEE 802.3af): 3.5 W (Class 2 device) | |
| | Ambient Operating Temperature/Humidity | –10 °C ~ +50 °C (14 °F ~ 122 °F), Less than 90 % (no condensation) | |
| | Dimensions | ø129.5 mm x 93 mm (H) {ø5-3/32 inches x 3-21/32 inches(H)} | |
| | Mass (approx.) | 370 g (0.82 lbs.) | |

*1 H.264 and MPEG-4 are alternative.
*2 [4 : 3] and [16 : 9] are alternative.
*3 For further information about compatible devices, refer to our website (http://security.panasonic.com/pss/security/support/info.html).

## Part Names and Functions



① 3.6x Variable Focal Lens
② Monitor Out Connector for Adjustment
③ Panning Table Lock Screw
④ 12 V DC Power Cable Terminals
⑤ Focus Assist Button
⑥ SDHC/SD Memory Card Error Indicator / Focus Assist Indicator
⑦ Link Indicator
⑧ Access Indicator
⑨ SDHC/SD Memory Card Slot
⑩ INITIAL SET Button
⑪ Audio Output Connector
⑫ Microphone/Line Input Connector
⑬ Network Connector (RJ-45)
⑭ External I/O Terminals

* Due to space limitation, the connector of the audio cable and network cable should be within 30 mm (1-3/16") from the connector of the camera.

## Appearance



(46) (1-13/16")
0.5(1/32")  93(3-21/32")
4-ø4.7(3/16")  48(1-7/8")
(83.5)(3-5/16")
ø129.5(ø5-3/32")

Unit: mm (inches)

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– iPad, iPhone and iPod touch are registered trademarks of Apple Inc.
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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.

• 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.