



HD / 1,280 x 960 H.264 Pan-tilting Network Camera

Key Features

- 720p HD images up to 30 fps
- 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 1,280 x 960 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.
- High sensitivity with Day & Night (Electrical) function: 0.6 lx (Color), 0.5 lx (B/W) at F2.2
- 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: Indoor scene (50 Hz) / Indoor scene(60Hz) / ELC (maximum exposure time)
Indoor scene (50 Hz/60Hz): Flicker caused by fluorescent lightning will be automatically compensated.
ELC (maximum exposure time): The lightning control will be automatically performed by adjusting shutter speed in the range of ELC.
- 2x extra zoom at VGA resolution
- 8x digital zoom controlled by browser
- 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 2 private areas, such as house windows and entrances/exits.
- Camera title display: Up to 20 alphanumeric characters on the browser
- Alarm sources including VMD and Panasonic alarm command can trigger actions such as FTP image transfer, E-mail notification, indication on browser, and Panasonic alarm protocol output.

- 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 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
- Panning/tilting and Preset Map Shot function realizes wide range monitoring..(Horizontal angle:180° Vertical angle 123°)
- Easy installation: Easy to adjust directions.
- Interactive communication with audio: By using the audio output connector receiving audio from the cameras on a PC and transmitting audio from the PC to the cameras is available.
- Best effort on Transmission priority: In accordance with the network bandwidth, H.264 images will be transmitted with the bit rate varying between the maximum and minimum bit rates that are set for "Max bit rate (per client)".

Standard Accessories

• Installation Guide 1 pc.	• Flexible Stand1 pc.
• CD-ROM* 1.....1 pc.	• SD Card Cover1 pc.
• Code label* 2.....1 pc.	• Power cable plug1 pc.

*1 The CD-ROM contains the operating instructions and different kinds of tool software programs.
*2 This label may be required for network management.
The network administrator shall retain the code label.

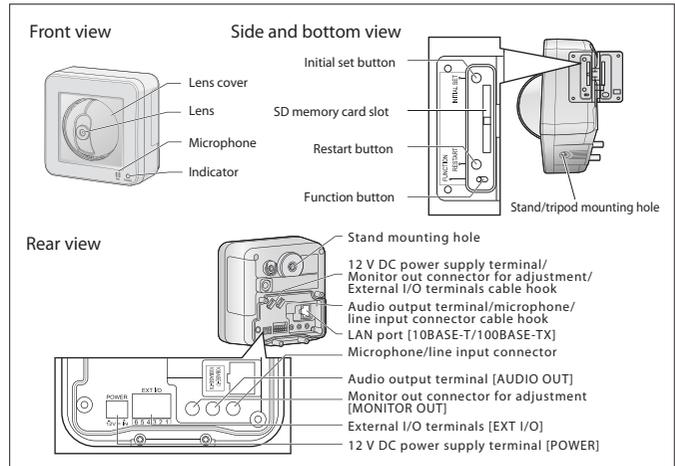
Specifications

TV System	NTSC	PAL
Camera	1/4 type MOS Sensor Effective Pixels: Approx. 1.3 megapixels Scanning Mode: Progressive Scanning Area: 3.52 mm (H) x 2.64 mm (V) (7/50" (H) x 1/10" (V)) Minimum Illumination: Color: 0.6 lx (F2.2, Auto slow shutter: Off (1/30s), Gain: On(High)) ^{*1} BW: 0.5 lx (F2.2, Auto slow shutter: Off (1/30s), Gain: On(High)) ^{*1} Color: 0.031 lx (F2.2, Auto slow shutter: Off (1/6/30s), Gain: On(High)) ^{*1} 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) / ELC Shutter Speed: ELC (1/30 s), ELC (3/100 s), ELC (3/120 s), ELC (2/100 s), ELC (2/120 s), ELC (1/100 s), ELC (1/120 s), ELC (1/250 s), ELC (1/500 s), ELC (1/1,000 s), ELC (1/2,000 s), ELC (1/4,000 s), ELC (1/10,000 s) Wide Dynamic Range: ON / OFF Face Wide Dynamic range: ON / OFF Adaptive Black Stretch: ON / OFF AGC: ON (HIGH) / ON (MID) / ON (LOW) / OFF Electronic Sensitivity UP: OFF (1/30 s), Max. 2/30 s, Max. 4/30 s, Max. 6/30 s, Max. 10/30 s, Max. 16/30 s Day & Night (electrical): OFF / AUTO Dynamic Range: 24 dB typ. (WDR: ON, Light Control: ELC) Digital Noise Reduction: HIGH / LOW Video Motion Detection: ON / OFF, 4 areas available Privacy Zone: ON / OFF (up to 2 zones available) Camera Title (OSD): Up to 20 characters (alphanumeric characters, marks) , On/Off	
Lens	Focal Length: 1.95 mm Zoom Ratio: Extra zoom: 2x (at VGA resolution) Angular Field of View: Horizontal: 85°, Vertical: 68° Maximum Aperture Ratio: 1 : 2.2 Focusing Range: 0.5 m ~ ∞	
Pan and Tilt	Panning Range: -47.5° ~ 47.5° Panning Speed: Manual: Approx. 5°/s - 80°/s, Preset: Up to approx. 80°/s Tilting Range: -45° to +10° Tilting Speed: Manual: Approx. 5°/s - 80°/s, Preset: Up to approx. 80°/s Number of Preset Positions: 64 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: Preset map-shot	
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. Zoom: extra zoom (1x - 2x) and the electronic zoom (higher zoom factors, up to 16x). 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, Audio Output: ON / OFF Volume adjustment: Low / Middle / High SD Memory Data Download GUI/Setup Menu Language: Still or motion Images recorded in the SDHC/SD memory card can be downloaded. English, Japanese, Italian, French, German, Spanish, Chinese, Russian 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 ^{**2,3} : Microsoft® Windows® 7, Microsoft® Windows Vista®, Microsoft® Windows® XP SP3 Supported Browser: Windows® Internet Explorer® 9.0 (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 (female) Image Resolution ^{*4} : Aspect ratio: [4:3] WV-ST165: H.264: 1,280 x 960 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps JPEG: 1,280 x 960 / VGA (640 x 480) / QVGA (320 x 240), up to 30 fps WV-ST162: H.264: 800 x 600 / VGA (640 x 480) / QVGA (320 x 240), up to 30fps JPEG: 800 x 600 / VGA (640 x 480) / QVGA (320 x 240), up to 30fps Aspect ratio: [16:9] WV-ST165: H.264: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps JPEG: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps WV-ST162: H.264: 640 x 360 / 320 x 180, up to 30 fps JPEG: 640 x 360 / 320 x 180, up to 30 fps H.264: Transmission Mode: Constant bitrate / 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 Image Quality: LOW / NORMAL / FINE Refresh Interval: 1 fps ~ 30 fps Transmission Type: UNICAST / MULTICAST JPEG: Image Quality: 10 steps Refresh Interval: 0.1 fps ~ 30 fps 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 / 1,536 / 2,048 / 3,072 / 4,096 / 8,192 kbps / Unlimited Supported Protocol: IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTMP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP FTP Client: Alarm image transmission, FTP periodic transmission No. of Simultaneous Users: Up to 14 users (Depends on network conditions) SDHC/SD Memory Card (Option): Manufactured by Panasonic SDHC memory card: 4 GB, 8 GB, 16 GB, 32 GB SD memory card: 256 MB, 512 MB, 1 GB, 2 GB miniSD card and microSD card) Face Detection: ON / OFF (with XML notification) Cellular Phone Compatibility: JPEG image, panning/tilting/zoom control, AUX control (by access level) Mobile Terminal Compatibility: iPad, iPhone, iPod touch (iOS 4.2.1 or later)	

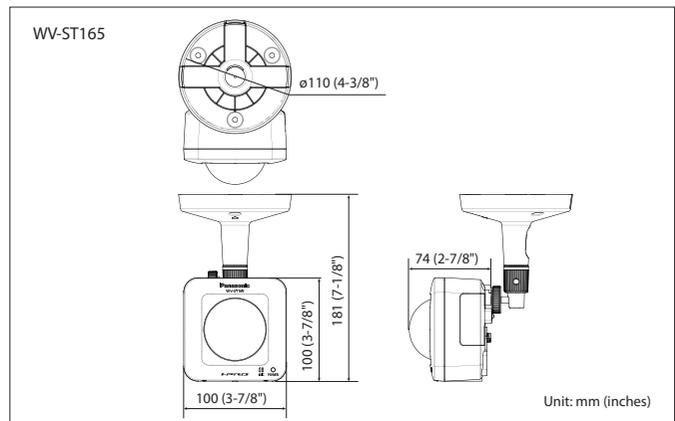
TV System	NTSC	PAL
Alarm	Alarm Source: VMD, Command alarm Alarm Actions: SDHC/SD memory recording, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output Alarm Log: With SDHC/SD memory card: 5,000 logs, without SDHC/SD memory card: 1,000 logs Schedule: VMD	
Input/ Output	Monitor Output (for adjustment): VBS: 1.0 V (p-p)/75 Ω, NTSC composite, ø3.5 mm mini jack VBS: 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. 2.2 kΩ For microphone input: Applicable microphone: Plug-in power type, Supply voltage: 3.3V ±0.5 V For line input: Input level: Approx. -10 dBV Audio Compression: ø3.5 mm stereo mini jack (monoaural output), Output impedance: Approx. 560 Ω, Line level External I/O Terminals: ALARM IN 1, ALARM IN 2/ ALARM OUT, ALARM IN 3/ AUX OUT, GND, 12V DC	
General	Safety/EMC Standard: UL (UL60950-1), FCC (Part 15 Class A), C-UL (CAN/CSA C22.2 No.60950-1), DOC (ICES003 Class A), CE, IEC60950-1 (EN55022 Class B, EN55024) Power Source and Power Consumption: PoE (IEEE802.3af compliant), 12V DC PoE: 130 mA (Class 2 device), 12 V DC: 430 mA Ambient Operating Temperature: 0°C ~ +40°C (32°F ~ 104°F) Ambient Operating Humidity: Less than 90% (no condensation) Dimensions: 100 mm (W) x 100 mm (H) x 74 mm (D) (3-47/50" (H) x 2-23/25" (excluding projection)) Mass (approx.): Main body 345 g (0.76 lbs.) Finish: Main body: PC/ABS resin, sail white Dome section: Clear polycarbonate resin	

- *1 Converted value
- *2 Refer to "Notes on Windows Vista" / Windows 7" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 7 or Microsoft® Windows Vista®.
- *3 When using IPv6 for communication, use Microsoft® Windows® 7 or Microsoft® Windows Vista®.
- *4 Transmission for 2 streams can be individually set in the same compression method.

Part Names and Functions



Appearance



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- Microsoft, and Windows are registered trademarks of Microsoft Corporation in the U.S. and other countries.
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- 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.
 - Masses and dimensions are approximate.
 - Specifications are subject to change without notice.
 - These products may be subject to export control regulations.

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Printed in Japan (2A-088L)