

Preliminary

5-megapixel H.265 AI Network Camera

WV-X2551LN has onboard AI functionality. AI-based high precision analysis helps surveillance operations and crime prevention operations more efficiently, whereas these operations previously required dedicated manpower.

There are 3 AI functions available through the camera: detecting suspicious changes in captured scenes, optimizing the image settings of the camera (based on captured scene analysis) for better image usability, and optimizing video compression through captured scenes to save bandwidth at 50%* lower than existing cameras while maintaining image quality.

*Compared to Smart Coding OFF with H.265

Optimization of image quality and data compression using AI

- AI detects, identifies and determines movement.
- AI determines human faces and captures them in the most visible state.
- AI determines moving objects, identifies where there is no movement, and performs efficient data compression.

3rd party relationship

- To enable 3rd party companies to develop their applications using SDK.
- Users can freely combine applications and introduce analysis software that is the best match for their requirements.

Easy installation

- AI analysis automatically applies optimal settings, allowing you to capture high-quality images effortlessly.
- Connect the network cable to the camera body simply by opening a part of the packaging, saving you time and working space.

Key Features

- 5-megapixel images up to 30fps
- AI Intelligent Auto
- Color night vision (0.0044 to 0.07 lx)
- H.265 Smart Coding

Industry examples

- Safe Cities
- Transportation (Airport / Train, Subway station)
- Bank (ATM, Entrance)
- Retail / Logistics / Education / Hospital / Building



Specifications

Camera	Image Sensor	1/2.8 type CMOS image sensor
	Minimum Illumination	Color : 0.07 lx, BW : 0.04 lx (50IRE, F1.3, Maximum shutter : Off (1/30s), AGC : 11) BW : 0 lx (50IRE, F1.3, Maximum shutter : Off (1/30 s), AGC : 11, when the IR LED is lit) Color : 0.0044 lx, BW : 0.003 lx (50IRE, F1.3, Maximum shutter : max. 16/30s, AGC : 11) *1
	White Balance	ATW1/ATW2/AWC
	Shutter Speed	1/30 Fix to 1/10000 Fix
	AI Intelligent Auto	On / Off
	Super Dynamic	On / Off, the level can be set in the range of 0 to 31.
	Dynamic Range	Max. 132 dB (Super Dynamic : On, Level : 30 or more, 15fps *)
	Adaptive Black Stretch	The level can be set in the range of 0 to 255.
	Back light compensation / High light compensation	BLC (Back light compensation) / HLC (High light compensation) / Off The level can be set in the range of 0 to 31. (only when Super dynamic / AI Intelligent Auto : Off)
	Fog compensation	On / Off, The level can be set in the range of 0 to 8 (only when AI Intelligent auto / auto contrast adjust : Off)
	Maximum gain	The level can be set in the range of 0 to 11.
	Color/BW (ICR)	Off / On (IR Light Off) / On (IR Light On) / Auto1 (IR Light Off) / Auto2 (IR Light On) / Auto3 (SCC)
	IR LED Light	High / Middle / Low / Off, Maximum irradiation distance : 40 m (Approx. 131 ft)
	Digital Noise Reduction	The level can be set in the range of 0 to 255.
	Video Motion Detection (VMD)	On / Off, 4 areas available
	Scene Change Detection (SCD)	On / Off, 1 area available
	Privacy Zone	On / Off (up to 8 zones available)
	Image rotation**4	0° (Off) / 90° / 180° (Upside-down) / 270°
	Camera Title (OSD)	On / Off Up to 20 characters (alphanumeric characters, marks)
	Lens	Optical zoom
Extra optical zoom		3.1x - 9.3x (when resolution is 640x360)
Digital (electronic) zoom		Choose from 3 levels of x1, x2, x4
Focal length		2.9 mm - 9 mm (1/8 inches - 11/32 inches)
Maximum Aperture Ratio		1 : 1.3 (WIDE) - 1 : 2.5 (TELE)
Focus range	0.3 m (11-13/16 inches) - ∞	
Angular Field of View	[16 : 9 mode] *4:3 mode is not supported. Horizontal : 33° (TELE) - 105° (WIDE), Vertical : 19° (TELE) - 56° (WIDE)	
Adjusting Angle	Horizontal (PAN) angle	±180°, Vertical (TILT) angle : -30 to +85°, Azimuth (YAW) angle : ±100°
	Camera Control	Brightness, AUX On / Off
Browser GUI	Audio	Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High Audio Output : On / Off Volume adjustment : Low / Middle / High
	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
Network	Network IF	10Base-T / 100Base-TX, RJ45 connector
	Resolution *5	[16 : 9 mode] *4:3 mode is not supported. 3072x1728, 2560x1440, 1920x1080, 1280x720, 640x360, 320x180
	H.265 / H.264 / JPEG (MJPEG)	Constant bit rate / VBR / Frame rate / Best effort
	H.265 / H.264 *6	Transmission Mode
	H.264 *6	Transmission Type
	JPEG	Image Quality
	Smart Coding	Smart Facial Coding : On (Smart Facial Coding) / On (Auto VIQS) / Off *Smart Facial Coding is only available with Stream(1). GOP (Group of pictures) control : On (Frame rate control) / On (Advanced) / On (Mid) / On (Low) / Off *On (Frame rate control) and On (Advanced) are only available with H.265.

*1 Converted value

*2 The frame rate is limited to 15 fps for level 30 or higher. The dynamic range is 108 dB tv / 30 fps for level 29 or lower.

*3 90° and 270° are invalid only in the 320x180 resolution.

*4 Following the setting angle of the rotated image, the analog output of the MONITOR OUT terminal rotates.

Network	Audio Compression	G.726 (ADPCM) : 16 kbps / 32 kbps G.711 : 64 kbps AAC-LC*7 : 64 kbps / 96 kbps / 128 kbps
	Audio transmission mode	Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)
	Supported Protocol	IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)
Alarm	SDXC/SDHC/SD Memory Card	H.265 / H.264 recording : Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure JPEG recording : Manual REC / Alarm REC (Pre/Post) / Backup upon network failure Compatible SDXC/SDHC/SD Memory Card : Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB**, 128 GB**, 256 GB** model *SDHC card, **SDXC card (except miniSD card and microSD card)
	Mobile Terminal Compatibility	iPad, iPhone, Android™ terminals
Input/Output	Alarm Source	3 terminals input, VMD alarm, Command alarm
	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification, Indication on browser, FTP image transfer, Panasonic alarm protocol output
General	Monitor Output (for adjustment)	VBS : 1.0 V [p-p] / 75 Ω, composite, ø3.5 mm mini jack An NTSC or PAL signal can be outputted from camera
	Audio input	ø3.5 mm stereo mini jack For microphone input : Recommended applicable microphone : Plug-in power type (Sensitivity of microphone : +8 dB±3 dB (0 dB=1 V/Pa, 1 kHz)) Input impedance : Approx. 2 kΩ (unbalanced) Supply voltage : 2.5 V ±0.5 V For line input : Input level: Approx. -10 dBV
	Audio Output *8	ø3.5 mm stereo mini jack (Audio output is monaural) Output impedance : Approx. 600 Ω (unbalanced) Output level : -20 dBV
	External I/O Terminals	ALARM IN 1 (Alarm input 1/ Black & white input/ Auto time adjustment input) (x1) ALARM IN 2 (Alarm input 2/ ALARM OUT) (x1), ALARM IN 3 (Alarm input 3/ AUX OUT) (x1)
General	Safety	UL (UL60950-1), c-UL (CSA C22.2 No.60950-1), CE, IEC60950-1
	EMC	FCC (Part15 ClassA), ICES003 ClassA, EN55032 ClassB, EN55024
	Power Source and Power Consumption	DC power supply : DC 12 V 980 mA/Approx. 11.8 W PoE (IEEE802.3af compliant) Device : DC48 V 260 mA/Approx. 12.5 W (Class 0 device)
	Ambient Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)*9
	Ambient Operating Humidity	10 to 100 % (no condensation)
	Water and Dust Resistance	IP66 (IEC60529), Type 4X(UL50E), NEMA 4X compliant
	Shock Resistance	50J (IEC 60068-2-75 compliant), IK10 (IEC 62262)
	Wind Resistance	Up to 40 m/s (approx. 89 mph)
	Dimensions	When using base bracket : ø164 mm x 139 mm (H) (ø6-15/32 inches x 5-15/32 inches (H)) Dome radius 42 mm (1-21/32 inches) When using attachment plate only : ø154 mm x 103 mm (H) (ø6-1/16 inches x 4-1/16 inches (H)) Dome radius 42 mm (1-21/32 inches)
	Mass	When using base bracket : Approx. 1.6 kg (3.53 lbs) When using attachment plate only : Approx. 1.2 kg (2.65 lbs)
Finish	Main body : Aluminum die cast, i-PRO white Outer fixing screws : Stainless steel (Corrosion-resistant treatment) Dome cover : Polycarbonate resin (with ClearSight coating), Clear	

*5 H.265/H.264 can be selected for each stream.

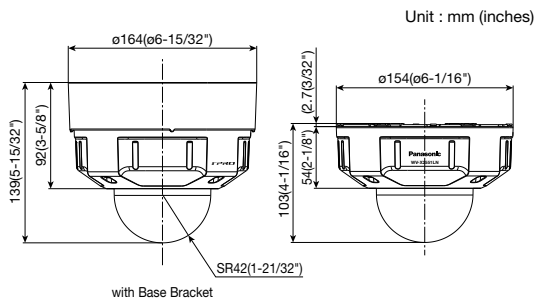
*6 Transmission for 4 streams can be individually set.

*7 When recording audio on an SD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

*8 The audio output can be switched to the monitor output. Refer to the Operating Instructions on the our support web site for descriptions of how to switch the output.

*9 When using with the IR LED light constantly lit, the upper limit of the operating temperature range is +50 °C (+122 °F).

Appearance



Trademarks and registered trademarks

- iPad and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.
- Android is a trademark of Google LLC.
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Important

- Safety Precaution : Carefully read the Basic Information, Installation Guide and Operating Instructions before using this product.
- Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.
- Masses and dimensions are approximate
- Specifications are subject to change without notice.

Optional Accessories

Mount Bracket / Dome Cover / Other

Ceiling Mount Bracket (Embedded) WV-QEM500-W (i-PRO white)	Dome Cover (Smoke type) WV-CW7S WV-CW7SN (Smoke type with ClearSight coating)	Dome Cover (Clear type with ClearSight coating) WV-CW7CN	Wall Mount Bracket WV-QWL501-W (i-PRO white)	Mount Bracket WV-QSR501-W (i-PRO white)
Sun Shade WV-QSR500-W (i-PRO white)	Ceiling Mount Bracket WV-Q105A	Ceiling Mount Bracket WV-QCL501-W (i-PRO white)	Pole Mount Bracket WV-QPL500-W (i-PRO white)	Corner Mount Bracket WV-QCN500-W (i-PRO white)
Base Bracket WV-QJB502-W (i-PRO white)	* For indoor installation only	(This bracket requires WV-QSR501-W.)	(This bracket requires WV-QWL501-W.)	(This bracket requires WV-QWL501-W.)

- The brackets are available in three colors, i-PRO white, Light gray, and Fine silver. It is possible to use them in the different color combination.

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