Panasonic
BUSINESS

Super Dynamic Weather Resistant HD PTZ Dome Network Camera

WV-SW397B

(Rain Wash Coating Model)

i-PRO SmartHD

MEGA *SuperDynamic*

VIQS — Variable Image Quality on Specified area

H.264 / JPEG

HD High Definition 720/30p | day/night ICR | Vandal Resistant | RAIN WASH COATING

NO HUMIDIFICATION | Advanced Auto Tracking | HLC | Fog sand Compensation

IP66 standard | HD 45x EXTRA OPTICAL ZOOM

Onvif | S G

HD / 1,280 x 720 H.264 Weather Proof Camera featuring 45x HD extra optical zoom and *Super Dynamic*

Key Features

- 720p HD images up to 30 fps
- Super high resolution at HD / 1,280 x 720
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording.
- Full frame (Up to 30 fps) transmission at 1,280 x 960 image size
- **30x optical zoom, 45x HD extra optical zoom at 1,280 x 720**
  90x extra optical zoom at 640x360 resolution with 12x digital zoom enabling 1080x zoom.
- *Super Dynamic* and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- *Face Super Dynamic* technology ensures clear face image.
- High sensitivity with Day/Night (ICR*) function:
  0.1 lx (Color), 0.013 lx (B/W) at F1.6
  *ICR: IR Cut filter Removal
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated **2 areas** 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.
  VIQS can be set on preset position (1 to 8) and except preset.
- **Smart coding Technology** : Group of Pictures (GOP) control function removes unnecessary information from the frame for realizing efficient encoding.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Selectable light control modes:
  Outdoor scene / Indoor scene (50 Hz) / Indoor scene (60 Hz) / Fix shutter
  Indoor scene (50 Hz / 60 Hz): Flicker caused
  by fluorescent lightning will be automatically compensated.
- **360 degrees endless Panning**
- Advanced auto 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 "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
- Privacy Zone can mask up to 32 private areas, such as house windows and entrances/exits.
- Camera title display: Up to 20 alphanumeric characters on the browser
- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/SDHC/SD memory cording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic alarm 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.
- SDXC/SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (H.264 / 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 / Portuguese / Russian / Chinese / Japanese
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard compliant.
- Dehumidification device for use in various weather conditions
- **Rain wash coating dome cover**
- Ambient Operating Temperature : -50 °C to +55 °C (-58 °F to 131 °F)
- **Fog compensation function** equipped as standard.
- AEM (Auto Eyelid Mechanism) offers images that are more natural and easy to watch reducing doubled images when direction of the lens moved above the horizontal.

Standard Accessories

• Installation Guide..............................1 pc.	The followings are for installation.
• CD-ROM*1 ....1 pc.	• Protection Cover .... 1 pc.
• Code Label*2 ....1 pc.	• Cable coupler (used with the network cable) ..1 pc.
	• 8P Alarm Cable................................. 1 pc.
*1 The CD-ROM contains the operating instructions (PDFs) and different kinds of tool software programs.	• 24 V AC power supply connector kit .... 1 pc.
	• Front/Rear Sun Shield...................... 1 set
*2 This label may be required for network management. The network administrator shall retain the code label.	• Front/Rear Sun Shield Fixing Screws .... 2 pcs. (incl. 1 spare)

Optional Accessories

Ceiling Mount Bracket	Wall Mount Bracket
WV-Q121B	**WV-Q122A**

Specifications

Camera		
Image Sensor	Approx.1/3 type MOS image sensor	
Scanning Mode	Progressive scan	
Scanning Area	5.35 mm (H) x 3.34 mm (V) {7/32 inches(H) x 1/8 inches(V)}	
Minimum Illumination	Color: 0.1 lx, BW: 0.013 lx (F1.6, Auto slow shutter: Off (1/30s), Gain: On(High)) Color: 0.007 lx, BW: 0.001 lx (F1.6, Auto slow shutter: Max. 16/30s, 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	Outdoor scene: Automatic integration of ALC and ELC Indoor scene [50 Hz]: Automatic integration of ALC and ELC (up to 1/100 s) Indoor scene [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s) Fix shutter	
Shutter Speed	Fix shutter: 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	
Dynamic Range	105 dB typical (Super Dynamic: On, Light Control mode: Indoor) *Theoretical value. Conventional measuring method: 52 dB	
Adaptive Black Stretch	On / Off	
Fog compensation	On / Off (Super Dynamic and Adaptive black stretch: Off)	
Gain (AGC)	On (High) / On (Mid) / On (Low) / 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	
Day/Night (ICR)	Mode: AUTO1 / AUTO2 / AUTO3 / On / Off Level : High / Low, with external control	
Digital Noise Reduction	High / Low	
Video Motion Detection	4 areas, Sensitivity: 15 steps, Detection size: 10 steps	
Privacy Zone	Gray / Mosaic / Off (up to 32 zones available)	
Image Stabilizer	On / Off	
VIQS	On / Off Up to 2 zones at preset position 1-8 and except preset	
Double Image Reduction	On / Off	
Camera Title (OSD)	On / Off Up to 20 characters (alphanumeric characters, marks)	
Focus distance	Limited {around 1.5m(4.9 ft)} / Unlimited	

Lens		
Focal Length	4.3 mm - 129.0 mm {3/16 inches - 5-3/32 inches}	
Zoom Ratio	30x / 45x with HD extra optical zoom (at 1280 x 720)	
Digital (Electrical) Zoom	12x (Max. 1080x combined with extra optical zoom at 640 x 360)	

Angular Field of View	[16 : 9 mode] Horizontal: 2.6° (TELE) - 63° (WIDE)
	                    Vertical : 1.5° (TELE) - 37° (WIDE)
	[4 : 3 mode] Horizontal: 1.9° (TELE) - 46° (WIDE)
	                    Vertical : 1.5° (TELE) - 37° (WIDE)	

Maximum Aperture Ratio	1 : 1.6 (WIDE) - 4.7 (TELE)	
Focusing Range	2.0 m - ∞	
Aperture Range	F1.6 - Close	

Pan and Tilt		
Panning Range	360° endless	
Panning Speed	Manual: approx. 0.065°/s to 120°/s, Up to 256 steps (depending on the controller) Preset : up to approx. 300°/s	
Tilting Range	–15° to 195° (upward-level-downward) Auto Eyelid Mechanism (Double image reduction) Selectable tilting angle: 10 °/ 5 °/ 3 °/ 0 ° *2 / –3 ° *2 / –5 ° *2 / –10 ° *2 / –15 ° *2	
Tilting Speed	Manual: approx. 0.065°/s to 120°/s, Preset: up to approx. 300°/s	
Proportional Pan/Tilt Control	Yes	
Number of Preset Positions	256	
Auto Mode	Auto track / Auto pan / Preset sequence / 360 map-shot / Patrol	
Image Hold	On / Off	
Camera position display	Off / Pan-Tilt degree · Zoom ratio display / Direction display	
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 (256 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 (alphanumeric characters, marks)	
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	Still or motion Images recorded in the SDXC/SDHC/SD memory card can be downloaded.	
GUI/Setup Menu Language	English / Italian / French / German / Spanish / Portuguese / Russian / Chinese / Japanese	
System Log	Up to 100 (Internal) Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs	
Supported OS *3	Microsoft® Windows® 10 Microsoft® Windows® 8.1 Microsoft® Windows® 8 Microsoft® Windows® 7 Microsoft® Windows Vista®	
Supported Browser	Windows® Internet Explorer® 11 (32 bit) Windows® Internet Explorer® 10 (32 bit) Windows® Internet Explorer® 9 (32 bit) Windows® Internet Explorer® 8 (32 bit) Windows® Internet Explorer® 7 (32 bit)	

Network			
Network IF	10Base-T / 100Base-TX, RJ45 connector		

Image Resolution
H.264
JPEG (MJPEG)
	• Image Capture Mode [16 : 9] (30 fps)
	  1,280 x 720 / 640 x 360 / 320 x 180
	• Image Capture Mode [4 : 3] (30 fps)
	  1,280 x 960 / 800 x 600 / 640 x 480 / 320 x 240		

H.264 *4	Transmission Mode	Constant bit rate / Variable bit rate / Frame rate 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 / 6,144 / 8,192 / 10,240 / 12,288 / 14,336 kbps	
	Image Quality	Low / Normal / Fine	
	Refresh Interval	0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5 s	
	Transmission Type	Unicast / Multicast	
JPEG	Image Quality	0 SUPER FINE/ 1 FINE/ 2/ 3/ 4/ 5 NORMAL/ 6/ 7/ 8/9 LOW (10 steps: 0-9)	
	Refresh Interval	0.1 fps to 30 fps	
	Transmission Type	Pull / Push	
Audio Compression	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps, AAC*5		
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, RTSP, RTP, RTP/RTCP, FTP,
	      SMTP, DNS, NTP, SNMP, DHCPv6, ICMP, ARP
	IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP,FTP,
	      SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP		

Network		
FTP Client	Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDXC/SDHC/SD memory card is available.)	
Maximum concurrent access number	Up to 14 users (Depends on network conditions)	

SDXC/SDHC/SD
Memory Card (Option)
	H.264 recording (Audio recording is enable):
	  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 SD (SDHC/SDXC) card:
	  Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB**, 128 GB** model
	  *SDHC card, ** SDXC card (except miniSD card and microSD card)	

Cellular Phone Compatibility	JPEG image, panning / tilting / zoom / focus control, AUX control (by access level)	
Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals	

Alarm		
Alarm Source	3 terminals input, VMD, Command alarm, Audio detection	
Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output	
Alarm Log	With SDXC / SDHC / SD memory card: 5,000 logs, without SDXC / SDHC / SD memory card: 1,000 logs	
Schedule	Alarm / VMD / Access permission / H.264 recording / Audio detection	

Input/ Output		
Monitor Output (for adjustment)	VBS : 1.0V[p-p] / 75Ω, NTSC / PAL composite, BNC Jack	
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)	

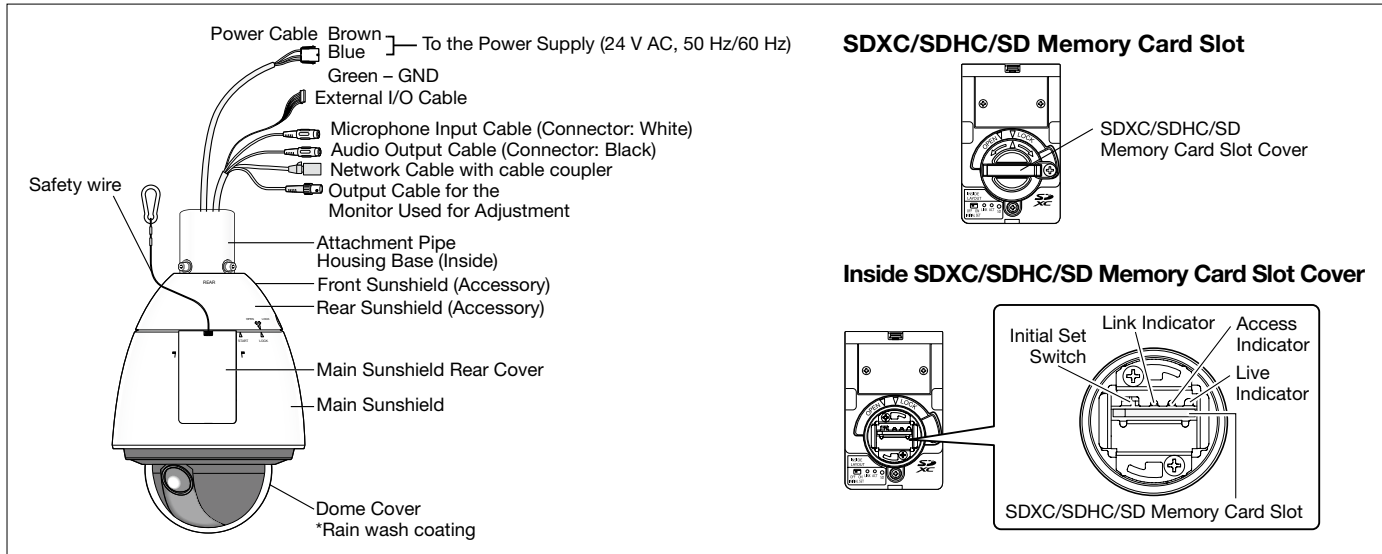| General		
Safety/EMC Standard	<Safety> UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1 <EMC> FCC Part15 Class A, ICES-003 Class A, EN55022 Class B, EN55024	
Power Source and Power Consumption	AC24 V : 3.5 A, 55 W PoE+ DC54 V : 470 mA, 25 W (IEEE802.3at compliant) Tested POE Injector (60 W) DC54 V : 1.0 A, 50 W	
Ambient Operating Temperature	AC24 V and Tested PoE Injector (60 W) : –50 °C to +55 °C (-58 °F to 131 °F) POE+ : -30°C to +55°C (-22 °F to 131 °F)	
Ambient Operating Humidity	10 % to 90 % (no condensation)	
Shock resistance	Compliant with IK10 (IEC62262)	
Water and Dust Resistance	Main body : IP66 (IEC60529) compliant, Type 4 (UL50), NEMA 4	
Dimensions	ø229 mm x 392 mm(H) {ø9-1/32 inches x 15-7/16 inches(H)} diameter of the dome 160 mm(6-5/16 inches)	
Mass (approx.)	Approx. 5.0 kg {11.02 lbs}	
Finish	Main body : Aluminum die cast, Natural silver Sunshields : ASA resin coating, Natural silver Dome section : Clear polycarbonate resin (Rain wash coating)	

*1 Converted value

*2 If "0 °", "–3 °", "–5 °", "–10 °", or "–15 °" is selected, the area hidden by the camera housing may increase when the tilt angle of the camera is almost level. When "–15 °" is selected for "Tilt Angle", the upper half of images will be hidden.

*3 For further information about PC system requirements and precautions for when using Microsoft® Windows® 10, Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, or Windows Internet Explorer, click "Manual" - "Open" from the supplied CD-ROM and refer to "Notes on Windows® / Internet Explorer® versions".
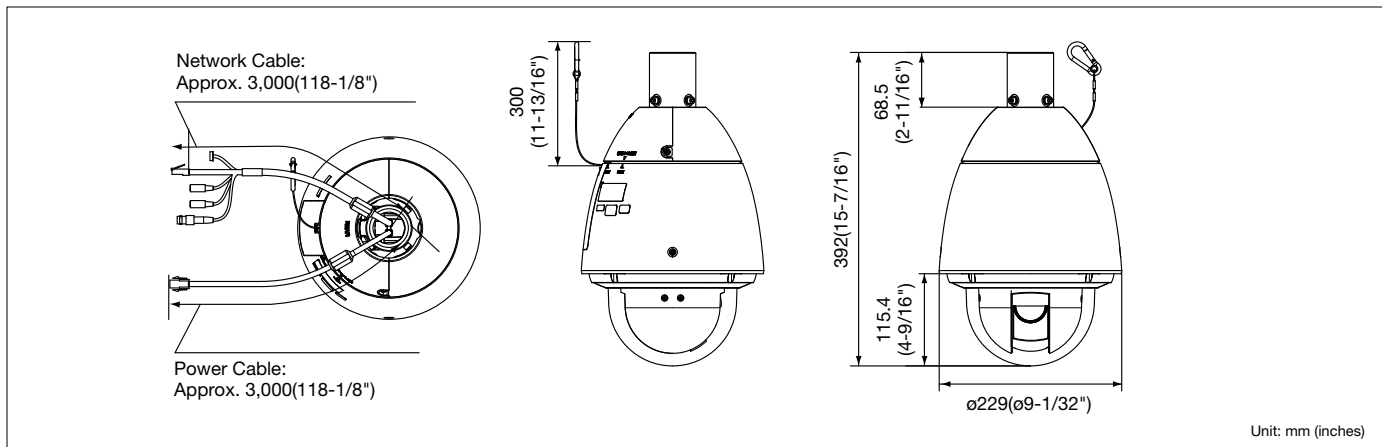
*4 Transmission for 2 streams can be individually set.

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

Part Names and Functions

Power Cable Brown ⌐ To the Power Supply (24 V AC, 50 Hz/60 Hz)
Blue ⌐
Green – GND
External I/O Cable
Microphone Input Cable (Connector: White)
Audio Output Cable (Connector: Black)
Network Cable with cable coupler
Output Cable for the
Monitor Used for Adjustment

Safety wire

Attachment Pipe
Housing Base (Inside)
Front Sunshield (Accessory)
Rear Sunshield (Accessory)

Main Sunshield Rear Cover

Main Sunshield

Dome Cover
*Rain wash coating

SDXC/SDHC/SD Memory Card Slot

SDXC/SDHC/SD
Memory Card Slot Cover

Inside SDXC/SDHC/SD Memory Card Slot Cover

Initial Set
Switch
Link Indicator
Access Indicator
Live Indicator
SDXC/SDHC/SD Memory Card Slot

Appearance

Network Cable:
Approx. 3,000(118-1/8")

Power Cable:
Approx. 3,000(118-1/8")

300 (11-13/16")

68.5 (2-11/16")
392(15-7/16")
115.4 (4-9/16")
ø229(ø9-1/32")

Unit: mm (inches)

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