Approved for Historic Preservation
Certificate of Appropriateness
Date: 05/25/16

Super Dynamic Weather Resistant HD PTZ Dome Network Camera

WV-SW397A

(Rain Wash Coating Model)

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 created by 2.4 Megapixel high sensitivity MOS image 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
- **45x HD extra optical zoom at 1,280 x 720 (30x optical zoom)** 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: 0.3 lx (Color), 0.04 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.
- 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:
  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 recording, 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
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- Onvif compliant model
- 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

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

The followings are for installation.

- Protection Cover ..... 1 pc.
- RJ45 connector ..... 1 pc.
- 8P Alarm Cable..... 1 pc.
- Connector Kit for 24 V AC ..... 1 pc.
- Front/Rear Sun Shield ..... 1 set
- Front/Rear Sun Shield Fixing Screws ..... 2 pcs. (incl. 1 spare)

Optional Accessories

Ceiling Mount Bracket
WV-Q121B

Wall Mount Bracket
WV-Q122A

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		x.1/3 type MOS image sensor
		x. 2.4 mega pixels
		essive scan
		nm (H) x 3.02 mm (V) {7/32 inches(H) x 1/8 inches(V)}
		.3 lx, BW: 0.04 lx (F1.6, Auto slow shutter: Off (1/30s), Gain: On(High))
		.019 lx, BW: 0.003 lx (F1.6, Auto slow shutter: Max. 16/30s, Gain: On(High)) *1
		2,000 - 10,000 K), ATW1 (2,700 - 6,000 K), ATW2 (2,000 - 6,000 K)
		or scene: Automatic integration of ALC and ELC
		scene [50 Hz]: Automatic integration of ALC and ELC (up to 1/100 s)
		scene [60 Hz]: Automatic integration of ALC and ELC (up to 1/120 s)
		utter
		utter: 1/30, 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250,
		1/1,000, 1/2,000, 1/4,000, 1/10,000 (only at Super Dynamic Off)
		Off
		Off (Only when Super Dynamic: On)
		Off (Only when Super Dynamic: Off)
		Off
	Gain (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))
	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	Up to 8 zones / Up to 32 zones, Gray / Mosaic
	Image Stabilizer	On / Off
	VIQS	Up to 2 zones at preset position 1-8 and except preset
	Double Image Reduction	On / Off
	Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks)
	Focus distance	Limited / 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	H: 2.6° (TELE) - 64.6° (WIDE), V: 1.6° (TELE) - 38.2° (WIDE) ([16:9] mode)* H: 1.4° (TELE) - 44.4° (WIDE), V: 1.1° (TELE) - 33.8° (WIDE) ([4:3]mode)
	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: 0° / –5°/ –10° / –15
	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
	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 (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
	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 *2	Microsoft® Windows® 8.1,Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, Microsoft® Windows® XP SP3
	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 — Image Capture Mode: 16:9	H.264 : 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps JPEG (MJPEG): 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps
	Image Resolution — Image Capture Mode: 4:3	H.264 : 1,280 x 960 / 800 x 600 / 640 x 480 / 320 x 240, up to 30 fps JPEG (MJPEG): 1,280 x 960 / 800 x 600 / 640 x 480 / 320 x 240, up to 30 fps
	H.264 *4 — Transmission Mode	Constant bitrate / Frame rate priority / Best effort /Advanced VBR
	H.264 *4 — Frame Rate	1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 fps
	H.264 *4 — Bit Rate/Client	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 6,144 / 8,192 kbps
	H.264 *4 — Image Quality	Low / Normal / Fine
	H.264 *4 — Refresh Interval	0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5 s
	H.264 *4 — Transmission Type	Unicast / Multicast
	JPEG — Image Quality	10 steps
	JPEG — Refresh Interval	0.1 fps to 30 fps
	JPEG — Transmission Type	Pull / Push
	Audio Compression	G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps, AAC*3
	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
	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)

Network	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*, 64GB** 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 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 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) 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) * with limitations POE+ : -30°C to +55°C (-22 °F to 131 °F)
	Ambient Operating Humidity	Less than 90 % (no condensation)
	Shock Resistance	Compliant with IK10 (IEC62262)
	Water and Dust Resistance	Main body : IP66 (IEC60529) compliant
	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 For further information about PC system requirements and precautions for when using 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".
*3 AAC (Advanced Audio Coding) is only used when recording audio on an SD memory card.
*4 Transmission for 2 streams can be individually set.

Part Names and Functions

Appearance

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Important
– Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
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