Panasonic

**Super Dynamic Weather Resistant
HD Dome Network Camera**

WV-SW395
WV-SW395A

(Rain Wash Coating Model)

i-PRO
SmartHD

MEGA *Super Dynamic*

ONVIF

(WV-SW395A)

RAIN WASH COATING | NO HUMIDICATION | day/night IR removable | HD High Definition 720

36x EXTRA OPTICAL ZOOM | IP66 standard | H.264 MPEG-4 JPEG

WV-SW395   WV-SW395A

HD/1,280 x 960 H.264 Weather Proof Camera featuring *Super Dynamic*

Key Features

- 720p HD images up to 30 fps
- Newly developed 1.3 Megapixel double speed 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
- 18x optical zoom with 12x digital zoom enabling 216x zoom.
  36x extra optical zoom under VGA resolution with 12x digital zoom enabling 432x zoom.
- *Super Dynamic* and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared with conventional cameras.
- *Face Super Dynamic* technology ensures clear face image.
- H.264 and MPEG-4 are selectable for system migration.
- High sensitivity with Day/Night function : 0.5 lx (Color), 0.06 lx (B/W) at F1.6 (Wide)
- Adaptive Digital Noise Reduction: 2D-DNR and 3D-DNR integration ensures reduced noise and motion blur in various conditions.
- 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.
- Panning with auto flip function can be performed 0 to 360 degrees.
- 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 on the user friendly GUI with 16 speeds pan/tilt and new "Drag and Zoom" operation enabling finer control. 256 speeds available for system with WV-CU950 system controller.
- Up to 64 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 Detector) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Privacy Zone can mask up to 8 private areas, such as house windows and entrances/exits.
- Alarm sources including 3 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.
- Multi-language GUI and setup menu: English, French, Italian, Spanish, German, Russian (PAL) / English, French (NTSC) * Installation required except for English
- IPv4/IPv6 protocol supported
- Analog Monitor output for easier installation
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- ONVIF compliant model
- Supports Power over Ethernet Plus (PoE+) IEEE 802.3at (Type2 compliant, Class 4 device) * Does not support IEEE802.3af
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard.
- Dehumidification device for use in various weather conditions
- Built-in fan/heater/sun shield for temperature changes of –40 °C ~ +50 °C (–40 °F ~ +122 °F) (24 V AC), –30 °C ~ +50 °C (–22 °F ~ 122 °F) (PoE+)
- **Rain wash coating dome cover (WV-SW395A)**

Standard Accessories

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

The followings are for installation.
- 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)
- 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.

Optional Accessory

Wall Mount Bracket
WV-Q122
(PAL model only)

- User License Accessory (For MPEG-4)
  BB-HCA5A (NTSC model)
  BB-HCA5CE (PAL model, Korea)*
- User License Accessory (For H.264)
  BB-HCA8A (NTSC model)
  BB-HCA8CE (PAL model, Korea)*

* This catalog is provided for all over the world. Some accessories may not be available in some countries.

* Required in Korea.

Specifications

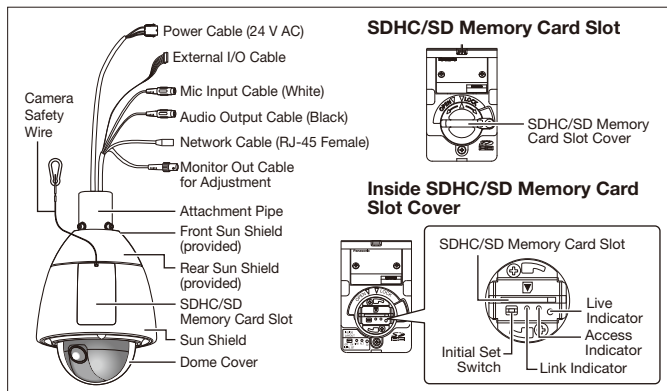| TV System		NTSC	PAL
Camera	Image Sensor	1/3 type MOS Sensor	
	Effective Pixels	Approx. 1.3 megapixel	
	Scanning Mode	Progressive scan	
	Scanning Area	4.8 mm (H) x 3.6 mm (V)	
	Minimum Illumination	Color: 0.5 lx, B/W: 0.06 lx at F1.6 (Shutter: 1/30 s, AGC: High), Color: 0.031 lx, B/W: 0.004 lx at F1.6 (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	Indoor scene (50 Hz / 60 Hz) / Outdoor scene / Fix shutter	
	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	
	Super Dynamic	ON / OFF	
	Face Super Dynamic	ON / OFF (Only at Super Dynamic: ON)	
	Dynamic Range	52 dB typical (Super Dynamic: ON, Light Control mode: Indoor)	
	Adaptive Black Stretch	ON / OFF	
	AGC	ON (LOW, MID, HIGH) / OFF	
	Electronic Sensitivity UP	OFF, max. 2/30 s, max. 4/30 s, max. 6/30 s, max. 10/30 s, max. 16/30 s	
	Black and White Mode	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, Gray / Mosaic	
	Auto Image Stabilizer	ON / OFF	
	Camera Title (OSD)	Up to 20 alphanumeric characters (3 selectable character sizes)	
Lens	Focal Length	4.7 mm ~ 84.6 mm	
	Zoom Ratio	18x / 36x with extra optical zoom (under VGA)	
	Digital (Electronic) Zoom	12x (Max. 432x combined with extra optical zoom under VGA)	
	Angular Field of View	H: 3.2° (Tele) ~ 55.2° (Wide), V: 2.4° (Tele) ~ 42.1° (Wide)	
	Maximum Aperture Ratio	1 : 1.6 (Wide) ~ 4.6 (Tele)	
	Focusing Range	1.5 m ~ ∞	
	Aperture Range	F1.6 ~ 22, Close	
Pan and Tilt	Panning Range	0° ~ 350° (With Pan-Flip: 0°~ 360°)	
	Panning Speed	Manual: approx. 0.5°/s ~ 100°/s, Up to 256 steps (depending on the controller) Preset: up to approx. 300°/s	
	Tilting Range	–30° ~ 90° (upward-tilt-downward) (With Tilt-Flip: -30°~ 210°) Tilting angle limit: 10° / 5° / 3° / 0° / –3° / –5° / –10° / –15° / –20° *4 / –25° *4 / –30° *4	
	Tilting Speed	Manual: approx.0.5°/s ~ 100°/s, Up to 256 steps (depending on the controller) Preset: up to approx. 100°/s	
	Proportional Pan/Tilt Control	Yes	
	Number of Preset Positions	64	
	Auto Mode	OFF / preset sequence / auto pan / auto track	
	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	
	Pan/tilt Flip *1	ON / OFF	
	Map Shot	360° map shot / preset map shot	
Browser GUI	Camera Control	Pan/Tilt (16 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/AUTO)	
	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, French (Installation required for French)	English, French, Italian, Spanish, German, Russian (Installation required except for English)
	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® 7 Professional 64 bit/32 bit, Microsoft® Windows Vista® Business SP1 32 bit, Microsoft® Windows® XP Professional SP3 The language of the OS must be same as selected GUI language.	
	Supported Browser	Windows® Internet Explorer® 8.0 (Microsoft® Windows® 7 Professional 64 bit/32 bit), Windows® Internet Explorer® 7.0 (Microsoft® Windows Vista® Business SP1 32 bit), Microsoft® Internet Explorer® 6.0 SP3 (Microsoft® Windows® XP Professional SP3)	
Network	Network IF	10Base-T / 100Base-TX, RJ-45 connector	
	Image Resolution *2 *3 — Aspect ratio: [4 : 3]	H.264: 1,280 × 960 / 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 (MJPEG): 1,280 × 960 / 800 × 600 / VGA (640 × 480) / QVGA (320 × 240), up to 30 fps	
	Aspect ratio: [16 : 9]	H.264: 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps JPEG (MJPEG): 1,280 × 720 / 640 × 360 / 320 × 180, up to 30 fps	
	H.264/ MPEG-4 *2 — Transmission Mode	Constant bitrate / Framerate priority / Best effort	
	Frame Rate	1 / 3 / 5 / 7.5 / 10 / 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 / Unlimited * H.264 mode only	
	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 (MJPEG) — 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, HTTPS, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6 IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP	

TV System		NTSC	PAL
Network	FTP Client	Alarm image transfer, Periodic image transfer (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)	
	SDHC/SD Memory Card (Option)	H.264 recording: Manual REC / Alarm REC (Pre/Post) / Schedule REC 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, panning/tilting/zoom control, AUX control (by access level)	
	Mobile Terminal Compatibility *6	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals	
Alarm	Alarm Source	3x Terminal inputs, VMD, Command alarm	
	Alarm Actions	SD memory recording, E-mail notification, Indication on browser, Camera positioning, Preset position 1 ~ 64, FTP image transfer, Terminal output, Panasonic protocol output, Auto track	
	Alarm Log	With SD memory card: 5,000 logs, Without SD memory card: 1,000 logs	
	Schedule	Alarm/VMD/Access permission, Preset position call, Position refresh, H.264 recording	
Input / Output	Monitor Output (for adjustment)	1.0 V [P-P] / 75 Ω, NTSC composite, BNC	1.0 V [P-P] / 75 Ω, PAL composite, BNC
	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 (x1 each)	
General	Safety/EMC Standard	UL (UL60065), FCC (Part15 ClassA), C-UL (CAN/CSA C22.2 No.60065), DOC (ICES003 ClassA)	CE (EN60065, EN55022 ClassB, EN55024), GOST (GOST R 51558)
	Power Source/ Consumption	24 V AC (50 Hz / 60 Hz): approx. 43 W Heater ON PoE Plus: approx. 24.0 W (IEEE802.3at Type2 compliant, Class 4 device) Heater ON	
	Ambient Operating Temperature/Humidity	–40 °C ~ +50 °C (–40 °F ~ 122 °F) (24 V AC) *5, –30 °C ~ +50 °C (–22 °F ~ 122 °F) (PoE Plus), 90 % or less (without condensation)	
	Water and Dust Resistance	IP66, IEC60529 measuring standard compatible	
	Dimensions	ø229 x 360.8 mm (H) (ø9-1/32" x 14-3/16" (H)), Diameter of the dome: 150 mm (5-29/32")	
	Mass (approx.)	4.6 kg (10.14 lbs.)	

*1 Application software V.1.05 / Driver software V.1.22 or later. The pan/tilt-flip function cannot be activated by clicking live images. When the zoom ratio is adjusted to the "TELE" side, images will be partially hidden even if the pan/tilt-flip function is activated. *2 H.264 and MPEG-4 are alternative. *3 [4 : 3] and [16 : 9] are alternative. *4 Images may partially covered depending on the housing brackets. *5 When used with a continuous power supply (camera internal temperature must be above -10°C, and installation and startup should be done at above -30°C.) *6 For further information about compatible devices, refer to our website (http://panasonic.net/pss/security/support/info.html).

Part Names and Functions

- Power Cable (24 V AC)
- External I/O Cable
- Mic Input Cable (White)
- Audio Output Cable (Black)
- Network Cable (RJ-45 Female)
- Monitor Out Cable for Adjustment
- Attachment Pipe
- Front Sun Shield (provided)
- Rear Sun Shield (provided)
- SDHC/SD Memory Card Slot
- Sun Shield
- Dome Cover
- Camera Safety Wire

SDHC/SD Memory Card Slot
- SDHC/SD Memory Card Slot Cover

Inside SDHC/SD Memory Card Slot Cover
- SDHC/SD Memory Card Slot
- Live Indicator
- Access Indicator
- Link Indicator
- Initial Set Switch

Appearance

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

300 (11-13/16")
60 (2-3/8")
8.5 (5/16")
360.8(14-3/16")
78 (3-1/16")
SR75
ø229(ø9-1/32")

Unit: mm (inches)

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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.
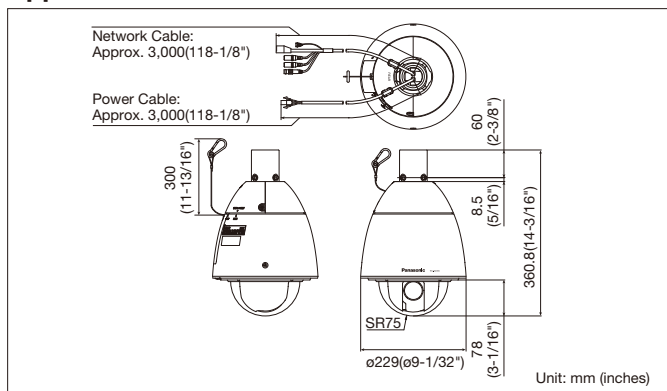
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