

## Super Dynamic III Weather Resistant Dome Camera WV-CW970 Series

 INTSC
 WV-CW974 (24V AC)
 PAL
 WV-CW970 (220V ~ 240V AC)

 WV-CW974 (24V AC)
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# All-in-one 24-hour outdoor surveillance camera featuring advanced auto tracking

#### **Key Features**

- *Super Dynamic III* technology delivers 128x (NTSC) / 160x (PAL) wider dynamic range compared to conventional cameras.
- High resolution: 480 TV lines minimum (Color NORMAL mode), 540 TV lines typical/520 TV lines minimum (Color HIGH mode), 570 TV lines minimum (B/W mode)
- High sensitivity with Day-Night function: 0.5 lux (Color) at F1.4 (WIDE), 0.04 lux (B/W) at F1.4 (WIDE) IR cut filter goes on and off to ensure picture quality of both color and B/W.
- Adaptive Digital Noise Reduction: Integration of 2D-DNR and 3D-DNR ensures noise reduction in various conditions.
- Electronic sensitivity enhancement (Auto/Manual).
- 30x zoom lens: 3.8mm ~ 114mm (approx. 300x with digital zoom)
- Panning speed of max. 400°/s at preset mode and 0.065°/s super fine control at manual mode.
- 5 degrees upper view for various applications
- 256 preset positions that can be activated from the system controller with a switcher or recorder (specific models).
- Advanced auto tracking with new template matching algorithm. Operates zoom to focus on the target, ON/OFF selectable for each preset position, Manual lock-on by controller operation, Alarm activation by tracking duration and Alarm area setup. Auto release to minimize false detection, Total of 8 Masking and Alarm areas
- Built-in Video Motion Detector with Sensitivity 256 steps, Mask 8x6 areas
- Scene Change Detection alarms when lens is covered, spray painted, removed or defocused.
- Four alarm inputs and two outputs terminals.
- Alarm actions include Terminal output, Camera positioning, Auto pan, Patrol, SEQ, Sort, Auto track, B/W and command output.
- Auto image stabilizer for applications where vibration or wind is a concern.

- Internal/Line-lock/Multiplexed Vertical Drive (VD2) synchronization.
- Over the coaxial cable or RS-485 data communication.
- 16 alphanumerics camera tilte display.
- Multi language: English, French, Italian, Spanish, German, Russian, Chinese, Japanese
- IP66 rated water and dust resistant. IEC60529 measuring standard compatible.
- Built-in fan/heater for temperature changes of –40 °C ~ +50 °C (–40 °F ~ +122 °F).
- Built-in sun shield permits camera locations in direct sunlight.

#### **Standard Accessories**

Operating Instructions	Connector for 24 V AC
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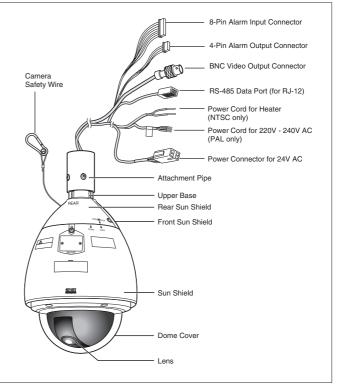
#### Optional Accessory



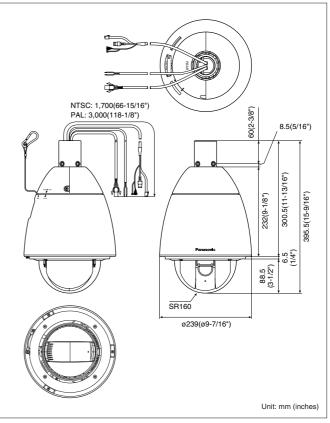
#### **Specifications**

Camera		NTSC	PAL	
	Image Sensor	1/4-type interline transfer CCD		
	Effective Pixels	768 (H) x 494 (V)	752 (H) x 582 (V)	
	Scanning Mode	2:1 interlace		
	Scanning Area	3.65 (H) x 2.74 (V) mm	3.65 (H) x 2.71 (V) mm	
	Scanning Frequency	Horizontal: 15.734 kHz Vertical: 59.94 Hz	Horizontal: 15.625 kHz Vertical: 50.00 h	
	Scanning Line	525 lines 625 lines		
	Horizontal Resolution	480 TV lines minimum (Color NORMAL mode), 540 TV lines typical/ 520 TV lines minimum (Color HIGH mode), 570 TV lines minimum (B/W mod Color (30 IRE): 0.5 lux (SENS UP: OFF), 0.016 lux (SENS UP: 32x) at F1. B/W (10 IRE): 0.04 lux (SENS UP: OFF), 0.0013 lux (SENS UP: 32x) at F1. 50 dB (AGC: OFF, Weight: ON) AWC (2,000 ~ 10,000 K), ATW1 (2,700 ~ 6,000 K), ATW2 (2,000 ~ 6,000 I ALC / MANUAL		
	Minimum Illumination			
	Signal-to-Noise Ratio White Balance			
	Light Control			
	AGC ON (LOW, MID, HIGH) / OFF			
	Super Dynamic III	ON / OFF (With BLC masking) 52 dB typical (Super Dynamic III : ON) 54 dB typical (Super Dynamic III : ON		
	Dynamic Range			
	Electronic Shutter	OFF (1/60), AUTO, 1/100, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 s	1/1,000, 1/2,000, 1/4,000, 1/10,000 s	
	Electronic Sensitivity UP	OFF / AUTO (2x, 4x, 6x, 10x, 16x, 32x) / FIX (2x, 4x, 6x, 10x, 16x, 32		
	Digital Noise Reduction	High or Low		
	Resolution Mode	Normal or High		
	Black and White Mode	Mode: AUTO / ON / OFF, Level: High / Low, with external control		
	Digital Zoom	10x		
	Scene File	10 patterns (Shutter, AGC, Sens UP, White balance, VMD)		
	Scene Select Setting	INDOOR (L) / INDOOR (H) / OUTDOOR (L) / OUTDOOR (H)		
	Video Motion Detection	OFF / Mode1 / Mode2, Sensitivity 256 steps, Mask 8x6 areas		
	Privacy Zone	OFF / Gray / Mosaic, 8 zones		
	Auto Image Stabilizer	ON / OFF		
	Area Title	8 Area titles, 16 Characters / area		
		16 alphanumeric characters		
	Camera Title			
	Auto Focus	Manual S/M/L (one push) / AUTO S/M/L (after PTZ operation)		
	Synchronization	Internal (INT), Multiplexed Vertical Drive (VD2), Line-Lock (LL)		
ens	Focal Length	3.8 mm ~ 114 mm, 30x zoom (approx. 300x with digital zoom)		
	Zoom Speed	approx. 6.0 second (TELE ~ WIDE) in manual mode		
	Zoom Limit	1x ~ 300x (Over 30x is digital zoom)		
	Angular Field of View	Horizontal: 1.8° (TELE) ~ 52.3° (WIDE), Vertical: 1.4° (TELE) ~ 39.9° (WIDE		
	Aperture Range	1:1.4 (WIDE) ~ 3.6 (TELE)		
	Focusing Range	Object Distance 1.5 m ~ ∞		
	Iris Range	F1.4 ~ 22, Close		
Pan and	Panning Range	360 deg endless		
Tilt	Panning Speed	Manual: approx. 0.065 °/s ~ 120 °/s, 256 steps, Preset: approx. 400 °/s		
	Tilting Range	-5° ~ 185° (horizontal - vertical - horizontal)		
	Tilting Speed	Manual: approx. 0.065 °/s ~ 120 °/s, 256 steps, Preset: approx. 400 °/s		
	Proportional Pan/Tilt Control			
	Number of Preset Positions			
	Auto Mode			
	Auto Track	OFF, Home, SEQ, SORT, AUTO PAN, PATROL 1 ~ 4, AUTO TRACH		
	Auto Track	PTZ operated, Detection area masking, Auto release ON/OFF selectable		
		for each preset position, Manual lock-on, Alarm activation by duration		
		and programable Alarm area. Total of Masking and Alarm area is 8.		
	Patrol	Selectable: 2 min. (1 program) / 1 min. (2 programs) / 30 sec. (4 programs		
	Image Hold	ON / OFF		
	Digital Flip	ON / OFF		
	Preset Alarm	ON / OFF		
Alarm	Alarm Source	Terminal input, VMD, Command		
Alarm	Alarm Actions	Preset position 1 ~ 4, PATROL 1 ~ 4, AUTO TRACK 1 ~ 4,		
Alarm		SEQ, SORT, AUTO PAN, B/W		
Alarm	Video Output	1.0 V [p-p] / NTSC composite 75 $\Omega/$	1.0 V [p-p] / PAL composite 75 Ω	
		BNC Connector, Multiplexed VD2	BNC Connector, Multiplexed VD2	
Input/				
Input/		and control data capable	and control data capable	
Input/	RS-485 Control IF			
Alarm Input/ Output		RS-485 (RJ-11) x1, 2/4wire, full	half duplex	
Input/	External I/O Terminals	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 ~ ALARM IN 4)	half duplex	
Input/ Output	External I/O Terminals Setup Method	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 ~ ALARM IN 4) OSD setup menu	half duplex	
Input/ Output	External I/O Terminals Setup Method Password Lock	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 ~ ALARM IN 4) OSD setup menu ON / OFF	half duplex , 2 outputs (ALARM/AUX1, BW/AUX)	
Input/ Output	External I/O Terminals Setup Method	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 ~ ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer	
Input/ Output	External I/O Terminals Setup Method Password Lock Language	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 - ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer , Setup menu will be English.)	
Input/ Output	External I/O Terminals Setup Method Password Lock	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 - ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title UL (6500 Edition2), FCC (Part15 ClassA),	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55024	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 - ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title UL (6500 dition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA)	half duplex , 2 outputs (ALARM/AUX1, BW/AUX1, h, Russian (Camera title and setup men . Setup menu will be English.) CE (EN60065, EN55022, EN55024 ClassB), GOST (R 51558)	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera till UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DCC (ICS5003 ClassA) 24 V AC, 60 Hz, 17 W (for camera),	half duplex .2 outputs (ALARM/AUX1, BW/AUX3, h, Russian (Camera tille and setup men . Setup menu will be English.) CE (EN60065, EN55022, EN55024 (ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heater	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 - ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title UL (6500 Edition2), FCC (Partt 5 ClassA) C-UL (E60065), DOC (ICES003 ClassA) 24 V AC, 60 Hz, 17 W (for camera), 62 W (for heater)	half duplex 2 outputs (ALARIW/AUX1, BW/AUX h, Russian (Camera title and setup mer 5 setup menu will be English.) CE (EN60065, EN55022, EN55022 ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera till UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DCC (ICS5003 ClassA) 24 V AC, 60 Hz, 17 W (for camera),	half duplex 2 outputs (ALARIW/AUX1, BW/AUX h, Russian (Camera title and setup mer 5 setup menu will be English.) CE (EN60065, EN55022, EN55022 ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 - ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title UL (6500 Edition2), FCC (Partt 5 ClassA) C-UL (E60065), DOC (ICES003 ClassA) 24 V AC, 60 Hz, 17 W (for camera), 62 W (for heater)	half duplex , 2 outputs (ALARIW/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55024 ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate *F)	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature	RS-485 (RJ-11) x1, 2/4wire, full           4 inputs (ALARM IN 1 – ALARM IN 4)           OSD setup menu           ON / OFF           English, German, French, Italian, Spanis           Chinese, Japanese (Only for camera title           UL (6500 Edition2), FCC (Part15 ClassA),           C-UL (E60065), DOC (ICES003 ClassA)           24 V AC, 60 Hz, 17 W (for camera),           62 W (for heater)           -40 °C ~ +50 °C (-40 °F ~ 122	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55024 ClassB), GOST (R 51558) 24 VAC, 50 Hz, 77 W (including heate 220 - 240 VAC, 50 Hz, 90 W (including heate isc)	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature Ambient Operating Humidity	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera till UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DCC (CES003 ClassA) 24 V AC, 60 Hz, 17 W (for camera), 62 W (for heater) −40 °C ~ +50 °C (−40 °F ~ 122 90 % or less (without condensa IP66 rated water and dust resist	half duplex , 2 outputs (ALARW/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55022 (ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate (220 - 240 V AC, 50 Hz, 90 W (including heate "F) ion) ant.	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature Ambient Operating Humidity Water and Dust Resistance	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, German, French, Italian, Spanis Chinese, Japanese (Only for camera title UL (6500 Edition2), FCC (Part15 ClassA) C-UL (E60065), DOC (ICES003 ClassA) 24 V AC, 60 H2, 17 W (for camera), 62 W (for heater) -40 °C ~ +50 °C (-40 °F ~ 122 90 % or less (without condensa IP66 rated water and dust resist IEC60529 measuring standard	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55022 (ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate F) tion) ant. compatible.	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature Ambient Operating Humidity Water and Dust Resistance Dimensions	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, Geman, French, Italian, Spanis Chinese, Japanese (Only for camera Itild UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) 24 V AC, 60 Hz, 17 W (for camera), 62 W (for heater) –40 °C ~ +50 °C (-40 °F ~ 122 90 % or less (without condensa IP66 rated water and dust resist IEC60529 measuring standard ø239 mm (D) x 395.5 mm (H) (c	half duplex , 2 outputs (ALARM/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55022 (ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate F) tion) ant. compatible.	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature Ambient Operating Humidity Water and Dust Resistance Dimensions Weight (approx.)	RS-485 (RJ-11) x1, 2/4wire, full           4 inputs (ALARM IN 1 – ALARM IN 4)           OSD setup menu           ON / OFF           English, German, French, Italian, Spanis           Chinese, Japanese (Only for camera litle           UL (6500 Edition2), FCC (Part15 ClassA),           C-UL (E60065), DOC (ICES003 ClassA)           24 V AC, 60 Hz, 17 W (for camera),           62 W (for heater)           -40 °C ~ +50 °C (-40 °F ~ 122)           90 % or less (without condensa           IEC60529 measuring standard           G239 mm (D) x 395.5 mm (H) (c           4.7 kg (10.4 lbs.)	half duplex , 2 outputs (ALARIW/AUX1, BW/AUX h, Russian (Camera title and setup mer . Setup menu will be English.) CE (EN60065, EN55022, EN55024 ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate 220 - 240 V AC, 50 Hz, 90 W (including heate °F) tion) ant. sompatible. 99-7/16" (D) x 15-9/16" (H))	
Input/ Output	External I/O Terminals Setup Method Password Lock Language Safety/EMC Standard Power Source and Power Consumption Ambient Operating Temperature Ambient Operating Humidity Water and Dust Resistance Dimensions	RS-485 (RJ-11) x1, 2/4wire, full 4 inputs (ALARM IN 1 – ALARM IN 4) OSD setup menu ON / OFF English, Geman, French, Italian, Spanis Chinese, Japanese (Only for camera Itild UL (6500 Edition2), FCC (Part15 ClassA), C-UL (E60065), DOC (ICES003 ClassA) 24 V AC, 60 Hz, 17 W (for camera), 62 W (for heater) –40 °C ~ +50 °C (-40 °F ~ 122 90 % or less (without condensa IP66 rated water and dust resist IEC60529 measuring standard ø239 mm (D) x 395.5 mm (H) (c	half duplex , 2 outputs (ALARW/AUX1, BW/AUX h, Russian (Camera title and setup mer Setup menu will be English.) CE (EN60065, EN55022, EN55022 (ClassB), GOST (R 51558) 24 V AC, 50 Hz, 77 W (including heate (220 - 240 V AC, 50 Hz, 90 W (including heate (220 - 240 V AC, 50 Hz, 90 W (including heate (220 - 240 V AC, 50 Hz, 90 W (including heate (220 - 240 V AC, 50 Hz, 90 W (including heate (220 - 240 V AC, 50 Hz, 91 W (including heate) (220 - 240 V AC, 50 Hz, 91 W (including heate) (220 - 240 V AC, 50 Hz, 91 W (including heate) (220 - 240 V AC, 50 Hz, 91 W (including heate	

### **Major Operating Controls & Terminals**



#### Appearance



All TV pictures are simulated.Weights and dimensions are approximate.

Specifications are subject to change without notice.
 These products may be subject to export control regulations.
 Product pictures shown in this catalog are all NTSC models.

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#### Important

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.

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