

Panasonic
ideas for life

Weather Proof
Super Dynamic III
Colour Dome Cameras

WV-CW960 Series



SEES REALITY & THINKS ACTIVELY

New Advances in 24-hour Outdoor Surveillance



Ready for the Outdoors: All-in-One Super Dynamic III Dome Cameras

WV-CW960
SERIES

This new **Super Dynamic III** colour dome cameras integrate a weatherproof housing, 360° high-speed pan and tilt base, and 30x optical zoom lens.

Through exclusive Panasonic high performance features like Pixel Based 160x Dynamic Range, unprecedented image realism is achieved.

Moreover, new intelligent functions, including Auto Image Stabilizer, Scene Change Detection, and Auto Tracking, deliver outstanding reliability in outdoor surveillance.

The WV-CW960 Series will play a dynamic role in a host of security applications; including parking lots, amusement parks, shopping malls, airports, train stations, expressways, city streets, plazas.

For All-Weather Outdoor Use

IP66
standard

Rain Resistant

The WV-CW960 Series can be installed under eaves, on external walls or rooftops, and in other outdoor locations. It's IP66 (IEC60529 standard) approved.



Ready for Temperature Changes

The housings built-in fan and heater ensure an operating temperature range of -40°C to +50°C.



Shielded against the Sun

Built-in sun shield permits camera locations in direct sunlight.

Super Dynamic III Function

SDIII
Super Dynamic

Powerful Pixel Based 160x Dynamic Range

Area-free natural contrast image correction is pixel based to ensure accurate reproduction, whatever the subject or location. The 160x Dynamic Range, with both 1/8,000 sec. and 1/50 sec. shutter speeds, makes this the ideal surveillance solution for ATMs, entrances, and other areas where contrast can lighting can vary.



Conventional
Image may be marred by black spots or halos, depending on subject position.

Super Dynamic III
Pixel based 160x dynamic range reproduces every subject.

540 TV lines Horizontal Resolution Captures the Details

Optimized filtering and broadband digital signal processing developed for the **Super Dynamic III** DSP deliver the finest details, with 540 TV lines of horizontal resolution in colour (typical) and 570 TV lines in B/W.



Enhanced Processing for Natural Colour

To deliver natural colour in its full range, new digital colour circuitry in the DSP processes colour in finer detail, for reproduction of pale or dimly lit colours.



24-hour Surveillance



Automatic Switching to B/W for Night Surveillance

For optimal surveillance, day and night, the camera automatically switches to B/W mode, for greater sensitivity, when darkness falls. In daylight, it automatically switches to colour mode. Mode selection can also be set to manual operation.

Colour mode for daylight



B/W mode for low-light conditions



Day/Night switching

Minimum Illumination of 0.04 lux in B/W Mode

Capture a clear surveillance image even in poor light. Minimum illumination needed is only 0.5 lux in colour and 0.04 lux in B/W mode, with pix sens up off, sens up off (AGC high).

Auto Focus

WV-CW960 Series are all equipped with Auto Focus, ensuring that what you see is always in sharp focus.

Innovative Features Set a New Standard in Reliability

30x Optical Zoom (300x with digital zoom)

The standard 30x optical zoom lens on the WV-CW960 Series and 10x digital zoom provide a total of 300x zoom. This powerful zoom capability allows you to zoom in on distant subjects and identify them correctly.



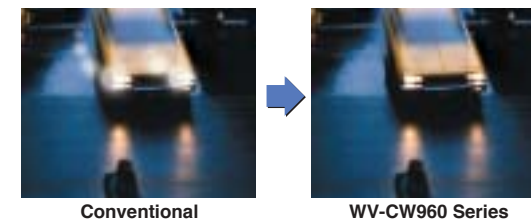
0.065°/sec. Super Fine Pan Control

Our proprietary control chip, brushless DC motor, and microprocessor with optimized speed profile give you super fine 0.065°/sec. pan control. Combined with high-performance zoom, it permits smooth tracking and captures moving subjects.



Streak-free Adaptive Digital Noise Reduction

Movement-generated streaking is corrected with 2D DNR processing for moving subjects and 3D DNR for the background. Now capture headlights of moving cars clearly, unmarred by the streaking previous 3D DNR subject-image processing generated.



Auto Image Stabilizer Removes Blurring

Automatic image stabilization prevents blurring when high winds or vibration from aircraft, trains, or trucks affect cameras.



Scene Change Detection Pinpoints Interference

For example, if the camera has been tampered with by a manual change in its angle, removal of the lens, defocusing, or blocking the lens with cloth or paint, this feature detects the interference and sends an alarm.

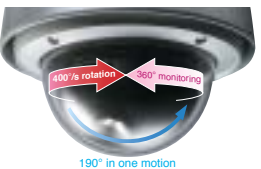


Auto Tracking

Using the auto tracking feature, the camera follows the largest movement in the image, automatically. The camera will pan and tilt to keep the subject in the centre of the image.

High-speed Panning at 400°/sec

Quickly capture a subject, thanks to a maximum 400°/sec. panning speed. The surveillance range is 360° horizontally (endless panning) and 190° vertically.



Maximum 256 Preset Positions

Press a key on the controller to select preset positions.

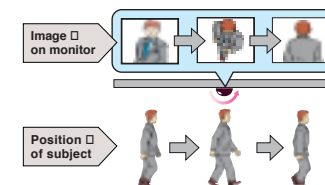
Handy Features for More Efficient Surveillance

Image Hold Eliminates Screen Blurring

The Image Hold function stores and displays the image immediately before the position selection until selection of preset positions is complete. This function eliminates the screen blurring that occurs during panning with conventional cameras, for clear, well-defined images during monitoring.

Digital Flip

When the camera pans 135° vertically, the top and bottom of the image can be digitally reversed. A subject passing directly under the camera can be continuously tracked as the camera continues its 180° pan.



Privacy Zone Masking

Mask any portion of the surveillance image on screen to prevent privacy infringement. (Gray and mosaic masking supported.)



Motion Detector

When movement is detected within the surveillance area, the motion detector sends an alarm to external devices. Connection to a VTR or DVR recording system is also possible.



Patrol Learn Stores/Reproduces Manual Operations

Perform a camera operation such as panning or zooming once, then, with Patrol Learn, reproduce it at the flip of a switch.

Text Display of Camera IDs

Show an identifying name for each camera on the monitor, up to 16 characters and symbols.

Alarm Inputs/Outputs for External Device Control

With 4 alarm inputs and 2 alarm outputs on the output connector, each alarm signal can operate under preset positions and zooms. Alarm signals can also control DVR, VTR, or other external recording devices.

Ready to Use with One Coaxial Cable — or RS-485

Transmits video image signals, control data, synchronization signals (VD2), and alarm signals over one coaxial cable up to 1,200 m long. The system also supports RS-485 data communication for use over extended distances and with expanded services.

Multiple Setup Languages

System set up in eight languages: English, German, French, Spanish, Italian, Russian, Chinese, and Japanese.

The above photographs were taken for the purpose of this explanation; actual performance and images may vary depending on environmental or other conditions.

SPECIFICATIONS PAL CCIR

Model No.	WV-CW960	WV-CW964
General		
Power Requirements	220 V - 240 V AC, 50 Hz	24 V AC, 50 Hz
Power Consumption	90 W	77 W
Pick-up Device	1/4-type (1/4") interline transfer CCD	
Effective Pixels	752 (H) x 582 (V)	
Scanning Area	3.65 mm (H) x 2.71 mm (V)	
Signal	PAL	
Synchronization	Internal (INT), multiplexed vertical drive (VD2), line-lock (LL)	
Scanning	2:1 interface	
Scanning Frequencies	Horizontal: 15.625 kHz, Vertical: 50.00 Hz	
Video Output	VBS: 1.0 V [p-p] / 75 Ω (BNC plug)	
Resolution (Centre)	Horizontal: 480 TV lines minimum (colour NORMAL mode)	
	540 TV lines typ., 520 TV lines minimum (colour HIGH mode)	
	570 TV lines minimum (black and white)	
Minimum Illumination	Vertical: 400 TV lines minimum (Centre)	
	0.5 lux (colour mode)	
	0.04 lux (black and white mode)	
	SENS UP: OFF; AGC: HIGH	
Dynamic Range	54 dB typ. (Super Dynamic III: ON)	
S/N Ratio	50 dB minimum (AGC: OFF)	
Ambient Operating Temperature	-40 °C ~ +50 °C	
Ambient Operating Humidity	90 % max. (non-condensation) *1	
Water Resistance	IP66 protection from water jets from a nozzle (IEC60529/JIS C 0920)	
Dimensions	ø239 mm (D) x 395.5 mm (H)	
Weight	approx. 4.7 kg	
Finish	Camera: Die cast aluminum, baked on coating (Paint colour: Fine silver(901)) Sun shield: ASA resin, coated (Paint colour: Fine silver(901)) Dome: Clear polycarbonate resin	

*1 When power is on continuously, the camera's interior temperature is -10 °C or higher

Pan and Tilt

Panning Range	360 ° endless
Panning Modes	Manual, auto, manual position, sequential position
Panning Speed ²	Manual: approx. 0.065 °/s ~ 120 °/s 8 steps, 16 steps, 64 steps Preset: approx. 400 °/s
Tilting Range	-5 ° ~ 185 ° (horizontal - vertical - horizontal) (According to the TILT ANGLE)
Tilting Modes	Manual, manual position, sequential position
Tilting Speed ²	Manual: approx. 0.065 °/s ~ 120 °/s 8 steps, 16 steps, 64 steps Preset: approx. 400 °/s

*2 Actual speed depends on type of controller being used.

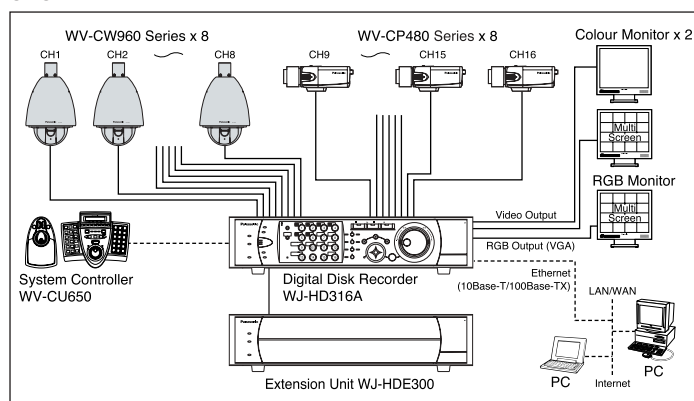
Lens

Zoom Ratio	30x (approx. 300x with digital zoom)
Focal Length	3.8 mm ~ 114 mm
Maximum Aperture Ratio	1:1.4 (WIDE) ~ 3.6 (TELE)
Object Distance	1.5 m
Iris Range	F1.4 ~ 22, Close
Angular Field of View	Horizontal: 1.8 ° (TELE) ~ 52 ° (WIDE) Vertical: 1.4 ° (TELE) ~ 40 ° (WIDE)

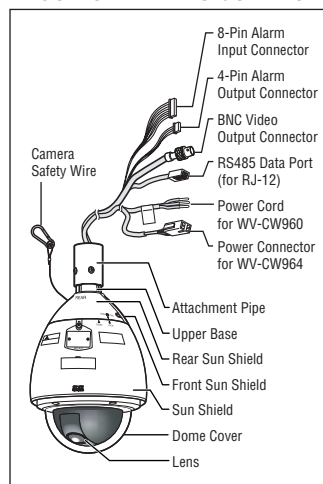
Main Functions

Controller Interface	Coaxial Multiplex System, RS485
Control Functions	Pan and tilt, zoom and focus, 256 preset positions, home position, patrol
AGC	ON (LOW), ON (MID), ON (HIGH), OFF
Title(ID)	ON, OFF (Preset ID, camera ID, area title: 16 alphanumeric characters)
Zoom Speed	approx. 6.0 seconds (TELE ~ WIDE) in manual mode
Zoom Limit	1x ~ 300x (Over 30x is digital zoom)
Password Lock	All menus
Auto Focus	MANUAL/AUTO (PAN, TILT, ZOOM linked)
Iris	ALC (Adjustable OPEN/CLOSE output target level)/MANUAL
Shutter	OFF (1/50), AUTO, 1/120, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 s
Electronic Sensitivity Enhancement	32x max. (AUTO or FIX)
Auto Mode	OFF, SEQ, SORT, AUTO PAN, PATROL, AUTO TRACK
Auto Pan Key	SEQ, SORT, AUTO PAN, PATROL, AUTO TRACK
Digital Flip	ON/OFF
Super Dynamic III	ON/OFF
Motion Detector	OFF/MODE1/MODE2
Alarm Input/Output	4 inputs (ALARM IN 1 ~ ALARM IN 4) 2 outputs (ALARM/AUX1, BW/AUX2)
Black and White Mode Switching	AUTO/ON/OFF
Privacy Zone	ON/OFF (8 zone settings)
Patrol	STOP/PLAY/LEARN
Cleaning	ON/OFF
Image Hold	ON/OFF
Auto Image Stabilizer	ON/OFF
Scene Select Setting	INDOOR (L)/INDOOR (H)/OUTDOOR (L)/OUTDOOR (H)
Language Setting	English, German, French, Italian, Spanish, Russian, Chinese, Japanese

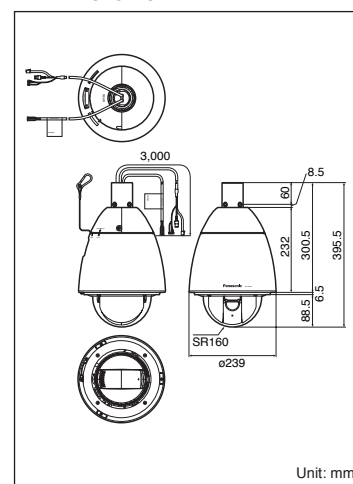
SYSTEM EXAMPLE



MAJOR OPERATING CONTROLS



DIMENSIONS



OPTIONAL COMPONENTS & ACCESSORIES

DIGITAL DISK RECORDERS

WJ-HD316A (16ch)
WJ-HD309A (9ch)
WJ-HD220 (8ch)
WJ-HD88 (8ch)



PS-Data

MATRIX SYSTEM

SYSTEM 650



LCD MONITORS

WV-LC1710 43.2cm(17")
WV-LD2000 50.8cm(20")
WV-LD1500 38.1cm(15")



WALL MOUNT BRACKET

WV-Q122



Panasonic Preserving the Environment

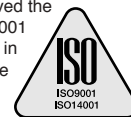
Lead-free Solder

Panasonic is now phasing out lead solder in all of CCVE products. Lead-free board assembly are identified by the "PbF" identification with silkscreen printing on plates.



ISO14001 Certification

Besides our R&D Division, Panasonic has achieved the environmental ISO14001 certification for plants in Yokohama, Japan, the Philippines, and in Suzhou, China.



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

• 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.

DISTRIBUTED BY:

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Panasonic

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