

**Panasonic**  
ideas for life

Super Dynamic III  
Color Surveillance Cameras  
Product Line-Up



# Super Dynamic III — Exceeding the human eye.

Panasonic introduces the *Super Dynamic III* Series, the first surveillance cameras able to think and act on their own.

They detect both external changes and attempts at interference and take the precise action required to prevent loss of vital scenes.

Superb image quality, the result of unprecedented image-processing performance, delivers a true picture needed for rock-solid identification.

With their extraordinary intelligence and active foresight, *Super Dynamic III* Series cameras bring amazing reality to 24-hour surveillance.



Cameras now provide a true picture for all surveillance purposes



Cameras now think — and act — preventing loss of vital scenes

# SDIII

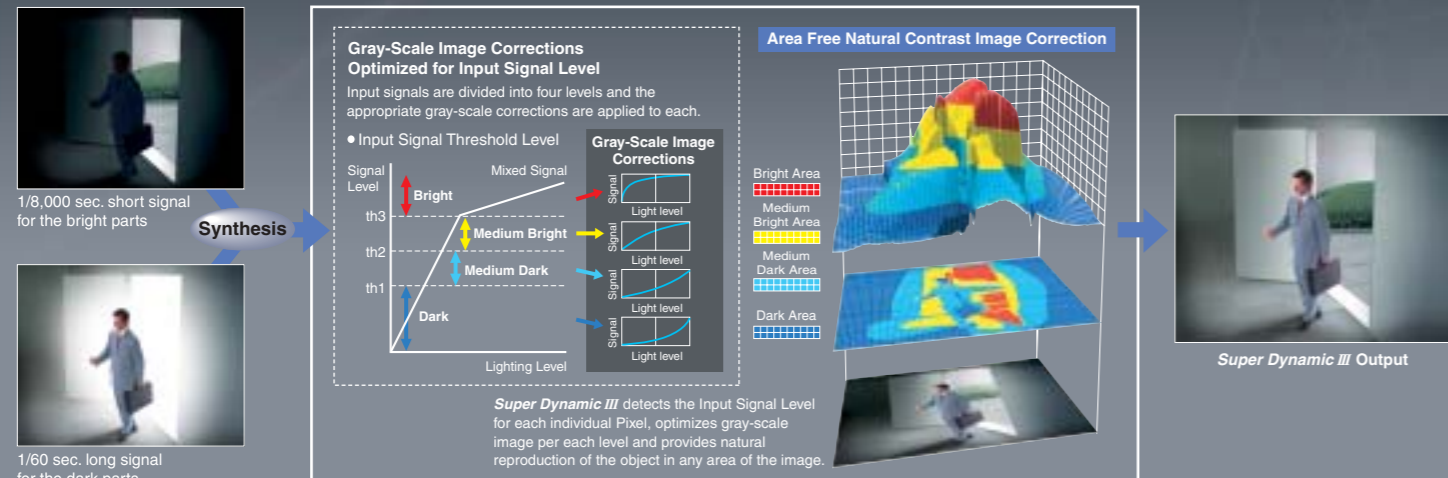
Super Dynamic

## The Leading Original Technologies Behind *Super Dynamic III*

### Pixel Based 128x Dynamic Range

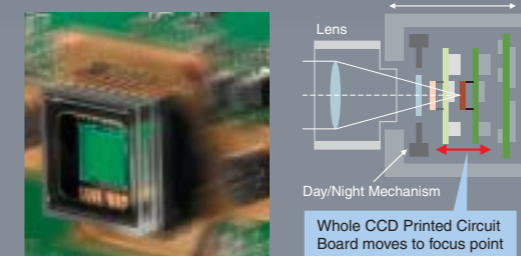
The double speed CCD outputs a 1/8,000 second short signal to capture the bright area of the image and a 1/60 second long signal to capture the shaded area. The enhanced DSP combines these signals to provide a dynamic range 128 times greater than a standard video camera.

Also newly developed in the DSP is "Area Free (Pixel Based) Natural Contrast Image Correction", which optimizes the gray-scale image in response to the Input Signal Level of each individual Pixel. The Pixel Based 128x Dynamic Range delivers a smoother natural reproduction of high contrast images, e.g. heavy backlight conditions, regardless of object position, size, shape, or number.



### Auto Back Focus (ABF) (WV-CP480 Series only)

When switching from color to B/W mode, the WV-CP480 Series automatically adjusts the CCD position to achieve the return to perfect focus. Blurring caused in previous cameras by removing the IR cut filter is eliminated. Then, when the camera switches back from B/W to color mode, the CCD automatically returns to the correct position for color imaging, ensuring perfect focus 24 hours, both night and day. Another important benefit of Auto Back Focus is eliminating the time and labor required to adjust focus after cameras have been installed. Focus can be roughly set when a camera is installed, then adjusted using the optional system controller.



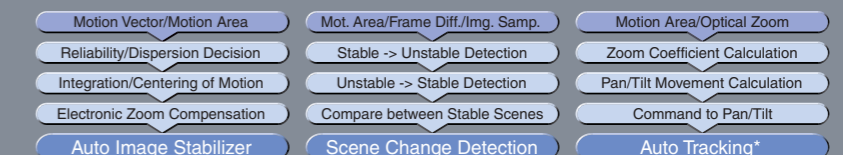
### Intelligent Processing

Our newly developed DSP extracts Motion Vector, Motion Area, Edge/Frame Difference and Image Sampling data from the image and sends that data to the new Image Analysis Algorithm. The Algorithm is embodied in the proprietary microprocessor that performs the complex processing required by *Super Dynamic III*'s amazing intelligent functions.

#### Video Process in DSP



#### Software Process



\*WV-CW964/WV-CS954 only

# SEES REALITY

To show you reality clearly, *Super Dynamic III* cameras take image processing to new peaks, with all the contrast, detail and color of reality itself, even in dimly lit situations. This breakthrough in visual surveillance delivers the definitive picture you need for accurate identification.

## Whatever the Subject Pixel Based 128x Dynamic Range

*Super Dynamic III* uses Area Free (Pixel Based) Natural Contrast Image Correction to optimize contrast and faithfully reproduce subjects in every area and position. Combining 1/8,000 sec. and 1/60 sec. shutter speed signals gives this amazing system a 128x Dynamic Range that makes it the perfect surveillance solution for ATMs, building entrances, and other situations where contrast changes depending on time, weather and season.



**Conventional**  
Depending on subject position, the image may be marred by black spots or halo effects.

**Super Dynamic III**  
Pixel Based 128x Dynamic Range faithfully reproduces every subject.

## Real in the Smallest Detail 540-line Horizontal Resolution

The combination of optimized filtering with wide bandwidth digital signal processing developed for the *Super Dynamic III* DSP delivers color images with 540 lines (typical) and B/W images with 570 lines of horizontal resolution, revealing the picture's smallest detail.



## Better in Low Light As Low as 0.5 lux

WV-CW964/WV-CS954 can be used in lighting as low as 0.5 lux (0.05 fc, color) or 0.04 lux (0.004 fc, B/W). When equipped with the optional F1.2 lens, the WV-CP480 Series deliver clear, sharp images in lighting as low as 0.5 lux (0.05 fc, color) or 0.06 lux (0.006 fc, B/W).



**Conventional**

**Super Dynamic III**

## With No Streaking Adaptive Digital Noise Reduction

The combination of 2D DNR processing for the moving subject with 3D DNR for the background corrects movement-generated streaking. Now even the headlights of moving cars can be seen clearly, unmarred by the streaks of light produced by previous 3D DNR subject-image processing.



**Conventional**

**Super Dynamic III**

## Realistic Natural Color Color Processing Enhancements

To ensure that what you see is the full range of natural color, the digital color circuitry in our newly developed DSP processes color at a finer level of detail, enabling reproduction of even poorly illuminated or pale colors.

## Zoom in to Catch Distant Subjects (WV-CW964/WV-CS954 only)

**30x Optical Zoom (Up to 300x with Digital Zoom)**  
WV-CW964/WV-CS954 come equipped with a 30x optical zoom lens. The addition of 10x digital zoom means zoom capability up to 300x, allowing you to zoom in on distant subjects in high position, wide area surveillance applications. Combined with high image quality, the result is a new advance in identification capability.



**Conventional**

WV-CW964/WV-CS954

**Conventional**

Weather Proof  
Super Dynamic III  
Color Dome Camera  
**WV-CW964**



Super Dynamic III  
Color Dome Camera  
**WV-CS954**



Super Dynamic III  
Color Surveillance Cameras  
**WV-CP480 SERIES**



**IP66 standard**

## For All-Weather Outdoor Use (WV-CW964 only)

### Rain Resistant

The WV-CW964 camera 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 (-40°F to +122°F).



### Shielded against the Sun

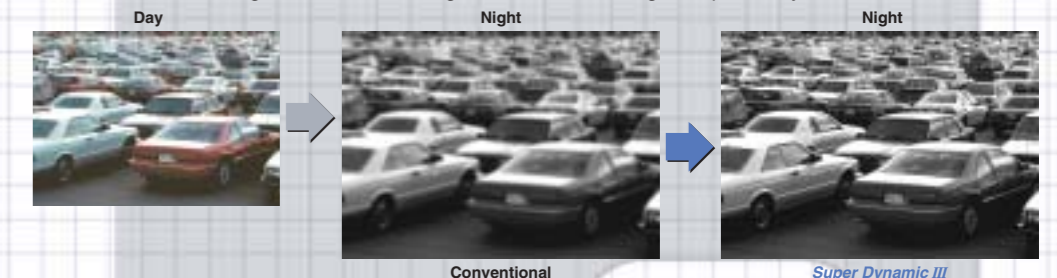
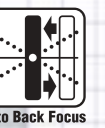
Built-in sun shield permits camera locations in direct sunlight.

# THINKS ACTIVELY

Confronted with changing environments or attempts at interference, these cameras think — and then act — to deliver the best possible image. Super smart, *Super Dynamic III* offers the active reliability to ensure the results you need under a wide variety of conditions for a host of applications.

## Sharply Focused Day and Night Auto Back Focus (ABF) (WV-CP480 Series only)

In WV-CP480 Series cameras, the ABF feature automatically adjusts the CCD position when changing from color to B/W mode, optimizing the back focus required for clear, sharp images. In addition, the one-push Auto Focus feature sharply reduces the time required to focus cameras during installation, allowing focus to be set using the optional system controller.



## Auto Focus (WV-CW964/WV-CS954 only)

WV-CW964/WV-CS954 cameras are all equipped with Auto Focus, ensuring that what you see is always sharply in focus.

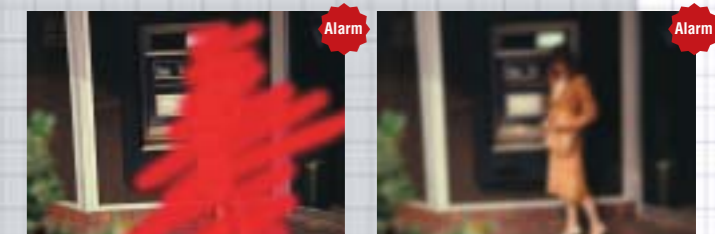
## Removing Blur Auto Image Stabilizer

Cameras attached to poles may be affected by high winds. Cameras may also be affected by vibration from aircraft, trains or large trucks. Automatic image stabilization prevents blurring under these conditions.



## Detecting Interference Scene Change Detection

This feature detects interference and sends an alarm signal when the camera's operation has been hampered with, such as a manual change in the camera's angle, removal of the camera lens, defocus, blockage of the camera lens with cloth or paint.



## Following Intruders Auto Tracking (WV-CW964/WV-CS954 only)

This feature automatically follows the largest movement in the image, causing the camera to pan and tilt to keep the subject in the center of the image. Ideal for detecting intruders in vaults, pharmaceutical or chemical labs, prisons, or wherever access is limited. It is also the solution for banks, restaurants, department stores and warehouses at night when no activity should be taking place.





**IP66**  
standard

**30x**  
OPTICAL ZOOM

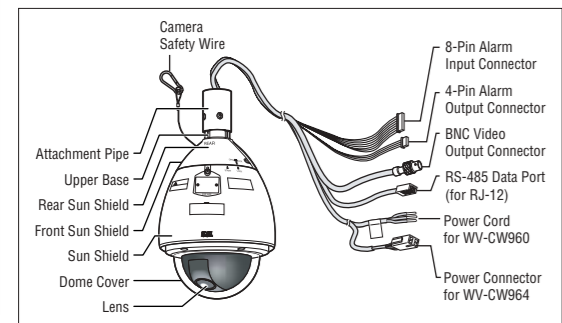


Weather Proof  
Super Dynamic III  
Color Dome Camera  
**WV-CW964** (AC 24V)

**For All-Weather Outdoor Use.**

- IP66 of IEC 60529 standard for all weather proof environmental structure.
- 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.
- All-in-one color dome camera unit.
- The new Pixel Based 128x Dynamic Range with area free natural contrast image correction adjusts moment-to-moment changes in contrast to view subjects accurately in all areas and positions.
- Higher horizontal resolution of 540-line (typical) at color mode, and 570-line at B/W mode.
- Minimum illumination of 0.5 lux (0.05 fc) at color mode, and 0.04 lux (0.004 fc) at B/W mode (Sens. up; off, AGC High).
- Innovative intelligent features:
  - Auto image stabilizer function for applications where vibration or wind is a concern, e.g. passing vehicles.
  - Scene change detection alarms when lens is covered, spray painted, removed, defocused or camera angle is changed.
  - Auto tracking function tracks moving objects and keeps them centered in the field of view for restricted areas and after hour applications.
- Day/Night operation can be selected to automatically or manually switch from color to B/W.
- Privacy zone masking function.
- Linear 32x electronic sensitivity enhancement function.
- Digital motion detector.
- 30x optical zoom lens (3.8 - 114 mm) plus 10x electronic digital zoom for total zoom capacity of 300x.
- Auto focus lens.
- Digital-FLIP by memory allows automatic 180° turn.
- Patrol Learn function (8 zone total).
- Auto panning function with 256 preset positions.
- 360° endless panning.
- Panning speed of max. 400°/s at preset mode and 0.065°/s super fine control at manual mode.
- Image Hold function during panning.
- Multiplex-coaxial or RS-485 data communication.
- Four (4) alarm inputs and two (2) outputs terminals.
- 16 alphanumeric character display.
- Internal/Line-lock/Multiplexed Vertical Drive (VD2) synchronization.
- 24V AC, 60Hz power source.

**MAJOR OPERATING CONTROLS & TERMINALS**



**SPECIFICATIONS**

Model No.	WV-CW964
<b>General</b>	
Power Requirements	24 V AC, 60 Hz
Power Consumption	17 W (for camera), 62 W (for heater)
Pick-up Device	1/4-type (1/4") interline transfer CCD
Effective Pixels	768 (H) x 494 (V)
Scanning Area	3.65 mm (H) x 2.74 mm (V)
Signal	NTSC
Synchronization	Internal (INT), multiplexed vertical drive (VD2), line-lock (LL)
Scanning	2:1 interlace
Scanning Frequencies	Horizontal: 15.734 kHz, Vertical: 59.94 Hz
Video Output	VBS: 1.0 V [p-p] / 75 Ω (BNC plug)
Resolution (Center)	Horizontal: 480 TV lines minimum (color NORMAL mode) 540 TV lines typ., 520 TV lines minimum (color HIGH mode) 570 TV lines minimum (black and white) Vertical: 350 TV lines minimum (Center)
Minimum Illumination	0.5 lux (0.05 fc) (color mode) 0.04 lux (0.004 fc) (black and white mode) SENS UP: OFF, AGC: HIGH
Dynamic Range	52 dB typical (Super Dynamic III: ON)
S/N Ratio	50 dB minimum (AGC: OFF)
Ambient Operating Temperature	-40 °C ~ +50 °C (-40 °F ~ +122 °F)
Ambient Operating Humidity	90 % max. (non-condensation) *
Water Resistance	IP66 protection from water jets from a nozzle (IEC60529/JIS C 920)
Dimensions	ø239 mm (D) x 395.5 mm (H) (ø9-7/16" (D) x 15-9/16" (H))
Weight	approx. 4.7 kg (10.4 lbs.)
Finish	Camera: Die cast aluminum, baked on coating (Paint color: Fine silver) Sun shield: ASA resin, coated (Paint color: Fine silver) Dome: Clear polycarbonate resin

\*1 When power is on continuously, the camera's interior temperature is -10 °C (14 °F) or higher

**Pan and Tilt**

Panning Range	360° endless
Panning Modes	Manual, auto, manual position, sequential position
Panning Speed*	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*	Manual: approx. 0.065°/s - 120°/s 8 steps, 16 steps, 64 steps Preset: approx. 400°/s

**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, RS-485
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 (1/60), AUTO, 1/100, 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, or Japanese



**30x**  
OPTICAL ZOOM

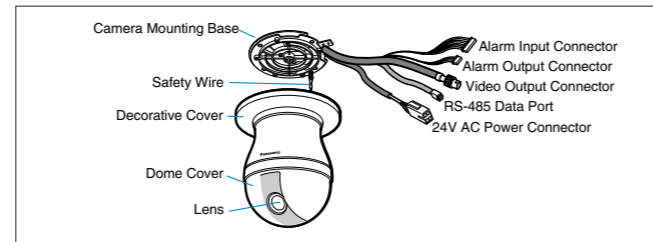


Super Dynamic III  
Color Dome Camera  
**WV-CS954** (AC 24V)

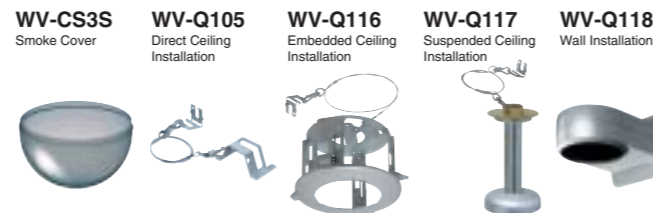
**30x Optical Zoom. Auto Tracking. 256 Presets.**

- All-in-one color surveillance dome camera unit.
- The new Pixel Based 128x Dynamic Range with area free natural contrast image correction adjusts moment-to-moment changes in contrast to view subjects accurately in all areas and positions.
- Higher horizontal resolution of 540-line (typical) at color mode, and 570-line at B/W mode.
- Minimum illumination of 0.5 lux (0.05 fc) at color mode, and 0.04 lux (0.004 fc) at B/W mode (Sens. up; off, AGC High).
- Innovative intelligent features:
  - Auto image stabilizer function for applications where vibration or wind is a concern, e.g. passing vehicles.
  - Scene change detection alarms when lens is covered, spray painted, removed, defocused or camera angle is changed.
  - Auto tracking function tracks moving objects and keeps them centered in the field of view for restricted areas and after hour applications.
- Day/Night operation can be selected to automatically or manually switch from color to B/W.
- Privacy zone masking function.
- Linear 32x electronic sensitivity enhancement function.
- Digital motion detector.
- 30x optical zoom lens (3.8 - 114 mm) plus 10x electronic digital zoom for total zoom capacity of 300x.
- Auto focus lens.
- Digital-FLIP by memory allows automatic 180° turn.
- Patrol Learn function (8 zone total).
- Auto panning function with 256 preset positions.
- 360° endless panning.
- Panning speed of max. 400°/s at preset mode and 0.065°/s super fine control at manual mode.
- Image Hold function during panning.
- Multiplex-coaxial or RS-485 data communication.
- Four (4) alarm inputs and two (2) outputs terminals.
- 16 alphanumeric character display.
- Internal/Line-lock/Multiplexed Vertical Drive (VD2) synchronization.
- 24V AC, 60Hz power source.
- Optional smoked dome cover, ceiling and wall mounts brackets are available for various applications.

**MAJOR OPERATING CONTROLS & TERMINALS**



**OPTIONAL ACCESSORIES**



**SPECIFICATIONS**

Model No.	WV-CS954
<b>General</b>	
Pick-up Device	1/4-type interline transfer CCD
Effective Pixels	768 (H) x 494 (V)
Scanning Area	3.65 mm (H) x 2.74 mm (V)
Signal	NTSC/EIA
Synchronization	Internal / Line-Lock / Multiplexed Vertical Drive (VD2)
Scanning	2:1 interlace
Scanning Frequencies	Horizontal: 15.734 kHz, Vertical: 59.94 Hz
Video Output	VBS: 1.0 V [p-p] / 75 Ω (BNC connector)
Horizontal Resolution (Center)	540 lines (in color, typical) 520 lines minimum (in color, HIGH mode) 480 lines minimum (in color, NORMAL mode) 570 lines minimum (in B/W)
Minimum Illumination	0.5 lux (0.05 fc) (in color) 0.04 lux (0.004 fc) (in B/W) *SENSE UP: OFF, AGC: HIGH
Dynamic Range	52 dB typical (Super Dynamic III: ON)
Signal-to-Noise Ratio	50 dB minimum (AGC: OFF)
Ambient Operating Temperature	-10 °C ~ +50 °C (14 °F ~ 122 °F) Humidity: 90 % max. (non-condensation)
Power Source and Consumption	24 V AC, 60 Hz, 13.0 W
Dimensions	154.5 mm (D) x 233 mm (H) (6-1/16" (D) x 9-3/16" (H))
Weight	approx. 2.2 kg (4.84 lbs.)
<b>Pan and Tilt</b>	
Panning Range	360° endless
Panning Modes	Manual, auto, manual position, sequential position
Panning Speed*	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*	Manual: approx. 0.065°/s - 120°/s 8 steps, 16 steps, 64 steps Preset: approx. 400°/s

**Lens**

Zoom Ratio	300x (30x optical zoom plus 10x electronic digital zoom)
Focal Length	3.8 mm - 114 mm
Maximum Aperture Ratio	1:1.4 (WIDE) - 3.7 (TELE)
Object Distance	1.5 m
Iris Range	F1.4 - 22, Close
Angular Field of View	Horizontal: 1.9° (TELE) - 52° (WIDE) Vertical: 1.4° (TELE) - 40° (WIDE)

**Main Functions**

Controller Interface	Coaxial Multiplex System, RS-485 Transmission
Control Functions	Pan and tilt, zoom and focus, 256 preset positions, home position, patrol
AGC	ON (LOW/MID/HIGH), OFF
Character Display	ON, OFF (Preset ID, camera ID, area title: 16 alphanumeric characters)
Zoom Speed	approx. 6.0 seconds (TELE - WIDE) in manual mode
Zoom Ratio Control	1x - 300x (Over 30x is electronic zoom)
Password Lock	All menus
Focus Speed	approx. 6.0 seconds (FAR - NEAR, full TELE zoom) in manual mode
Auto Focus	MANUAL/AUTO (PAN, TILT, ZOOM linked)
Iris	ALC (Adjustable OPEN/CLOSE output target level)/MANUAL
Shutter	OFF (1/60), AUTO, 1/100, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000
Electronic Sensitivity Enhancement	32x max. (AUTO or FIX; Factory Default: AUTO (2))
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
STABILIZER	ON/OFF
Scene Select Setting	INDOOR (L) / INDOOR (H) / OUTDOOR (L) / OUTDOOR (H)
Language Setting	English, German, French, Italian, Spanish, Russian, Chinese, or Japanese

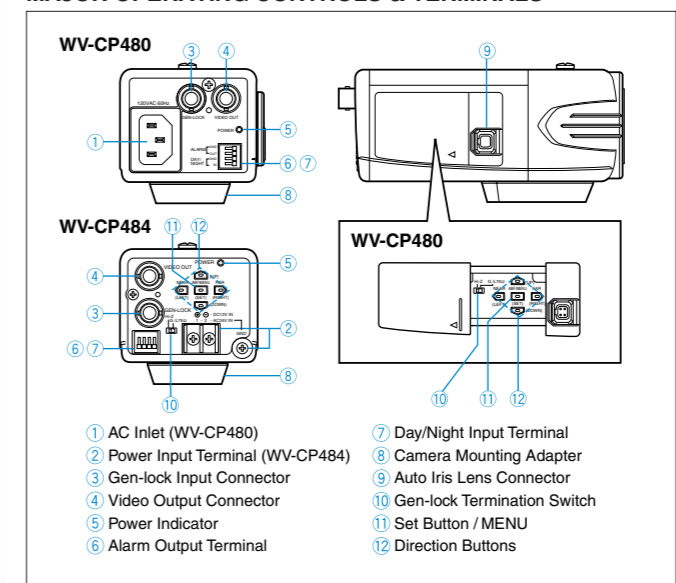


Super Dynamic III  
Color Surveillance Cameras  
**WV-CP480** SERIES  
**WV-CP480** (AC 120V)  
**WV-CP484** (AC 24V or DC 12V)

**Auto Back Focus, Sharper Images 24-hours a Day.**

- 1/3-type double speed CCD color image sensor.
- The new Pixel Based 128x Dynamic Range with area free natural contrast image correction adjusts moment-to-moment changes in contrast to view subjects accurately in all areas and positions.
- Switches from selected color mode to B/W mode, automatically or manually.
- Higher horizontal resolution of 540-line (typical) at color mode, and 570-line at B/W mode.
- Minimum illumination:
  - 0.5 lux (0.05 fc) at color mode, 0.06 lux (0.006 fc) at B/W mode, at F1.2 optional lens
  - 0.6 lux (0.06 fc) at color mode, 0.08 lux (0.008 fc) at B/W mode, at F1.4 optional lens
- Innovative intelligent features:
  - Auto Back Focus (ABF) adjustment function, for easy focus at installation and remote focus fine tuning (up-the-coax or via network by WJ-HD300 Series) after installation.
  - Auto image stabilizer function for applications where vibration or wind is a concern, e.g. passing vehicles.
  - Scene change detection alarms when lens is covered, spray painted, removed, defocused or camera angle is changed.
- Signal to noise ratio of 50dB.
- Digital motion detector.
- Menu setup can be displayed in 8 (eight) languages: English, German, French, Spanish, Italian, Russian, Chinese and Japanese.
- 16-alphanumeric character display.
- Electronic shutter from 1/60 (off) to 1/10,000 sec.
- Electronic sensitivity enhancement (auto/manual/off).
- Digital signal processing LSI's for high quality picture:
  - 2H vertical enhancement, chroma averaging circuit, minimum of aliasing, knee circuit, and highlight aperture correction.
- Gen-lock capability for the large system application.
- VD2 sync capability with Panasonic system products.
- Accepts both 24V AC or 12V DC power source (WV-CP484 model only).

**MAJOR OPERATING CONTROLS & TERMINALS**



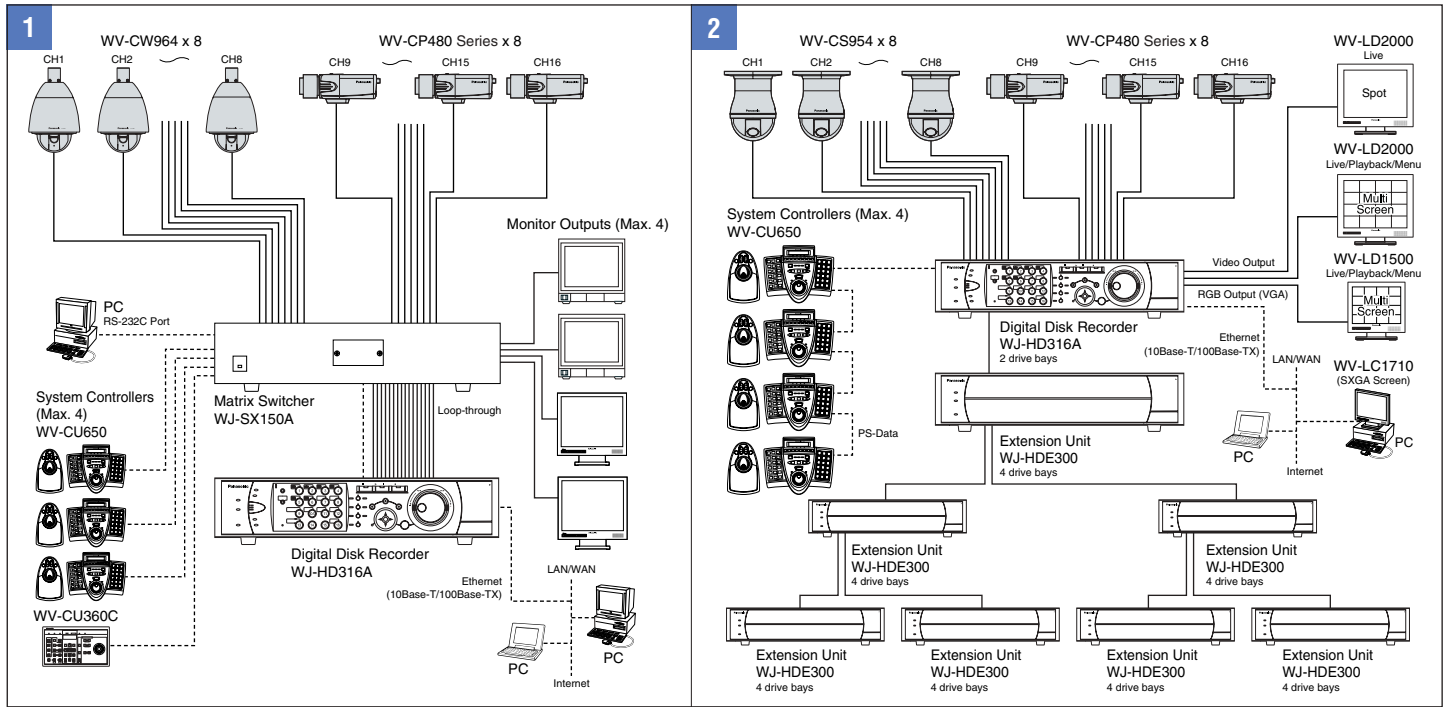
**SPECIFICATIONS**

Model No.	WV-CP480	WV-CP484
Pick-up Device	768 (H) x 494 (V) pixels, interline transfer CCD	
Scanning Area	4.8 (H) x 3.6 (V) mm (Equivalent to scanning area of 1/3" pick-up tube)	
Scanning	525 lines/60 fields/30 frames	
	Horizontal	15.734 kHz
Vertical	59.94 Hz	
Synchronization	Multiplexed vertical drive (VD2), Line-locked, VBS/VS, or Internal	
GEN LOCK Input	VBS / VS 1.0 V [p-p] composite 75 Ω / BNC connector	
Video Output	1.0 V [p-p] NTSC/EIA composite 75 Ω / BNC connector	
Resolution	Horizontal	
	540 lines (in Color, Typical) 520 lines min. (in Color, at High) 480 lines (in Color, Normal) 570 lines (in B/W)	
Vertical	350 lines (at center)	
	Dynamic Range	
52 dB typical (Super Dynamic III: ON)		
Signal-to-Noise Ratio	50 dB (Equivalent to AGC Off, weight ON)	
Minimum Illumination	0.5 lux (0.05 fc) at F1.2 (in Color)	
	0.6 lux (0.06 fc) at F1.4 (in Color) 0.06 lux (0.006 fc) at F1.2 (in B/W) 0.08 lux (0.008 fc) at F1.4 (in B/W)	
Lens Mount	CS-mount (supplied with C-mount adapter)	
<b>Major Items on Menu Setup</b>		
Language	English, French, German, Spanish, Italian, Russian, Chinese, or Japanese	
Camera ID	Up to 16 characters	
Light Control	ALC/ELC	
Super Dynamic III	ON or OFF	
Electronic Shutter Speed	1/60(OFF), 1/100, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000 s	
Gain Control	ON (HIGH), ON (MID), ON (LOW), or OFF	
Sensitivity Enhancement	OFF, x2AUTO, x4AUTO, x6AUTO, x10AUTO, x2FIX, x4FIX, x6FIX, x10FIX, x16FIX, x32FIX	
White Balance	ATW1, ATW2 or AWC	
Motion Detection	ON (Model1/Mode2) / OFF	
Digital Noise Reduction	High or Low	
Resolution	Normal or High	
Black-and-White Mode	AUTO1, AUTO2, EXT, ON, or OFF	
Privacy Zone	ON (On1/On2) / OFF	
Mirror	ON or OFF	
ALC Lens Drive	DC or Video	
Camera-Shake Compensation	ON or OFF	
Back Focus Adjustment	Auto Back Focus, MANUAL, AUTO/PRESET/FIX	
Special	Chroma, Aperture, Pedestal, HUE adjustable	
Ambient Operating Temperature	-10 °C ~ +50 °C (14 °F ~ 122 °F)	
Ambient Operating Humidity	Less than 90 %	
Power Source and Power Consumption	120 V AC 60 Hz, 4.8 W	24 V AC 60 Hz, 4.7 W 12 V DC, 410 mA
Dimensions (without lens)	70 x 65 x 129 mm	67 x 65 x 100 mm
	(W x H x D)	(2-3/4" x 2-9/16" x 5-1/16")
Weights (without lens)	520 g (1.1 lbs.) (without power cord)	400 g (0.9 lbs.)

**OPTIONAL ACCESSORIES**



# SYSTEM EXAMPLES



## OPTIONAL COMPONENTS & ACCESSORIES

DIGITAL DISK RECORDERS	MATRIX SYSTEMS	COLOR MONITORS
<b>WJ-HD316A</b> (16ch) <b>WJ-HD309A</b> (9ch) <b>WJ-HD220</b> (8ch)	<b>SYSTEM 650</b> <b>SYSTEM 150</b>	<b>WV-LC1710</b> 43.2cm (17") <b>WV-LD1500</b> 38.1cm (15") <b>WV-LD2000</b> 50.8cm (20") <b>WV-CM1420</b> 34cm (13") <b>WV-CM1020</b> 22cm (9")

### PS-Data

### Panasonic Preserving the Environment

#### Energy Saving

Panasonic has used proprietary technology to develop the low-energy DSP's that have, for example, reduced energy consumption in our cameras by 9.4% since 1997, from 5.3 watts (WV-CP650) to 4.8 watts (WV-CP480).

#### Package Recycling

To reduce waste and pollution, we have eliminated Styrofoam and minimized use of polyurethane film in our packaging.

#### Lead-free Solder

The hazardous effects of lead solder have been recognized since the 1980s. Panasonic has been a leader in addressing this issue and in 1998 introduced the world's first portable MD player with lead-free solder in its circuit board. The Security Systems Division is now phasing out use of lead solder in all of its products.

#### ISO14001 Certification

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

### iF Design Award

The superior exterior shell design of Panasonic surveillance equipment has won recognition around the world. Our WV-CS950 Series indoor cameras won a 2006 iF design award.

**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.

# Panasonic

**Panasonic System Solutions Company**  
 Unit Company of Panasonic Corporation of North America  
**Security Systems**  
 Website : [www.panasonic.com/security](http://www.panasonic.com/security)  
 For Customer Support : call **1.877.733.3689**

**Executive Office :** Three Panasonic Way 2H-2, Secaucus, New Jersey 07094  
**Zone Offices**  
**Eastern :** Three Panasonic Way, Secaucus, New Jersey 07094  
**Central :** 1707 N. Randal Road, Elgin, IL 60123  
**Southern :** 1225 Northbrook Parkway, Suwanee, GA 30024  
**Western :** 6550 Katella Ave., Cypress, CA 90630

DISTRIBUTED BY:

**PANASONIC CANADA INC.**  
 5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada (905) 624-5010  
**PANASONIC PUERTO RICO INC.**  
 DIVISION OF PANASONIC CORPORATION OF NORTH AMERICA  
 San Gabriel Industrial Park, 65th Infantry Ave. KM. 9.5 Carolina, P.R. 00985 (809) 750-4300  
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