WV-CP450 Series Super Dynamic™ Color CCD Cameras

WV-CP450 (120VAC)
WV-CP454 (24VAC/12VDC)

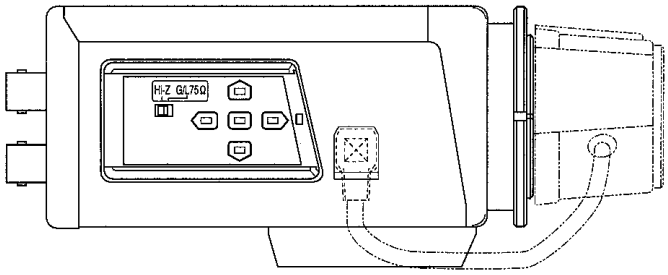
PRODUCT FEATURES

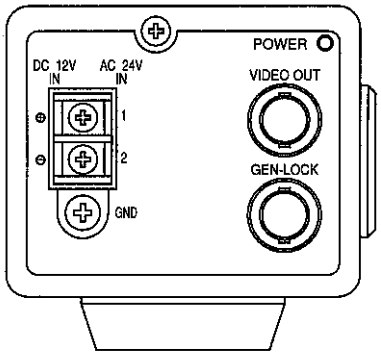
- Digital signal processing
- ⅓" interline transfer Super Dynamic CCD, 378,000 [768(H) x 492(V)] pixels
- High sensitivity 2 lux (0.2 fc) at f/1.2
- 480-line horizontal resolution and a S/N ratio of 50dB
- Super dynamic CCD automatically applies correct exposure patterns to bright and normal areas
- Wide dynamic range of up to 32 times
- Digital white detective ATW produces accurate colors
- User-friendly on-screen set-up
- VD2 lock for roll-free camera switching over a single coaxial cable when used with Panasonic Matrix System 500, 850 and Multiplexer System 400 or data multiplex unit WJ-MP404
- 2 9/16"H x 2 5/8"W x 4 13/16"D
- UL listed

The WV-CP450 series cameras incorporate a newly developed ⅓" CCD designed with a revolutionary advanced driving circuit. They also incorporate a third generation Digital Signal Processing (DSP) LSI which achieves a much wider dynamic range.

Panasonic's innovative combination of a new ⅓" CCD and a new DSP circuit design produces a dynamic range that is an incredible 32 times greater than the dynamic range found in conventional cameras. With Panasonic's Super Dynamic Color Camera WV-CP450 series, you can get satisfactory pictures under difficult lighting conditions.

Lens optional





WV-CP454 (rear)

WV-CP450 Series Super Dynamc™ Color CCD Cameras

GENERAL SPECIFICATIONS

Pickup Device	768(H) x 492(V) pixels, ⅓" interline transfer Super Dynamic
Scanning Area	4.9(H) x 3.7(V)mm (equivalent to scanning of ⅛" pickup tube)
Synchronization	Internal sync/line lock/VD2/VBS, VS sync; 360 V-phase adjustment of line lock; H-phase adjustment; SC phase adjustment; 75 ohm termination for the G/L
Scanning System	2:1 interlace
Scanning	525 line/60 field/30 frame Horizontal: 15.75kHz; Vertical: 60Hz
Horizontal Resolution	480 TV lines
Video Output	1.0Vp-p NTSC composite 75 ohm BNC connector
S/N Ratio	50dB (AGC off, Weight on)
Electronic Light Control	Equivalent to continuous variable shutter between 1/60–1/1000 second
Minimum Illumination	3 lux at f/1.4; 2 lux at f/1.2; 0.9 lux at f/0.75
Gain Control	Selectable AGC on (14dB) or off
Automatic Light Control	ALC: 1:52,000/ELC, 1:10,000 selectable ALC with Super Dynamic (on/off) or ELC
ALC Lens Drive	Video servo/DC servo selectable
Lens Mount	C-/CS-mount
Function	
Camera Title	16-character display (alphabet, numeric, symbols)
Light Control	ALC (Super dynamic on/off)/ELC
Electronic Shutter	1/60 (off), 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000 second (BLC and super dynamic function cannot be used at same time)
AGC	On/off
White Balance	ATW (2,600°K–6,000°K)/ AWC (2,300°K–10,000°K)
Back Light Compensation	6 x 8 masking area available for BLC (BLC and super dynamic function cannot be used at same time)
Operating Temperature	14°F ~ 122°F (-10°C ~ +50°C)
Operating Humidity	Less than 90%
Power Source	WV-CP450: 120VAC, 60Hz WV-CP454: 12VDC/24VAC, 60Hz
Power Consumption	WV-CP450: 5.1W WV-CP454: 5.2W/540mA
Dimensions	2 9/16"H x 2 5/8"W x 4 13/16"D (65 x 67 x 123mm)
Weight	Approx. 0.902 lbs. (410g) (not including power cord)

Weights and dimensions shown are approximate.
Specifications subject to change without notice.

ARCHITECTS' AND ENGINEERS' BID SPECIFICATIONS

WV-CP450

The digital signal processing (DSP) Super Dynamic color CCD cameras shall be a Panasonic Model WV-CP450 or equivalent. The WV-CP450 camera shall incorporate a ⅓" interline transfer Super Dynamic CCD, 378,000 [768(H) x 492(V)] pixels effective, with a microlens on each pixel, and achieve high sensitivity 0.2 fc at f/1.2, displaying outstanding 480-line horizontal resolution and a S/N ratio of 50dB. The WV-CP450 camera's Super Dynamic CCD shall be charged with long and short charges, creating both standard shutter speeds and fast shutter speeds simultaneously, on a single image field. The Super Dynamic CCD shall automatically apply each exposure pattern to bright and normal areas. The Super Dynamic camera shall feature a 28MHz 10-bit digital signal processor for image processing of both long and short signals. The Super Dynamic CCD shall feature images with a wide dynamic range of up to 32 times. The camera shall also feature intelligent digital back light compensation. For better picture quality, the camera shall feature digital 2H enhancer, digital aperture correction, knee circuit and digital white detective ATW. The camera shall be CS-mount/C-mount selectable. The WV-CP450 shall offer ALC/ELC, electronic shutter speed, Auto Gain Control (AGC) plus many other features. The WV-CP450 shall also feature VD2 lock, for roll-free camera switching, over a single coaxial cable when used with the Matrix System 500, Multiplexer System 400 or data multiplex unit WJ-MP404. VD2 shall provide roll-free picture switching regardless of power supply phase. The video, camera control and synchronization signal shall be transmitted up to 3000' over coaxial cable (Belden 9259 or equivalent), when used with the Panasonic model WJ-FS616/WV-PB6164 multiplexer with control kit, Matrix System 500, Matrix System 850 and single camera controller, model WV-CU151. The power source for the WV-CP450 shall be 120VAC, 60Hz. All units must be UL listed.

WV-CP454

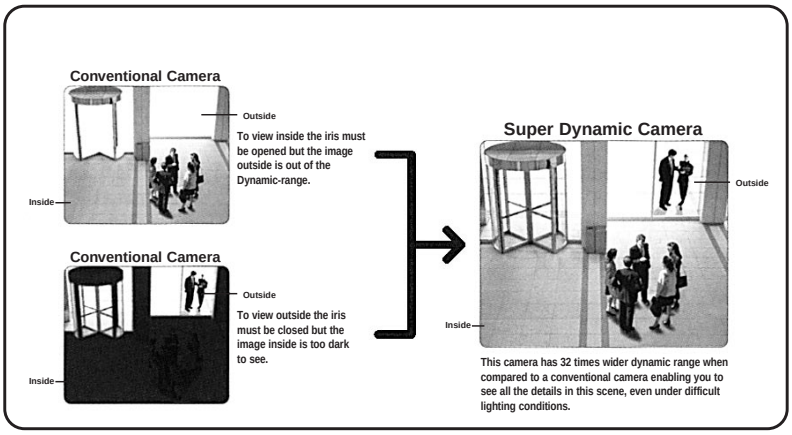
The digital signal processing (DSP) Super Dynamic color CCD cameras shall be a Panasonic Model WV-CP454 or equivalent. The WV-CP454 camera shall incorporate a ⅓" interline transfer Super Dynamic CCD, 378,000 [768(H) x 492(V)] pixels effective, with a microlens on each pixel, and achieve high sensitivity 0.2 fc at f/1.2, displaying outstanding 480-line horizontal resolution and a S/N ratio of 50dB. The WV-CP454 camera's Super Dynamic CCD shall be charged with long and short charges, creating both standard shutter speeds and fast shutter speeds simultaneously, on a single image field. The Super Dynamic CCD shall automatically apply each exposure pattern to bright and normal areas. The Super Dynamic camera shall feature a 28MHz 10-bit digital signal processor for image processing of both long and short signals. The Super Dynamic CCD shall feature images with a wide dynamic range of up to 32 times. The camera shall also feature intelligent digital back light compensation. For better picture quality, the camera shall feature digital 2H enhancer, digital aperture correction, knee circuit and digital white detective ATW. The camera shall be CS-mount/C-mount selectable. The WV-CP454 shall offer ALC/ELC, electronic shutter speed, Auto Gain Control (AGC) plus many other features. The WV-CP454 shall also feature VD2 lock, for roll-free camera switching, over a single coaxial cable when used with the Matrix System 500, Multiplexer System 400 or data multiplex unit WJ-MP404. VD2 shall provide roll-free picture switching regardless of power supply phase. The video, camera control and synchronization signal shall be transmitted up to 3000' over coaxial cable (Belden 9259 or equivalent), when used with the Panasonic model WJ-FS616/WV-PB6164 multiplexer with control kit, Matrix System 500, Matrix System 850 and single camera controller, model WV-CU151. The power source for the WV-CP454 shall be 24VAC, 60Hz and shall be able to be switched to 12VDC power from the same terminals. All units must be UL listed.

Super Dynamic™ Cameras

Panasonic proudly presents the Super Dynamic camera—a true innovation in camera design. In appearance, the Super Dynamic resembles a conventional camera, but a look at its circuitry and the images it creates tells another story. The Super Dynamic cameras incorporate a newly developed CCD designed with revolutionary advanced technology. The performance of the CCD is beyond comparison with current conventional CCDs because its driving method is innovative. At the same time, we have developed the 3rd generation DSP (Digital Signal Processing) circuit which achieves a much wider dynamic range. Panasonic's innovative combination of a new CCD and 3rd generation DSP realizes 32 times the dynamic range of a conventional camera. With Super Dynamic, Panasonic once again brings you the state-of-the-art in video camera technology.

KEY FEATURES

- Innovative 32X Super Dynamic wide range
- 480-line horizontal resolution (color cameras)/570-line horizontal resolution (B/W cameras)
- 50dB of S/N ratio
- Minimum illumination of 2 lux (F=1.2) (color cameras), 0.06 lux (F=1.2) (B/W cameras)
- Remote set-up function with single coaxial cable or RS-485
- 2nd generation built-in digital motion detector with alarm output signal
- Electronic sensitivity enhancer
- Electronic shutter from 1/60–1/10,000 second
- Genlock capability
- On-screen set-up menu
- Built-in character generator for at-a-glance identification (up to 16 characters)
- Accepts both 24VAC and 12VDC from the same cable terminal in a single unit
- C/CS lens mounting base
- Accepts both DC and video servo lenses



NEW TECHNOLOGY

Super Dynamic CCD (⅓" 380,000 pixel)

- Generates 2 outputs of different signal levels in 1 line by using the electronic shutter and 28MHz double speed drive
- Differs from existing products in that it is possible to read out and transmit standard signals taken at standard shutter speeds (long signals) and high-brightness signals taken at fast shutter speeds (short signals) simultaneously
- Produces images with a dynamic range 16X–32X that of conventional cameras

3rd Generation DSP

- Demultiplex and time scale conversion: long and short signals transmitted in multiplex are separated into the long and short signals by the newly developed DSP following 10-bit A-D conversion, and the time bases for each are doubled
- Long and short signal synthesis: short signal is expanded from 16X–32X to reproduce the original brightness level, and is synthesized to reproduce the optimum images with the long signal
- Adaptive gamma correction: special gamma correction which adjusts the gamma curve according to the luminance status of 1 field image is performed in order to use the dynamic range of the NTSC signal efficiently
- Produces images with a dynamic range 16X–32X that of conventional cameras

Super Dynamic™ Cameras

The 3rd generation DSP for excellent color reproduction

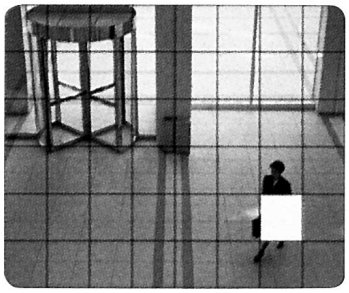
- DSP circuitry features digital chroma reduction, 2H enhancer, digital aperture correction and digital knee for quality pictures
- Incorporates versatile digital functions such as digital motion detection, electronic sensitivity enhancement and dual white balance
- DSP LSI creates excellent pictures for new-generation surveillance

Easy set-up with on-screen menu and 16-character camera ID display

- Camera ID (up to 16 characters)
- ALC/ELC (Super Dynamic, masking, level, etc.)
- Electronic shutter (off, 1/100 ~ 1/10,000 second by step)
- AGC
- Synchronization (internal, LL, VS, VBS)
- White balance (ATW/AWC)
- Motion detector (masking, level, etc.)
- Lens servo (DC/video)

The 2nd generation built-in motion detector

- WV-CP650 series, WV-CPR650 series and WV-BP550 series incorporate the 2nd generation digital motion detector which achieves 4X the sensitivity of a conventional digital motion detector
- Alarm signal is transmitted on the camera cable, so system expandability is much higher than with conventional surveillance systems



Electronic sensitivity enhancer

- WV-CP650 series, WV-CPR650 series and WV-BP550 series feature electronic sensitivity enhancer (max. 32X) and auto gain control to provide crisp pictures under low light conditions

Flexible communication for remote set-up with single coaxial cable or RS-485

- WV-CP650 series, WV-CP450 series and WV-BP550 series feature a communication function with Panasonic camera controllers (such as Matrix System 500, WJ-FS616, WV-RM70) which enables remote status set-up of the cameras
- WV-CPR650 series accepts RS-485 data communication for long distance operation with Panasonic system equipment and PC software control

Genlock capability

- Genlock terminal helps ensure optimum performance with other components

Accepts both 24VAC and 12VDC power in a single unit

- WV-CP654, WV-CPR654, WV-CP454 and WV-BP554 accept either 24VAC or 12VDC power sources
- Enables simple model selection and easy installation

Accepts a wide variety of lenses

- Panasonic originally developed a lens mount configuration that accepts both C- and CS-mount lenses, as well as both DC and video servo for ALC servo lenses