PAL

SONY SURVEILLANCE SYSTEMS

SSC-DC330P/DC334P/DC338P

CCD Colour Video Camera

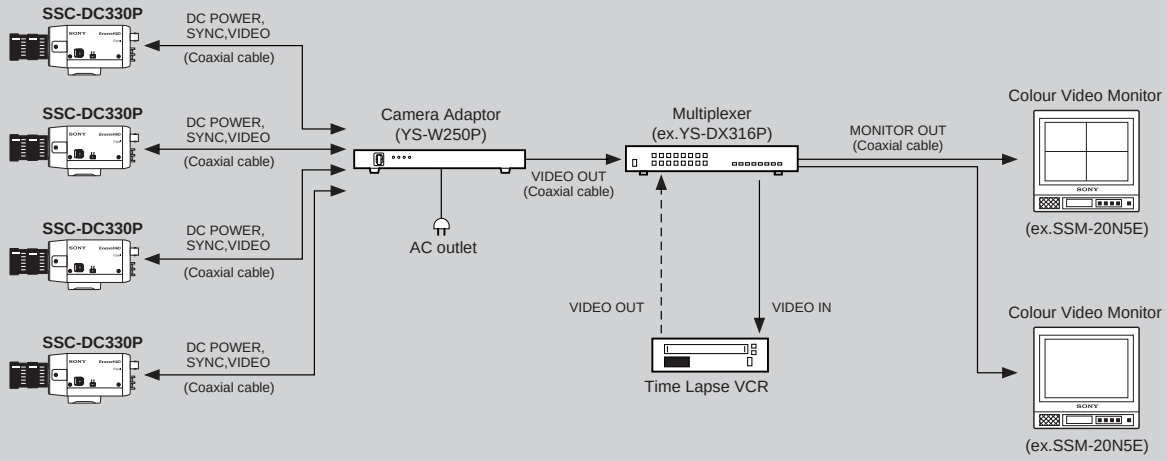
Lens shown is optional

SONY®

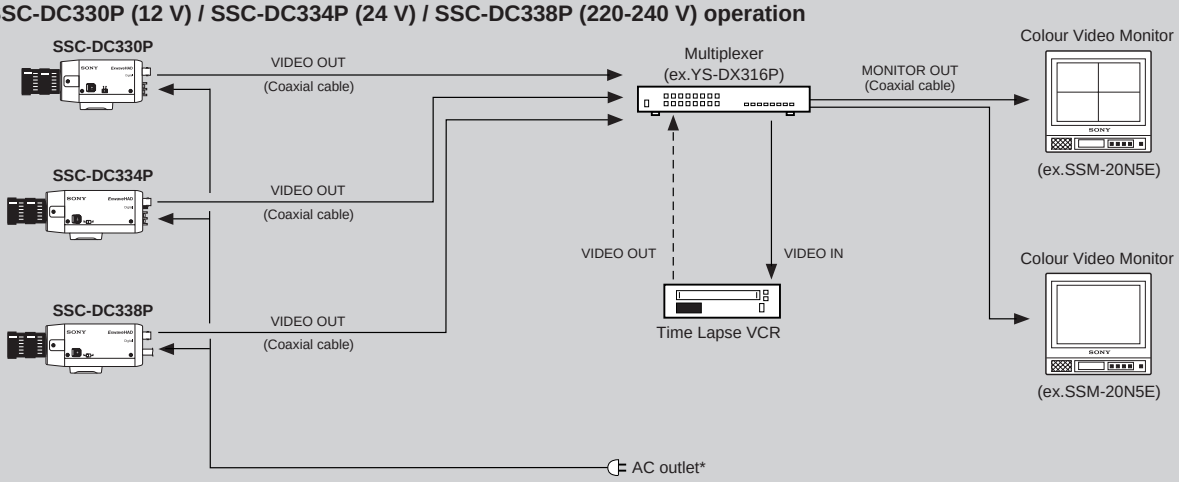
Typical System

Multiple camera operation

1. SSC-DC330P (Triple multiplexing operation)



2. SSC-DC330P (12 V) / SSC-DC334P (24 V) / SSC-DC338P (220-240 V) operation



* The SSC-DC338P operates from 220 to 240 V AC, the SSC-DC334P from 24 V AC and SSC-DC330P from 12 V DC.

Rear Panel

SSC-DC330P

SSC-DC334P

SSC-DC338P

SSC-DC330P/DC334P/DC338P

Sony introduces the SSC-DC330P, SSC-DC334P, and SSC-DC338P 1/3-inch CCD colour cameras. This exciting range of cameras incorporates Exwave HAD™ technology – a new technology developed by Sony that combines excellent sensitivity with a dramatic reduction in smear levels. Together with features that include digital back light compensation, provided by Smart Control®, and increased video gain with Turbo AGC™, Exwave HAD technology enables these cameras to reproduce clear, identifiable pictures in adverse or low light conditions. Together with a high resolution of 480 lines and accurate colour reproduction provided by the ATWpro function, these colour cameras are the ideal choice for many of today's CCTV applications.

With identical performance specifications, the three cameras differ only in their method of powering. The SSC-DC338P operates on AC 220-240 V, the SSC-DC334P on AC 24 V, and the SSC-DC330P on DC 12 V. The SSC-DC330P also features triple multiplexing operation, with power and video/sync signals carried over a single coaxial cable.

The Difference is Exwave HAD

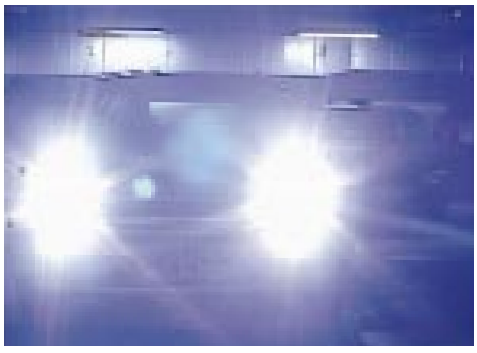
In monitoring and surveillance applications, camera sensitivity is one of the most important factors in obtaining an adequate picture in low light conditions. Low smear levels are also necessary, especially for surveillance of transportation and parking areas where bright vehicle headlights can be a problem. Because of the importance of these two factors, Sony has developed the Exwave HAD technology.

Sensitivity comparison between Exwave HAD camera and Hyper HAD camera:

Exwave HAD camera

Hyper HAD camera

Smear level comparison between Exwave HAD camera and Hyper HAD camera:



Exwave HAD camera

Hyper HAD camera

* The sensitivity and smear level comparison pictures were taken in identical lighting conditions with the same lens F stop and gain, resulting in relatively high smear levels.

Alternative White Balance Control Modes

All three camera models have two types of white balance control mode – ATWpro and ATW.

Advanced ATWpro mode

Ideal for frequently changing lighting conditions and applications where the operator needs to see objects as they appear to the eye. The effective operational colour range is 2500 K to 6000 K. This mode makes optimum use of the capabilities of the Smart Control function.

ATW mode

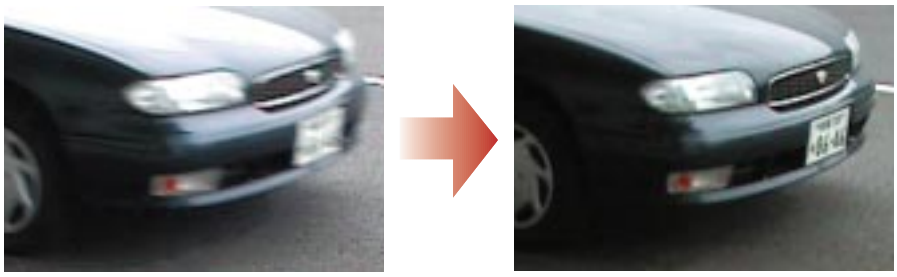
Allows the operator to see objects as they appear during daylight. The colour temperature compensation range extends down to 2000 K and up to 10,000 K.

CCD IRIS® Function

As the illumination level of the scene changes, the camera responds by automatically reducing or increasing the exposure time of the photo sensors. This is achieved by changing the electronic shutter speed of the CCD, in the range of 1/50 of a second to 1/100,000 of a second. The CCD IRIS function is digitally controlled by the advanced Sony Smart Control feature. The control of incoming light by the CCD IRIS function is completely electronic, and does not require a conventional mechanical iris control facility inside the camera. This means that reliability is greatly improved.

An added benefit of the CCD IRIS function is seen when images are recorded onto video tape. For example, thanks to high shutter speeds in daylight, clear details of fast-moving objects (such as vehicle license plates) can be seen when the tape is reviewed in still mode.

License plate of a moving car



CCD IRIS OFF – illegible numbers

CCD IRIS ON – legible numbers

Simple Single Cable Wiring (SSC-DC330P only)

The SSC-DC330P features optional Triple Multiplexing operation. Using a single coaxial cable, the video and sync signals can be transmitted together with DC power from an optional YS-W150P/W250P Camera Adaptor. The SSC-DC330P can also be operated from a local DC 12 V power source using a commercially available power supply adaptor.

Other Features

- Aperture/Sharp mode
- VBS and VS lock
- C/CS mount lenses compatible
- Video/DC servo type auto iris lens compatible

Optional Accessories: YS-W150P/W250P Camera Adaptors

The YS-W150P/W250P Camera Adaptors are designed to transmit power and video/sync signals between the adaptor and the camera, using a single coaxial cable. The YS-W150P is for use in a single camera configuration while the YS-W250P is used in configurations of up to four cameras. Both units provide two camera outputs for each camera input, allowing camera pictures to be monitored in two locations. The YS-W150P/W250P not only accept a VS sync signal but also feature AC line lock for external synchronization.

YS-W150P

YS-W150P Rear Panel

Exwave HAD Technology - Higher Sensitivity, Lower Smear

Higher Sensitivity

The sensitivity of these cameras is well over twice that of the current Sony Hyper HAD® surveillance cameras. The conventional Sony Hyper HAD camera has an OCL (On Chip Lens) located over each pixel on the CCD. These concentrate the light on the photosensor areas and the sensitivity of the camera is improved. The Exwave HAD takes this Hyper HAD technology a giant step further. The OCL of the Exwave HAD camera is a nearly gap-less structure, eliminating the ineffective areas between the microlenses. This enables the hole accumulation layer to receive the maximum amount of light.

Lower Smear Levels

Smear is caused by the leakage of unwanted light on to the vertical shift register of a CCD. The smear level of the Exwave HAD camera is reduced to 1/50th that of the Hyper HAD camera. This dramatic reduction is a function of the new unit cell structure that minimizes the reflection of unwanted light onto the CCD surface.

CCD Structure

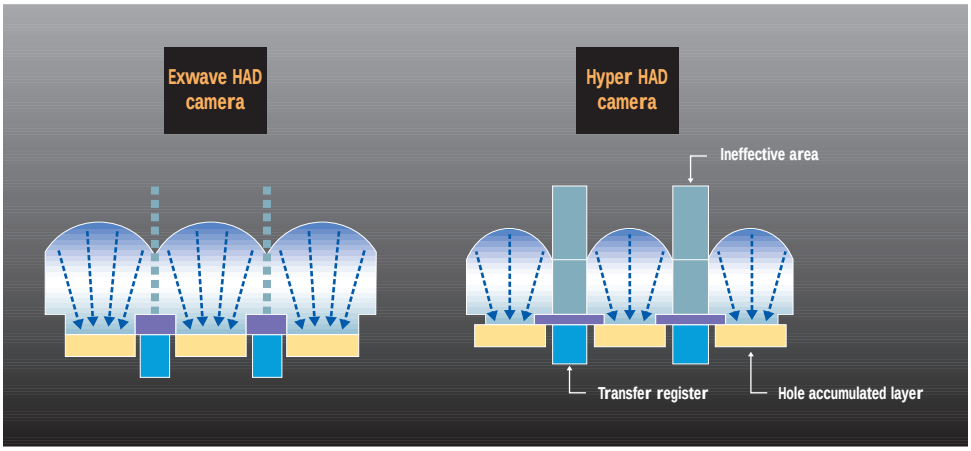


Fig. 1

Excellent picture quality

With a high resolution of 480 TV lines and the excellent sensitivity of 0.8 lx (F1.2, 50 IRE, TURBO AGC ON), these cameras capture high quality images even in the extremely low light situations of night-time surveillance. A further benefit of the Exwave HAD technology is that dark current noise is reduced to provide a very high signal-to-noise ratio of 50 dB.

Advanced Turbo AGC

The SSC-DC330P, SSC-DC334P and SSC-DC338P cameras are equipped with the new Turbo AGC (Auto Gain Control) function. This improves sensitivity more flexibly and effectively than conventional AGC by controlling the video gain over a range increased to 0-24 dB from the 0-18 dB range of previous models. This improvement means that a subject under very low illumination can be distinguished more clearly.

AGC OFF

AGC ON

TURBO AGC ON

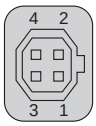
Smart Control - Full Automatic Backlight Compensation (BLC)

Strong back lighting can often cause the subject of the picture to be in shadow. To overcome this problem, these cameras have Smart Control which achieves the optimum balance between Iris and Gain settings in a unified digital signal processing circuit. The result is that clear colour images can be obtained even under severe or varying lighting conditions.

SSC-DC330P/DC334P/DC338P Specifications

	SSC-DC330P	SSC-DC334P	SSC-DC338P
Image device:	1/3-inch Interline Transfer HAD CCD		
Picture elements:	752 (H) x 582 (V)		
Sensing area:	4.8 x 3.6 mm (1/3-inch)		
Signal system:	PAL standard		
Scanning system:	625 lines, 2:1 interlace		
Sync system:	Internal or external with VBS*/VS	Internal or external with AC line lock	
Phase control:	H phase adjustment (±0.25H)	V phase adjustment (±90°)	
Horizontal resolution:	480 TV lines		
Lens mount:	C/CS mount adjustable		
Minimum illumination:	AGC ON (TURBO mode) 0.4 lx at F1.2 (30 IRE) 0.8 lx at F1.2 (50 IRE) 6.5 lx at F1.2 (100 IRE)		
Aperture control:	SHARP/NORMAL switchable		
Automatic gain control (AGC):	TURBO/NORMAL/OFF switchable		
CCD IRIS control:	ON/OFF switchable, 1/50 to 1/100,000 s		
White balance:	ATWpro/ATW switchable		
Backlight compensation:	Smart Control		
Signal-to-noise ratio:	More than 50 dB (Weight ON, AGC OFF)		
Video out:	BNC: 1.0 Vp-p, 75 Ω, sync negative		
Operating temperature:	-10 to 50° C (14 to 122° F)		
Storage temperature:	-40 to 60° C (-40 to 140° F)		
Power requirements:	1) Multiplexing with YS-W150P/W250P 2) DC 12 V from DC 12 V power supply	AC 24 V, 50 Hz	AC 220 to 240 V, 50 Hz
Power consumption:	1) 5.0 W supplied from YS-W150P/W250P 2) 3.0 W at DC 12 V	4.5 W	5.5 W
Mass:	430 g (15 oz)	550 g (1 lb 3 oz)	770 g (1 lb 11 oz)
Auto iris type:	DC/VIDEO servo type		
Connectors:	DC 12 V terminals Mode A (Triple multiplexing operation): DC IN/VS IN/VIDEO OUT (BNC), MONITOR OUT (BNC), Mode B (DC 12 V operation): VIDEO OUT (BNC), VS IN (BNC)	AC 24 V terminals, VIDEO OUT (BNC), GND	VIDEO OUT (BNC)

LENS (4-pin)

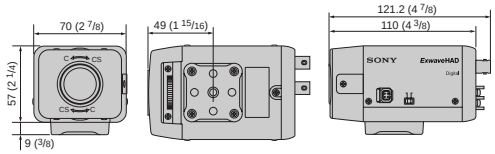


Pin	DC servo	VIDEO servo
1	Control (-)	Power (DC 9 V, 50 mA)
2	Control (+)	Not connected
3	Drive (+)	Video
4	Drive (-) (GND)	GND

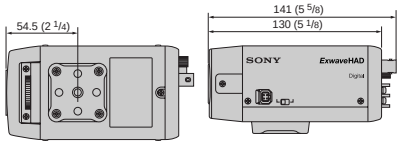
Dimensions: Unit: mm (inches)

SSC-DC330P/ DC334P/DC338P

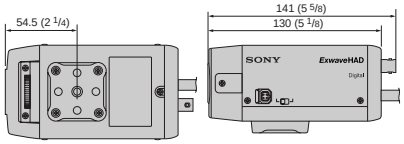
SSC-DC330P



SSC-DC334P



SSC-DC338P



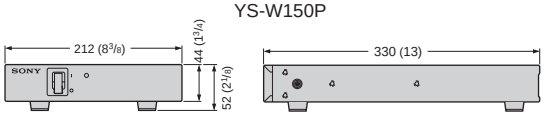
* The burst signal is not locked

YS-W150P/W250P Specifications

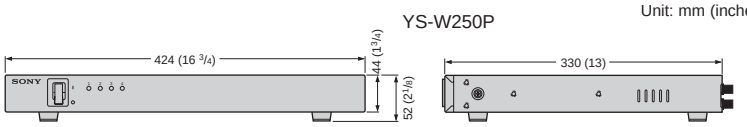
	YS-W150P	YS-W250P
Power requirements:	AC 220 to 240 V, 50 Hz	
Power consumption:	15 W	48 W
Operating temperature:	-10°C to 50°C (14°F to 122°F)	
Input connectors:	CAMERA IN (BNC), SYNC IN (BNC)	CAMERA IN 1 to 4 (BNC x 4), SYNC IN (BNC)
Output connectors:	VIDEO OUT (BNC x 2), SYNC OUT (BNC, Loop-through, 75 Ω ON/OFF)	VIDEO OUT A: 1 to 4 (BNC x 4), VIDEO OUT B: 1 to 4 (BNC x 4) SYNC OUT (BNC, Loop-through, 75 Ω ON/OFF)
Synchronization:	Internal or external with VS or AC line lock	
Maximum cable length:	300 m (984 ft) using RG-59B/U (3C-2V) 500 m (1640 ft) using RG-6A/U (5C-2V) 600 m (1968 ft) using RG-11A/U (7C-2V)	
Cable compensation:	3 steps (100/200/300 m)	
Mass:	1.9 kg (4 lb 3 oz)	3.6 kg (7 lb 15 oz)

Dimensions: Unit: mm (inches)

YS-W150P



YS-W250P



SSC-DC330P

SSC-DC334P/DC338P