



OPERATING MANUAL

DIGITAL COLOR CCD CAMERA

OKI USA DAY & NIGHT SERIES

Model	SDN-6420	SDN-6420P	420 TV LINE
Model	SDN-6520	SDN-6520P	520 TV LINE
Power	24VAC/12VDC	85V~265VAC	

1/3" SONY Super HAD CCD

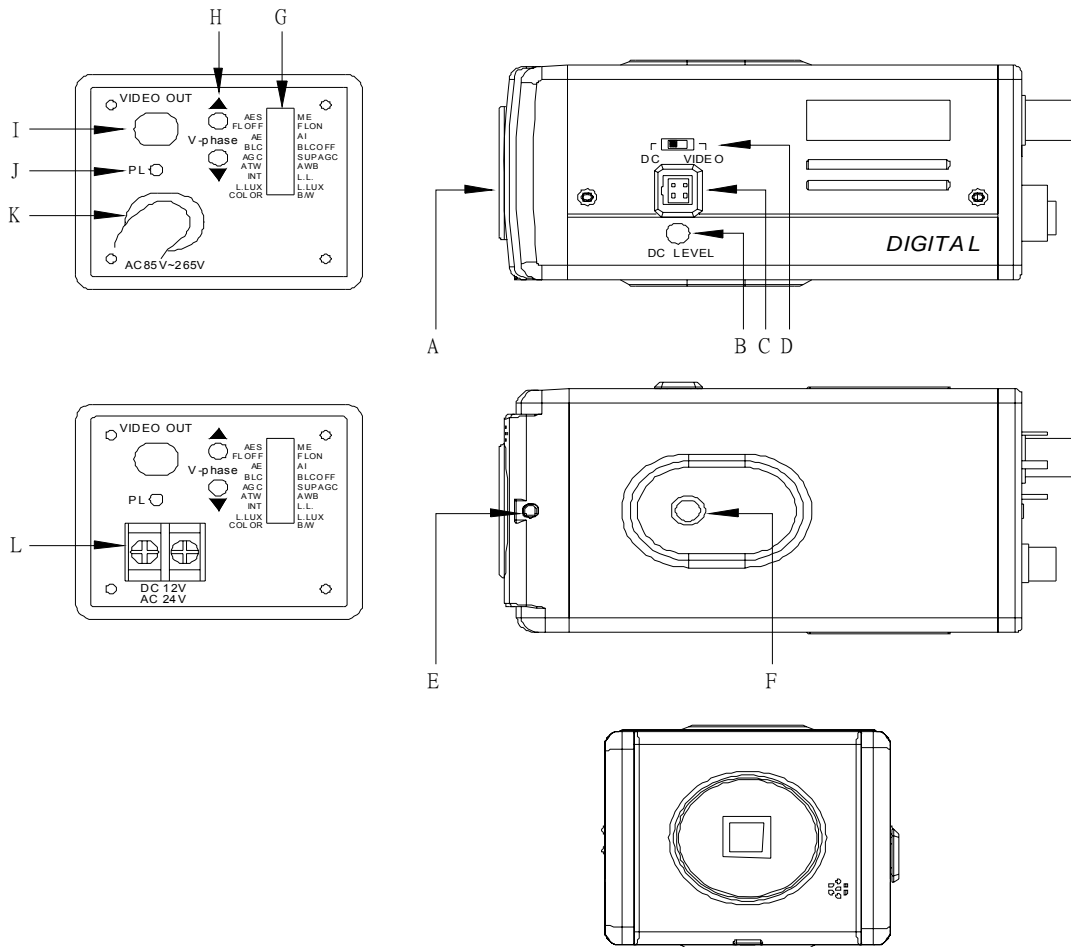
1 General

This color CCD camera employs 1/3 inch charge coupled imaging device with 470/410 k or 310/270 k picture elements. It is equipped with advanced Digital Signal Processor for processing the video signal to provide high color reproduction, sharp and stable picture.

2 Features

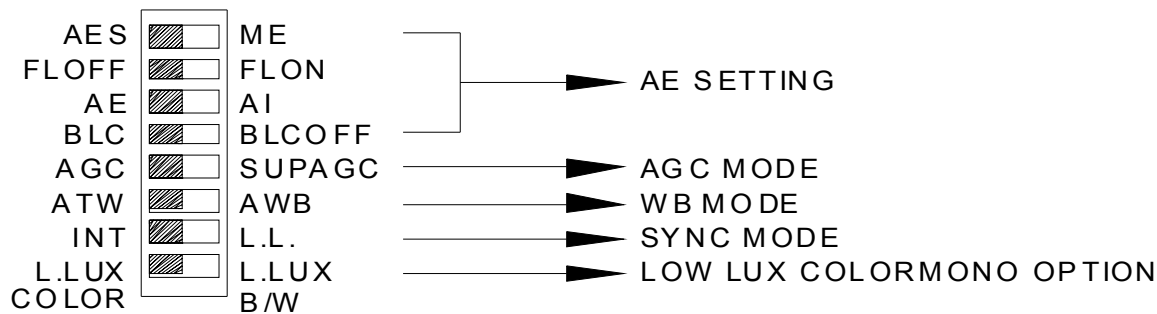
1. Color & B/W mode: Daytime color and user selectable color or b/w mode when under low lux condition.
2. Resolution: 420/520 TV lines of horizontal resolution.
3. Low lux: BY employing high sensitivity image sensor and low noise circuit design produces 0.5 lux and signal-to-noise ratio of 48 dB.
4. White Balance: The wide range of Auto Wide balance(AWB) and Auto Tracing White balance (ATW) allow the camera to adjust automatically the tone according to the color temperature of the light source illuminating the subject.
5. Back Light Compensation: Smart digital control Auto BLC, ensure for use against any unusual lighting conditions.
6. Auto Exposure System: Advanced Auto Exposure System for both fix iris and auto iris lenses control the amount of light to ensure it is always optimized.
7. Internal or Line-lock external sync.

3 Name of parts and functions



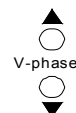
- A. C (CS) mount adapter
When using a CS mount lens, remove the C mount ring.
- B. DC lever Adjuster (VR)
For DC drive auto iris lens driving level adjustment; in order to obtain correct exposure light.
- C. Auto iris lens connector (MINI JACK) See 3-1 auto-iris connector.
- D. Video/DC auto-iris lens selector
DC—For DC drive lens
Video—For Video drive lens
- E. Flange focal lock screw
- F. Holder screw hole
Standard photographic pan-head screw size (1/4"-20)
- G. Dip Switch





H. Phase Adj.

Line-lock Phase Adj. (Line-lock model)



I. Video output terminal (BNC)

This connector is used to connect with the VIDEO IN connector of monitor.

J. Power pilot LED

K. AC85V~265V Power Cord

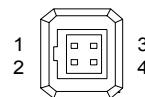
L. DC 12V or AC24V/DC 12V Block Terminal

3.1 Auto Iris Lens Connector

- Use the accompanying auto iris lens control connector plug.
- For auto iris lens with built-in EE amp. (VIDEO Type)
- Set the lens selector switch to "Video" position.

Connector cable leads

- | | |
|------------------|---------------------|
| 1.Red----power | 2.NC |
| 3.White----video | 4.Black----shielded |



For auto iris lens without EE amp. (DC Type)

This is the view from external of camera

Set the lens selector switch to "DC" position.

Connector cable leads

- | | |
|----------------------|----------------------|
| 1.Damping coil (-) | 2.Damplng coil (+) |
| 3.Driving coil (+) | 4.Driving coil (-) |

Connect the leads as shown above; refer to the instructions of the lens.

3.2 Power Terminal



3.2.1 AC 24V/DC 12V model

This terminal accepts both AC 24V and DC 12V non-polarity

3.2.2 AC 85V~265V model

This camera equipped with a universal switching power supply, it can accept power source input from 85VAC to 265VAC

4 DIP switch function

4.1 AE setting

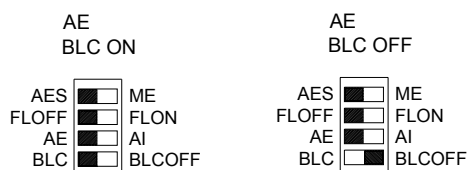
In different situation, there are two options for shutter mode, they are AES mode and ME mode.

4.1.1 AES mode

4.1.1.1 If you use a fixed or manual iris lens, please select the AE mode to control the exposure with electronic shutter, the range of shutter speed is from 1/60(1/50) sec to 1/100,000 sec

As you take a picture with strong light behind the subject, the subject only a slight darker luminance than the overall screen, please set BLC "on" to perform through exposure compensation operation by apply the appropriate luminance intensity to the dark areas.

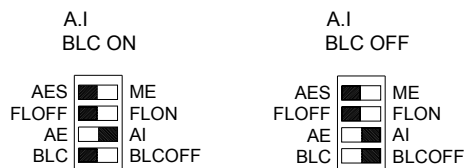
In normal light condition, please set the DIP SW to BLC "off".



4.1.1.2 If you use an auto iris lens, please set the AI mode, in this mode, the shutter speed is fixed to 1/60 sec. during NTSC and 1/50 sec. on PAL

As you take a picture with strong light behind the subject, the subject only a slight darker luminance than the overall screen, please set BLC "on" to perform through exposure compensation operation by apply the appropriate luminance intensity to the dark areas.

In normal light condition, please set the DIP SW to BLC "off".



4.1.1.3 In flicker less mode, the shutter speed is fixed to 1/100 sec for NTSC system and 1/120 sec for PAL system to reduce the flicker of fluorescent lights.

This is better for the Japanese market.

Note: When using manual iris lens in flicker less mode, please select table “a” and “b”. If you are using auto iris lens in flicker less mode, please select table “c” and “d”.

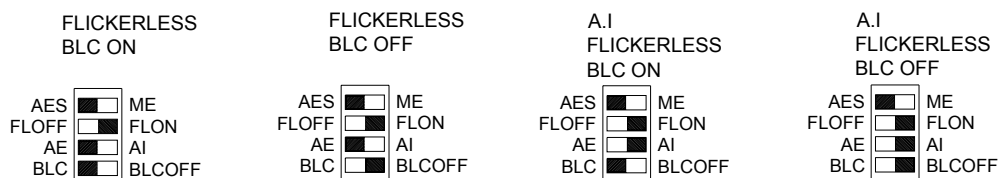


Table “a”

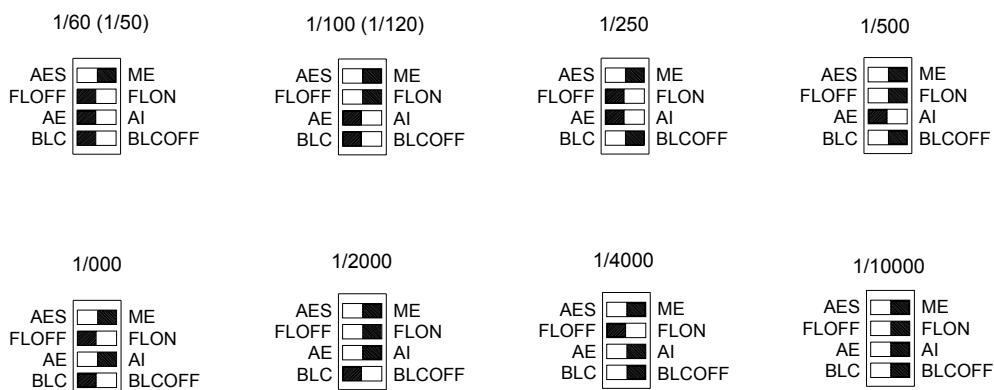
“b”

“c”

“d”

4.1.2 ME setting

Follow the DIP switch to set the shutter speed from 1/60(1/50) sec. to 1/100,000 sec.



4.2 AGC mode

Set the DIP switch to SUPAGC, the gain is up to 34 dB. In normal AGC the gain is at 28dB

AGC SUPAGC

AGC SUPAGC

4.3 ATW mode/AWB mode

4.3.1 ATW mode --Set the DIP SW to ATW position, the color temperature is monitoring continuous and the white balance is set automatically by internal microcontroller, the operating color temperature range is from 2500°k to 18000°k.

4.3.2 AWB mode-- Conventional auto white balance, set the DIP SW to AWB position. In this case, operation is performed at a faster operating speed than ATW mode.

ATW AWB

ATW AWB

4.4 Line-lock mode

Set the vertical phase of the camera video signal to match the phase of AC power source to avoid color rolling.

When using dual power source model, when set the DIP SW to L.L, the camera will automatically detect and adjust to L.L mode for AC power source, and INT for DC power source.

INT L.L

INT L.L

4.5 Low lux with Color mode and B/W mode

Set the DIP SW L. LUX. COLOR or L.LUX B/W to select the picture when under low lux condition, with advanced technology built-in, it is optional to select low lux color mode and low lux B/W mode with this camera.

Suggest setting the DIP SW to SuperAGC when in a low lux B/W mode.

L.LUX L.LUX
COLOR B/W

L.LUX L.LUX
COLOR B/W

5 Infra-Red Illuminator

When under low light environment, the normal color camera cannot obtain a clear picture with IR illuminator, this camera has been specially designed with the capability to accept most IR illuminator to have a clear and contrast B/W picture when in a completely dark area.

The range of Infrared wavelength is from 830nm to 1000nm.

The focus may slightly vary with IR wavelength due to lens diffraction to long-wave, while installing the camera with IR illuminator, please check the focus under IR illumination and normal lighting condition, and find a adequate focusing position.

6 Specifications

Model Number	SDN-6420	SDN-6520	SDN-6420P	SDN-6520P
Power requirements	12VDC / 24VAC		85~265VAC	
Synchronization	Internal / Line-Lock			
Image device	1/3" SONY Super HAD CCD			
Picture elements	PAL: 500 x 582, NTSC: 512 x 492		PAL: 752 x 582, NTSC: 768 x 494	
Scanning system	PAL: 625 lines, NTSC: 525 lines, 2:1 interlace			
Horizontal resolution	420 TV lines	520 TV lines	420 TV lines	520 TV lines
Min. illumination	0.5 lux @F1.2			
Aperture correction	Horizontal & Vertical 2H enhancer			
Signal to noise ratio	Better than 48 dB			
Flicker less	ON/OFF selectable			
Gain control	Max. 36 dB, AGC off			
Auto iris shutter	Auto iris mode: PAL:1/50 sec, NTSC: 1/60 sec.			
Auto electronic shutter	AES: 1/50(60) ~1/100,000 sec.			
Auto exposure	ON/OFF selectable			
White balance	ATW, 2,500°K ~18,000°K			
Gamma correction	0.45			
BL compensation	Auto detect, Histogram & Central window weighted			
Video output	1Vp-p, 75Ω composite, BNC connector			
Auto iris lens	Accept DC /Video servo iris lens			
Color-B/W selectable	YES			
Operating temperature	-10° C ~50° C (14°F ~ 122°F)			
Weight	0.8kg			
Dimensions	60 x 53 x 110mm (W x H x D)			

Warning : To prevent fire or electric shock hazard, do not expose the appliance to rain or moisture.

