

# True Day/Night IR Color camera - 12VDC

## DUAL FILTER MACHANISM FOR VARIFOCAL LENS & FOCUS ENHANCEMENT TECHNOLOGY FOR MONOFOCAL LENS

We have made its long endeavour to develop a perfect Infra-red combined camera for high quality night vision. It utilizes several unique technologies designed by ourselves resulting in the worlds' best performing Day&Night color camera. It is commomly regarded that conventional IR cameras have some inevitable technical limitations of overheating, short-term IR life, defocusing at night view, moisture condensation, limitation of getting clear image with IR beam, IR distance problem by using small number of LEDs etc. The unit now provides highly increased performance with all points improved a lot. Best of all, the camera guarantees a perfect solution of reliable night vision for long time with no worry of damages in IR performance by the time passes after installation. Even under extreme conditions such as fire and terrorist attacks, our IR camera will capture clear image to assist the rescue team to act responsibly and store important evidences for furure review.

### \* EX-Clear view at total darkness ( 0 Lux /F2.0)

With the built-in high sensitive IR LEDs plus High sensitive 1/3" CCD camera, it offers an extraordinary clear view in pitch black darkness. This makes it possible to have covert night-time or underwater surveillance with no need to use an electric lighting.

### \* Live & vivid picture quality with video enhance technology

It is our own unique technology enabling a normal CCD camera to provide an extremely clear vision. With the help of this function cameras also perform a greater resolution and better low lux sensitivity.

### \* Excellent color reproduction close to the human eye performance.

Producing a true natural coloration which is close to the performance of human eye adds its value to maximum. This wonderful achievement is an integrated output from a perfect combination of sophisticated hardware and software technology, including 1/3" CCD sensor ,our own noise-free power circuit and the company's know-how.

### \* Crisp clear picture quality with IR responced automatic movable filter(For Varifocal lens)

Most of CCD cameras have a focus distortion problem with IR illumination .Our camera has the solution to correct this problem with automatic filter movement between day and night.

### \* Complete weatherproof mechanism

The unit is produced and passed for moisture condensation-free on the glass against any harsh weather condition.

### \* A variety of lens mount available ( Varifocal 4-9mm standard)

The unit builds in 4mm-9mm varifocal zoom lens as a standard for a wide coverage of unexpected focal distance and various angle of view at event area. It is very convenient as there is no need to change the camera or the lens at the installation. Users can adjust the exact focal distance to set up the best quality picture on the security position. For experienced installers, fixed focal distance is enough for some cases. The model can be with 2.6mm-6.0mm, 9.0mm-22.0mm and fixed board lens built-in as an option. It is compatible with a variety of different fixed angle lens from wide to narrow by the request. Please refer to the specification.

### \* Extremely reliable Power control

The model is provided with a power safety technology to prevent it from overheating. It is remarkable that the unit used with 36 LEDs for Varifocal Lens and 50 LEDs for Monofocal Lens does not generate heat at all. Generally LED cameras generate too much heat and it hurts the life cycle of LED and CCD sensor. It is regarded as natural having no alternative before. This unit provides a clear solution for a trouble-free and powerful Day & Night LED camera.

## Key Features

Long distance ex-clear view up to 35-50M at total darkness according to the CCD Grade

Automatic IR on/off between day and night

Medium Resolution 400TVL, High Resolution 500TVL

1/3" Color Super/Ex-view HAD CCD sensor (Sony)

No Color Rolling

No focus distortion at night

4-9mm Varifocal Auto DC Iris lens built-in as a standard

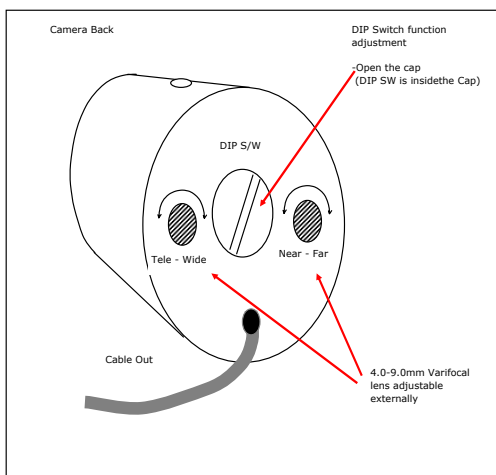
Extremely reliable operating power regulation built-in

True color reproduction at day & and automatic image conversion to BW at night

Automatic Filter movement between Day & Night

External Focus Adjustment as an Option

## External Adjustments(Optional)





UAB TYPE



Swivel TYPE

**OPTION**

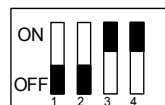
- \* Resolution  400TVL Super HAD
  - 400TVL Ex-view HAD
  - 500TVL Super HAD
  - 500TVL Ex-view HAD
- \* Lens -Varifocal Lens
  - Iris Mode  Manual  DC
  - 2.6-6.0mm  4.0-9.0mm
    - 9.0-22.0mm
    - Monofocal Fixed Iris
      - 2.9mm  3.6mm  4.3mm
      - 6.0mm  8.0mm  12mm
      - 16mm  25mm  35mm
- \* Focus Adjustment  Internal  External
- \* Bracket  UAB  Swivel  Concealed
- \* Sunshield  Yes  No
- \* Cable -Waterproof Connector
  - 2+4Feet  1+2Feet
  - Other
  - w/o Waterproof Connector
    - 1ft  3ft  4ft  18ft
    - 60ft  100ft  170ft
    - Other
    - Ext. cable w/Waterproof conn.
      - 15ft  80ft  170ft
      - Other

## Specification

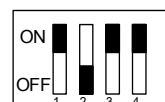
Image sensor	1/3" Color Super/Ex-view HAD CCD(Sony)
Effective Pixels	NTSC:Hi-Res 768(H)X494(V), Med-Res 512(H)X492(V) PAL :Hi-Res 752(H)X582(V), Med-Res 500(H)X582(V)
H.Resolution	Med Res : 400TVL Hi-Res : 500 TV Lines
Synchronizing system	Internal
Scanning system	NTSC 525 Lines PAL 625 Lines 2:1 Interlaced
Video output	1.0Vp-p Composite .75 Ohms
S/N ratio	More than 50 dB (AGC Off)
Min. Illumination	Super HAD : 0.1 Lux/F1.4 w/o IR LED, 0 Lux/F1.4 w/ IR LED Ex-view : 0.01 Lux/F1.4 w/o IR LED, 0 Lux/F1.4 w/ IR LED
BLC	On/Off
White balance	2100°K ~9100°K Auto
Gain Control	Nor/Max
Gamma correction	r=0.45
Smear effect	0.005%
Shutter speed	NTSC : 1/60 ~ 1/100,000 sec PAL : 1/50 ~ 1/100,000 sec
LED spectrum	850nm Visible IR LED x 36EA(Varifocal) & 50EA(Monofocal)
IR Beam distance	Monofocal Super HAD : 2-40M Ex-view : 2-50M Varifocal Super HAD : 2-35M Ex-view : 2-40M
MTBF	20,000 hours
Power source	12VDC
Operation current	500mA w / regulated 12VDC in for Monofocal 430mA w / regulated 12VDC in for Varifocal
Lens Standard	4mm-9mm Varifocal Auto DC iris lens
- VF lens Option	4mm-9mm Varifocal Manual iris lens 2.6 - 6mm Varifocal Auto DC iris lens 2.6 - 6mm Varifocal Manual iris lens 9 - 22mm Varifocal Auto DC iris lens
- Board lens option	2.9mm(120'), 3.6mm(92'), 4.3mm(78'), 6mm(54') 8mm(39'), 12mm(26'), 16mm(19'), 25mm(13.8') 35mm(9.8')
Operating Temperature	14° F~122° F (-10° C~ +50° C)
Humidity	Within 90% RH
Output Terminal	BNC or RCA for Video, DC Jack or bear tinnd wires for Power
Measurement (mm)	70(D)x100(L)-Internal Focus Adjusment w/o Hood 70(D)x120(L)-External Focus Adjusment w/o Hood
Weight(Approx.g)	1,500
Optional Feature 1	Invisible 940nm 2IR LED
Optional Feature 2	External Audio with C-Microphone " - 35dB / mV "

## 4 PIN DIP S/W Adjustments

### Auto DC Iris Lens



### Fixed Iris Lens

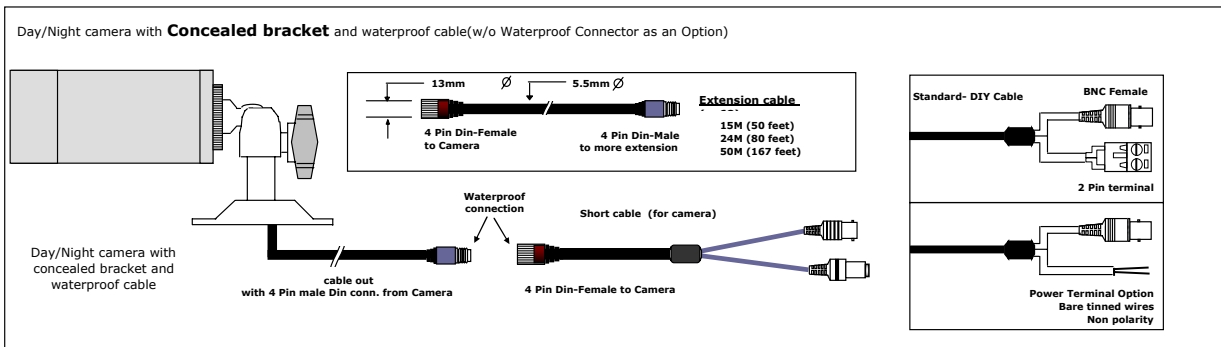
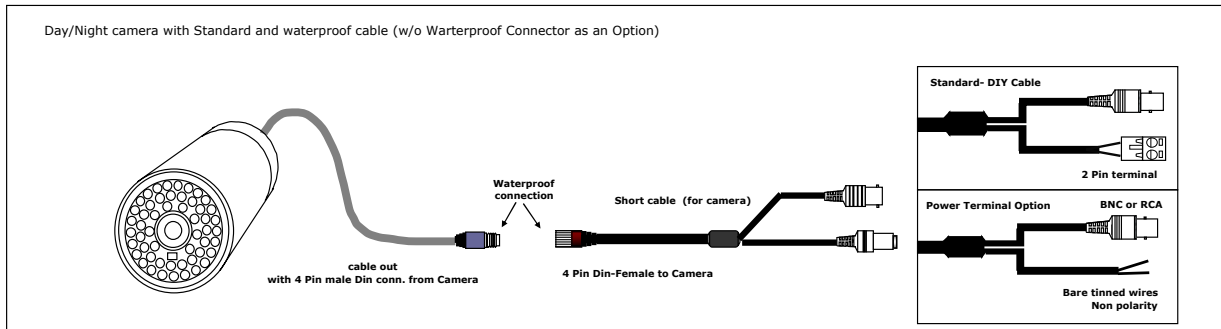
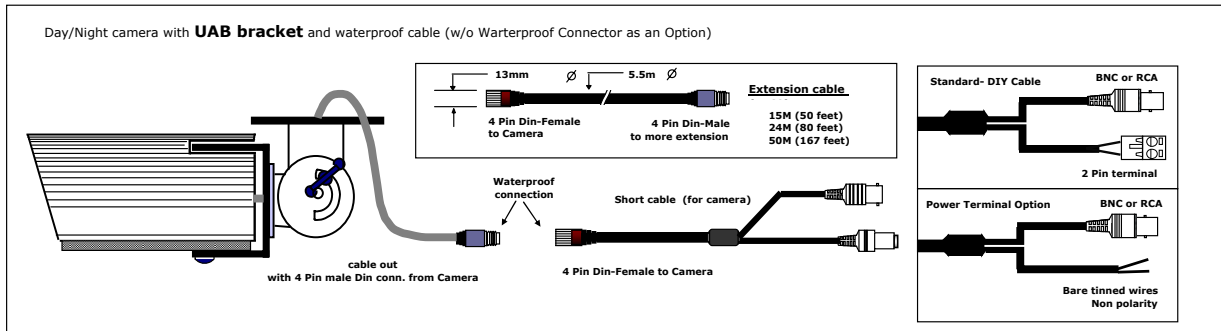


Switch No.	Funtion	OFF	ON
1	Iris control	Auto Iris (ALC)	Electronic Iris (ESC)
2	BLC	BLC OFF	BLC ON
3	AGC	AGC MAX(30dB)	AGC Normal(20dB)
4	FL(Flicker Less)	FL ON	FL OFF

## Applications

Defence systems, Military troops, Police, Airports, Forest surveillances, Subway stations (in order to view objects under fire accident or an area of no illumination), Company warehouses, Highly criminal streets, Residential fences or garages, Public office buildings, Conference room, Jewellery centers, Department stores, Hospitals, Jails, Night clubs, Casinos etc.

## Wiring option ( Waterproof cable configuration )



## Trouble Shooting

**If the unit continues to be fault after the following adjustments please consult you dealer**

**When the IR LED does not work.**

- \* Please check if the power unit is regulated or not. Please use 12VDC regulated power unit only.

**When the picture is not displayed on the monitor**

- \* Please check if the AC-DC power unit is plugged into the AC power outlet firmly.
- \* Please check if there are any misconnection's in the cabling.

**When the picture is blurred**

- \* Please check if the lens is contaminated. Please clean the lens (on both sides) and the front glass surface gently with soft cloth or tissue.
- \* Please check if the lens is focused properly.
- \* Please check if the Dip switch is set properly.
- \* Please check if the monitor is set to brightly. Adjust the brightness or contrast level on the monitor correctly.

**When the color displayed on the monitor is not correct**

- \* Please check if the monitor's color adjustment is set correctly.
- \* Please check if the camera is changed to BW mode under 5 lux.

**When the picture is too dark**

- \* Please check if the monitor's contrast is set too dark.
  - \* Please check if the camera is positioned toward a door or window.
- If so, please change the BLC switch among the Dip switch configuration to on mode

**When the picture is too bright**

- \* Please check if the monitor's brightness control is too high.
- \* Please check if the camera is set to BLC on under normal lighting conditions. (i.e. when the camera is not pointed toward a brightly lit area). Please move the BLC select switch to the BLC off position.

**When there is noise on the picture in dark illumination conditions**

- \* The camera picture becomes noisy under AGC Max mode in order to increase the video gain in poor lighting conditions. Please move the AGC switch to off position if it is not required.

**When the picture is not clear on the monitor**

- \* Please check if the monitor is set to correctly.
- \* Please check if the camera is pointer towards an area where too much light comes in. Adjust the direction of the camera in this case.

**When the picture is flickering**

- \* Please check if the camera is pointed at the fluorescent lighting or bright sunlight. Use a visor or adjust the direction of the camera in this case.
- \* Please check if the Iris mode is set to correctly.

**When the picture is distorted**

- \* Please check if the lens is defective.
- \* Please check if the camera is PAL/CCIR(50Hz) in an NTSC/EIA(60Hz) area or vice versa.

MADE IN KOREA