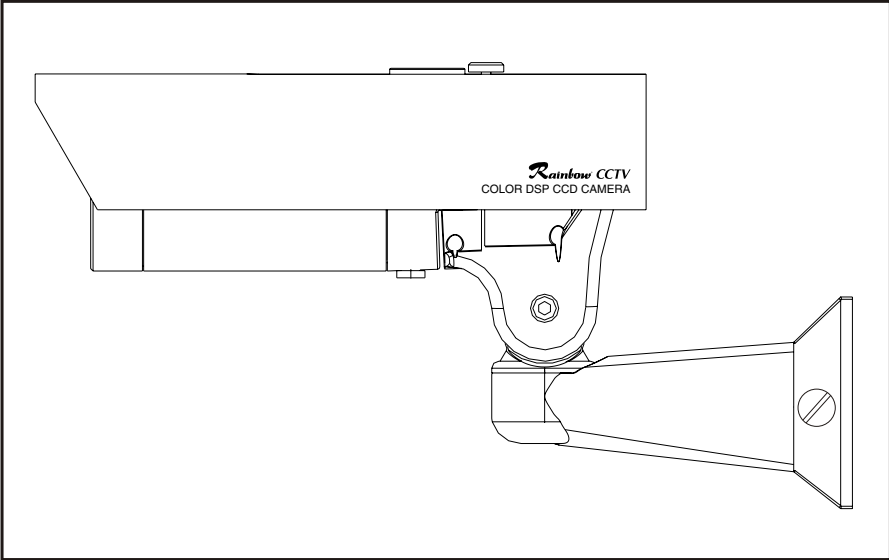




USER'S MANUAL

**OCL SERIES
OUTDOOR COLOR CAMERA**



***Rainbow*® CCTV**

	CAUTION	
Risk of Electric Shock Do Not Open		
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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■ PRECAUTIONS

Safety

The camera should be operated only from the type of power source indicated on the marking label.

Do not disassemble the camera.

Do not allow anything to get inside of the camera.

Do not drop the camera.

Installation

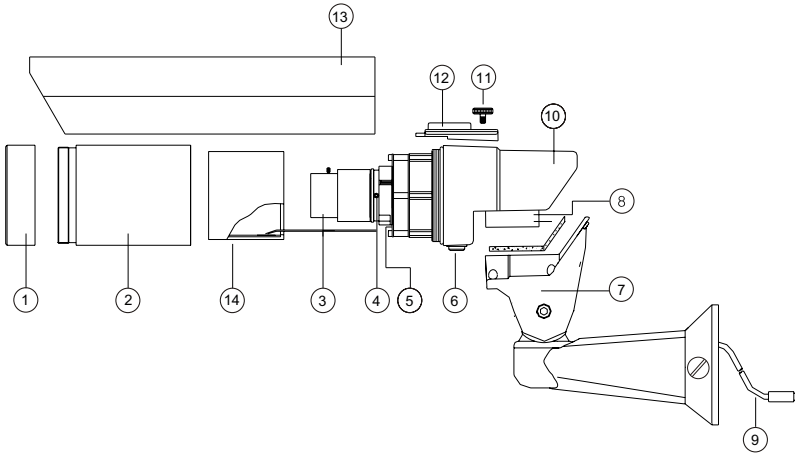
Camera should be operated within operating temperature range and less than 90% of humidity.

Avoid installing the camera in harsh environments that include lots of dust, vibration, or strong magnetic and radio frequencies.

■ FEATURES

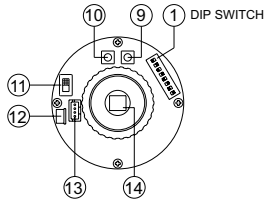
- Concealed bracket design. Power and video cables are concealed inside the mounting bracket.
- 1/3" Format Sony Super HAD CCD
- DSP (Digital Signal Processing) to provide a clear, high-resolution image in all types of lighting situations
- Horizontal Resolution of 480 TV Lines
- Auto & Manual White Balance
- AGC (Automatic Gain Control) On/Off
- BLC (Backlight Compensation) On/Off
- Dual power (12VDC or 24VAC)
- Weatherproof housing
- DC-type auto-iris lens
- The built-in fan protects the camera from hot environments.
- The optional built-in heater protects the camera from cold environments. (Heater operates in 24VAC mode only)

■ PART NAMES

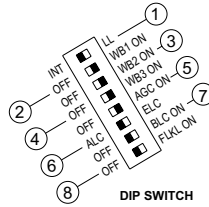


1. **GLASS HOLDER** : Retaining ring for front glass.
(To keep the unit weather proof, do not unscrew this section)
2. **HOUSING** : Unscrew this section to gain access to adjust the lens and dip switches.
3. **LENS** : Vari-Focal Lens provide manual zoom and focus adjustments to set the field of view for the application.
4. **LENS MOUNT LOCK** : Lock screw used to secure the lens mount.
5. **FUNCTION CONTROL BOARD** : Board to adjust the various settings of the camera.
6. **AIR VENT** : Provides airflow to the internal fan.
(Keep this vent pointed down to prevent water from entering the housing)
7. **BRACKET ASSEMBLY** : Rear cover and pan/tilt bracket where cables are concealed and passed through.
8. **FAN** : If the internal temperature of the camera rises, the fan will operate automatically to prevent over heating of the camera components.
9. **CABLE SET** : Cables for power and video
10. **BODY** : Main section of the camera that contains the electronics.
11. **SUNSHIELD LOCK SCREW** : Secures the sunshield in the desired position.
12. **MOUNT** : These holes allow the camera to be top or bottom mounted.
13. **SUNSHIELD** : Protects the camera from excess heat and glare.
14. **OPTIONAL HEATER** : Protects the camera from cold environments.

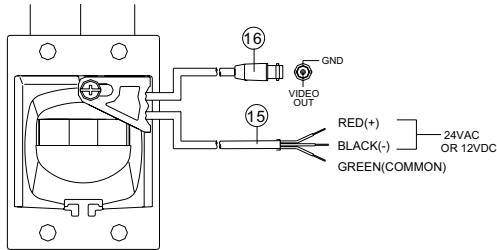
■ CONTROLS



FUNCTION CONTROL BOARD



DIP SWITCH



MOUNTING PLATE

1. INT/LL

Internal/Line Lock selection.

Internal : only DC12V

Linelock : only AC24V ~

2~4. WHITE BALANCE SWITCHES(ATW=Auto White Balance /MWB =Manual)

WB1	WB2	WB3	FUNCTION
ON	ON	ON	ATW Mode
ON	OFF	ON	Push Mode
ON	OFF	OFF	Hold/MWB Lock
ON	ON	OFF	MWB Mode

WB1	WB2	WB3	FUNCTION
OFF	ON	ON	Approx 3200°K
OFF	ON	OFF	Approx 4200°K
OFF	OFF	ON	Approx 4700°K
OFF	OFF	OFF	Approx 6300°K

ATW Mode

Default setting. Camera will adjust white balance automatically.

Push Mode

Places camera in auto white balance mode without the usual range limits to help with certain lighting conditions(Example: a scene with strong red lighting). May affect overall color balance due to the usual limit being ignored.

Hold/MWB Lock

Will keep the chosen settings after adjusting the camera using the MWB Mode(below)

MWB Mode

Use the phase up/down buttons to cycle the camera through various color balance settings.

Set DIP switches to the <Hold/MWB Lock> position to maintain this settings.
 Note :The camera white balance can also be set manually as shown in the chart on the previous page.

5. AGC ON/OFF

Automatic Gain Control on/off

6. ALC/ELC

Auto-iris lens / Electronic shutter

7. BLC ON/OFF

Backlight Compensation switch

8. FLKL ON/OFF

Flickerless mode on/off

9. SELECTION BUTTON

Phase Up for LL mode/Blue control for MWB mode

10. SELECTION BUTTON

Phase Down for LL mode/Red control for MWB mode

11. VIDEO/DC LENS

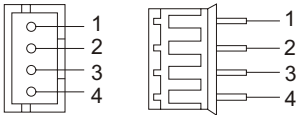
Select Auto-iris mode. DC is the default.



12. DC LEVEL

DC Lens level control at auto iris mode.

13. LENS CONNECTOR



PIN	DC	VIDEO
1	Cont. +	N.C
2	Drive +	VIDEO
3	Cont. -	B+
4	Drive -	GND

14. CCD

1/3" Sony CCD

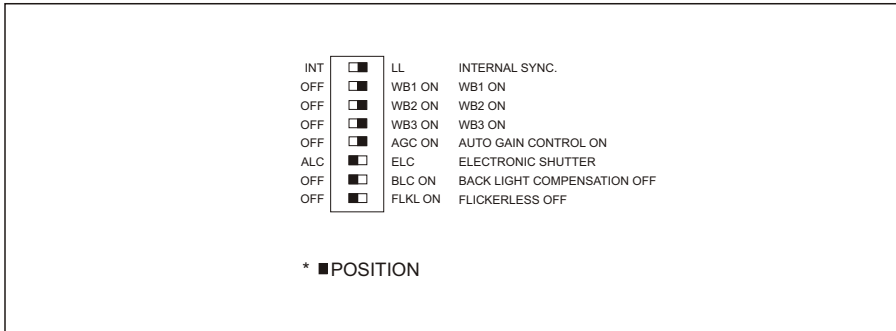
15. POWER CABLE

12VDC / 24VAC input

16. VIDEO CABLE

Video output

■ CONTROLS



Internal and Line Lock Sync

Internal Mode is normally used when connecting to a monitor,quad processor ,multiplexer,DVR etc. Line lock mode is used to synchronize a group of cameras to the AC power source to prevent the picture from rolling on basic switcher units.

FLKL (Flickerless)

If AC power frequency changes, the flicker of fluorescent light can be visible on the monitor. Enable this mode to prevent this.

AGC (Auto Gain Control)

This will increase the sensitivity of the camera by amplifying the video signal in low light conditions to provide better low light pictures.

BLC (Back Light Compensation)

Increases the brightness of dark objects against a bright background to help identify its features.

MWB (Manual White Balance)

This mode allows manual control of the colors. Turn WB1 and WB2 On, Turn WB3 Off. Use the phase up/down selection buttons(see page 4) to adjust the color. After adjusting turn WB1 off.

Iris Lens Control

Video lens is controlled with "VR" in lens and DC lens is controlled with "DC LEVEL VR" at the function control board.

■ INSTALLATION

1. Initial check

Check all the control setting inside the camera before installing it to ensure a smooth, trouble-free installation.

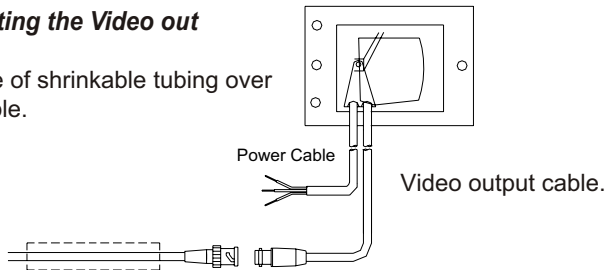
2. Mounting the bracket

Connect the camera to the mounting bracket.

3. Connecting the Cable

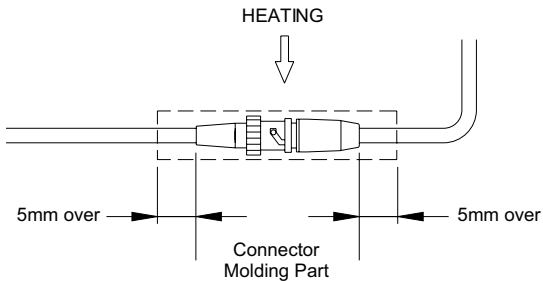
3-1 Connecting the Video out

Place a piece of shrinkable tubing over the video cable.

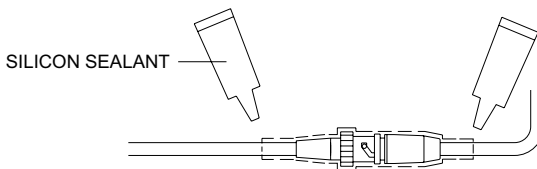


Video cable to monitor, DVR, etc.

Slide the shrinkable tubing over both connectors and apply heat.



Apply a silicon sealant to both ends of the shrinkable tubing.



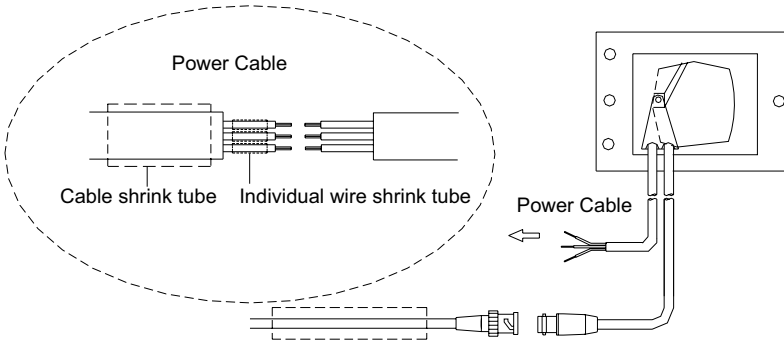
INSTALLATION

3 - 2. Connecting the Power

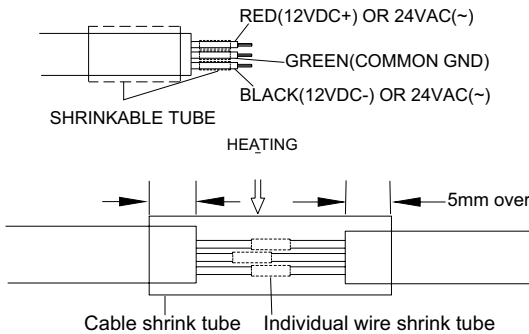
Connect the appropriate cable to the power cable of the camera.

Use shrinkable tubing over the individual wires and the entire cable.

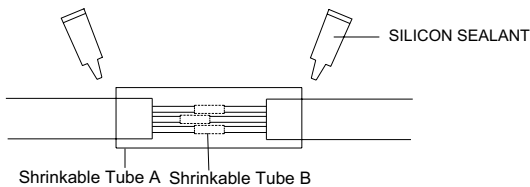
ϕ
 ϕ 3mm.



Connect the wires to power as shown below. Observe polarity when using 12VDC.



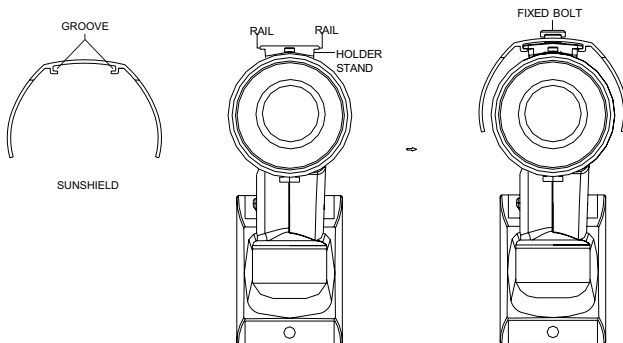
After heating the shrink tube on the individual wires, slide the larger shrink tube over both cables and heat. Apply silicon sealant on the ends of the tube.



■ INSTALLATION

4. Sunshield Installation

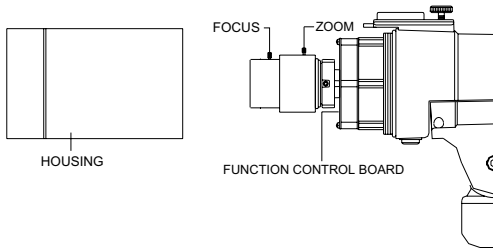
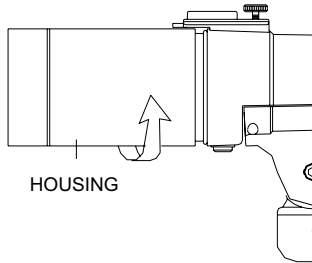
Install the sunshield by aligning the groove of the sunshield to the rail on the housing. Use the locking screw to secure it.



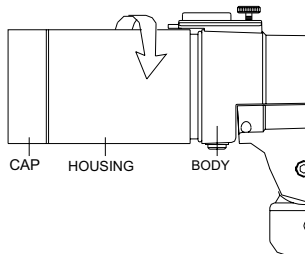
5. Zoom & Focus Adjustment

5-1. No Heater type

Open the front of the housing to expose the lens. If the unit was equipped with a heater, slide the heater off the lens and unplug it from the camera. Power on the camera and while looking at the monitor, adjust the zoom and focus for the desired field of view.

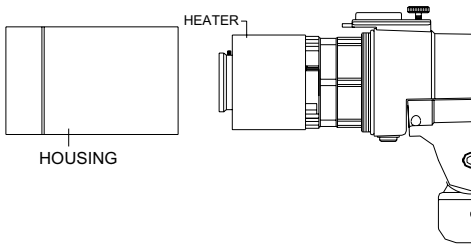
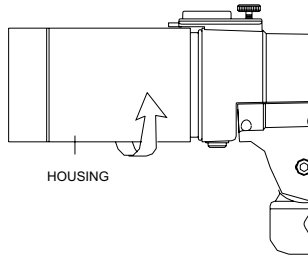


Place the front of the housing back on and tighten it completely to prevent water from entering into the unit. Make sure the rubber O-ring is in place.

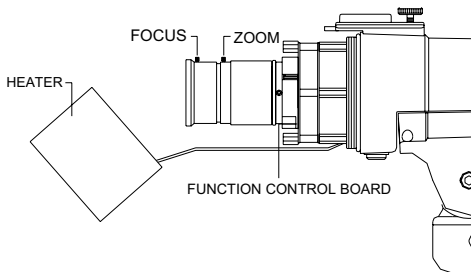


5-2. Heater type

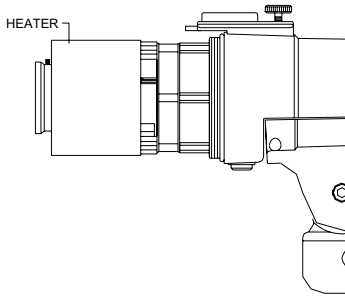
Unscrew the front housing by turning counterclockwise.



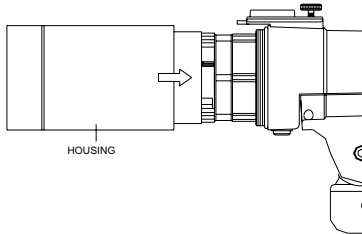
Slide the heater off the lens area, adjust the lens as shown on the previous page.



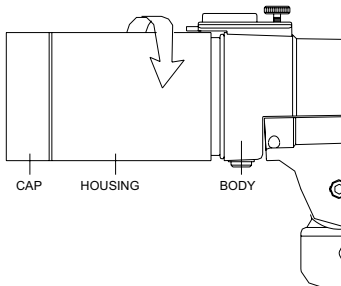
After adjusting the lens, place the heater back to its original position.



Slide the front of the housing back on.



Place the front of the housing back on and tighten it completely to prevent water from entering into the unit. Make sure the rubber O-ring is in place.



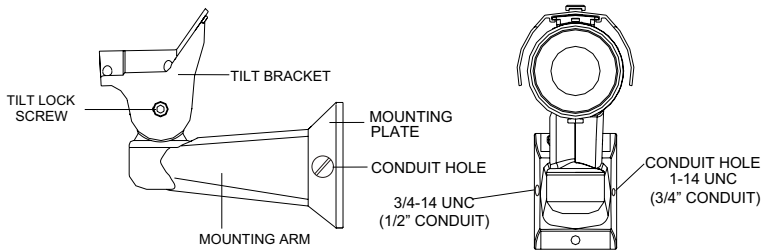
■ INSTALLATION

6. Flexible Camera Angle Settings

The bracket assembly allows the camera to tilt $+25^{\circ} \sim -45^{\circ}$ and to pan L/R ± 100

6-1. TILT ADJUSTMENT

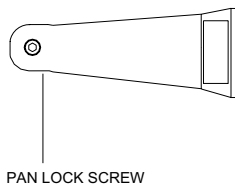
Loosen the tilt lock screw and adjust the tilt angle for the camera.



After adjusting the tilt angle, tighten the tilt lock screw.

6-2. PAN ADJUSTMENT

Loosen the pan lock screw and adjust the camera to the desired position.



■ TROUBLESHOOTING

If there is no picture on the monitor screen,

- make sure all the cables are properly connected.
- make sure the monitor is properly adjusted.

If the picture on the monitor screen is not clear,

- clean the lens.
- adjust the lens focus.

If there is a video noise or other unknown problems,

- stop using the camera and call your local dealer.

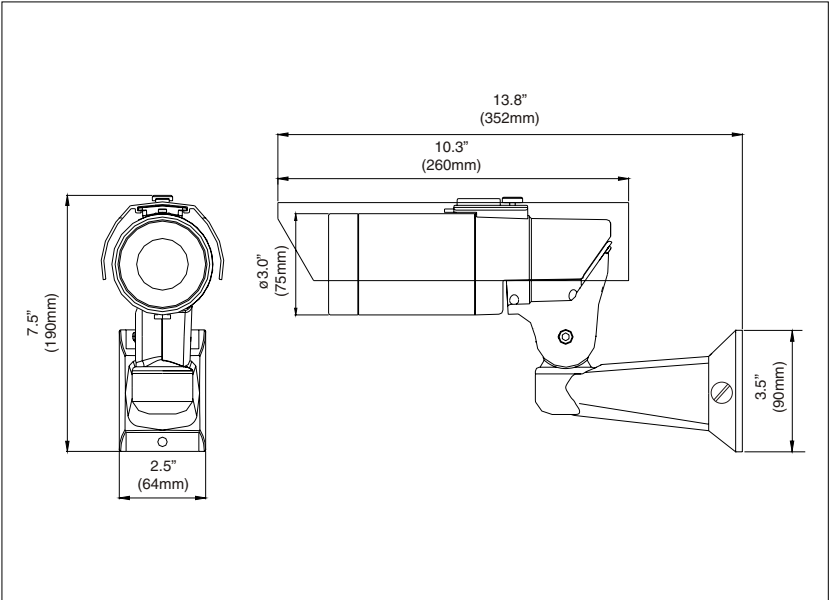
DO NOT DISASSEMBLE THE CAMERA.

IF ANY DEFECTIVE CAMERA HAS BEEN OPENED BEFORE IT ARRIVES TO AN AUTHORIZED REPAIR CENTER, THE CAMERA MAY NOT BE REPAIRED UNDER WARRANTY.

■ SPECIFICATIONS

MODEL		OCL48VD3	OCL48VD5
Lens		3.5~8mm	5~50mm
Image Sensor		1/3" Sony Super HAD CCD	
Effective Pixels		NTSC - 768 (H) X 494 (V) PAL - 752 (H) X 582 (V)	
Horizontal Resolution		480 TV Lines	
Scanning Frequency	NTSC	15.734KHz(H)x59.94Hz(V)	
	PAL	15.625KHz(H)x50Hz(V)	
Scanning System		2 : 1 Interlace	
Sync.System		Internal / AC Line Lock +90° V-Phase Adjustment	
Minimum Illumination(@F1.4)		0.7 Lux	
S/N Ratio(AGC Off)		More Than 48dB	
Video Output		VBS 1.0V p-p, 75 Ohm	
Control Functions by Dip Switch	White Balance	AWB/MWB(3 Steps Control)	
	AGC	ON/OFF Selectable	
	BLC	ON/OFF Selectable	
	Iris Control	ELC/ALC Selectable	
	Flickerless	ON/OFF Selectable	
Case Material		Metal	
Power Source		AC24V, 300mA / DC 12V 400mA Dual Power Auto Sensing	
Power Consumption		Max. 7.2W(17.2W with Heater, AC24V Only)	
Operating Temperature	Without heater	+14° to 122° F (-10° C to +50° C)	
	With heater	-40° to 122° F (-40° C to +50° C)	
Operating Humidity		30% to 90% Non Condensing	
Dimensions		See next page	
Weight		Approx. 4.8 lbs. (2.18Kg)	

■ DIMENSIONS



Rainbow CCTV

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