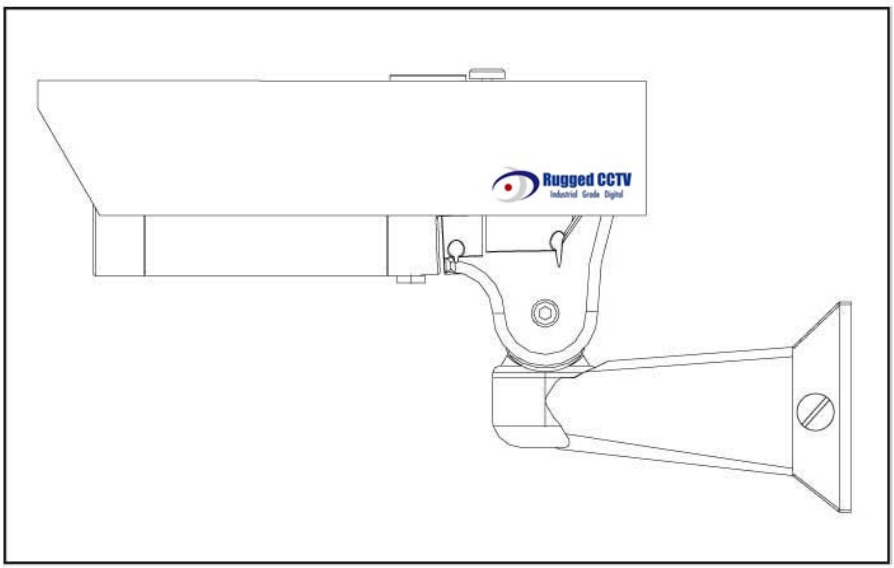
USER'S MANUAL

OUTDOOR DSP COLOR CAMERA

RB385/RB385H/RB550/RB550H



Rugged CCTV
Industrial Grade Digital

Rugged CCTV
5327 Cedar Creek, Kemp, Texas 75143, USA
Tel: 866-301-CCTV, Fax: 903-498-8989

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.

■ TABLE OF CONTENTS

■ 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.

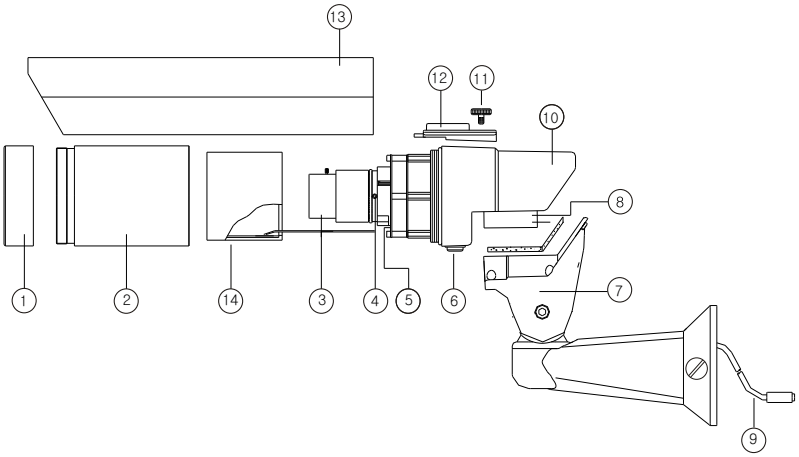
Installation

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

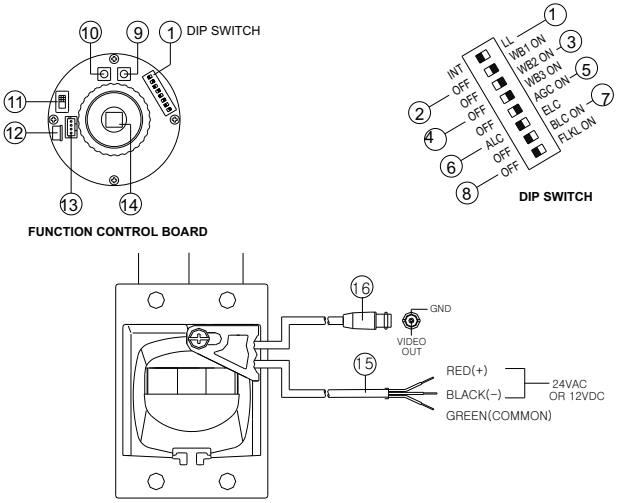
- Cable managed bracket with stylish designed bracket assembly, with cables concealed inside the bracket.
- 1/3" Format Sony Super HAD CCD
- DSP(Digital Signal Processing)to provide a clear, high-resolution image in all types of lighting situations
- Horizontal Resolution of 480 TV Lines
- Auto & Manual White Balance
- AGC On/Off / BLC On/Off / ELC/ALC Selectable
- Dual power (DC 12V or AC 24V)
- IP RATE 66 Weatherproof Housing
- DC-type auto-iris lens
- The optional built-in heater protects the camera from cold environments (heater operates at 24VAC power 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 (DC12V ⎓ / AC24V~) : Dual Power Type



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 above on right.

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

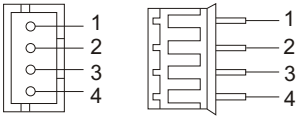
9. SELECTION BUTTON
Phase Up for LL mode/Blue control for MWB mode

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



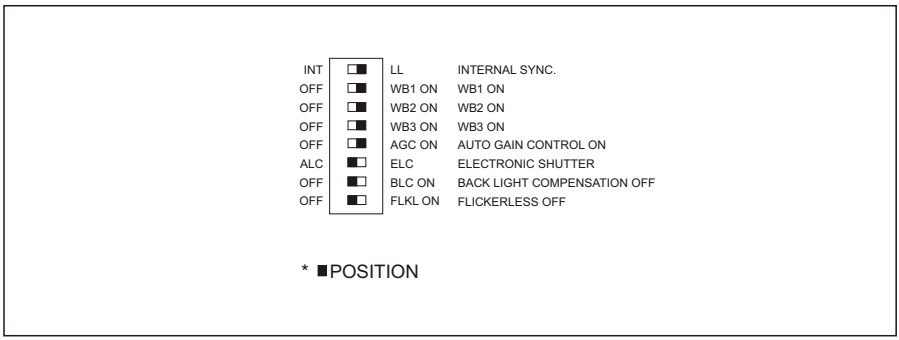
PIN	DC	VIDEO
1	Cont. +	N.C
2	Drive +	VIDEO
3	Cont. -	B+
4	Drive -	GND

14. CCD
1/3" imager

15. POWER CORD
12VDC/24VAC input

16. VIDEO CABLE SET
Video output source and GND

■ 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

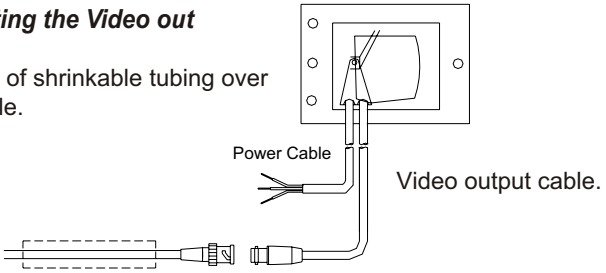
1. Initial check
Check all the control setting inside the camera before installing it to ensure a smooth, trouble-free installation.

2. Mounting the bracket
Connect the camera to the mounting bracket.

3. Connecting the Cable

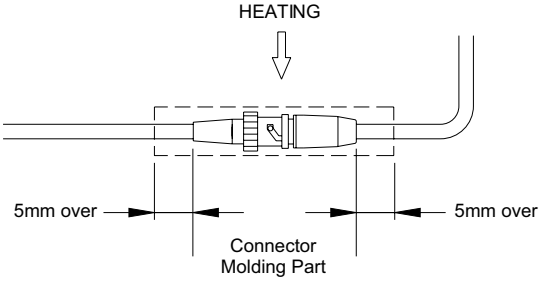
3-1 Connecting the Video out

Place a piece of shrinkable tubing over the video cable.

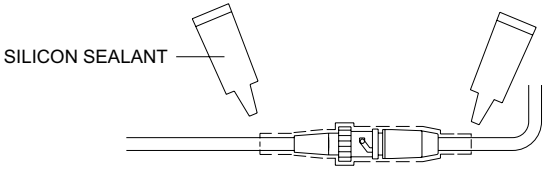


Video cable to monitor, DVR, etc.

Slide the shrinkable tubing over both connectors and apply heat.



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

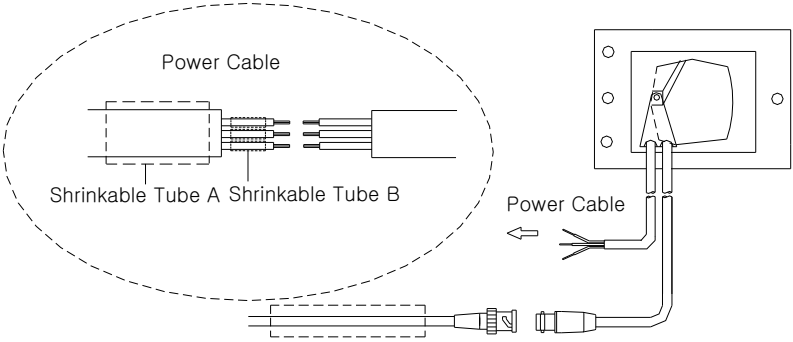


■ INSTALLATION

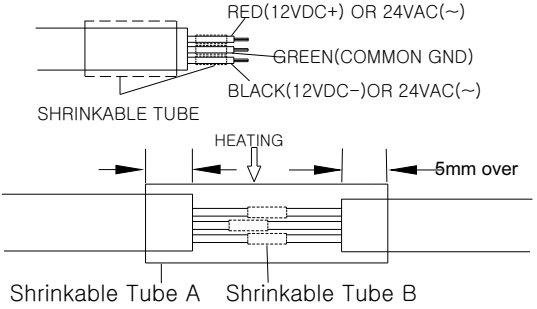
3 - 2. Connecting the Power

Connect the appropriate cable to the power cable of the camera.
Referring to the specified label of the camera.
(Be sure to match the correct polarity in case of 12V DC)

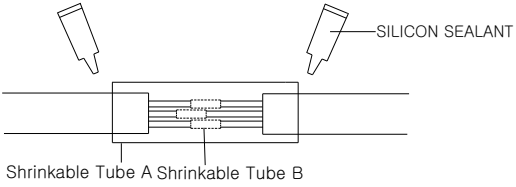
Insert the cable into the shrinkable
tube A which shall be around ϕ 10mm
and tube B which shall be around ϕ 3mm.



Heat the shrinkable tube B after connecting each wire. Be sure to match the correct polarity in case of 12V DC.



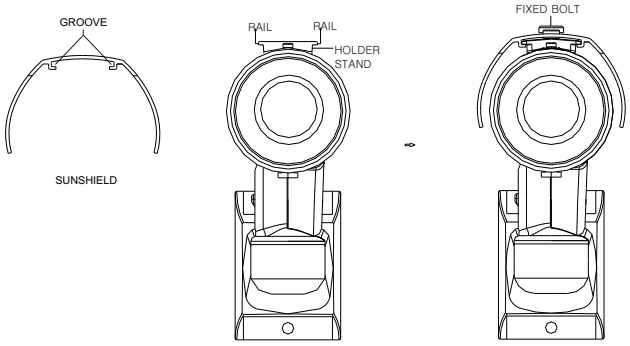
After heating the three shrinkable tube B, as shown on the above, put the shrinkable tube A as the drawing above. The tube should cover the edge of the connection parts at least over 5mm and shrink it finally with heat. Apply a silicon sealant to each ends of the shrinkable tube and shrink it finally with heat.



■ INSTALLATION

4. Sunshield Installation

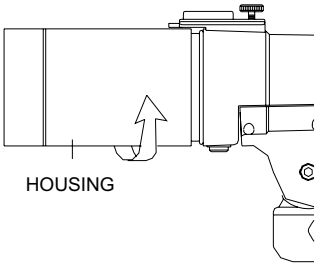
Locate it in a proper place, after inserting the sliding groove part of the sunvisor into the rail of holder stand, and then tighten the fixed bolt to fix it.

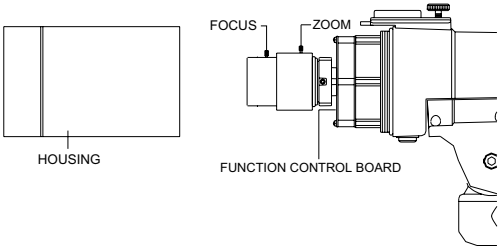


5. Zoom & Focus Adjustment

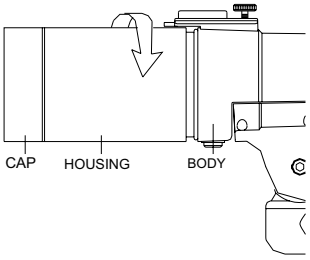
5-1. No Heater type

Unscrew the front of the housing to expose the lens.
Power on the camera and while looking at the monitor, adjust the zoom and focus for the desired field of view.



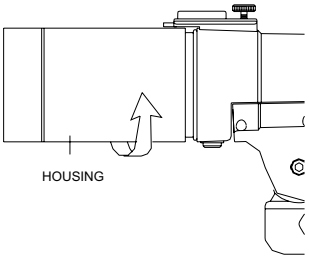


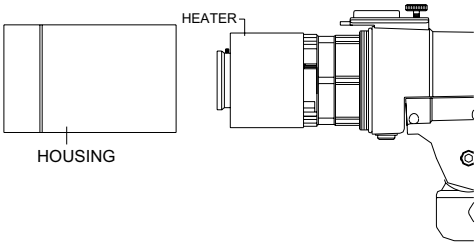
Place the front of the housing back on and tighten it completely to prevent water from entering into the unit. Make sure the rubber O-ring is in place.



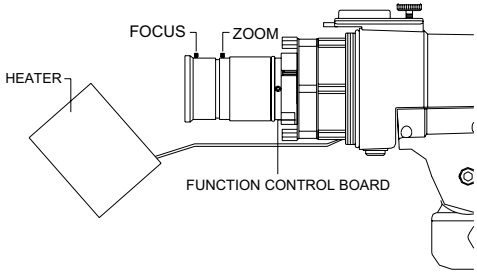
5-2. *Heater type*

Unscrew the front housing by turning counterclockwise.

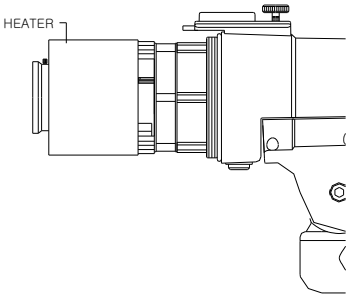




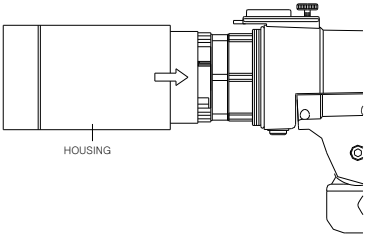
Slide the heater off the lens area, adjust the lens as shown on the previous page.



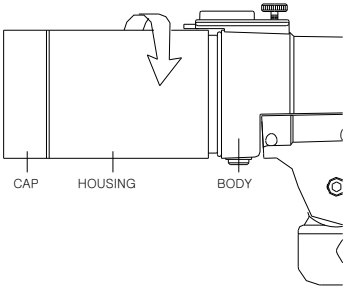
Put the Heater back on, in its original position, after adjustment.



Slide the housing back on as shown below.



Screw the Housing clockwise to close after setting.
(Be sure that the cover should be tightened completely in order to prevent the penetration of water or humidity.) Make sure the O-ring is in place.



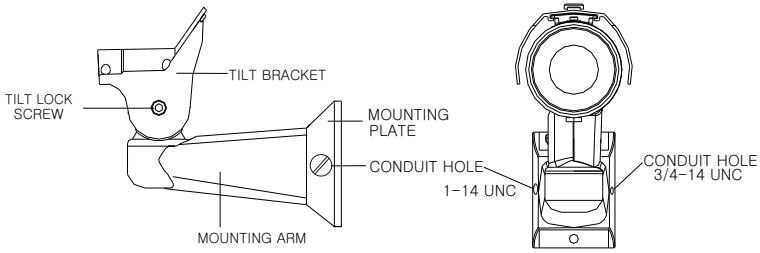
■ INSTALLATION

6. Flexible Camera Angle Settings

The bracket assembly allows to tilt +25˚~ - 45˚ and to pan L/R ±100˚, making it possible to freely adjust the camera angle.

6-1. TILT ADJUSTMENT

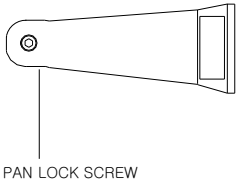
Loosen the tilt lock screw in a counterclockwise direction and adjust the tilt angle for the camera.



After adjusting the tilt angle, tighten the tilt lock screw in a clockwise direction using the provided driver.

6-2. PAN ADJUSTMENT

By using the pan lock screw in the same manner as the tilt adjustment the appropriate viewing angle can be achieved.



■ 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 AUTHORIZED RMA OFFICE, THE DEFECTIVE CAMERA MAY NOT BE REPAIRED UNDER ITS WARRANTY SERVICE.

SPECIFICATIONS (Note: Design & specifications are subject to change without prior notice.)

Model No.	RB358	RB358H	RB550	RB550H
Image Pick-up Device	SONY 1/3“ Super HAD CCD sensor			
Effective Picture Elements	NTSC: 768(H)x494(V)			
Horizontal Resolution	480 TV lines			
Scanning Frequency	15.734KHz(H)x59.94Hz(V)			
Scanning System	2 : 1 Interface			
Minimum Illumination	0.5 LUX			
Electronic Shutter Speed	1/60 - 1/100,000 Sec			
S/N Ratio	More than 48dB			
Auto Iris Control	DC Drive Iris Control			
Gamma Characteristic	0.45			
Lens Furnished	3.5 – 8mm varifocal F1.4		5 – 50mm varifocal F1.6	
Angle Field of View	70^{O}~33^{O} Horizontal		54^{O}~5.6^{O} Horizontal	
Heater	No	Yes	No	Yes
Auto Gain Control	High / Low switchable			
White Balance	AWB/MWB (3 Steps Control)			
Back Light Compensation	ON/OFF switchable			
Iris Control	ELC/ALC Selectable			
Synchronous System	Internal, Negative sync.			
Video Output	1 Vp-p / 75 Ohms.			
Power Requirement	12Vdc/24VAC (auto sensing) +/- 20%			
Power Consumption	12Vdc: 5W (400mA)/ 24VAC: 17W (700mA) heater operates at 24VAC only			
Operating Temp. (heater)	-40^{O}F – 122^{O}F (-40^{O}C – 50^{O}C)			
Operating Temp. (no heater)	-14^{O}F – 122^{O}F (-10^{O}C – 50^{O}C)			
Operating Humidity	30% to 90% Non Condensing			
Weight	4.8lbs (2.8kg)			
Dimensions	75(W)x190(H)x352(D) w/sunvisor			

■ DIMENSIONS