HIGH PERFORMANCE
WDR FLAT DOME CAMERA

OPERATION MANUAL

VANDAL DOME

PLASTIC DOME

Thank you for choosing our high quality camera.
Before attempting to connect operate this unit, please read and follow these instructions.

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CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Use Class 2 Power Supply Only

1. CAUTIONS

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions;

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."

WARNING

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Caution

Any changes or modifications in construction of this devices which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

⚠ CAUTION

1. A regulated DC12V 300mA power supply is recommended for use with this camera for the best picture and the most stable operation.
   An unregulated power supply can cause damage to the camera. When unregulated power supply is applied, product warranty will be out of subject.
2. It is recommended that the camera is used with a monitor that has a CCTV quality 75 video impedance level. If your monitor is switched to high impedance then please adjust accordingly.
3. Do not attempt to disassemble the camera to gain access to the internal components. Refer servicing to your dealer.
4. Never face the camera towards the sun or any bright or reflective light, which may cause smear on the picture and possible damage to the CCD.
5. **Do not remove the serial sticker for the warranty service.**
6. Do not expose the camera to rain or other types of liquid.
7. The apparatus must be connected to a mains socket-outlet with a protective earthing connection.

1. CAUTIONS

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicate that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.
This product should not be mixed with other commercial wastes purchased this product, or their local government office, for details of where and how they can take item for environmentally safe recycling.
Business users should contact their supplier and check the terms and conditions of the purchase contract.
Household users should contact either the retailer where they for disposal.

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 un-insulated “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

2. IMPORTANT SAFETY INSTRUCTION

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

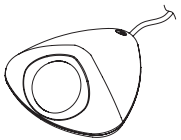
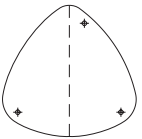
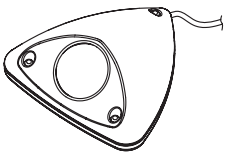
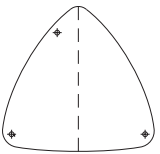
11) Only use attachments/accessories specified by the manufacturer.

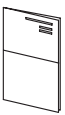
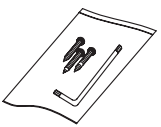
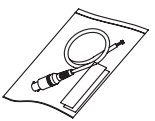
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

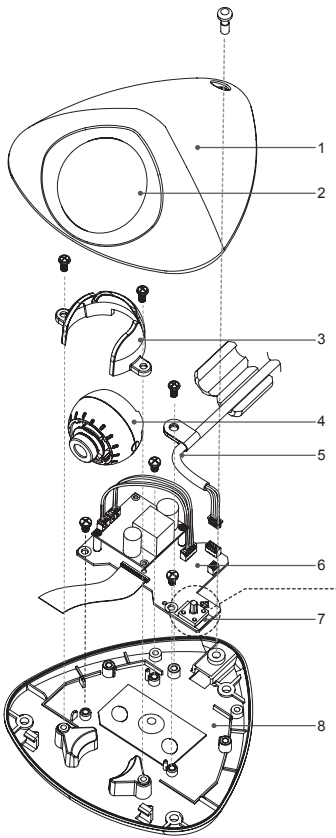
3. EQUIPMENT AND ACCESSORIES

Plastic Dome Type	Mount Guide (Plastic Dome Type)
	
Vandal Dome Type	**Mount Guide (Vandal Dome Type)**
	

Manual	
	
Screws(3ea) / L-Wrench	**Service Video Output Test Cable / Fixed Tape**
	

4. CAMERA COMPONENT DESCRIPTIONS

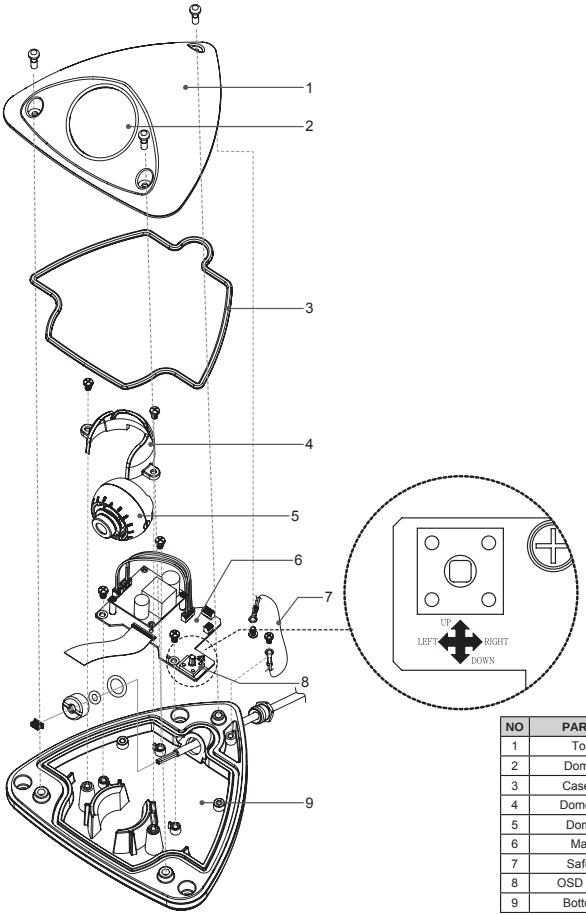
• Plastic Dome Type



NO	PART NAME
1	Top Case
2	Dome Cover
3	Dome Bracket
4	Dome Ass'y
5	Cable
6	Main PCB
7	OSD Controller
8	Bottom Case

4. CAMERA COMPONENT DESCRIPTIONS

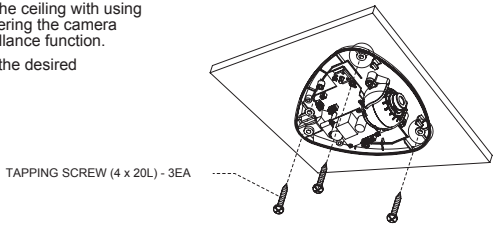
• Vandal Dome Type



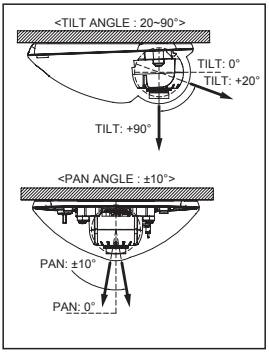
NO	PART NAME
1	Top Case
2	Dome Cover
3	Case Rubber
4	Dome Bracket
5	Dome Ass'y
6	Main PCB
7	Safety Wire
8	OSD Controller
9	Bottom Case

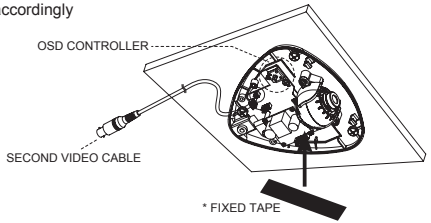
5. INSTALLATION(Plastic Dome)

1. Attach the FLAT DOME on the ceiling with using the screws provided, considering the camera angle required for the surveillance function.
2. Adjust the LENS ANGLE to the desired location by hand.

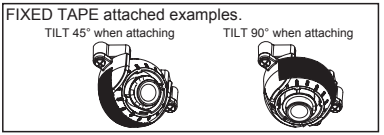


3. Connect the VIDEO OUT CABLE and check the video image. Change the SETTINGS accordingly using the OSD controller.

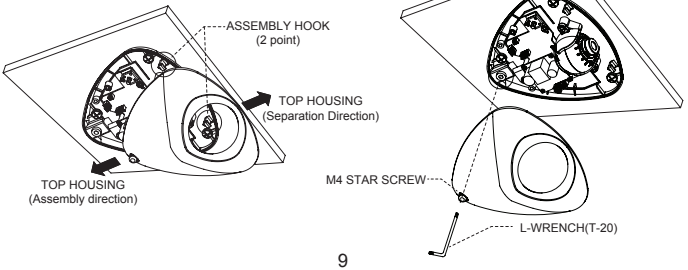




*** FIXED TAPE:** It attached when you install the product in areas where vibration occurs.

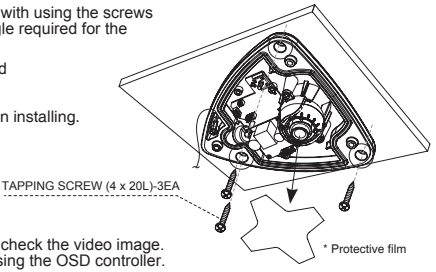


4. After the LENS SETTING is completed, install the TOP COVER.

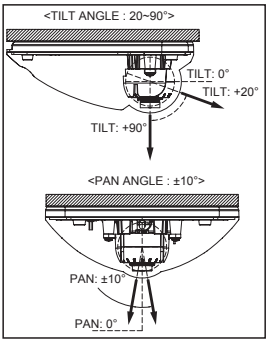


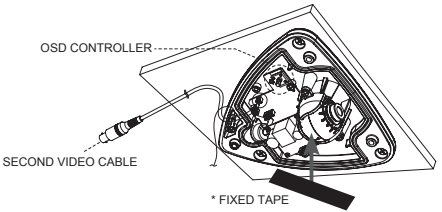
5. INSTALLATION(Vandal Dome)

1. Attach the FLAT DOME on the ceiling with using the screws provided, considering the camera angle required for the surveillance function.
2. Adjust the LENS ANGLE to the desired ocation by hand.
3. Please remove the protective film when installing.

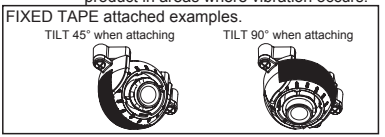


4. Connect the VIDEO OUT CABLE and check the video image. Change the SETTINGS accordingly using the OSD controller.

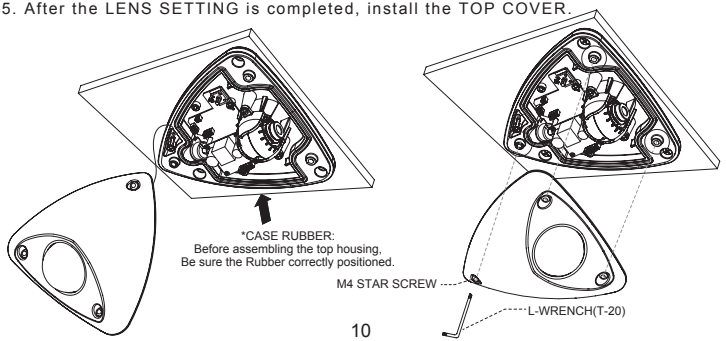




*** FIXED TAPE:** It attached when you install the product in areas where vibration occurs.



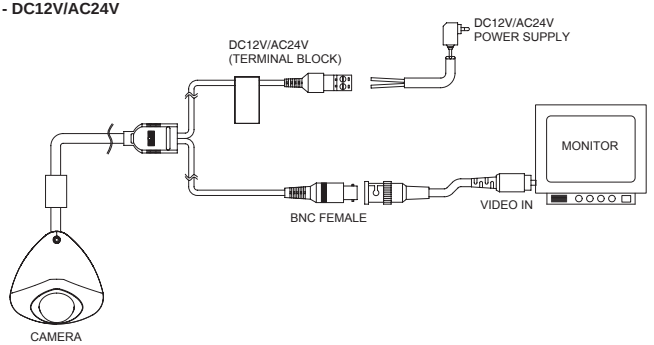
5. After the LENS SETTING is completed, install the TOP COVER.



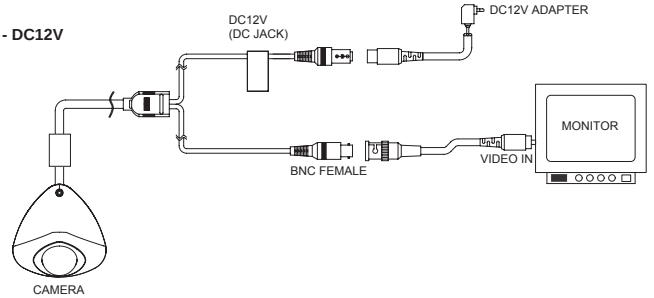
5. INSTALLATION

• MONITOR CONNECTION

- DC12V/AC24V



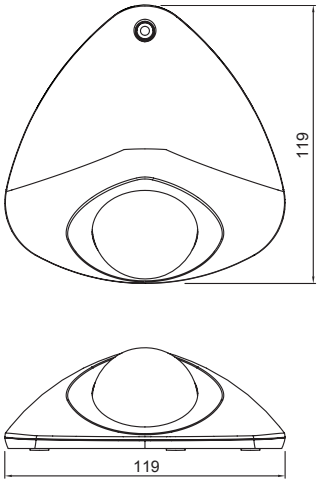
- DC12V



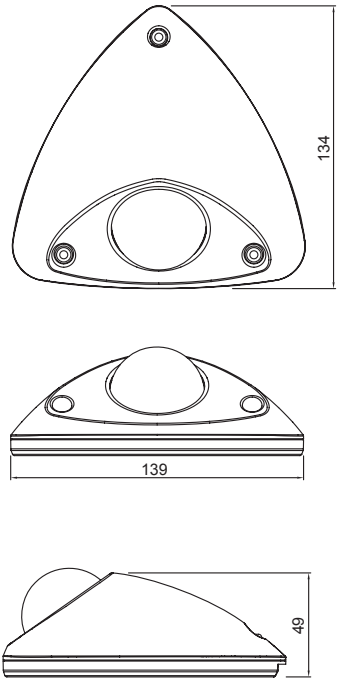
When you install the camera, please glue up the end of cable to keep it stable in order to protect the camera from the humidity problems.

6. DIMENSIONS

• Plastic Dome Type



• Vandal Dome Type



Unit(mm)

7. SPECIFICATION

		NTSC	PAL
Image Sensor		1/3" 960H SONY Double Scan Super HAD CCD II	
Scanning System		2 : 1 Interlace	
H Resolution.		750TV Lines	
Scanning Frequency		15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Total Pixels No.		1028(H) X 508(V)	1028(H) X 596(V)
Effective Pixels No.		976(H) X 494(V)	976(H) X 582(V)
S/N Ratio		More than 50dB(AGC OFF, 3DNR ON)	
Min. Illumination		Color:0.1Lux, BW:0.1Lux (30IRE@F2.0, AGC 36dB) 0.000001Lux (DSS x256)	
Sync System		Internal	
Gamma		r= 0.45	
Video Output		1.0 Vp-p Composite(75Ω)	
Lens		Board Lens	
Digital Zoom Ratio		3x	
Electronic Shutter		1/60 ~1/100,000sec	1/50 ~1/100,000sec
Digital Slow Shutter		OFF, 2 ~ 256 Field	
Flickerless		ON / OFF	
WDR		ON / OFF (Level adjustable)	
BLC		ON / OFF (Level adjustment, Area selection)	
HLC		ON / AUTO / OFF (Level adjustable)	
AGC		OFF, 6 ~ 36dB	
DNR(2D/3D)		ON / OFF (Level adjustable)	
Image Function		Image reverse(Normal/Flip), Freeze, Contrast, Sharpness	
Day & Night		COLOR / BW / AUTO(DIGITAL D/N)	
Motion Detection		4 Zones (Level adjustable, Area adjustment)	
Privacy Masking		15 Zones (Area adjustment)	
White Balance		ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH-LOCK	
OSD		Built in (Joystick)	
Language		ENGLISH / JAPANESE / GERMAN / FRENCH / RUSSIAN / PORTUGUESE / SPANISH / CHINESE	
Operating Temperature		14°F~122°F(-10°C~+50°C)	
Storage Temperature		-4°F~140°F(-20°C~+60°C)	
Humidity		Less than 80%	
Weight		PLASTIC DOME Type: Approx. 200g VANDAL DOME Type: Approx. 500g	
Power Consumption	DC	DC12V (±10%), Max. 140mA	
	DUAL	DC12V (±10%), Max. 190mA AC24V (±10%), Max. 2.5W	
Dimension (mm)		PLASTIC DOME Type: 119mm x 119mm x 42mm VANDAL DOME Type: 139mm x 134mm x 49mm	

Specifications and designs are subject to change for improving the functionality of this product without notice.

8. OSD MANUAL

• Menu structure

Main MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU
EXPOSURE	AUTO	HIGH LUMINANCE	FLICKERLESS	OFF / ON	
			BRIGHTNESS	0 ~ 255	
		LOW LUMINANCE	MODE	AGC, SLOW, AGC > SLOW, SLOW > AGC, OFF	
			AGC MAX	6, 12, 18, 24, 30, 36	
			DSS MAX	2, 4, 8, 16, 32, 64, 128, 256	
			BRIGHTNESS	x0.25, x0.5, x0.75, x1.0	
		RETURN			
	MANUAL	MODE	SHUT, SLOW		
		SHUT	MODE (SHUT) ONLY 1/50(PAL), 1/60(NTSC), 1/100(NTSC), 1/120(PAL), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 MODE (SLOW) ONLY 2, 4, 8, 16, 32, 64, 128, 256		
		AGC	6, 12, 18, 24, 30, 36, 42, 44.8		
		RETURN			
WHITE BALANCE	ATW	SPEED	0 ~ 255		
		DELAY CNT	0 ~ 255		
		ATW FRAME	x0.5, x1.0, x1.5, x2.0		
		ENVIRONMENT	INDOOR, OUTDOOR		
		RETURN			
	PUSH				
	USER1	B-GAIN	0 ~ 255		
		R-GAIN	0 ~ 255		
		RETURN			
	USER2	B-GAIN	0 ~ 255		
		R-GAIN	0 ~ 255		
		RETURN			
	ANTI CR				
	MANUAL	LEVEL UP	PUSH ENTER		
		LEVEL DOWN	PUSH ENTER		
		PRESET			
		RETURN			
	PUSH LOCK				
DAY&NIGHT	COLOR				
	AUTO	BURST	OFF, ON		
		DELAY CNT	0 ~ 255		
		DAY > NIGHT	0 ~ 255		
		NIGHT > DAY	0 ~ 255		
		RETURN			
	BW	BURST	OFF, ON		
		RETURN			

8. OSD MANUAL

Main MENU	1st Sub MENU	2nd Sub MENU	3rd Sub MENU	4th Sub MENU	5th Sub MENU
WDR/BLC	WDR MODE	OFF, ON	LEVEL	0 ~ 15	
			CONTRAST1	0 ~ 7	
			CONTRAST2	0 ~ 4	
			RETURN		
	BLC MODE	OFF, ON	ZONE	CENTER, TOP, BOTTOM, LEFT, RIGHT	
			LEVEL	0 ~ 15	
			RETURN		
	HLC MODE	OFF, ON, AUTO	CLIP LEVEL	0 ~ 255	
			SCALE	0 ~ 15	
			RETURN		
DNR	2DNR MODE	OFF, ON			
	2DNR LEVEL	0 ~ 15			
	3DNR MODE	OFF, ON			
	3DNR LEVEL	0 ~ 63			
	RETURN				
IMAGE	HV-FLIP	OFF, ON			
	FREEZE	OFF, ON			
	EZOOM	1.0x ~ 3.0x			
	CONTRAST	0 ~ 63			
	SHARPNESS	0 ~ 15			
	RETURN				
SPECIAL	CAMERA TITLE	OFF, ON	DISPLAY THE TITLE EDITING MENU		
			RETURN		
	LANGUAGE	ENGLISH / 中文 / Русский / ESPAÑOL / DEUTSCH / FRANCAIS / PORTUGUÊS / 日本語			
	PRIVACY	AREA SEL	1/15 ~ 15/15		
		MODE	OFF, ON		
		POSITION	NEXT: PUSH ENTER		
		COLOR	"WHITE, BLACK, RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA"		
		TRANSP	0.00, 0.50, 0.75, 1.00		
		MOSAIC	OFF, ON		
		RETURN			
	MOTION DET	OFF, ON	DETECT SENSE	0 ~ 127	
			BLOCK DISP	OFF, ON	
			MONITOR AREA	AREA SEL	1/4 ~ 4/4
				MODE	OFF, ON
				TOP	0 ~ 15
				BOTTOM	0 ~ 15
				LEFT	0 ~ 23
				RIGHT	0 ~ 23
				RETURN	
FACTORY DEFAULT					
EXIT					
SAVE&EXIT					