

Height Strip Covert Camera



*Please read this manual thoroughly before use, and keep it handy for future reference.
Design and specifications are subject to change without notice.*

FCC COMPLIANCE STATEMENT

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION : 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.

CAUTION : Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE COMPLIANCE STATEMENT

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.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
 2. Keep these instructions.
 3. Heed all warnings.
 4. Follow all instructions.
 5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
 6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
 7. Only use attachments/accessories specified by the manufacturer.
 8. 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.
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- 9. 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.**
- 10. Use satisfy clause 2.5 of IEC60950-1/UL 60950-1 or Certified/Listed Class 2 power source only.**
11. Indoor use only.

EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, 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.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

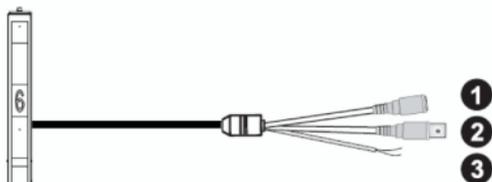
INTRODUCTION

The 1/2.9" 2.1M Sony CMOS camera, especially for closed circuit television CCTV and security surveillance application.

Features:

- High performance SONY 1/2.9" CMOS
- 1.0 lux(Color), 0.1 lux(BW)
- Auto electronic shutter [1/60(1/50) ~ 1/50,000]
- 25/30 fps @ 1080p
- AGC (Auto Gain Control)
- Auto white balance
- 3DNR (Digital Noise Reduction)
- DWDR
- 4.3mm Pin hole Lens
- BNC(Video) & DC Jack (power)
- Operates in DC 12V

CAMERA CONNECTIONS



- 1. Power :** 12V DC input
power source from a DC 12V +/-10%
Use Certified/Listed Class 2 power source only.

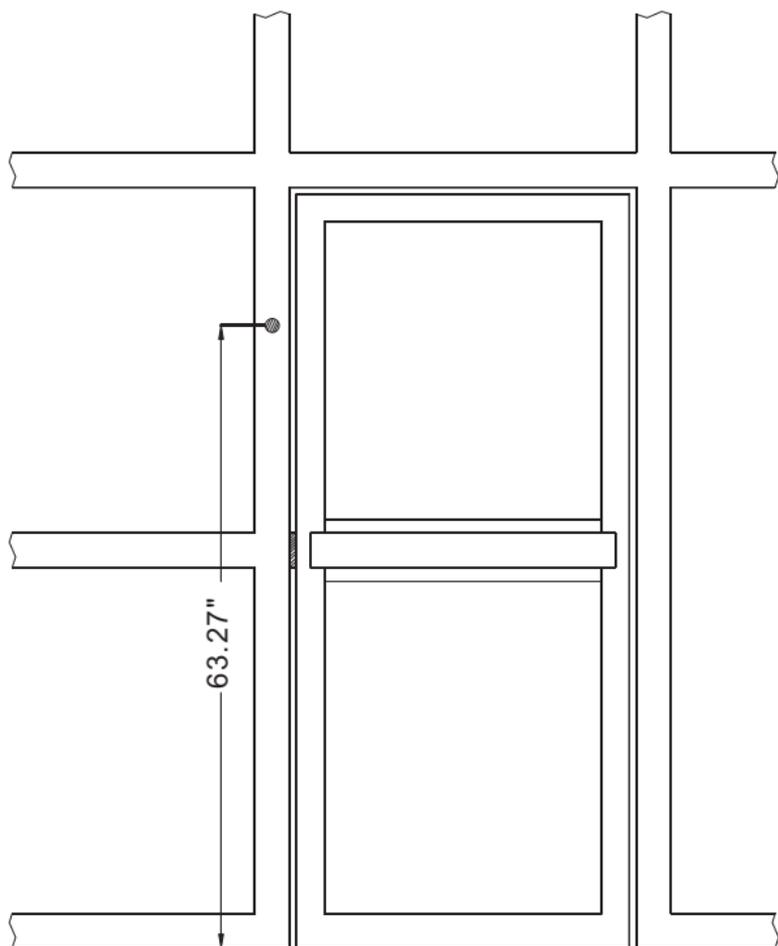
*If using DC 12V power adaptor, use a power supply capable of supplying 3 Watts.

- 2. Video :** BNC connector used to connect the camera to a monitor, switcher, etc.
- 3. Switch Cable :** -Green & Black : open -> AHD signal BNC output
-Green & Black : short -> CVBS signal BNC output



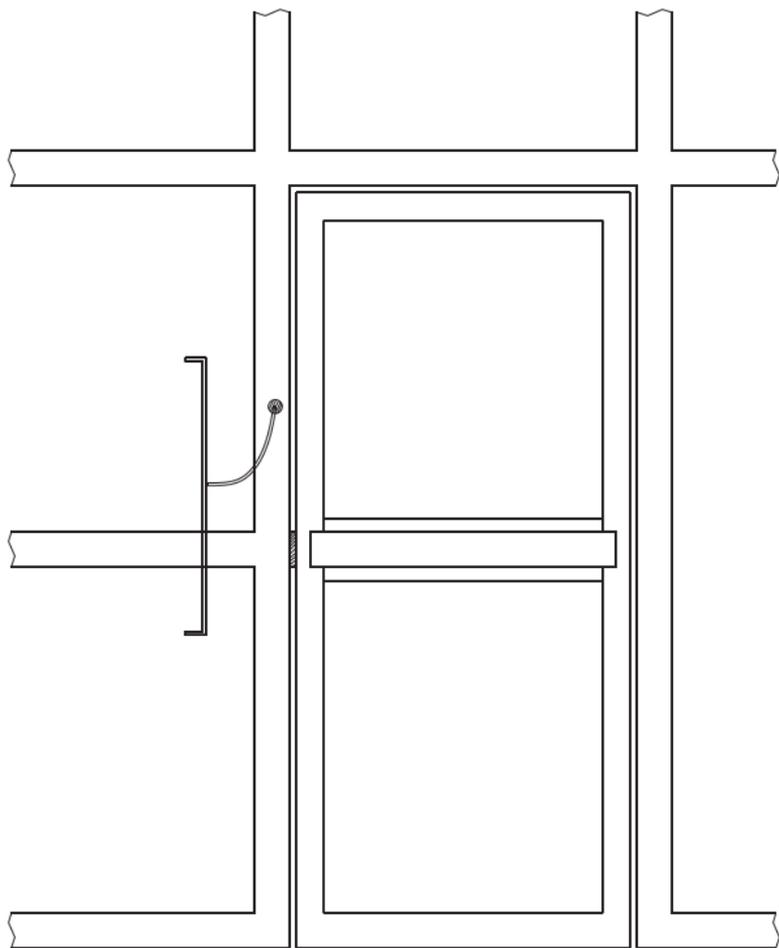
IMPORTANT : The user of this camera is responsible for checking and complying with local, state, and federal laws and statutes concerning the recording and monitoring of audio signals.

Step 1



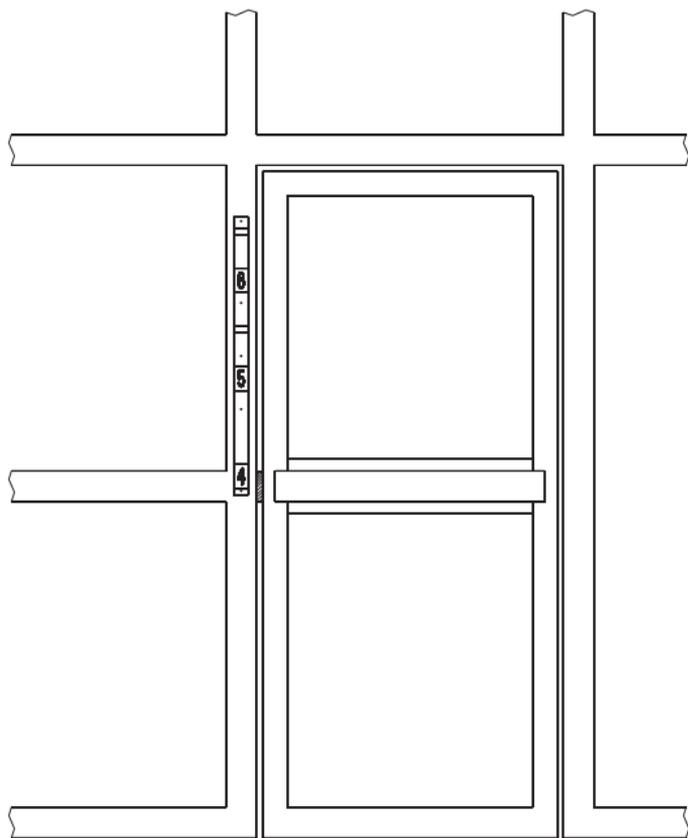
Drill feed-thru hole for cable on mounting surface 63.27" above the finished floor.

Step 2



Feed wire through the 1.0 inch hole on the gimble mount.

Step 3



Center the gimbal mount to mounting surface and mark the mounting holes for the gimbal mount on the surface.

Secure the gimbal mount to the surface using installer supplied self tappers for aluminum frame structure.

If mounting on soft surface such as drywall be sure to use to use anchors.

Step 4

Completing the housing installation

Remove the five white head M4 screws that hold the face plate to the housing and set the face plate aside.

Feed the wire coming through the gimbal mount through the 3/4" hole in the back of the camera housing.

Attach the camera housing to the gimbal mount using the M6 Allen head screws and washer previously removed.

Place the external tooth washer between the housing and the gimbal mount then the split lock washer on the M6 screw and insert the screw into the housing through the gimbal mount and external tooth lock washer.

Install the bolt and washers assembly at the bottom and top of the gimbal mount finger tight. (See Figure-1)

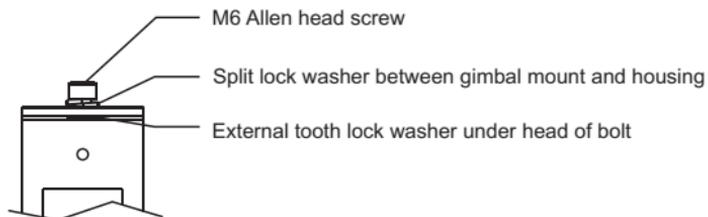


Figure-1

After connecting the video and power to their proper connections replace the face plate that was removed in an earlier step using the five screws.

Adjust the position of the housing in the gimbal mount for the proper view and then tighten the top and bottom Allen head screws using an Allen head wrench.

Verify that the housing is in the proper position and is secure.



Optional Camera Height Setting

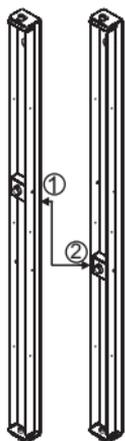


Figure-2

1. The Height strip camera has the capability to be set in the housing at 5ft or 5.5ft above the floor.

The default setting of the camera is set to 5.5ft.

If the lower setting is desired the following housing change must be completed.

- * Remove housing from gimbal
- * Note the position of the hole in the housing base for cable throughput



The cable hole is at the center of the mounting bracket

- * Remove four Allen flat head screws along each side of the housing and separate the front cover with the camera from the housing base.



Allen flat head screw

- * From ① to ② to change the camera position. (See Figure-2)
 - * Replace the front cover with the camera to the housing base after turning the cover 180° from original position.
- Replace the three Allen head screws along each side of the housing and continue the installation

2. Camera lens position can be adjusted up and down 5 degrees.

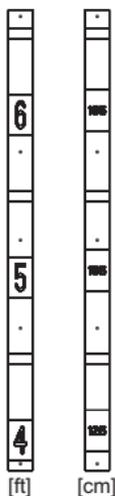
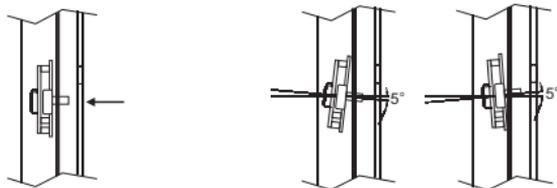


Figure-3

3. Two height marker strips are provided, one marked in feet and one marked in centimeters. Use the appropriate one. (See Figure-3)

DIMENSIONS

HEIGHT STRIP CAMERA

55.00



53.30
43.00



180°



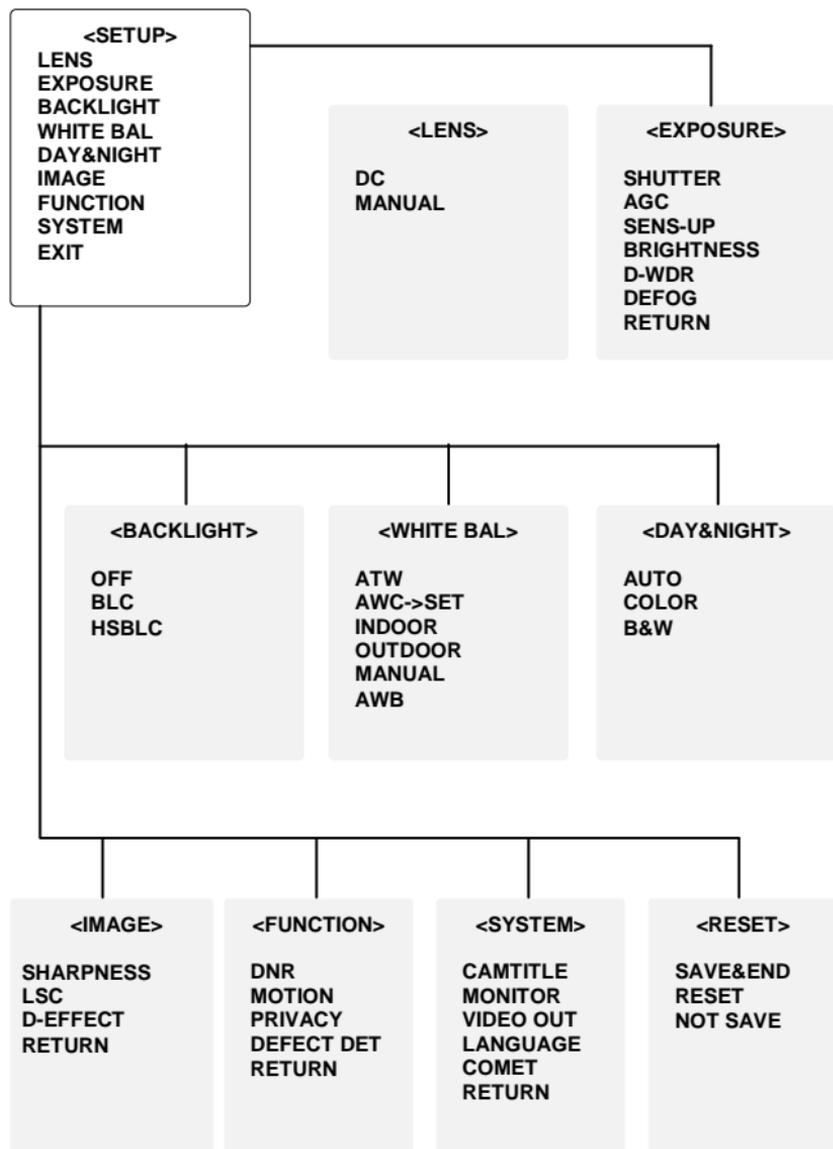
0°



180°



STRUCTURE OF THE SETUP MENU



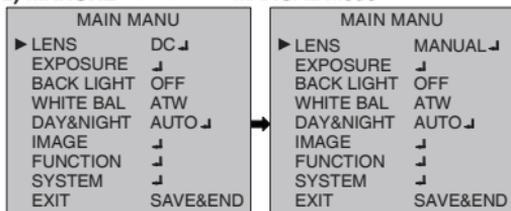
LENS

The EXPOSURE menu is used to set the automatic light control method for the camera. It provides the ability to adjust the SHUTTER speed, AGC SENS-UP, BRIGHTNESS, D-WDR, and DEFOG functions of the camera.

1) **DC** Select the DC mode. ▶ INDOOR, OUTDOOR

Select the DC iris speed ▶ 0~15

2) **MANUAL** Select the MANUAL mode



NOTE Choose when installed in an external DC mode outdoor.

EXPOSURE

The EXPOSURE menu is used to set the automatic light control method for the camera. It provides the ability to adjust the SHUTTER speed, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG functions of the camera.

1) **SHUTTER** Select the SHUTTER speed level.

▶ Auto, 1/60(50), FLK~1/240 – 1/50000, x2 ~ x30

2) **AGC** Adjust the Auto Gain Control level. ▶ OFF, Auto (x2 ~ x30)

3) **SENS-UP** Select the Digital Slow Shutter level. ▶ OFF, AUTO (x2 ~ x30)

4) **BRIGHTNESS** Adjust the BRIGHTNESS level. ▶ 0 - 100

5) **D-WDR** Select the Digital WDR. ▶ AUTO, ON(level 0~8), OFF

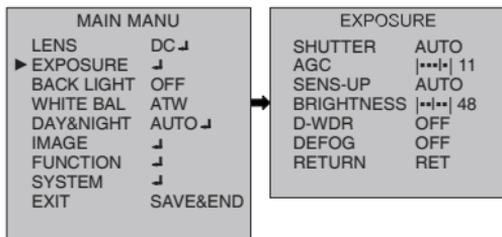
6) **DEFOG** Select the DEFOG mode. ▶ AUTO, ON(level 0~8), OFF

POS/SIZE Adjust the window position & size

GRADATION ▶ 0 ~ 2

DEFAULT Initialize the setting values

< EXPOSURE > MODE



BACKLIGHT

The BACKLIGHT menu is used to the ability to prevent back lighting from the image.

1)BLC Prevents such a back light effect to secure a clear image under All illumination environments.

Adjust the size of Back Light Compensation area.

LEVEL Select the BLC gain ▶ Low, Middle, High

AREA Adjust the window position & size

DEFAULT Initialize the setting values

2)HSBLC Mask the high light zone with specific color & level.

SELECT Select the HSBLC area ▶ AREA1 - AREA4

DISPLAY Adjust the HSBLC area window position & size

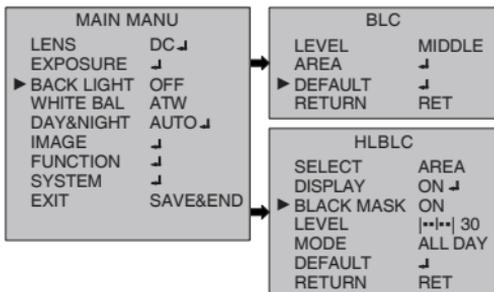
BLACK MASK Select the BLACK MASK ▶ ON, OFF

LEVEL Select the HSBLC level ▶ 0 ~ 100

MODE All Day, Night

DEFAULT Initialize the setting values.

< BACKLIGHT >

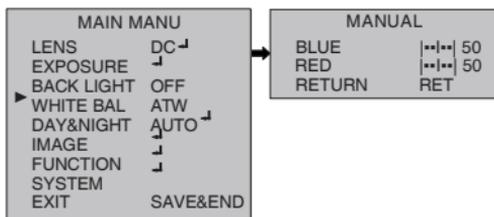


WHITE BALANCE

The screen color can be adjusted by using the Auto White Balance function. It compensates for deviations in the white color caused by changes in the color temperature of the light source so that the colors are reproduced correctly.

- 1) **ATW** Automatically adjust color temperature.
- 2) **AWC->SET** Automatically readjust only by pressing AWC→SET.
- 3) **INDOOR** Set the color temperature to 3200°K
- 4) **OUTDOOR** Set the color temperature to 6300°K
- 5) **MANUAL** Manual mode.
User can change Red and Blue gain value manually.
BLUE 0 ~ 100
RED 0 ~ 100
- 6) **AWB** Automatically extended range of color temperature adjustment.

< WHITE BALANCE > MODE



DAY&NIGHT

The DAY&NIGHT menu is used to configure the day and night related setting for the camera.

1) D&N AUTO

-Input Method CDS

DAY&NIGHT mode are changed according to the sensor inputs

D&N LEVEL Adjust levels of transition ▶ 0 - 255

N&D LEVEL Adjust levels of transition ▶ 0 - 255

DELAY 1-60 SEC

-Input Method AGC

DAY&NIGHT mode are changed according to the brightness of the image.

Use only when the camera is installed in a dark place but the camera is viewing a bright place.

When used in a normal installation, hunting may occur.

D&N LEVEL Adjust levels of transition ▶ 0 - 255

N&D LEVEL Adjust levels of transition ▶ 0 - 255

DELAY 1-60 SEC

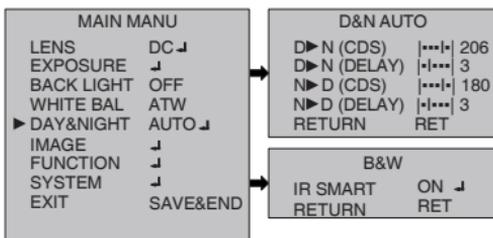
2) D&N B&W

IR SMART

LEVEL 1~15

AREA Adjust the window position & size.

< DAY&NIGHT > MODE

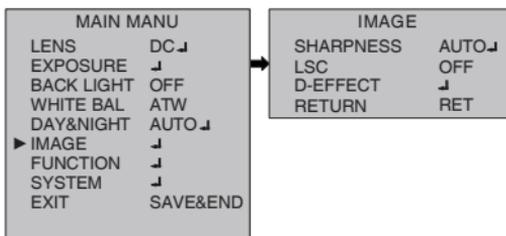


IMAGE

The IMAGE menu provides the ability to adjust the SHARPNESS, LSC and D-EFFECT functions of the camera.

- 1) SHARPNESS** Adjust the SHARPNESS level. ▶ OFF, AUTO (0 - 10)
- 2) LSC** Select the lens Lens Shading Compensation. ▶ ON, OFF
- 3) D-EFFECT**
 - FREEZE** Select real or still mode ▶ ON, OFF
 - MIRROR** Select OFF, MIRROR, V-FLIP, ROTATE
 - NEG. IMAGE** Select Negative image mode ▶ ON, OFF

<IMAGE>



< SHARPNESS >



< D-EFFECT >

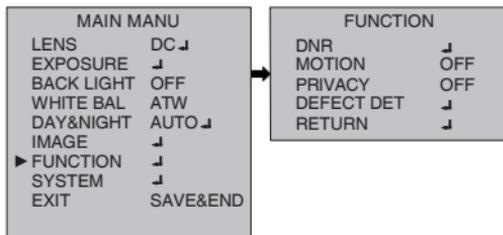


FUNCTION

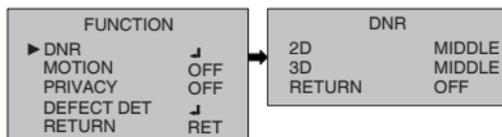
The IMAGE menu provides the ability to adjust the DNR, MOTION, PRIVACY and DEFECT DET functions of the camera.

- 1) **DNR** Select Digital Noise Reduction.
 - 2D ▶ OFF, LOW, MIDDLE, HIGH
 - 3D ▶ OFF, LOW, MIDDLE, HIGH
- 2) **MOTION** Detects the Motioned Object in the image. ▶ ON, OFF
 - SELECT** Select the Motion area ▶ AREA1 - AREA4
 - DISPLAY** Adjust the Motion area window position & size
 - SENSITIVITY** Adjust the Motion sensitivity level ▶ 0 - 100
 - COLOR** Select the motion area color ▶ WHITE - Red, Green, Blue
 - TRANS** Select the motion area transparency. ▶ 1.0, 0.75, 0.5, 0.25
 - ALARM** Select the Motion alarm
 - VIEW TYPE** Select view type of the Motion area ▶ OFF, BLOCK, OUTLINE, ALL
 - OSD VIEW** Select the Motion OSD view ▶ OFF, ON
 - TIME** Select the Motion Alarm time ▶ 1 - 15
 - DEFAULT** Initialize the setting values
- 3) **PRIVACY** Hide an area you want to hide on the screen.
 - SELECT** Select the privacy zone ▶ AREA1 - AREA4
 - DISPLAY** Adjust the Privacy window type, position & size
 - ▶ OFF, INV., MOSAIC, COLOR
 - COLOR** Select the privacy zone color ▶ WHITE - USER
 - TRANS** Select the privacy zone transparency ▶ 1.0, 0.75, 0.5, 0.25
 - DEFAULT** Initialize the setting values
- 4) **DEFECT DET** Compensates for bad pixels.
 - LIVE DPC** Select the Live DPC mode ▶ OFF, ON
 - AGC LEVEL** Select the AGC level ▶ 0 - 255
 - LEVEL** Select the Live DPC level ▶ 0 - 100
 - WHITE DPC** Select the White DPC mode ▶ OFF, ON
 - POS/SIZE** Adjust the White DPC area window position & size
 - START** Start the white pixels correction
 - ▶ OFF, ON
 - LEVEL** Select the White DPC level ▶ 0 - 60
 - AGC** Select the AGC Level ▶ 0 - 14
 - SENS-UP** Select the Sens-up level ▶ x2 - x30
 - BLACK DPC** Select the Black DPC mode ▶ OFF, ON
 - POS/SIZE** Adjust the Black DPC area window position & size
 - START** Start the Black pixels correction
 - ▶ OFF, ON
 - LEVEL** Select the Black DPC level ▶ 0 - 100

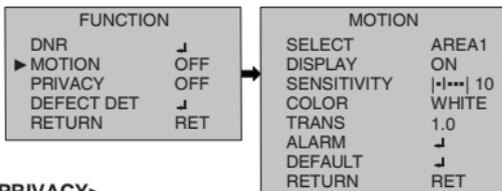
<FUNCTION>



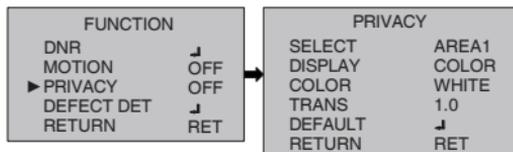
<DNR>



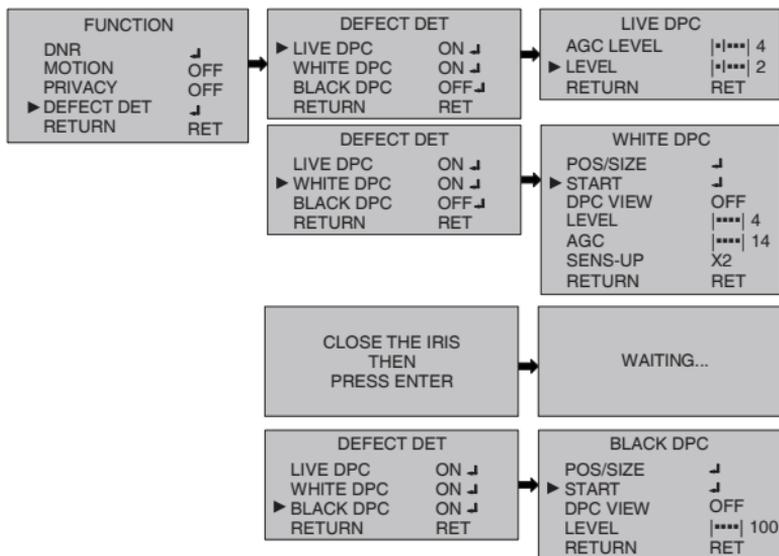
<MOTION>



<PRIVACY>



<DEFECT DET>

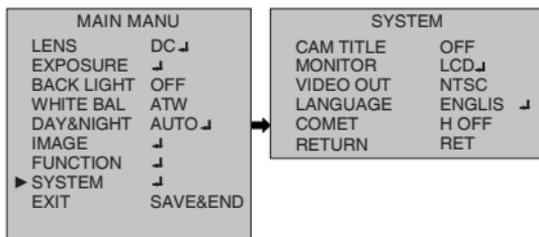


SYSTEM

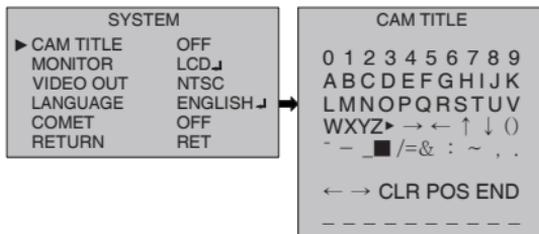
The IMAGE menu provides the ability to adjust the CAM TITLE, RS485, MONITOR, CVBS CROP, VIDEO OUT, LANGUAGE and VERSION functions of the camera.

- 1) **CAM TITLE** Maximum of 15 characters are allowed.
- 2) **MONITOR** Select the Monitor type ▶ LCD, CRT
 - LCD**
 - BLUE GAIN** Adjust the Blue gain level ▶ 0 - 100
 - RED GAIN** Adjust the Red gain level ▶ 0 - 100
 - GAMMA** Select the gamma level ▶ USER, 0.45 - 1.0
 - CRT**
 - BLUE GAIN** Adjust the Blue gain level ▶ 0 - 100
 - RED GAIN** Adjust the Red gain level ▶ 0 - 100
 - GAMMA** Select the gamma level ▶ USER, 0.45 - 1.0
- 4) **VIDEO OUT** Select the video out type ▶ NTSC, PAL
- 5) **LANGUAGE** OSD menu LANGUAGE (16ea) ▶ ENGLISH etc.
- 6) **COMET** Select the COMET function ▶ OFF, ON

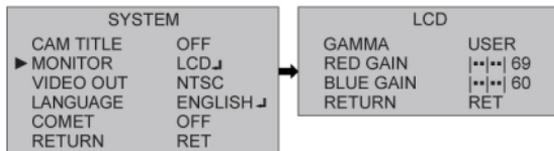
<SYSTEM>



<CAM TITLE>



<MONITOR>



EXIT

The EXIT menu provides the ability to adjust the RESET, SAVE & END and NOT SAVE functions of the camera.

1) EXIT

RESET	Factory initialization of camera settings
SAVE & END	Save and exit menu
NOT SAVE	Exiting the menu without saving

SPECIFICATIONS

MODEL		Height Strip Covert Camera	
Power	Power Source	DC12V ± 10%	
	Power Consumption	Max 2.2 Watts (180mA)	
General	Image Sensor	1/2.9" 2.1M Sony CMOS	
	Total Pixels	2000(H) x 1121(V)	
	Active Pixels	1920(H) x 1080(V)	
	Scanning System	Progressive	
	Sync. System	Internal	
	Video Frame Rate	1920×1080p@25 fps : 1920×1080p@30 fps	
	Min. illumination	1.0 lux(COLOR), 0.1 Lux(B/W)	
	Video Output	BNC (AHD / CVBS Selectable)	
	Camera Control	OSD Menu (Coaxial control)	
S/N Ratio	More than 50dB (AGC off)		
Function	Lens	MANUAL	
	Exposure	Shutter	AUTO, 1/60, FLK ~ 1/50,000 sec
		AGC	1 ~ 15
		Sens-UP	OFF / AUTO (x2, x4, x6, x8, x10, x15, x20, x25, x30)
		Brightness	1 ~ 100
		D-WDR	OFF / ON / AUTO
	Defog	OFF / AUTO	
	Backlight	OFF / BLC / HSBLC	
	White Balance	ATW / AWC / INDOOR / OUTDOOR / AWB	
	Day & Night	AUTO / COLOR / B&W	
	DNR	2DNR	OFF / LOW / MIDDLE / HIGH
		3DNR	OFF / LOW / MIDDLE / HIGH
	S P E C I A L	Camera Title	OFF / ON
		D-Effect	OFF / FREEZE / MIRROR / NEG.IMAGE
		Motion Detection	OFF / ON (4 zone)
		Privacy Masking	OFF / ON (4 zone)
		Language	ENG / CHN1 / CHN2 / GER / FRA / ITA / SPA / POL / RUS / POR / NED / TUR / KOR / JPN / HEB / ARB
		Defect Detection	LIVE DPC / WHITE DPC / BLACK DPC
		Sharpness	OFF / AUTO (0 ~ 10)
		Monitor	CRT / LCD
		LSC (Shading)	OFF / ON
	Video mode	NTSC / PAL	
	Save & Exit	SAVE & EXIT / NO SAVE / RESET	
Connector & ETC	Power input	DC JACK	
	Video output	BNC Connector (AHD / CVBS)	
	Transmission Distance	Over 500m via 5C-2V coaxial cable	
	Lens mount	Fixed mount	
	Lens	f=4.3mm F2.0 Megapixel Fixed Pin Hole Lens	
	Operating temperature	14°F ~ 122°F (-10°C ~ +50°C)	
	Operating humidity	0 ~ 90% (non-condensing)	
	External dimension	55.0mm x 872.6mm x 31.5 (44.45mm Inclusion bracket)	
	Weight	Unit : 1.36kg, Shipping : 2.0kg	

Height Strip Covert Camera

PRINTED IN KOREA
