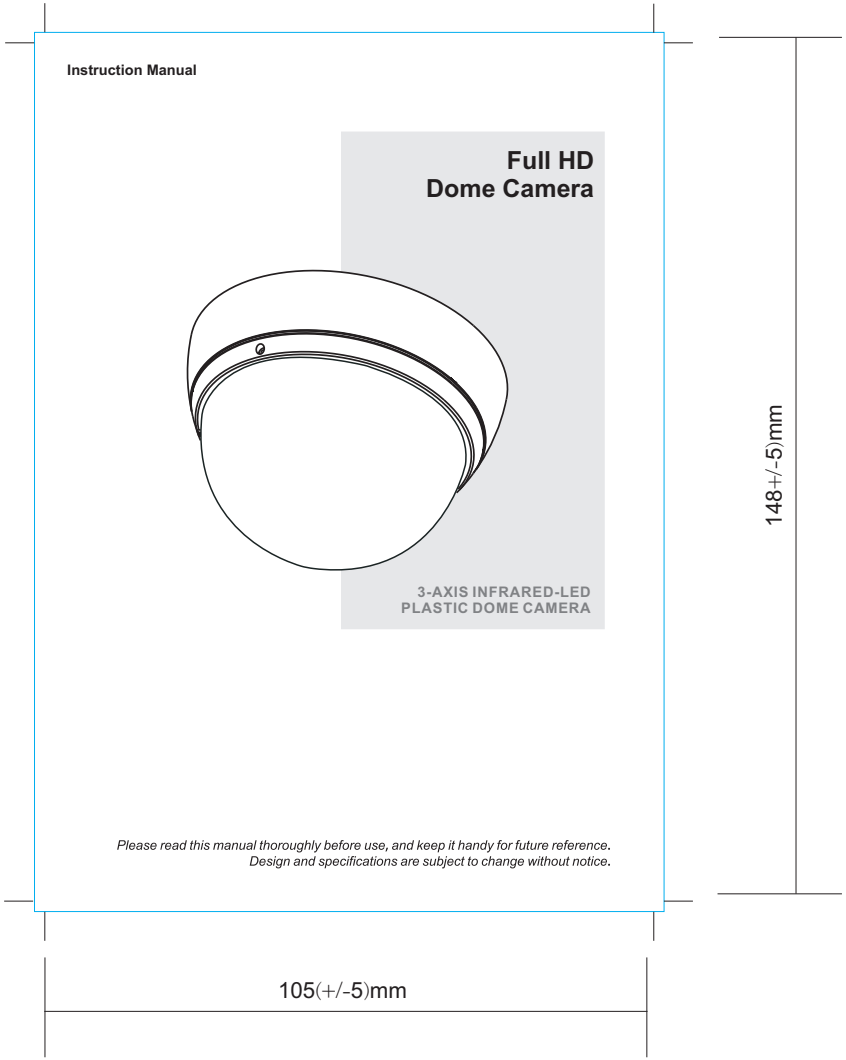
PRODUCTION RELEASE & REVISION						
REV	DESCRIPT'N/BUYER	DWG No	PARTS No.	BY	CHK	DATE
A	INITIAL	----------	50303894	J.Y.LIU	M.J.KWON	15-05-13



NOTES

1.MODEL: HDGI-N31NN(P)F3A32D/NoBrand
2 MATERIAL: 모조지100g/㎡ WHITE
3 COLOR: BLACK
4.SIZE:105(+/-5)mm x 148(+/-5)mm
5.LABEL: ----------

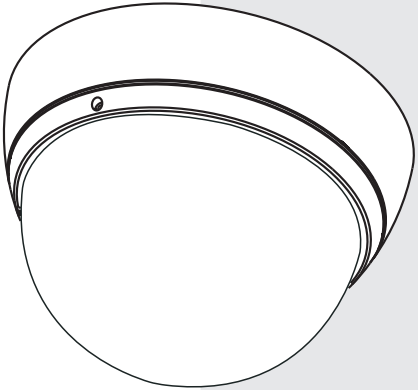
50303894	ITEM	DESCRIPTION/MATERIAL	QTY
		PARTS LIST	

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM. - TOLERANCE LABEL +/- 3 MANUAL +/- 5 GUIDE +/- 5	APPROVALS	DATE	HITRON
	K.H.JUNG	15-05-13	TITLE Manual Instruction
MATERIAL 2	CHKED M.J.KWON	15-05-13	SIZE A4 REV. A
COLOR 3	DRAWN J.Y.LIU	15-05-13	SCALE DO NOT SCALE

결재	전자
	강영구
의	15-05-13

Instruction Manual

Full HD Dome Camera



3-AXIS INFRARED-LED PLASTIC DOME 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 ventilat ion openings. Install in accord ance 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 ca rt, 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.

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.

CONTENTS

- INTRODUCTION 5
- CAMERA CONNECTIONS 6
- CONTENTS & PACKAGE 6
- BASE INSTALLATION 7
- VIDEO OUT CHECK 8
- STRUCTURE OF THE SETUP MENU 9
- SPECIFICATIONS 19
- EXTERNAL DIMENSION 20

INTRODUCTION

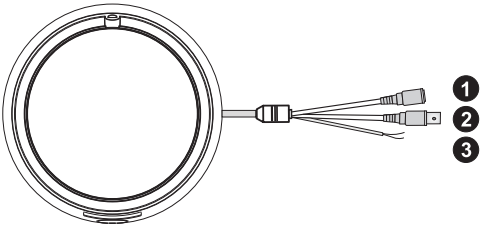
The 1/2.8" 2.4M HD CMOS camera, especially for closed circuit television CCTV and
security surveillance application.

Features:

- High performance SONY 1/2.8" Exmor CMOS™
- 1.0 lux(COLOR), 0 lux(BW, IR LED ON)
- Auto electronic shutter [1/60(1/50) ~ 1/50,000] and manual electronic shutter modes
- 25/30 fps @ 1080p
- BLC (Back-light compensation)
- Auto and manual white balance modes (ATW/AWC/Manual/AWB)
- Day & Night (ICR) : Auto / Color / BW
- OSD (on screen display)
- 3DNR (Digital Slow Shutter)
- DWDR
- Smart IR
- 24 EA, 850nm IR LED
- IR Range distance up to 25M
- Privacy mask Function (4zone)
- Motion Detection
- Defog
- HSBLC
- Operates in DC12V ± 10%
- Use Certified / Listed Class 2 power source only

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.

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 5 Watts. (IR Model 5 Watts)

2. **Video :** BNC connector used to connect the camera to a DVR, etc.

3. **Switch Cable :** -Green & Black : open -> AHD signal BNC output
   -Green & Black : short -> CVBS signal BNC output

CONTENTS of PACKAGE

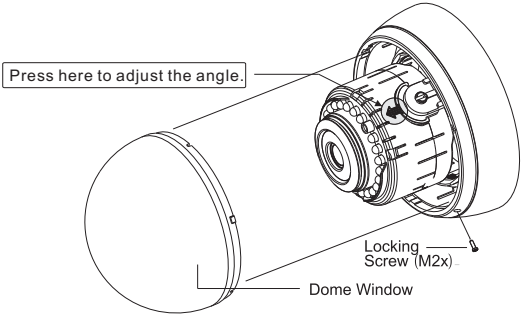
The package contains the following.

Camera in Housing _ 1
Instruction Manual (This Document) _ _ _ _ _ _ _ _ _ _ _ 1
Accessory Kit for Installing _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 1
Drilling guide label _ 1

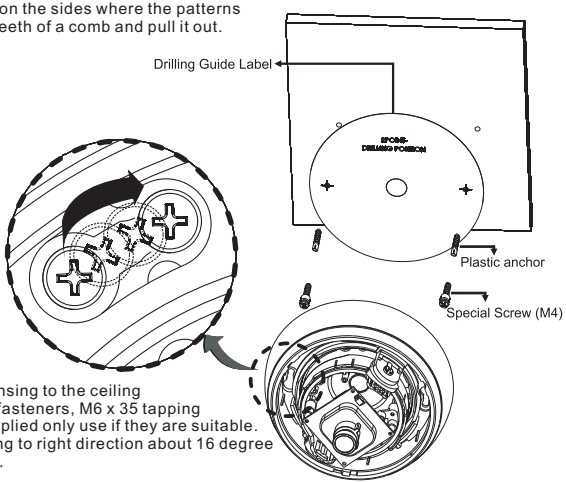
REMINDER:
Never aim the camera directly into the sun.

BASE INSTALLATION

1. Make mounting holes and cable hole in the place (ceiling or wall) to which this dome camera is installed using the Drilling guide label.



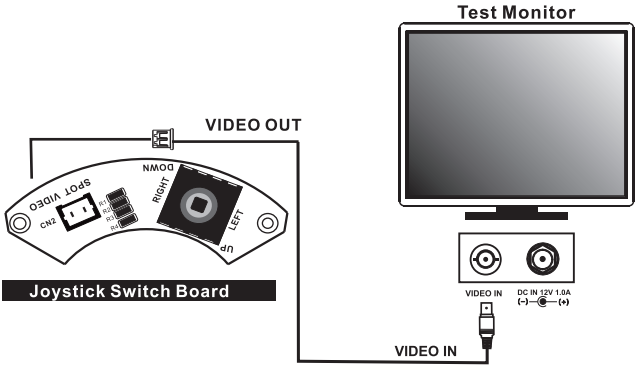
2. To remove dome cover, turn the dome body counterclockwise until locators reach and of travel and pull off.
   Push the liner on the sides where the patterns are put in the teeth of a comb and pull it out.



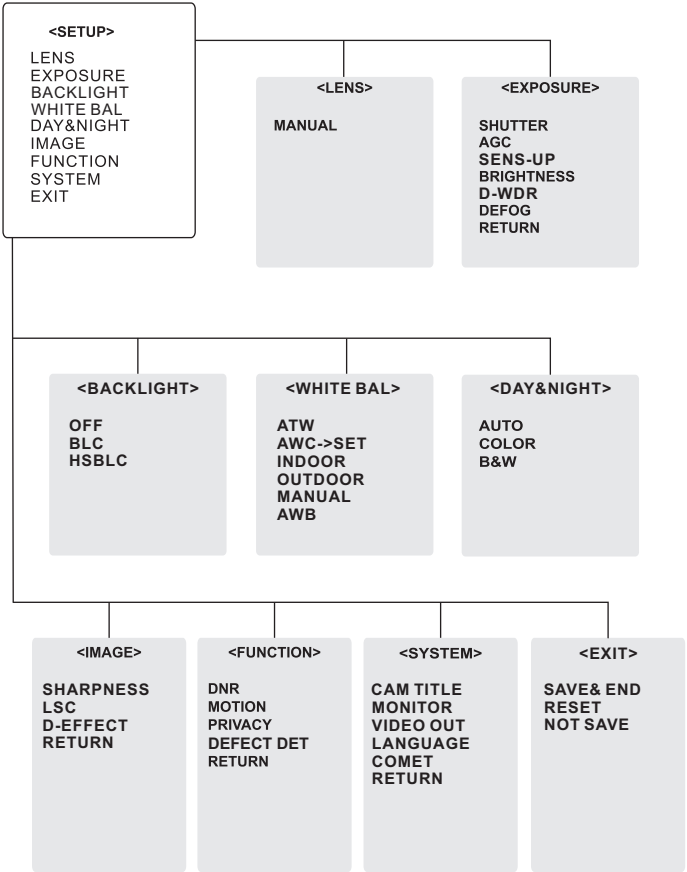
3. Attach the hounsing to the ceiling using suitable fasteners, M6 x 35 tapping screws are supplied only use if they are suitable. Turn the housing to right direction about 16 degree to lock in place.

4. The assembly of the dome body and liner is in reverse order of disassembly. Finally, lock dome body with locking screw(M3 x 5) from the accessory kit.

VIDEO OUT CHECK (CVBS)



STRUCTURE OF THE SETUP MENU



LENS

The LENS menu is used to set the Manual mode.

1) MANUAL Select the MANUAL mode

MAIN MANU	
▶ LENS	MANUAL ↵
EXPOSURE	↵
BACK LIGHT	OFF
WHITE BAL	ATW
DAY&NIGHT	AUTO ↵
IMAGE	↵
FUNCTION	↵
SYSTEM	↵
EXIT	SAVE&END

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. ▶ 0 - 15

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, OFF

POS/SIZE Adjust the window position & size
GRADATION ▶ 0~2
DEFAULT Initialize the setting values

< EXPOSURE > MODE

MAIN MANU	
LENS	DC ↵
▶ EXPOSURE	↵
BACK LIGHT	OFF
WHITE BAL	ATW
DAY&NIGHT	AUTO ↵
IMAGE	↵
FUNCTION	↵
SYSTEM	↵
EXIT	SAVE&END

➡

EXPOSURE	
SHUTTER	AUTO
AGC	|•••|•| 11
SENS-UP	AUTO
BRIGHTNESS	|••|••| 48
D-WDR	OFF
DEFOG	OFF
RETURN	RET

BACKLIGHT

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

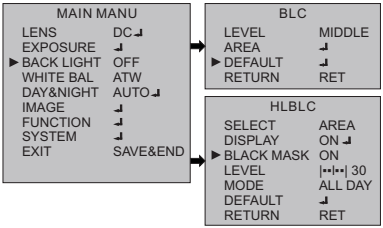
1)BLC Prevents such a back light effect to secure a clear image under All illumination environments.
Adjust the size of Back Light Compensation area.

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 >

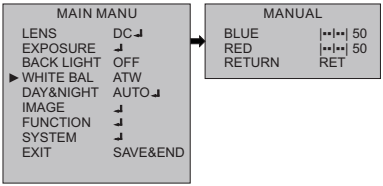


WHITE BALANCE

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 configue 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

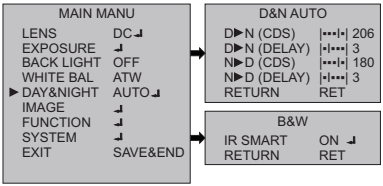
DAY&NIGHT mode are changed according to the brightness of the image.
Use only when the camera is installed in a dark place but the camera is viewing a bright place.
When used in a normal installation, hunting may occur.

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

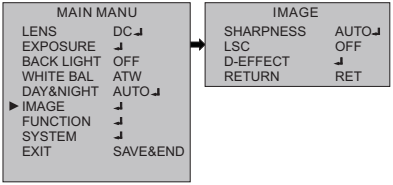


IMAGE

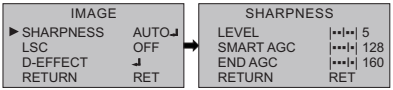
The IMAGE menu provides the ability to adjust the SHARPNESS, LSC and D-EFFECT functions of the camera.

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

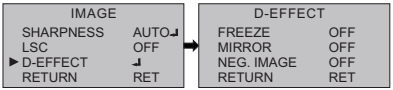
<IMAGE>



< SHARPNESS >



< D-EFFECT >

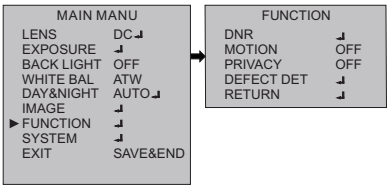


FUNCTION

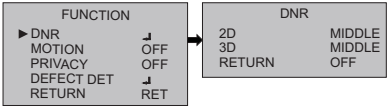
The IMAGE menu provides the ability to adjust the DNR, MOTION, PRIVACY and DEFECT DET functions of the camera.

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
DPC VIEW	▶ 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
DPC VIEW	▶ OFF, ON
LEVEL	Select the Black DPC level ▶ 0 - 100

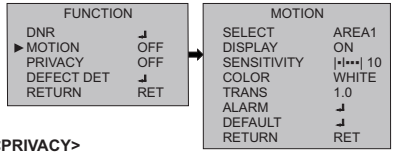
<FUNCTION>



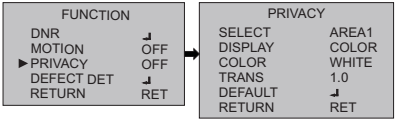
<DNR>



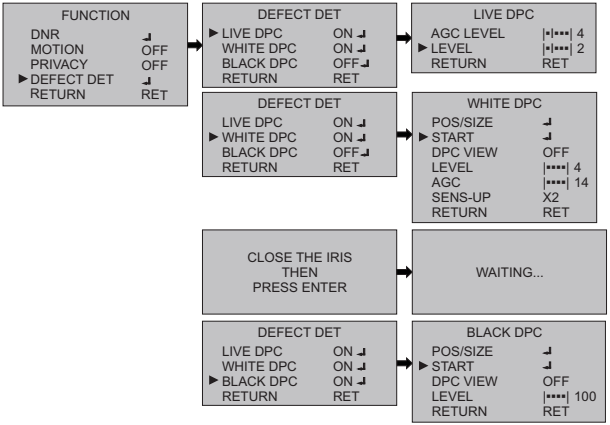
<MOTION>



<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

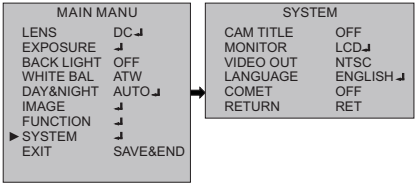
- **BLUE GAIN** Adjust the Blue gain level ▶ 0 - 100
- **RED GAIN** Adjust the Red gain level ▶ 0 - 100
- **GAMMA** Select the gamma level ▶ USER, 0.45 - 1.0

4) VIDEO OUT Select the video out type ▶ NTSC, PAL

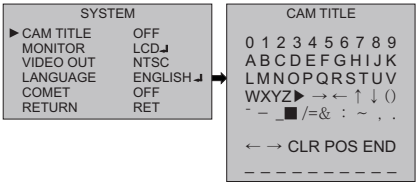
5) LANGUAGE OSD menu LANGUAGE (16ea) ▶ ENGLISH etc.

6) COMET Select the COMET function ▶ OFF, ON

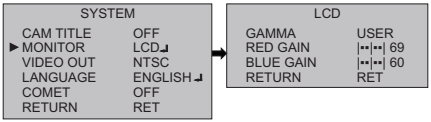
<SYSTEM>



<CAM TITLE>



<MONITER>



EXIT

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

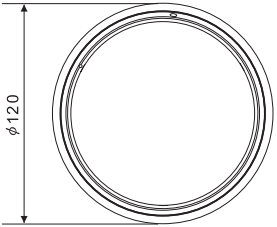
1) EXIT

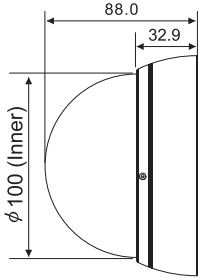
RESET	Factory initialization of camera settings
SAVE & END	Save and exit menu
NOT SAVE	Exiting the menu without saving

SPECIFICATIONS

MODEL			Full HD CAMERA
Power	Power Source		DC 12V ± 10%
	Power Consumption		MAX 4.5 Watts (370mA)
General	Image sensor		1/2.8" 2.4M 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		1920x1080@25fps ; 1920x1080@30fps
	CVBS Resolution		1000 TVL
	Min. illumination		1.0 lux(COLOR), 0 lux(BW, IR LED ON)
	Video Output		BNC(AHD high definition video output / CVBS(srarted definition video output)
	IR	IR LED	24 IR LED(850nm)
		Distance	25M
	Camera Control		OSD (Joystick Switch, coaxial communication)
	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
	SPECIAL	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
		COMET	OFF / ON
	Save & Exit		SAVE & EXIT / NO SAVE / RESET
Connector & etc.	Power input		DC Jack
	Video out		BNC Connector - AHD, CVBS
	Transmission Distance		Over 500m via 75-3 coaxial cable
	Lens mount		Fixed mount
	Lens		f=3.6mm F2.0 Fixed Lens, ICR (D&N)
	Operating temperature		14°F ~ 122°F (-10°C ~ +50°C)
	Operating humidity		0 ~ 96% (non-condensing)
	External dimension		Ø 120x 88mm(H)
	Weight		300g

EXTERNAL DIMENSION





Window Size 0.1 in. (1.8mm thick), impact-resistant P.C (LEXAN) 3.93 in. (10cm) diameter

Cable Entry One 1" opening holes

Weight - Unit: 0.66 lb. (0.3kg)

Shipping: 1.19 lb. (0.54kg)

Unit: mm