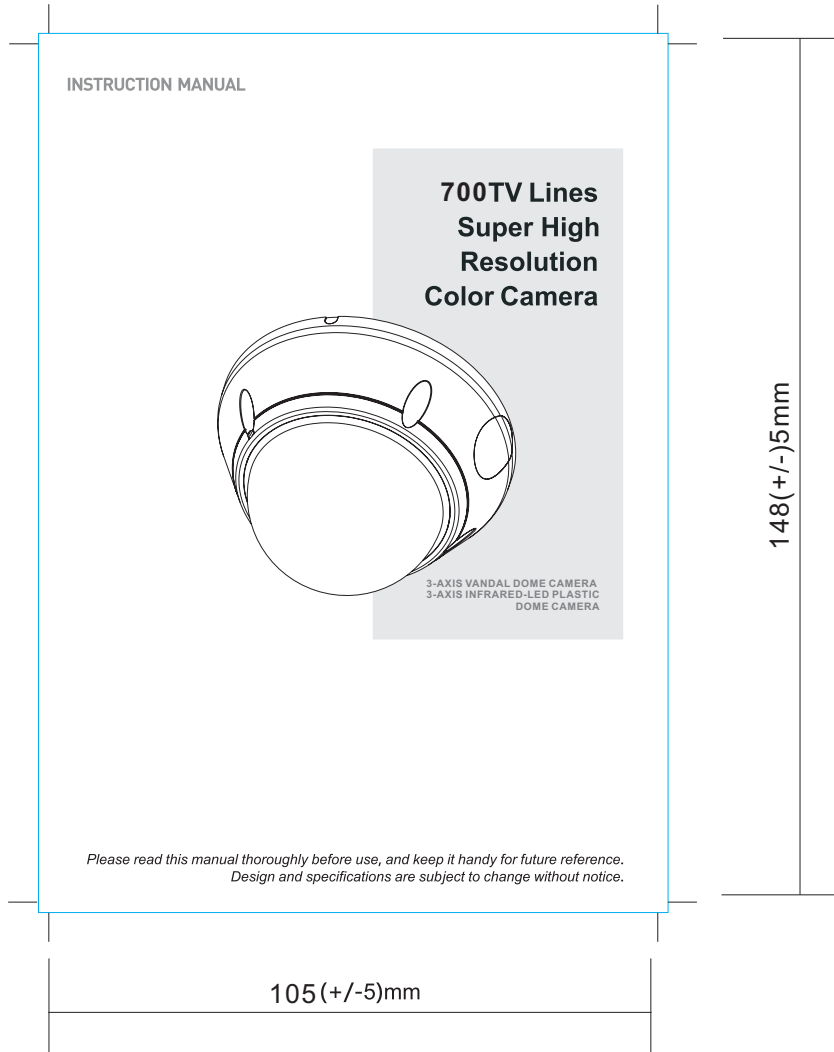


PRODUCTION RELEASE & REVISION						
REV	DESCRIPT'N/BUYER	DWG No	PARTS No.	BY	CHK	DATE
A	INITIAL	-----	50303652	J.Y.LIU	M.J.KWON	11-12-M13
B	16p Demension 수정	-----	50303652	J.Y.LIU	M.J.KWON	12-12-M13
C	15page Heater 내용추가	-----	50303652	J.Y.LIU	D.W.Hwang	15-01-09

rev.C - 15p Heater 내용추가 재고소진 후 적용



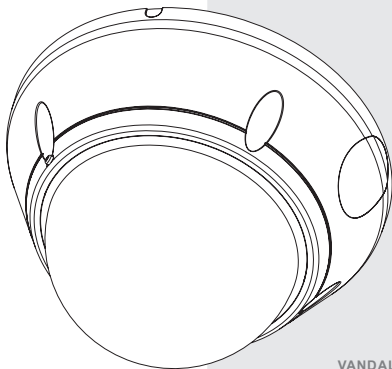
NOTES

- 1.MODEL: HCG(I)-N4xxxV2S22/NoBrand
- 2.MATERIAL: 모조지 100g/m² WHITE
- 3.COLOR: BLACK
- 4.SIZE: 105(+/-)5mm x 148(+/-)5mm
- 5.LABEL: -----

협 의	전자
	장경석
	15-01-09

50303652		ITEM	DESCRIPTION/MATERIAL	QTY
PARTS LIST				
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN MM. - TOLERANCE LABEL +/- 3 MANUAL +/- 5 GUIDE +/- 5		APPROVALS	DATE	TRON TITLE Manual Instruction
		K.H.Jung	15-01-09	
MATERIAL	2	CHKED	D.W.Hwang	15-01-09
COLOR	3	DRAWN	J.Y.LIU	15-01-09
		SIZE	A4	REV. C
SCALE DO NOT SCALE				

**700TV Lines
Super High
Resolution
Color Camera**



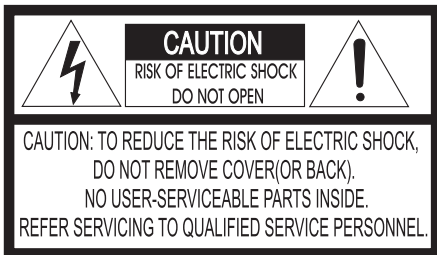
3-AXIS
VANDAL DOME CAMERA
3-AXIS INFRARED-LED
VANDAL DOME CAMERA

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

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION:



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.

PRECAUTIONS

Safety -----

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

Installation -----

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

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.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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 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.
15. **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.**
16. Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.



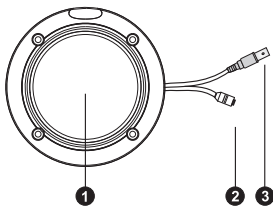
CAMERA CONNECTIONS

1. Lens : 2.8 ~ 12mm Vari-focal lens or 3.6mm Fixed lens for wide area monitoring. (D&N with ICR model option)

2. Power : 24V AC input / 12V DC input power source from a DC 12V or AC 24V \pm 10% 60/50Hz \pm 1Hz
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 7Watts)

3. Video : BNC connector used to connect to a monitor, switcher, etc.



INTRODUCTION

The camera provides high-quality images using CCD technology especially designed for closed-circuit television (CCTV) and security surveillance applications.

Features:

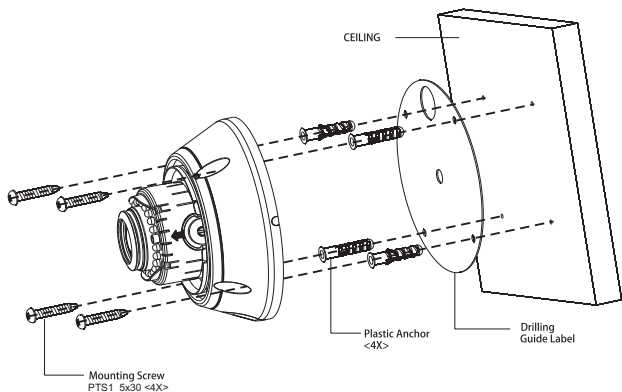
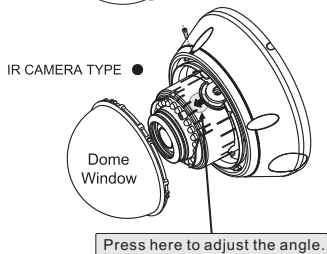
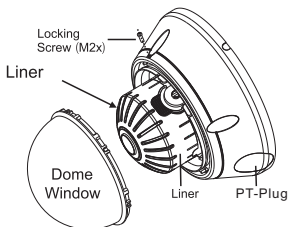
- High resolution and high performance
1/3" CCD Technology
- Excellent picture quality
- 700 lines(Color) of resolution
- 0.1 lux(Color), 0.04lux(B/W) @ F1.2 50IRE Sensitivity
- 0.1 lux(Color), 0 lux(B/W, IR LED ON)
@ F1.2 50IRE Sensitivity
- Auto electronic shutter [1/60(1/50) ~ 1/100,000]
and manual electronics shutter modes
- OSD (On Screen Display)
- Auto and manual white balance modes
- DWDR
- OSD Font Color (16 Color)
- BLC (Back Light Compensation)
- Smart IR (IR CAMERA ONLY)
- 24EA, 850nm IR LED
- Day&Night (Auto / Color / BW)
- Private Mask (8 position, 16 Colors)
- AGC (Auto Gain Control)
- MIRROR (ON/OFF)
- VIDEO OUT BNC
- Motion Detection(4 point)
- HLC (High Light Compensation)
- DPC (Dead Pixel Cancellation)
- 2.8~12mm A/I Varifocal Lens F1.2 (D&N Lens option)
- 3.6mm Fixed Lens
- Operates in DC 12V +/- 10% or 24V AC
- Use Certified / Listed Class 2 power source only
- Test monitor Output
- Camera Mount :
Camera Mount directly to the wall or ceiling



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

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. Drill the mounting location, using the Drilling guide.
3. Attach the housing to the ceiling using suitable fasteners, PTS1 5x30 screws are supplied only use if they are suitable.
4. Tighten a mounting screws.

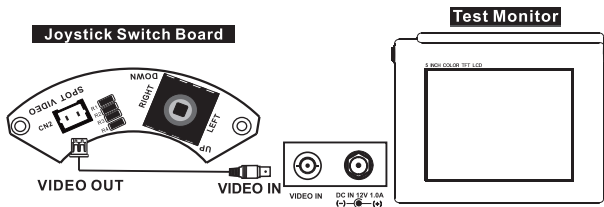


CONTENTS of PACKAGE

The package contains the following.

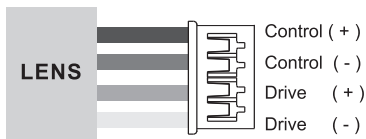
Camera in Housing_	1
Instruction Manual (This Document)_	1
Accessory Kit for Installing_	1
Drilling guide label_	1

VIDEO OUT CHECK

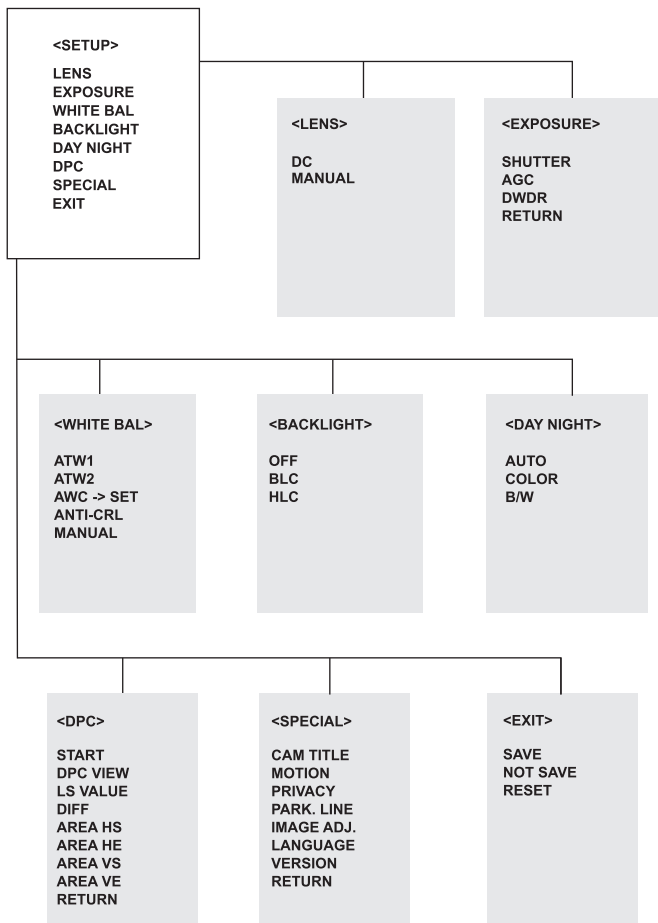


DC AUTO IRIS LENS

	2.8-12mm
Image Size	1/3" CCD
Focal Length	2.8-12mm \pm 5%
Aperture Ratio	1 : 1.2 \pm 5%
Angular Field of View	DIAGONAL 2.8mm : 119.9° 12mm : 28.80°



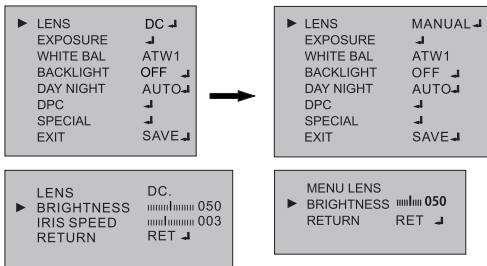
STRUCTURE OF THE SETUP MENU



LENS (Selection)

This function is used to adjust the brightness of the screen.

1. When the SETUP menu is displayed on the screen, please position the arrow to point to 'LENS' by using the UP and DOWN buttons.
2. Please select the type of the lens you wish to use by pressing the LEFT or RIGHT button.

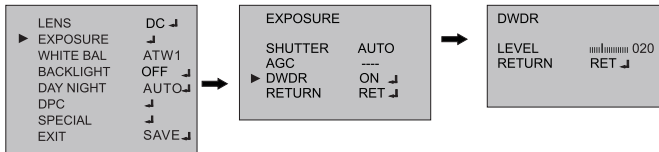


Note The brightness of the screen can be adjusted in DC mode.

EXPOSURE

The EXPOSURE menu is used to set the automatic light control method for this camera.

- 1) **SHUTTER** Select the shutter mode.(Auto, 1/60(50), FLK~ 1/100,000 sec)
Can be changed while in shutter mode.
- 2) **AGC** Auto gain control (OFF / LOW / MIDDLE / HIGH)
- 3) **DWDR** Digital Wide dynamic range(Xtended Dynamic Range) OFF / ON

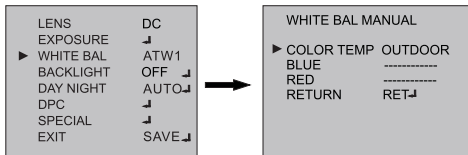


WHITE BAL

The screen color can be adjusted by using the WHITE BALANCE function.

- 1) **ATW1** Set the color temperature 2500°K 10000°K
- 2) **ATW2** Set the color temperature 2000°K 13000°K
- 3) **AWC -> SET** Please press the ENTER button white the camera is directed at a piece of white paper to obtain the optimum state under current illumination. if the environment including the light source is changed, you have to adjust the white balance again.
- 4) **ANTI. CRL** Anti Color Rolling Mode.
- 5) **MANUAL** Manual mode. User can change R and B Gain manually.
 - INDOOR Set the color temperature to 3200°K
 - OUTDOOR Set the color temperature to 6300°K

<WHITE BAL MANUAL MODE>

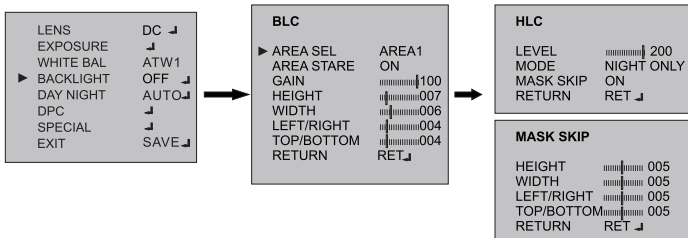


* It is recommended to use outdoor ATW2 Mode.

BACKLIGHT

- 1) **BLC** Prevents such a back light effect to secure a clear image under all illumination environments
- 2) **HLC** The function improves the identification capability of subjects facing a brightly lit situation by filtering out the strength of the light

<BACKLIGHT MODE>

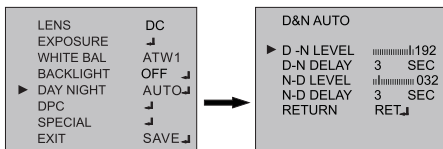


DAY NIGHT

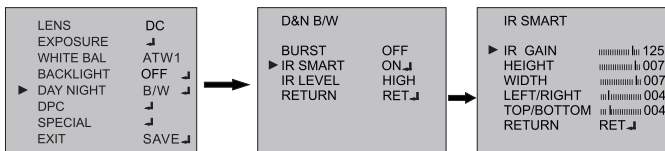
The DAY/NIGHT menu is used to configure the day and night related setting for this camera.
This camera can turn the IR(infrared)filter on or off.

Mode : AUTO / COLOR / B/W

<DAY NIGHT AUTO MODE>



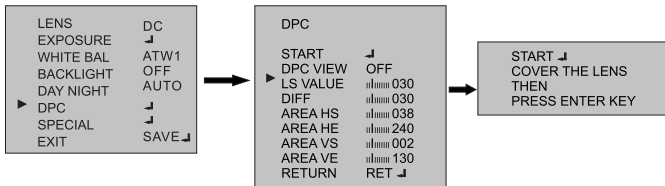
<DAY NIGHT B/W MODE>



*The IR LEVEL is not operating in DAY NIGHT B/W mode.

DPC

DPC Auto setting (Dead pixels are automatically removed)



SPECIAL

1) CAM TITLE

LENS	DC
EXPOSURE	↓
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY NIGHT	AUTO
DPC	↓
▶ SPECIAL	↓
EXIT	SAVE ↓



SPECIAL	
▶ CAM TITLE	ON
MOTION	OFF
PRIVACY	OFF
PARK LINE	OFF
IMAGE LINE	↓
LANGUAGE	ENGLISH
VERSION	00 00 01
RETURN	RET ↓



CAM TITLE	
A	— CAM TITLE
	0123456789
	ABCDEFGHIJK
	LMNOPQRSTU
B	— WXYZ ▶ ← → ↑ ↓
	~ _ # / = & : ~ , . ↓
C	— ← → CLR POS END

A. CAM TITLE

B. Character Table

C. Command Line

← : Move to left

→ : Move to right

CLR : Erase all characters

POS : Move the position of title

END : Save and End

Caution

The menu of Camera Title part is not available when Chinese(CMPLX) is selected.

2) MOTION

AREA SELECT Select MD area number. (AREA1 ~AREA4)

AREA STATE Select MD ON/OFF

HEIGHT Adjust height of MD area

WIDTH Adjust width of MD area

LEFT/RIGHT Adjust the location of the MD area with boundary LEFT and RIGHT.

TOP/BOTTOM Adjust the location of the MD area with boundary TOP and BOTTOM

DEGREE Adjust sensitivity of MD area.(0~255)

VIEW
The screen displays with pink dots. When a motion is detected in the selected area, the pink dots are displayed on the screen.

LENS	DC
EXPOSURE	↓
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY NIGHT	AUTO
DPC	↓
▶ SPECIAL	↓
EXIT	SAVE ↓



SPECIAL	
CAM TITLE	ON ↓
▶ MOTION	ON ↓
PRIVACY	OFF
PARK LINE	OFF
IMAGE ADJ.	↓
LANGUAGE	ENGLISH
VERSION	00 00 01
RETURN	RET ↓



MOTION	
▶ AREA SELECT	AREA1
AREA STATE	ON
HEIGHT	u 1mm 3
WIDTH	u 1mm 3
LEFT/RIGHT	l 1mm 2
TOP/BOTTOM	l 1mm 2
DEGREE	u 1mm 32
VIEW	OFF
RETRURN	RET ↓

3) PRIVACY

AREA SELECT

Select MASK area number.(Area 1 ~ Area 8)

AREA STATE

Select MASK ON/OFF

HEIGHT

Adjust height of MASK area

WIDTH

Adjust width of MASK area

LEFT/RIGHT

Adjust the location of the MASK area with boundary LEFT and RIGHT

TOP/BOTTOM

Adjust the location of the MASK area with boundary TOP and BOTTOM.

COLOR

Select MASK color. (0~15)

RETURN

<PRIVACY MODE>

LENS	DC
EXPOSURE	↓
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY NIGHT	AUTO
DPC	↓
▶ SPECIAL	↓
EXIT	SAVE ↓



SPECIAL	
CAM TITLE	OFF
MOTION	OFF
▶ PRIVACY	ON
PARK LINE	OFF
IMAGE ADJ.	↓
LANGUAGE	ENGLISH
VERSION	00 00 01
RETURN	RET ↓



PRIVACY	
▶ AREA SELECT	AREA1
AREA STATE	ON
HEIGHT	032
WIDTH	032
LEFT/RIGHT	041
TOP/BOTTOM	020
COLOR	000
RETURN	RET ↓

4) PARK.LINE

Select Parking area

LENS	DC
EXPOSURE	↓
WHITE BAL	ATW1
BACKLIGHT	OFF
DAY NIGHT	AUTO
DPC	↓
▶ SPECIAL	↓
EXIT	SAVE ↓



SPECIAL	
CAM TITLE	OFF
MOTION	OFF
PRIVACY	OFF
▶ PARK LINE	ON
IMAGE ADJ.	↓
LANGUAGE	ENGLISH
VERSION	00 00 01
RETURN	RET ↓



PARK. LINE	
▶ LT	080
LB	046
RT	178
RB	210
F	018
N	070
T	004
V1 ↓	035
V2	041
V3	077
RETURN	RET

5) LANGUAGE

Changed ENGLISH or CHINESE and 7 Language.

6) VISION

Program Upgrade Date

7) RETURN

RET or SAVE&END

IMAGE ADJUST

1) LENS SHAD

Adjust Lens shading level (0~255)

2) 2DNR

Select 2DNR ON/OFF

3) MIRROR

Select MIRROR ON/OFF

4) FONT COLOR

Select FONT COLOR level (0~15)

Select IDR TITLE level (0~15)

5) CONTRAST

Adjust CONTRAST level (0~255)

6) SHARPNESS

Adjust SHARPNESS level (0~31)

7) DISPLAY

Select DISPLAY mode (CRT /LCD/USER)

8) NEG. IMAGE

Select Negative image mode ON /OFF

<IMAGE ADJUST MODE>

IMAGE ADJUST

▶ LENS SHAD ON↓
2DNR ON↓
MIRROR OFF
FONT COLOR ↓
CONTRAST ██████████ 132
SHARPNESS ██████████ 016
DISPLAY CRT↓
NEG.IMAGE OFF
RETURN RET↓



LENS SHAD

▶ LEVEL ██████████ 006
H-CENTER ██████████ 074
V-CENTER ██████████ 053
RETURN RET↓

2DNR

▶ LEVEL ██████████ 003
RETURN RET↓

IMAGE ADJUST

LENS SHAD ON↓
2DNR ON↓
MIRROR OFF
▶ FONT COLOR ↓
CONTRAST ██████████ 132
SHARPNESS ██████████ 16
DISPLAY CRT ↓
NEG.IMAGE OFF
RETURN RET↓



FONT COLOR

▶ FONT ██████████ 003
ID&TITLE ██████████ 003
RETURN RET↓

IMAGE ADJUST

LENS SHAD ON↓
2DNR ON↓
MIRROR OFF
FONT COLOR ↓
CONTRAST ██████████ 132
SHARPNESS ██████████ 16
▶ DISPLAY CRT ↓
NEG.IMAGE OFF
RETURN RET↓



CRT ADJUST

▶ PED LEVEL ██████████ 022
COLOR GAIN ██████████ 192
RETURN RET ↓

LCD ADJUST

▶ GAMMA 0.55
PED LEVEL ██████████ 028
COLOR GAIN ██████████ 176
RETURN RET ↓

USER ADJUST

▶ GAMMA 0.45
PED LEVEL ██████████ 028
COLOR GAIN ██████████ 176
RETURN RET ↓

EXIT

- 1) SAVE Saves all setting and exits.
- 2) NOT SAVE Exits without Saving.
- 3) RESET Returns to the level which was set by the manufacturer for shipment.

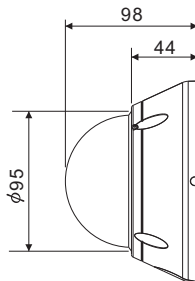
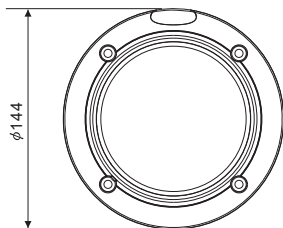
SPECIFICATIONS

MODEL		NTSC	PAL	
Power	Power source	AC24V ± 10% / DC12V ± 10%		
	Power consumption	AC 24V / DC 12V - 200mA (2.5 Watts) DC 12V - 130mA (1.6 Watts)		
	Power consumption (Heater)	AC 24V / DC 12V - 530mA (7.0 Watts) DC 12V - 530mA (6.0 Watts)		
General	Image sensor	1/3" CCD		
	Total pixels	1020(H) x 508(V)	1020(H) x 596(V)	
	Effective pixels	976(H) x 494(V)	976(H) x 582(V)	
	Scanning system	2:1 interlace		
	Scanning frequency	15.734KHz(H) x 59.94Hz(V)	15.625KHz(H) x 50Hz(V)	
	Sync. system	Internal		
	Electronic Shutter	1/60 ~ 1/100,000 sec.	1/50 ~ 1/100,000 sec.	
	Resolution	700 TV lines (COLOR)		
	Min. illumination	0.1 Lux(Color), 0.04 Lux(B/W) @ F1.2, 50IRE		
	Video Output	1.0 Vp-p (75 ohm, Composite)		
	S/N Ratio	More than 50dB (AGC off)		
Camera Control	OSD (Joystick Switch)			
Function	Lens	Manual / DC		
	Shutter	Auto, 1/60(1/50), Flickerless, 1/250 ~ 1/100,000sec		
	Brightness	0 ~ 255		
	Backlight	OFF / BLC / HLC(High Light Compensation)		
	AGC	OFF / LOW / MIDDLE / HIGH		
	DWDR	OFF / ON		
	White Balance	ATW1 / ATW2 / MANUAL / AWC->SET / ANTI. CRL		
	Day & Night	Auto / Color / B&W		
	D&N	Burst	OFF / ON	
		Smart IR	OFF / ON	
	B&W	IR Level	Low / High	
		Camera Title	OFF / ON	
	S P E C I A L	Motion Detec	OFF / ON	
		Privacy Mask	OFF / ON	
		Lens Shading	OFF / ON(0 ~ 255)	
		2DNR	OFF / ON	
		Mirror	OFF / ON	
		Font Color	Font 16 Color, ID&Title 16 Color	
		Contrast	0 ~ 255	
		Sharpness	0 ~ 31	
		Display	CRT / LCD / USER	
		Nega Image	OFF / ON	
		Language	ENG / CHN(Traditional, Simplified)/ GER / FR / JPN / RUS / PORT / SP	
DPC	Dead Pixel Cancellation (Auto 247 Points)			
Reset	Not Save / Return			
Connector & etc.	Power input	2-Pin Wire / Terminal Block / DC Jack		
	Video output	BNC Connector		
	Day & Night System	True ICR		
	Lens Mount	Fixed mount		
	Lens	f=2.8~12mm F1.2~360 Varifocal, ICR (D&N)		
		f=3.6mm Fixed Lens		
	Operating Temp.	Normal	14°F ~ 122°F (-10°C ~ +50°C)	
		Heater	-22°F ~ 122°F (-30°C ~ +50°C)	
	Operating humidity	0 ~ 96% (non-condensing)		
	Ingress Protection	IP 66		
	External Dimension	144(φ) x 95(H) mm		
Weight	500g			

IR TYPE	Power	Power consumption	AC24V / DC 12V - 410mA(5.0Watts) - IR LED ON DC 12V - 250mA(3.0Watts) - IR LED ON
		Power consumption (Heater)	AC24V / DC 12V - 840mA(10.0Watts) - IR LED ON DC 12V - 1000mA(12.0Watts) - IR LED ON
General	Min. illumination	0.1 Lux(Color), 0 Lux(B/W) IR LED ON @ F1.2, 50IRE	
	IR LED / Sensor	IR LED 24EA (850 nm / 76 degree), Sensor 1EA	
	LED Lighting Distance	25M	
Etc.	Weight	515g	

*Heater Operating Temp. : 59°F(15°C)-ON / 77°F(25°C)-OFF ; tolerance ±5°C

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: 1.14 lb. (0.530kg)

Shipping: 1.44 lb. (0.650kg)

Unit: mm