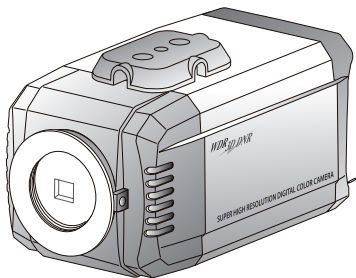


# 630 TVL D-WDR / 3D DNR STANDARD CAMERA USER'S MANUAL



- 1/3" IT CCD
- High Resolution 630TV Lines
- D-WDR(Wide Dynamic Range)
- 3D DNR(Digital Noise Reduction)
- Sens-Up Function(x1024)
- LSC(Lens Shading Compensation)
- Day & Night (ICR-Optional)
- Intelligibt Motion Detection
- Back Light Compensation
- PELCO-D / RS485(Optional)
- Privacy Mask(Polygonal,8 Colors)
- O.S.D menu function



The lightning flash with an 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 appliance.

**INFORMATION -** This equipment has been tested and found to comply with 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 -** Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

**CAUTION :** To prevent electric shock and risk of fire hazards:

- Do NOT use power sources other than that specified.
- Do NOT expose this appliance to rain or moisture.

This installation should be made by a qualified service person and should conform to all local codes.

## Precaution

	Do not Keep the camera face to strong light directly
	Do not install the camera in extreme temperature conditions.
	Do not disassemble the camera even if troubles happened
	To avoid malfunctions, never use the camera close to a gas or oil leak
	Do not drop the camera or subject them to physical shocks.
	Do not expose the camera to rain or spill beverage on it.
	Do not install the camera under unstable lighting conditions
	Do not install or use the camera in an environment where the humidity is high

## 1. Features

### **D-WDR(Wide Dynamic Range)**

Delivers a powerful Wide Dynamic Range to the camera which provides superior images, internally and externally, even under extreme light and dark contracts. It automatically compensates the necessary light levels to get detailed information in the dark part of the image without saturation from the bright part. It enables the WDR function to be very efficient, using a normal CCD, by using a Dual Shutter (long & short shutter) algorithm, a specialised AE (Auto Exposure) and intelligent image processing.

### **630 TVL ULTRA HIGH RESOLUTION**

The horizontal resolution is 600 TV Lines in Color mode and 700 TV Lines in Black/ White mode using a high density CCD. It gives a vivid image output with super high horizontal resolution using our own De-Mosaic Interpolation algorithm and a specialised built-in sharpness filter.

### **3D DNR(Digital Noise Reduction)**

Achieves excellent 3D-DNR (3-Dimensional Digital Noise Reduction) function using upgraded 3D filtering. This function is automatically enabled when the camera is being used and provides clear and superior images in very low light luminance. Normally video noise increases in low light conditions, while the gain level of the amplifier increases. It compensates for the dynamic noise using the inactive information of a normal frame

### **SMART IR FUNCTION**

### **LSC ( Lens Shading Compensation)**

### **Sens-Up(x1024)**

Achieves high quality pictures by supporting a long exposure time - more than 1/50second - and enables recognition of the shape and color of a suspended object under no light conditions

### **POLYGONAL PRIVACY MASKING(Polygonal, 8colors)**

Ensures privacy protection for private and specific areas on the video signal output using a polygonal masking function. It allows the size and position of the masking areas to be controlled very easily, and there are 8 mask areas which are user programmable - color, brightness and mosaic.

### **HLC**

Enables the recognition of a visible car license plate by blocking unwanted light sources.

### **HIGH SENSITIVITY TRUE DAY&NIGHT**

The Day & Night function delivers high quality color rendition and converts automatically into monochrome as luminance levels drop.

## 2. Components

D-WDR/3D DNR Camera



L-Wrench



Manual

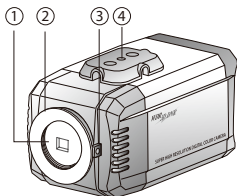


Option

RS-485 Terminal Block

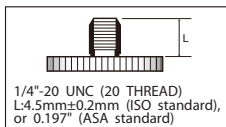


### 3. Names and Functions of Parts



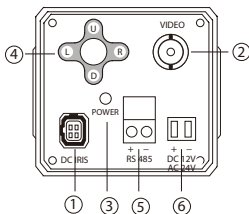
#### 1) Front

- ① Lens protection cap  
Please cover while it is out of use.
- ② CS-Mount lens adaptor  
Please attach the CS-Mount lens here.
- ③ Back Focus clamp screw  
Please loosen the clamp screw with a screwdriver before adjusting the Back focal length.
- ④ Mounting bracket screw hole  
Please use the screw hole when fixing the camera onto the mounting bracket. Please use the clamp screw as specified in the picture.

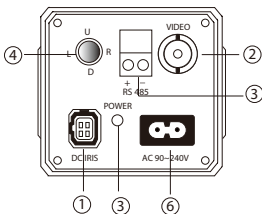


The mounting bracket can be separated and attached to the top of the camera. In this instance please do not tighten the screw to a depth of more than 5mm, otherwise serious damage can influence in the inner parts of the camera.

DC12V, DC12V/AC24V



AC 220V



## 2) Back

### ① Auto iris lens connector

This is the connection terminal for auto iris lens.

### ② Video composite Out

### ③ Power lamp

Light up when the correct power is supplied to the camera.

### ④ Setting button(OSD Joystick)

ENTER button : Use for menu display. This button can be used to confirm settings after changing the value of the selected function or current conditions.

UP & DOWN buttons : Use for selecting items by moving the cursor up or down on the menu screen.

LEFT(L) & RIGHT(R) buttons : Use when changing item values by moving the cursor to the left or right on the menu screen.

### ⑤ RS-485

The camera can be controlled by using external controller like a remote controller.

### ⑥ Power input terminal

Connect to the power appropriate to each power requirement, 12V DC or 24V AC or 90~240V AC.

## 4. Installation

### 1) Lens

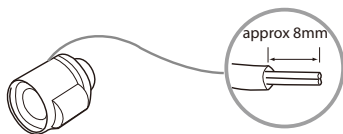
Lenses are sold separately. Lenses such as auto iris lens, CS-Mount lens and C-Mount lens can be used.

Note) How to operate this product effectively

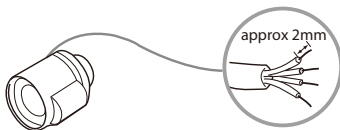
- Please keep lens clean
- Any foreign objects and finger marks on the lens can cause inferior image quality in low light conditions.

#### ① When using an auto iris lens

Please peel off about 8mm of the outer skin of the auto iris lens cable.



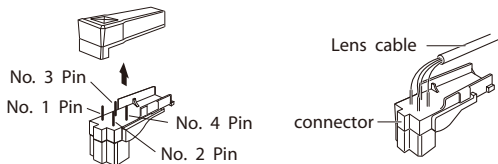
Please peel off about 2mm of the outer skin of the insulated conductor inside the lens cable.





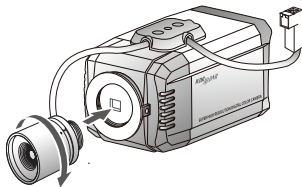
Please remove the cover of the auto iris lens connection plug and solder the lens cable to the connector pin in the plug.

Pin No.	LENS
	DC
No.1 Pin	Damping-
No.2 Pin	Damping+
No.3 Pin	Drive+
No.4 Pin	Drive-



Please fit the auto iris lens connector plug and take off the lens protection cap, and then attach the auto iris lens to the camera by screwing it in clockwise.

Please insert the connection plug that is connected to the auto iris lens cable into the auto iris lens connector, which is located on the back of the camera.



② When using a CS-Mount lens

Please take off the lens protection cap and attach the CS-Mount lens to the camera by screwing it in clockwise.

③ When using a C-Mount lens

Please take off the lens protection cap and attach the C-mount adaptor.

## 2) Power

\* Be sure to connect power only after all installation is complete.

\* Please use a power adaptor that meets the required standards.  
[Recommended - Voltage :  $\pm 20\%$ , Current : Adaptor with rated power of 2 times(than real using current )]

## 3) RS485(option)

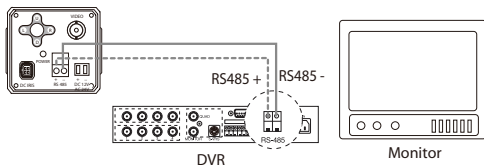
\*The camera can be controlled by using external controllers like a remote controller.

\* Connect the RS485 cable(+, -) to the connection port of the 485 control that is connected to the DVR or System Controller.

\* Use the PELCO-D protocol.

\* When controlling RS485, please check the following:

- Communication Speed : 4800 bps
- Data Bit Number : 8 bits
- Stop Bit Number : 1 bit
- Parity Bit : none



## 5. Setup Menu Flow

### EXPOSURE

LENS	—	DC, MANUAL
AGC	—	OFF, LOW, MID, HIGH
SENSE-UP	—	AUTO, OFF, X2, X4, X8, X16, X32, X64, X128, X256, X512, X1024
BACK LIGHT	—	OFF
	—	BLC - BLC LEVEL<OFF, LOW, MID, HIGH>
	—	HLC
	—	D-WDR-SET LEVEL<0~20>
3D-DNR	—	OFF, LOW, MID, HIGH, AUTO
RETURN		

### WHITE BALANCE

WB MODE	—	ATW, MANUAL, PUSH
R-Y GAIN		
B-Y GAIN		
RETURN		

### DAY&NIGHT

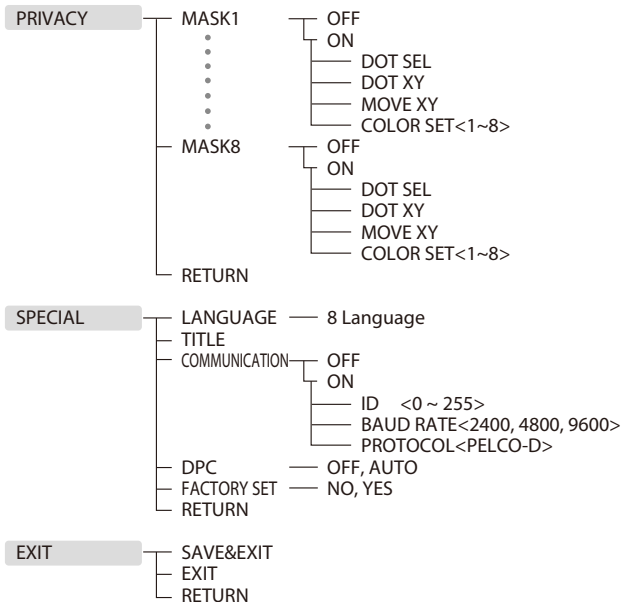
D&N MODE	—	AUTO, COLOR, BW, EXT, EXT2
BURST	—	ON, OFF
C_SUP	—	<0 ~ 100>
S_SUP	—	<0 ~ 100>
SMART IR	—	ON, OFF
RETURN		

### IMAGE ADJUST

MIRROR	—	OFF, MIRROR
SHARPNESS	—	<0~30>
GAMMA	—	0.45, 0.5, 0.6, USER<0.2 ~ 1.0>
MONITOR	—	CRT, LCD
LSC	—	OFF, ON <0 ~ 30>
RETURN		

### MOTION

MOTION	—	OFF, ON
AREA	—	AREA1 ~ AREA4
SENSITIVITY	—	<1 ~ 30>
DISPLAY	—	OFF, MESSAGE, TRACE
HOLD TIME	—	<0~15>
ALARM OUTPUT	—	OFF, ON
RETURN		



## 6. Special Features

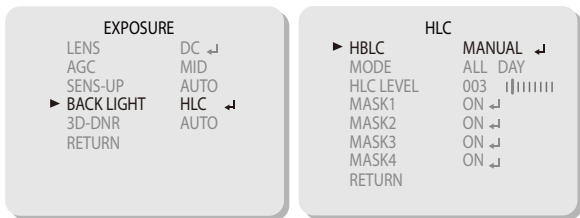
### 1. D-WDR(Wide Dynamic Range)

D-WDR captures the images at all light levels by correcting GAMMA CURVE. If you use an ordinary camera in a scene with an intensive backlight, the object will be displayed dark on the monitor affected by the backlight. To solve this problem, you can use the D-WDR function to improve the dark part without saturation from bright part. You can adjust SET LEVEL to get clearer images.



### 2. HLC

This function is to mask the bright color. You can select 4 mask areas and DAY&NIGHT and adjust HLC level.



### 3. 3D DNR(Digital Noise Reduction)

Select 3D DNR ON or OFF.

3D-DNR function reduce the background noise in a low luminance environment. Upgraded 3D filtering ensures even more clear image.

[DNR Level High : Picture image is more clear but Ghost is more increased.

DNR Level Low : Picture image is not clear but less Ghost.]

#### MAIN MENU

- ▶ EXPOSURE
- WHITE BALANCE
- DAY & NIGHT
- IMAGE ADJUST
- MOTION
- PRIVACY
- SPECIAL
- EXIT

#### EXPOSURE

- |            |        |
|------------|--------|
| LENS       | DC ↙   |
| AGC        | MID    |
| SENS-UP    | AUTO   |
| BACK LIGHT | D-WDR  |
| ▶ 3D-DNR   | AUTO ↙ |
| RETURN     |        |

### 4. SMART MOTION

With learning capability, it memorizes the previous screen on the movement of the subject approximately in 3 to 5 seconds. When there is a change, the alarm function goes off.

#### MAIN MENU

- EXPOSURE
- WHITE BALANCE
- DAY & NIGHT
- IMAGE ADJUST
- ▶ MOTION
- PRIVACY
- SPECIAL
- EXIT

#### MOTION

- |              |       |
|--------------|-------|
| ▶ MOTION     | ON    |
| AREA ↙       |       |
| SENSITIVITY  | 007   |
| DISPLAY      | TRACE |
| HOLD TIME    | 003   |
| ALARM OUTPUT | OFF   |
| RETURN       |       |

## 7. SPECIFICATIONS

TV System		NTSC		PAL	
Sensor		1/3" IT CCD			
Total Pixel		811(H) X 508(V)		795(H) X 596(V)	
Effective Pixel		768(H) X 494(V)		752(H) X 582(V)	
Synchronization		H/V 15.734/59.94Hz		H/V 15.625/50Hz	
Scanning System		2:1 Interlace			
Horizontal Resolution		630 TV Lines (Max.)			
Min. Illumination	Sens-Up Off	0.12Lux(15IRE), 0.2Lux(30IRE), 0.4Lux(50IRE) F1.2			
	Sens-Up On	0.0002Lux(15IRE), 0.0005Lux(30IRE), 0.0008Lux(50IRE) F1.2			
Video Output		1.0Vp-p/ 75ohm Video 0.714Vp-p			
γ Correction		0.45, 0.5, 0.6, CRT , LCD			
S/N		More than 52dB(AGC off)			
O.S.D		LENS, AGC, SENS-UP, BACK LIGHT(BLC, HLC, D-WDR),			
		3D-DNR, WHITE BALANCE, DAY & NIGHT			
		MIRROR, SHARPNESS, GAMMA, MONITOR, LSC,			
		MOTION, PRIVACY (MASK1 ~MASK8), LANGUAGE			
		COMMUNICATION, DPC			
Electrical Shutter		1/60~1/100,000		1/50~1/100,000	
Privacy Masking		8 Windows(Polygonal, 8 Colors)			
Day & Night		AUTO, COLOR, BW, EXT, EXT2			
Motion Detection		ON / OFF			
Sens-Up(Low Shutter)		AUTO, OFF ~x1024			
Language		8 Language			
White Balance		ATW / AWC / MANUAL / PUSH			
D-WDR		ON / OFF(WDR LEVEL)			
Smart IR		ON / OFF			
3D-DNR		OFF, LOW, MID, HIGH			
MIRROR		ON / OFF			
LSC		ON / OFF			
HLC		ON / OFF			
AGC		LOW / MIDDLE / HIGH / OFF			
Lens		C/CS Mount			
Operating Temperature/Humidity		-20℃ ~60℃ /30% ~80%			
Storage Temperature/Humidity		-30℃ ~60℃ /20% ~90%			
Supply Voltage		Only DC12V (±20%)	Dual AC24V /	DC 12V	AC 90~240V
Current		110mA	80mA /	200mA	
Power Consumption		1.4W	2W /	2.4W	
		[Recommended - Voltage : +/-20%, Current : Adapter with rated power of 2 times(than real using current.)]			
Dimension		61(W) X 55(H) X 106mm(L)			
Weight		Abt. 460g			

Design and specifications are subject to change without notice.

## PRODUCT WARRANTY CARD

1) ITEM # :

2) S/N # :

3) INSTALLATION CONDITION

- Indoor ☐ / Outdoor ☐
- Power supply SPECIFICATION :  
DC12V ☐ / AC24V ☐  
CURRENT \_\_\_\_\_ mA

4) TROUBLESHOOTING

- No picture ☐
- Bad image ☐
- No power ☐
- Water damage ☐
- LED ON ☐ / OFF ☐
- ETC. : ☐

\* Please keep this warranty card with the manual.

\* Please fill out this warranty card and send us this warranty card with the faulty units together.

■ Following cases can be charged even within the warranty period.

- a. When defects are caused by user's carelessness.
- b. When improper or unauthorized repairs are done or when the inside is modified or damaged.
- c. Defects caused by natural disaster or power problem.
- d. When the warranty card is not filled out or corrected unconfirmed.