

**DSS**

• WEATHERPROOF D&N IR CAMERA



Weatherproof D&N IR Camera

**270x**  
**Digital Zoom**



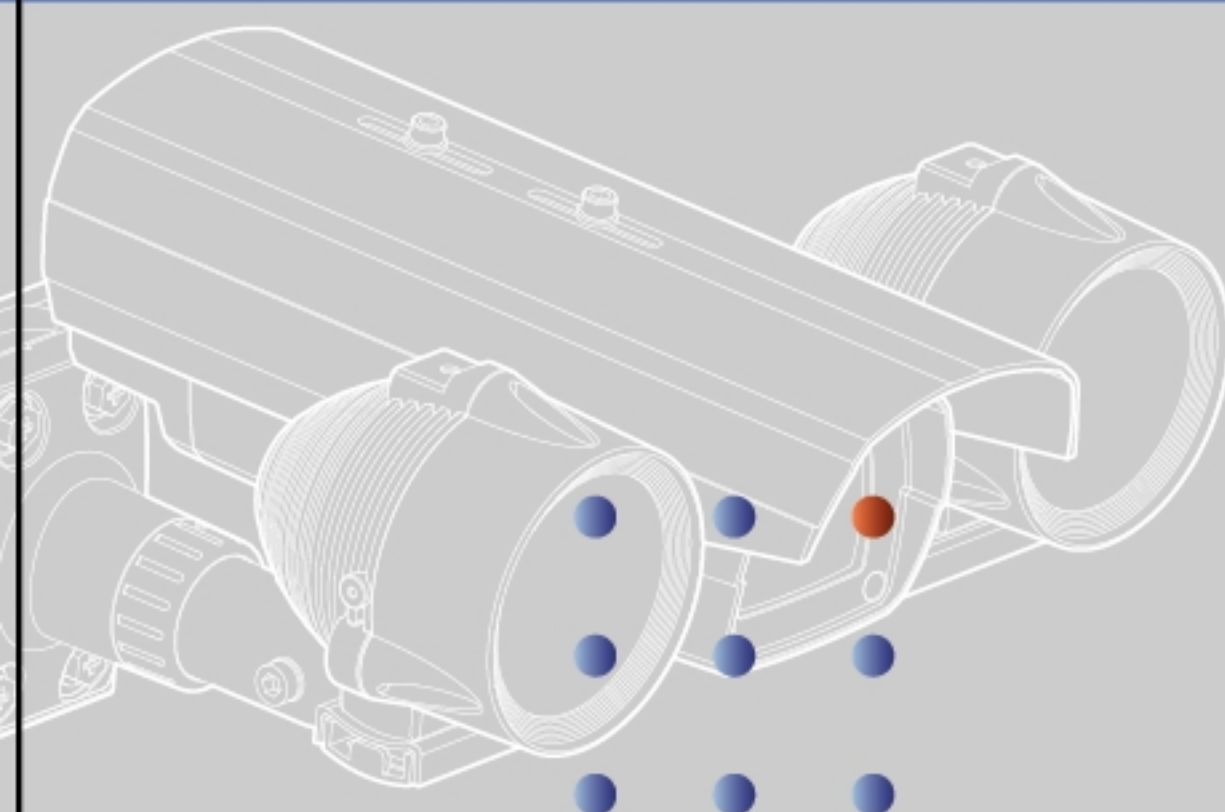
**Auto Focus**

**Zoom**

**COLOR ZOOM CAMERA SERIES**  
**DIGITAL POWER ZOOM**

**OWNER'S MANUAL**

**OSD**  
On-Screen Display



P/N:3810-0265A  
(ver.1108E1.7) ©

D&N IR Color Camera Series

- Design and specifications are subject to change without notice.



## . User Information



**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.

### Explanation of two Symbols



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



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.

THE GRAPHIC SYMBOLS WITH SUPPLEMENTAL MARKING ARE ON THE BOTTOM OF THE SYSTEM.

"WARNING-TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE"

### 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 their 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 except for that specified.

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

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## 1. Safety Instructions

- Read Instructions**
  - ➔ Read all of the safety and operating instructions before using the product.
- Retain Instructions**
  - ➔ Save this manual for later use.
- Cleaning**
  - ➔ Unplug this appliance from wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Installation**
  - ➔ Do not place this product on an unstable cart, stand, or table. The product may fall causing serious injury to a child or adult, and damage to the product. Use only with a cart or a stand recommended by your supplier/reseller. Mounting should follow the manufacturer's instructions, and should use a mounting accessory recommended by manufacturer.
- Power source**
  - ➔ This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.

## 2. Precautions

### Do not install the camera in extreme temperature conditions.

- ➔ An operating temperature of  $-10^{\circ}\text{C}(14^{\circ}\text{F})$  to  $+45^{\circ}\text{C}(113^{\circ}\text{F})$  is standard. this temperature range can be widened when a built-in fan/heater works automatically.  
< $-30^{\circ}\text{C}(-22^{\circ}\text{F})$  to  $+50^{\circ}\text{C}(122^{\circ}\text{F})$ >

### Do not install the camera under unstable lighting conditions.

- ➔ Severe lighting change or flicker can cause the camera to work improperly.

### Never use the camera close to a gas or oil leak.

- ➔ It can cause malfunctions to occur.

### Do not disassemble the camera.

- ➔ There are no user-serviceable parts inside it.

### Do not drop the camera or subject them to physical shocks.

- ➔ It can cause malfunctions to occur.

### Never keep the camera face to strong light directly.

- ➔ It can damage CCD.

### **Note**

-  When this camera is installed near wireless communication devices that emits strong electromagnetic field, irregularity such as noise on the monitor may appear.

## 3. Features

### • **High Resolution**

The horizontal resolution of 580 / 400 TV Lines can be achieved by using a high density CCD having effective 410K / 270K pixels, which provides clean, noiseless and reliable pictures.

### • **Built-in Power Zoom Lens**

Subjects can be magnified up to 270 times with be 27x optical zoom and 10x digital zoom.

### • **AI / Fuzzy Control Circuit with DSP**

Advanced DSP(Digital Signal Processor) technology automatically adjusts operations such as Iris, white balance flexibly adapting to environmental conditions.

### • **Remote Control through RS-232C / RS-485 Interface**

Remote control operations are possible through RS-232C / RS-485 interface for Focus and Zoom control.  
- In addition, the unit lets you command white balance and exposure manually using RS-232C / RS-485 interface.

### • **PROTOCOL: Default, Pelco-D, Pelco-P**

### • **OSD(On-Screen Display) Function**

### • **Wire Remote Controller (Option available on select model(s) only.)**

### • **Digital Slow Shutter for full color surveillance under very low light condition: 0.0005 Lux (at x 128 Field)**

### • **Min. Illumination (F1.2, 30IRE)**

- 0.05Lux(Color)
- 0.0002Lux(Sens-up Auto,Color)
- 0.00Lux(IR LED ON)

### • **Built-in IR LEDs / IR Illuminator**

IR LEDs or IR Illuminator enable you to see any object under total darkness.  
- IR Illuminator type model uses two IR Illuminators.(206EA)

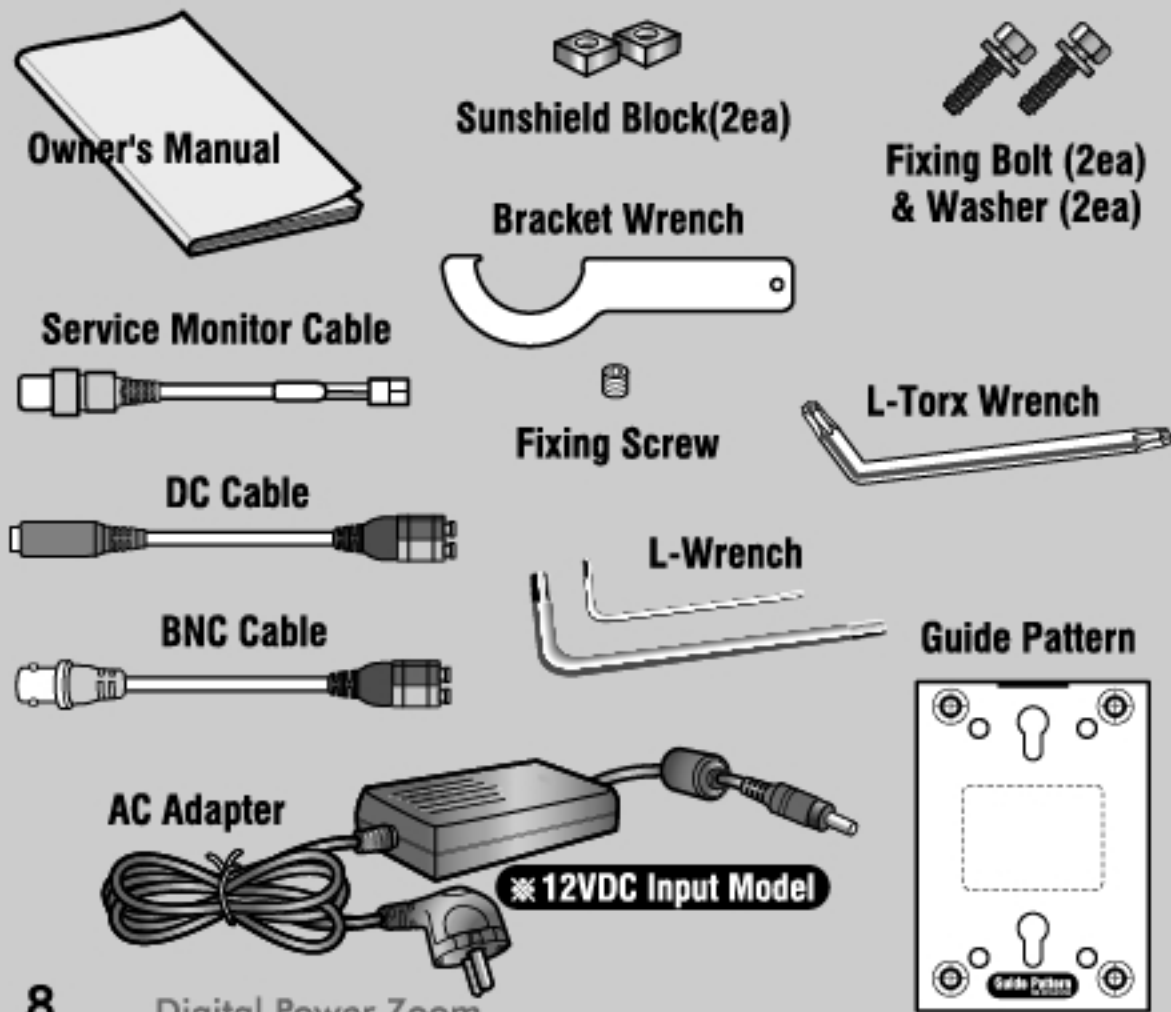
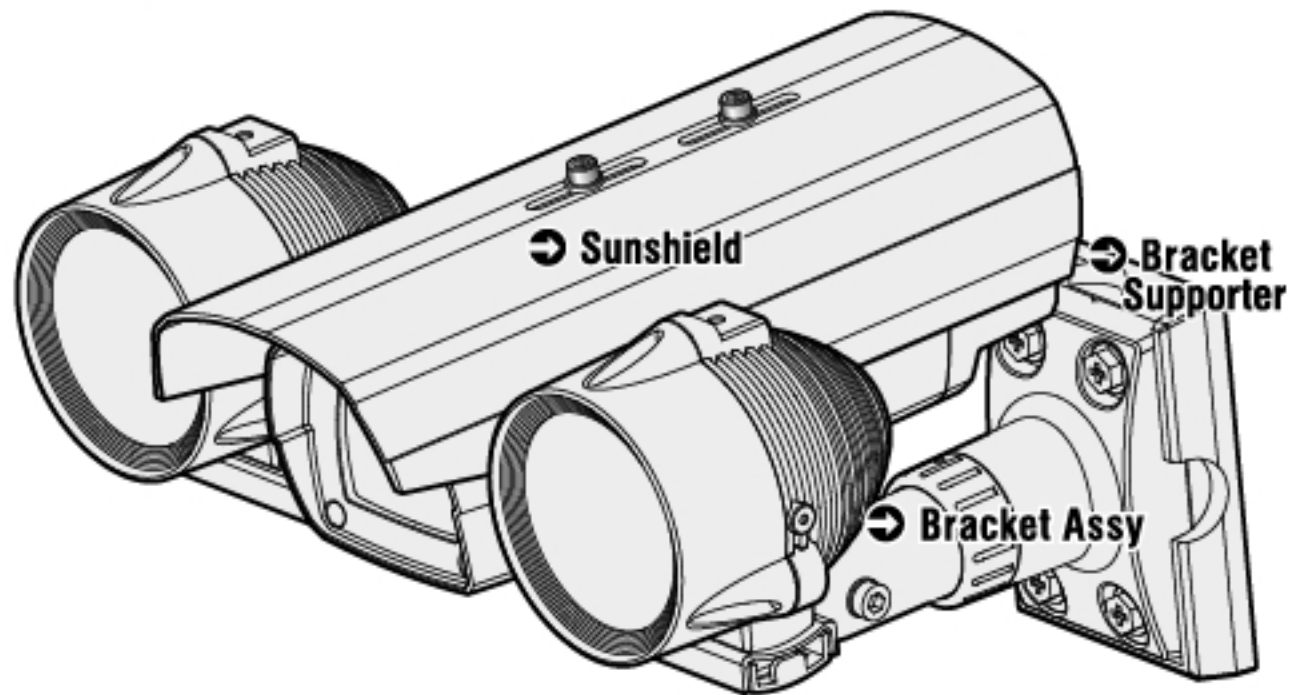
### • **Built-in Fan / Heater**

Depends on internal temperature, it operates automatically.  
- Fan ON: Operates with IR LED  
- Heater ON: under  $10^{\circ}\text{C}$

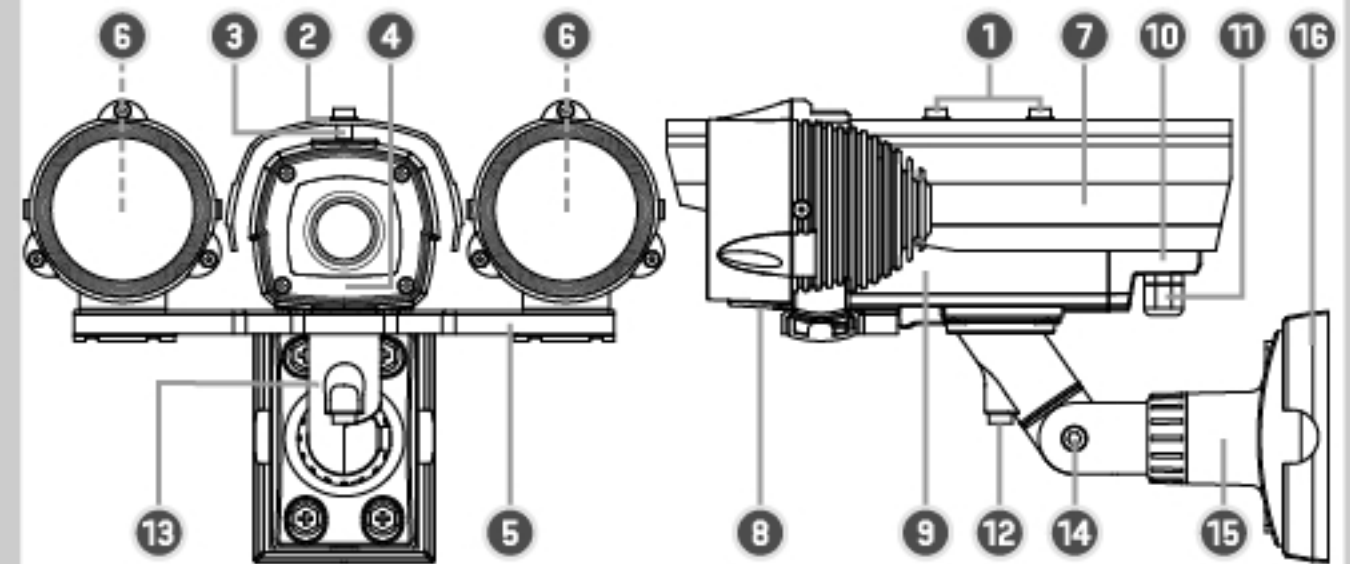


## 4. Composition

### Weatherproof IR LED Camera

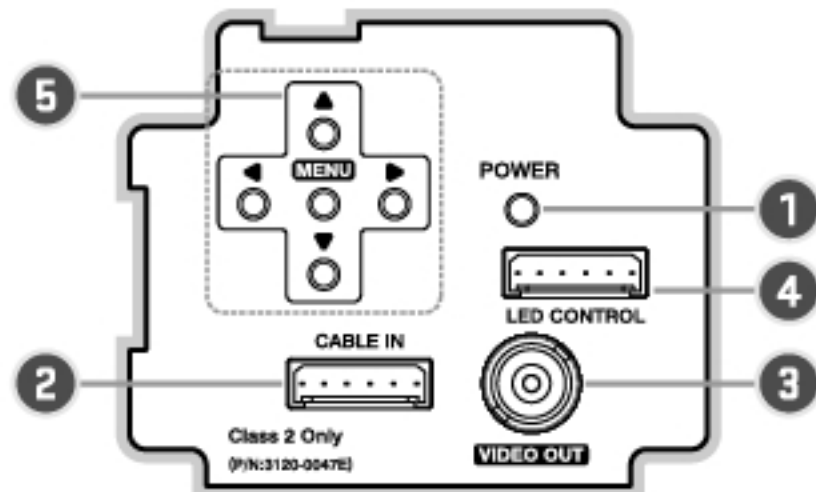


## 5. Name and Function of Each Parts



1. **Fixing Bolt for Sunvisor**  
You can unfasten the bolt in order to fix mounting bracket above.
2. **Washer(2ea) / 3. Sunshield Block(2ea)**
4. **Photo Sensor**
5. **IR Illuminator Supporter**
6. **IR Illuminator (Infrared LED)**  
Automatically controlled according to light condition.
7. **Sunshield**  
To reduce direct sunlight and protect the camera unit from rain or snow outdoor.
8. **Front Cover / 9. Main body / 10. Rear Body**
11. **Compression Gland**
12. **Mounting Bracket Fixing Bolt:**  
Fix the camera main body to bracket by wrench bolt.
13. **Base Adapter**
14. **Base Adapter Fixing Bolt**
15. **Wall Mount Bracket**
16. **Bracket Supporter**

## Main Body: Raer Panel



### 1. Power LED

The LED turns on when power is supplied.

### 2. Cable (Power In / Video Out / Camera Control) Connector

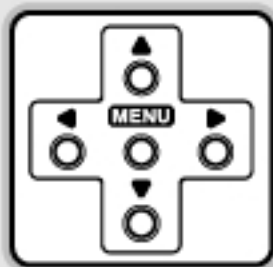
### 3. Video Out Jack

This camera system includes a service connector that outputs extra camera video signal. Use it at the installation site to set up the field of view and focus the camera.

### 4. Illuminator Control Connector

### 5. Function Setup Button

Functions can be setup using 5 buttons on the camera's rear panel.



➤ **MENU Buttons** : Used to access menu mode. Also used to escape menu mode.

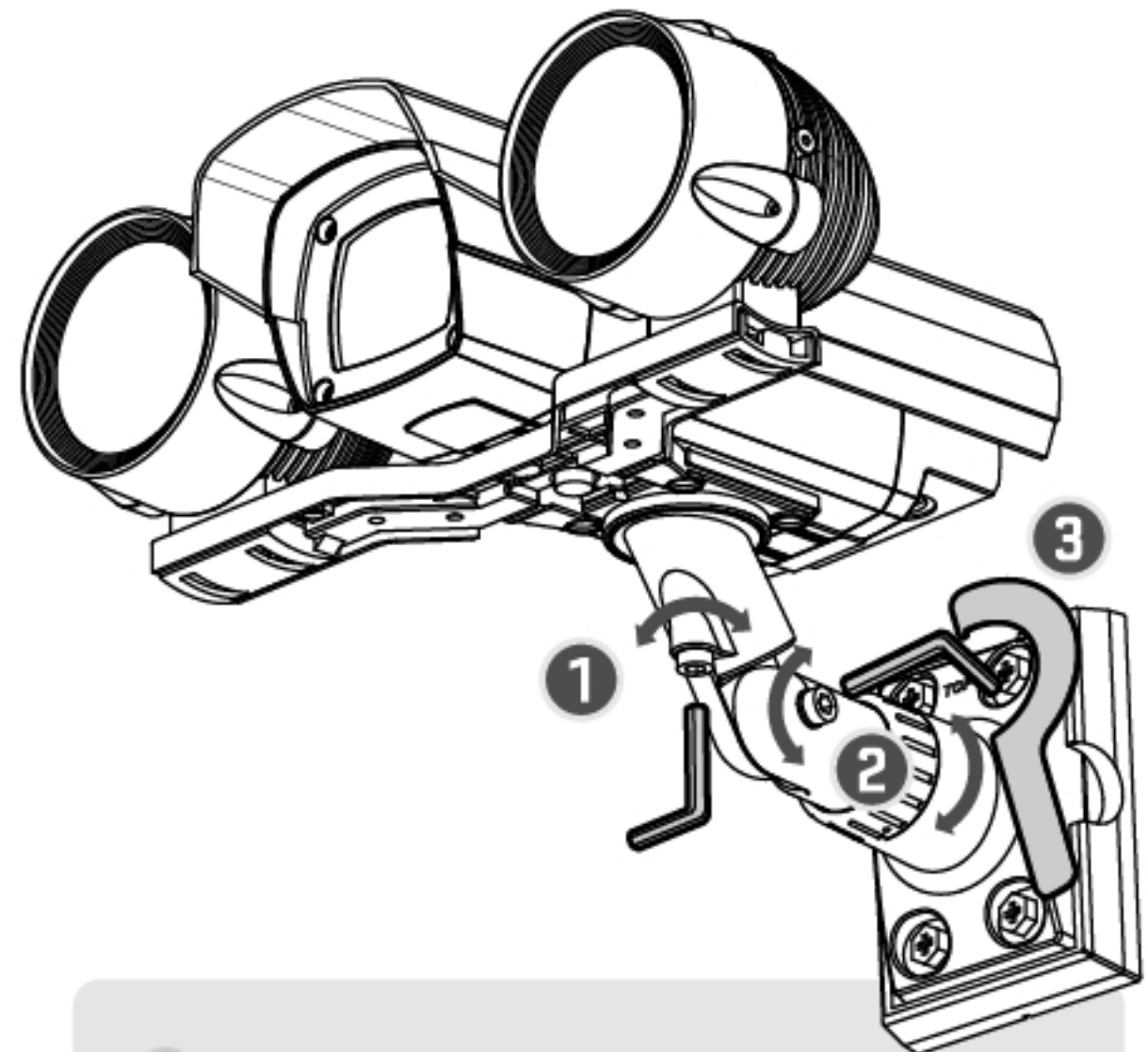
➤ **UP/DOWN Buttons** : Used to choose the desired menu item. It also moves the cursor up or down in the menu screen.

➤ **LEFT/RIGHT Buttons** : Used to change the parameter of the selected menu item.

It also moves the cursor the left of right in the menu screen.

## 6. Installation

### Camera Lay-out

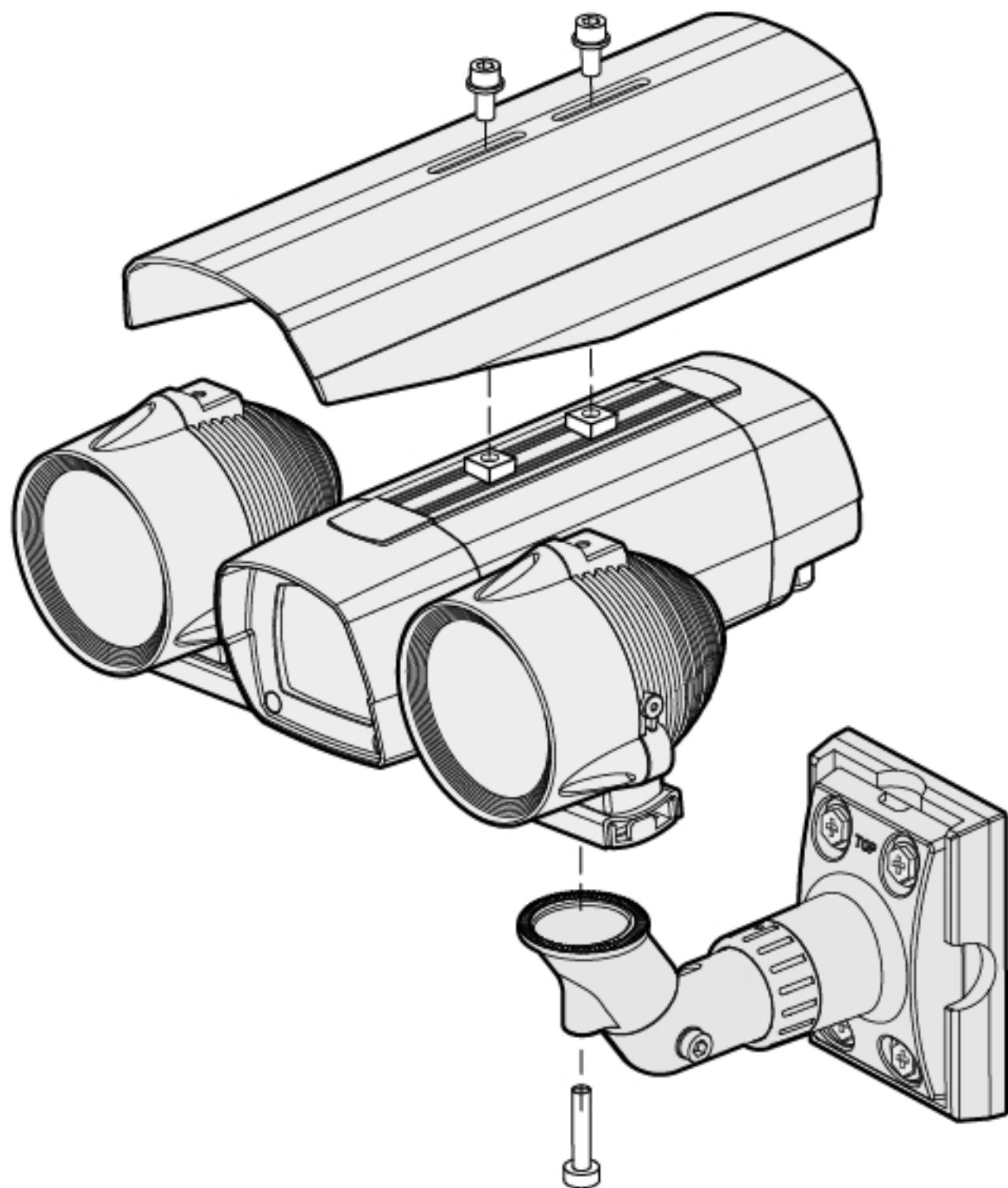


➊ **Pan rotation**: Adjusts horizontal angle.

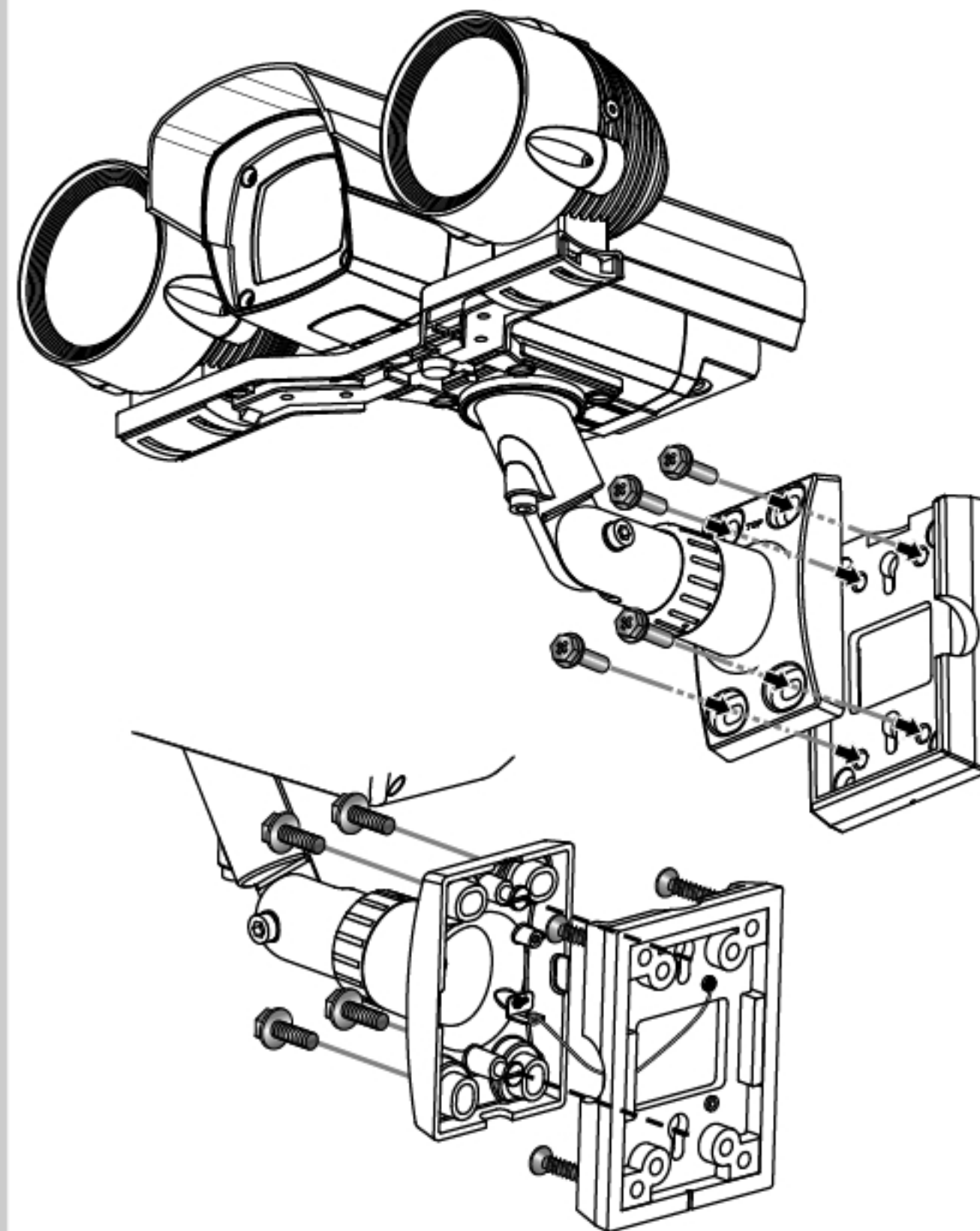
➋ **Tilt rotation**: Adjusts vertical angle.

➌ **Horizontal rotation**: Adjusts horizontal position of screen.

Assembling the sunshield and the bracket

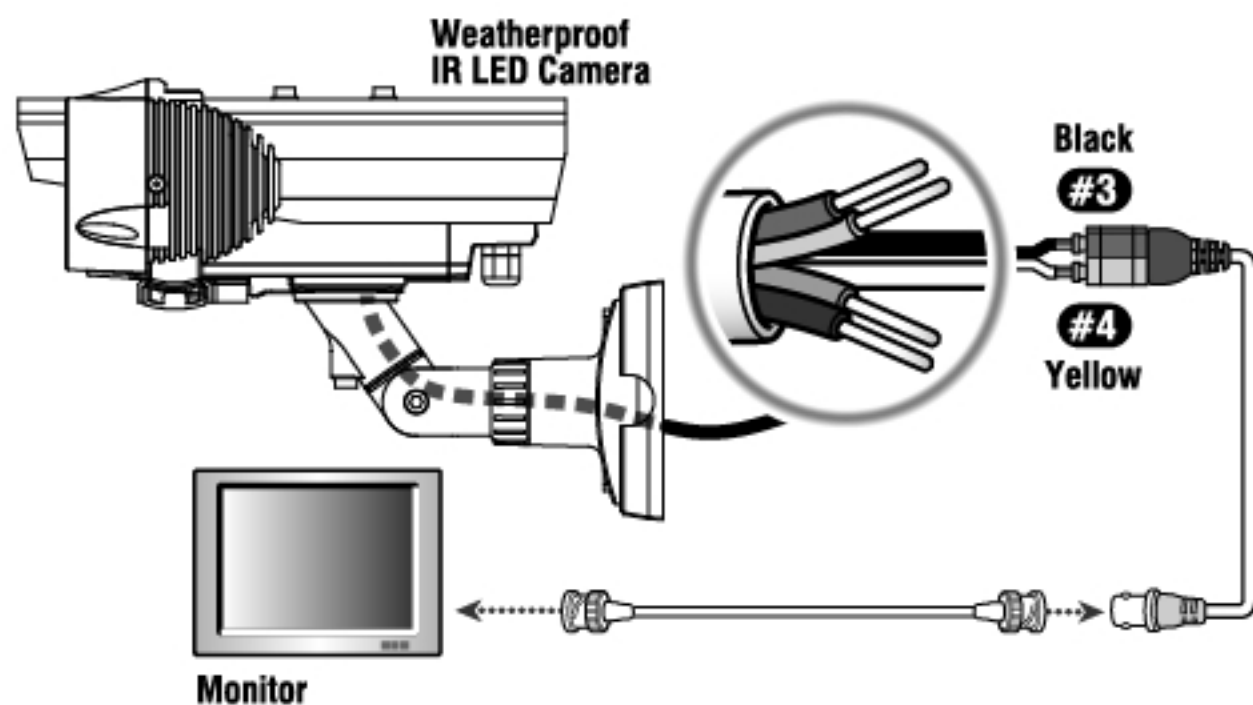


Assembling the bracket supporter

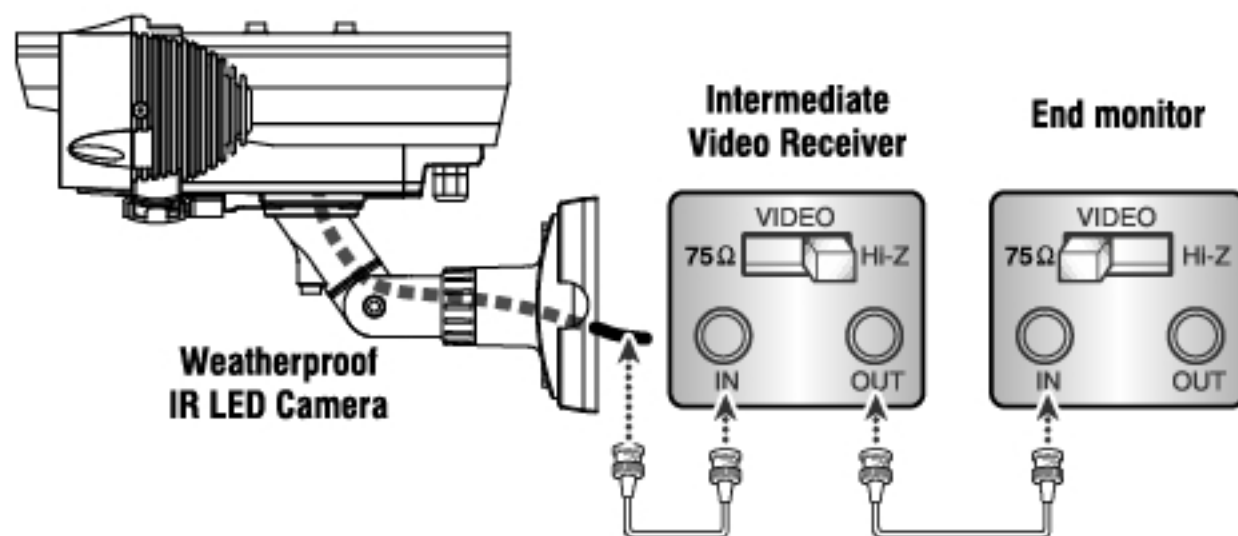


## 1. Connecting to Monitor

- Cable the VIDEO out to the monitor video in jack.



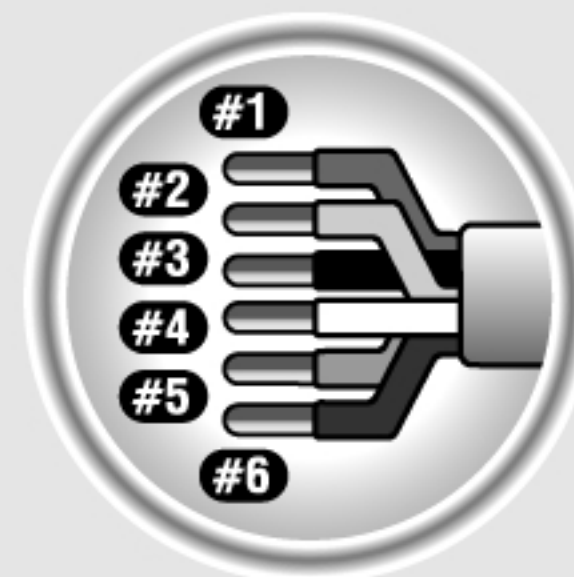
- As the connecting method varies with the instruments, refer to the manual supplied with the instrument.
- Connect the cable after power is turned off.
- Set the 75Ω/ Hi-Z selection switch as shown below if you have an intermediate device.



## 2. Connecting to Power Supply

### 12V DC Power

- The wire is polarized.
- Use 12V DC power source.



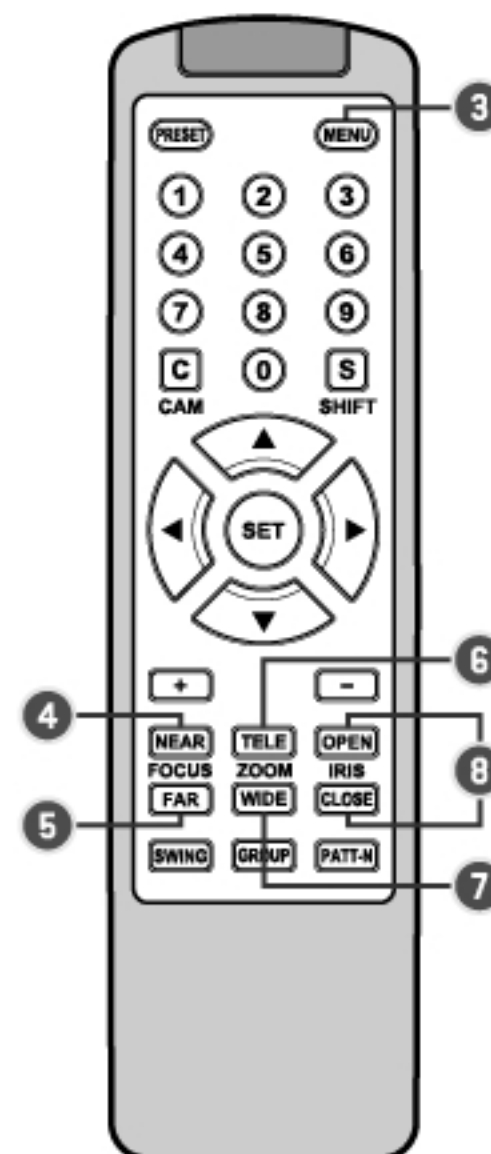
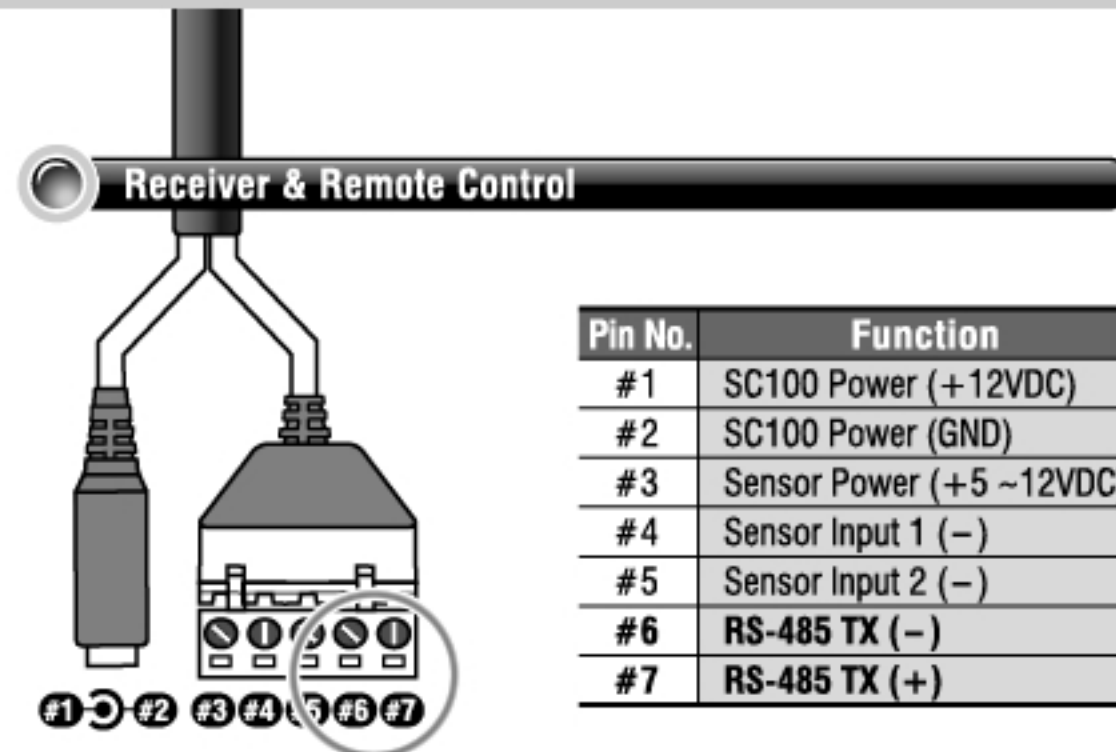
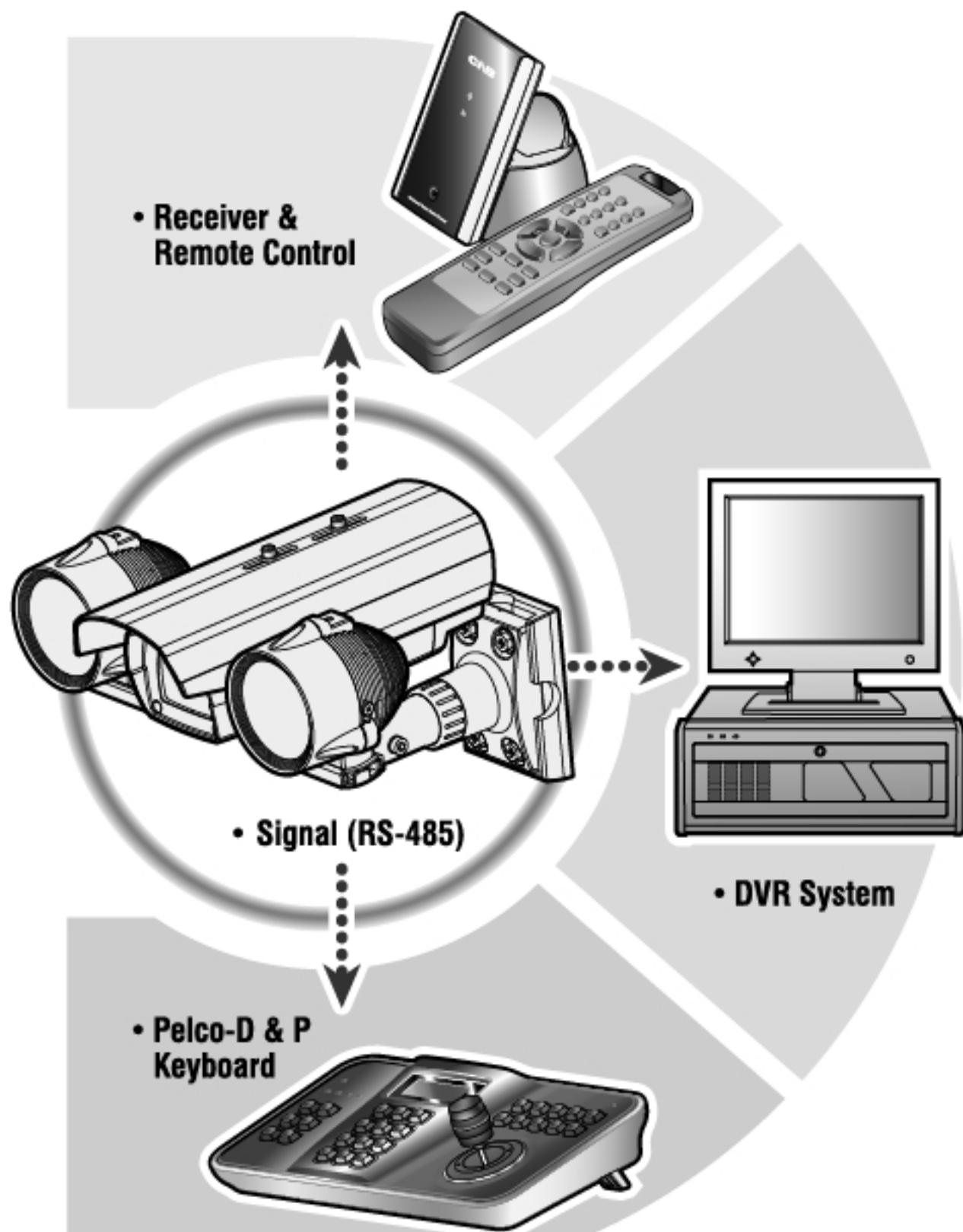
No.	Line Color	Function	Remark
#1	RED	DC12V	DC 12V / 5A
#2	ORANGE	GND	GND
#3	BLACK	GND(VIDEO)	GND
#4	YELLOW	VIDEO OUT	1.0Vp-p Composite
#5	GREEN	RS-485 (+)	-
#6	BROWN	RS-485 (-)	-

### Note

- Make sure you are using only the supplied AC adapter.



### 3. Cable Connection (Pelco-D & P/ RS-485)



#### ① Camera Selection

- After camera connects with receiver, firstly select camera I.D.
- Press desired camera I.D. number(1~255) and then press C(cam) button.

➔ Example: • 1+C ➔ 1 cam selected.  
• 255+C ➔ 255 cam selected.

#### ② Protocol selection

- The protocol of zoom camera is PELCO-D(9600) when it takes out of manufacturer's warehouse.
- The default protocol can be set by specified 3-digit number combination which is "881".
- Also Zoom camera supports PELCO-D(2400) and PELCO-P(9600)/ CNB Protocol(9600).

➔ Example:  
• 881 + SET key ➔ Pelco-D protocol(9600)  
• 880 + SET key ➔ Pelco-D protocol(2400)  
• 885 + SET key ➔ Pelco-P protocol(9600)  
• 886 + SET key ➔ CNB Zoom protocol(9600)

③ [MENU] Entering OSD menu.  
/ Set function in OSD menu.

④ [NEAR] FOCUS NEAR/ OSD LEFT

⑤ [FAR] FOCUS FAR/ OSD RIGHT

⑥ [TELE] ZOOM TELE/ OSD UP

⑦ [WIDE] ZOOM WIDE/ OSD DOWN

⑧ [OPEN] IRIS OPEN & [CLOSE] IRIS CLOSE  
/ Set function in OSD menu.

## 7. Communication Protocol

### ■ PELCO "D" Byte Format

-RS-485, 9600bps, 1 Start bit, 8 data bits, 1 stop bit, no parity

### ■ Command Message

Function	Zoom Tele						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x20	0x00	0x00	Checksum
Function	Zoom Wide						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x40	0x00	0x00	Checksum
Function	Focus Near						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x01	0x00	0x00	0x00	Checksum
Function	Focus Far						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x80	0x00	0x00	Checksum
Function	Menu On / Off						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x40	0x00	0x00	0x00	Checksum
Function	Power On						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x88	0x00	0x00	0x00	Checksum
Function	Power Off						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x08	0x00	0x00	0x00	Checksum
Function	Pelco D Stop						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x00	Don't care		Checksum

### • Pelco Keyboard (95+ PATTERN)

Function	Menu On / Off						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x23	0x00	0x5F	Checksum

### • V/D Keyboard (Set Preset + 98)

Function	Menu On / Off						
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7
MSG	0xFF	CamID	0x00	0x03	0x00	0x62	Checksum

### ■ PELCO "P" Byte Format

-RS-485, 9600bps, 1 Start bit, 8 data bits, 1 stop bit, no parity

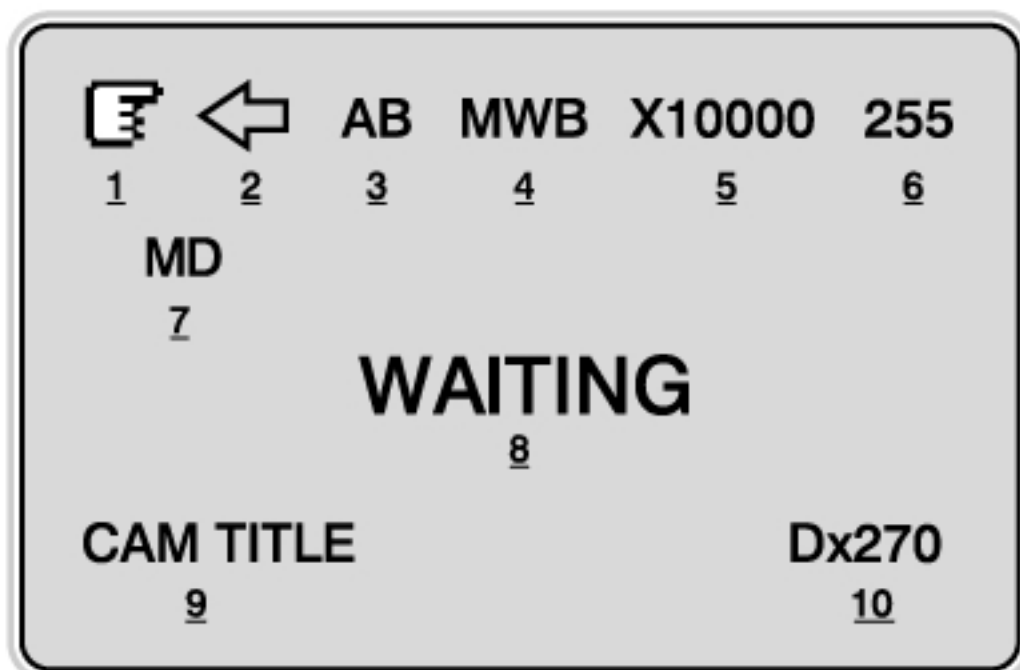
### ■ Command Message

Function	Zoom Tele							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x00	0x20	0x00	0x00	0xAF	Checksum
Function	Zoom Wide							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x00	0x40	0x00	0x00	0xAF	Checksum
Function	Focus Near							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x02	0x00	0x00	0x00	0xAF	Checksum
Function	Focus Far							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x01	0x00	0x00	0x00	0xAF	Checksum
Function	Menu On / Off							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x80	0x00	0x00	0x00	0xAF	Checksum
Function	Power On							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x50	0x00	0x00	0x00	0xAF	Checksum
Function	Power Off							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x40	0x00	0x00	0x00	0xAF	Checksum
Function	Continuous Key Stop							
	BYTE 1	BYTE 2	BYTE 3	BYTE 4	BYTE 5	BYTE 6	BYTE 7	BYTE 8
MSG	0xA0	CamID	0x00	0x00	Don't care		0xAF	Checksum

## 8. On-Screen Display

### ■ Explanation of the On-Screen Display

The OSD (On Screen Display) is as follows:



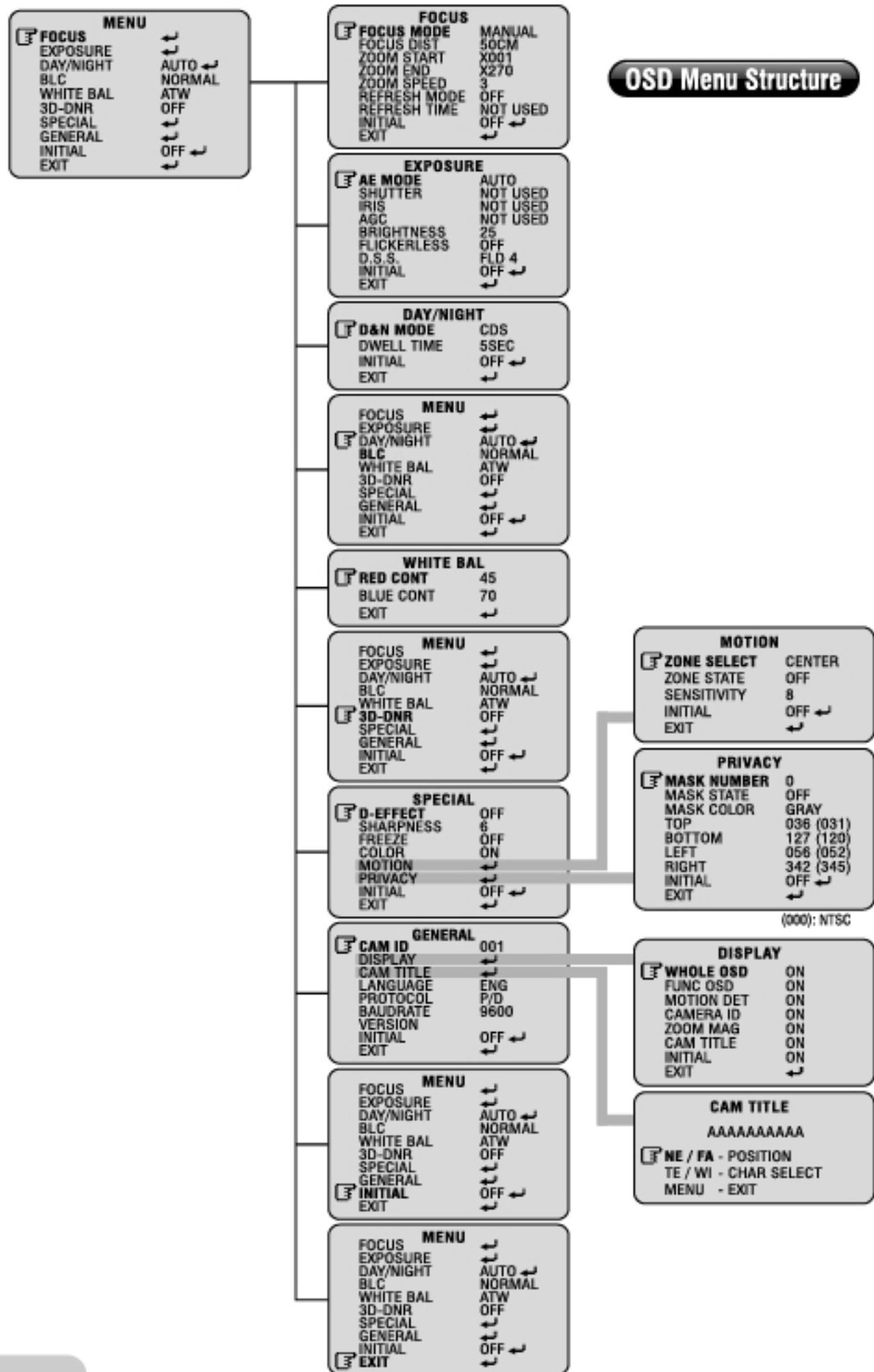
"ND": No Display

	FUNCTION	OSD	EXPLANATION
1	Focus	ND	Automatic focus mode
			Manual focus mode
2	D-Effect	ND	No screen inverted
			Screen is inverted to the horizontality or verticality.
3	Backlight	ND	Backlight compensation off
		AB	Automatic backlight compensation mode

The OSDs of 1, 2, 3, 4, 5, 7, 8, 10 disappear 5 sec later.

"ND": No Display

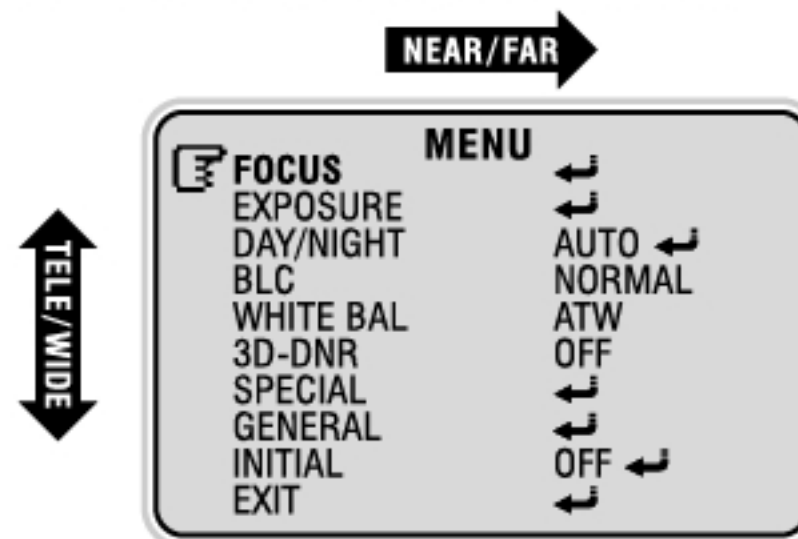
	FUNCTION	OSD	EXPLANATION
4	White Balance	ND	Automatic color correction mode
		MWB	Special color correction mode
		IWB	Indoor mode
		OWB	Outdoor mode
		PWB	Temporary automatic mode
5	Shutter Speed	ND	Standard shutter speed (NTSC:1/60, PAL:1/50)
		FLK	Flicker correction mode
		x125 ~ x10000	Shutter speed indicator
6	ID	000 ~ 255	Camera identification number
7	Motion Detect	ND	No motion detected
		MD	Motion detected
8	Initial LOGO	WAITING	Displayed when POWER ON of the camera is in operation
9	Cam Title	-	Explanation of the scene capture by the camera (max. 10 letters)
10	Zoom	x1 ... Dx270	Optical zoom: x1 ~ x27 Digital zoom: Dx28 ~ Dx270 * 'D' indicates digital zoom



## 9. Menu and Operation

### 1. Press the MENU button.

- The Menu consists of the "Main Menu" and "Sub Menu".
- The main menu is displayed where 10 camera functions can be selected.
- Main menu selection, the sub-menu is displayed.

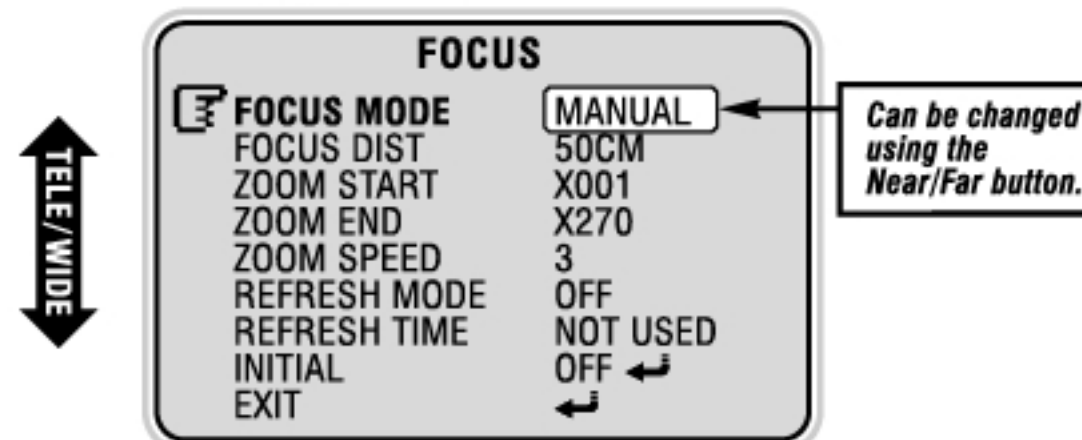


### 2. Press the TELE/WIDE button.

- It moves up and down the main menu category.
- The sub-menu functions of the main menu category are displayed on the right.

### 3. Press the NEAR/FAR button.

- The current set state of each sub-menu can be checked.
- Press the TELE/WIDE button to move up and down the sub-menu category and set each category by pressing the NEAR/FAR button.



### 4. Press the OSD MENU button at the main menu or sub-menu screen to hide the menu.

- It does not apply when the MENU button is used for other uses.
  - : 'CAM TITLE' setup screen
- It moves to the sub-menu window of the selected main menu.



## ■ Main Menu- FOCUS

- Sets camera zoom and focus.
- Press the MENU button to move to the sub-menu.

FOCUS	
☰ FOCUS MODE	MANUAL
FOCUS DIST	50CM
ZOOM START	X001
ZOOM END	X270
ZOOM SPEED	3
REFRESH MODE	OFF
REFRESH TIME	NOT USED
INITIAL	OFF ←
EXIT	←



### 1. FOCUS MODE

- **AUTO:** Focuses automatically when the menu including D&N changes.
- **MANUAL:** User focuses manually.
- **PUSH:** When temporary automatic focus is selected, the camera focuses automatically when only the MENU button is pressed.

#### **Note**

- Automatic focus in manual mode is only possible when the location of the zoom lens has changed or when the "temporary automatic focus" category is selected. Automatic focus is also possible based on external AF command (1 shot AF).

### 2. FOCAL DIST

- Minimum distance the camera can focus.  
ex) **10cm:** Objects/subjects closer than 10cm cannot be brought into focus.

### 3. ZOOM START

- Minimum zoom movement.
- Possible from x 001 to x 027

### 4. ZOOM END

- Maximum zoom movement.
- Possible from x 001 to x 270

### 5. ZOOM SPEED

- Zoom speed movement. (Start x1 ~ End x27)
  - 1 : 7.5 sec
  - 2 : 6 sec
  - 3 : 4 sec

### 6. REFRESH MODE

- Adjusts focus every REFRESH TIME automatically.

### 7. REFRESH TIME

- Period of auto focus adjusting.

### 8. INITIAL

- Initializes the changed category in FOCUS menu.

### 9. EXIT

- Closes the sub-menu and moves to the main menu.

## ■ Main Menu- EXPOSURE

- Press the MENU button to move to the sub-menu.

EXPOSURE	
AE MODE	AUTO
SHUTTER	NOT USED
IRIS	NOT USED
AGC	NOT USED
BRIGHTNESS	25
FLICKERLESS	OFF
D.S.S.	FLD 4
INITIAL	OFF ←
EXIT	←



### 1. AE MODE

- **AUTO:** Automatically adjusts brightness according to the available lighting.
- **MANUAL:** Manually adjusts all brightness.
- **AGC MAN:** Allows you to adjust gain.
- **IRIS MAN:** Allows you to adjust iris.
- **SHUT MAN:** Allows you to adjust the shutter speed.

#### **Note**

- ⦿ Cannot adjust when D&N mode(refer to 28 page) is in Auto.

### 2. SHUTTER

- Can be changed while in manual and shutter manual mode.
- Shutter speed can be changed from standard to 1/10000.
- Standard shutter speed: NTSC- 1/60, PAL- 1/50.

### 3. IRIS

- Adjusts the opening of iris.
- Can be adjusted from 0 (closed) to 255 (opened).
- Change in screen can be recognized only within the certain range.
- Can be adjusted in MANUAL and IRIS MANUAL mode.

### 4. AGC

- Gain adjustment of image signal.
- Can be adjusted from 0 to 255.
- Can be adjusted in MANUAL and AGC MANUAL mode.

### 5. BRIGHTNESS

- Brightness can be adjusted from 0 (dark) to 48 (bright).
- Not used while in manual mode.

### 6. FLICKERLESS

- Removes screen flickering caused by discordance of frequency and lighting.

### 7. D.S.S.

- Use under very low light condition for full color surveillance.
- **OFF:** Digital slow shutter function is disabled.
- Can be adjusted from FLD 2 to FLD 128

### 8. INITIAL

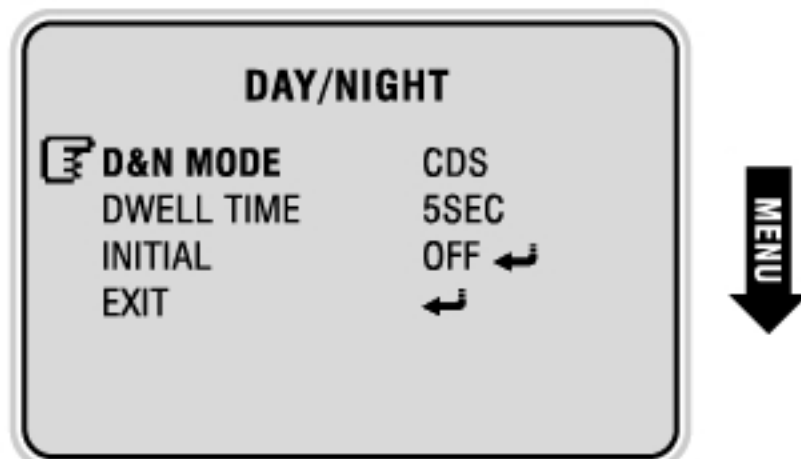
- Initializes the changed category in EXPOSURE menu to the initial settings.

### 9. EXIT

- Closes the sub-menu and moves to the main menu.

## ■ Main Menu- DAY/NIGHT

- Determines and operates in mode suitable for day or night.
- Press the MENU button to move to the sub-menu.
- You can select between AUTO, NIGHT and DAY using the NEAR/FAR button.



### 1. D&N MODE

- **CDS:** Filter operates automatically according to CDS sensor.

### 2. DWELL TIME

- Sets conversion time of IR cut filter while in automatic mode
- Time can be adjusted from 1 to 10 seconds.

### 3. INITIAL

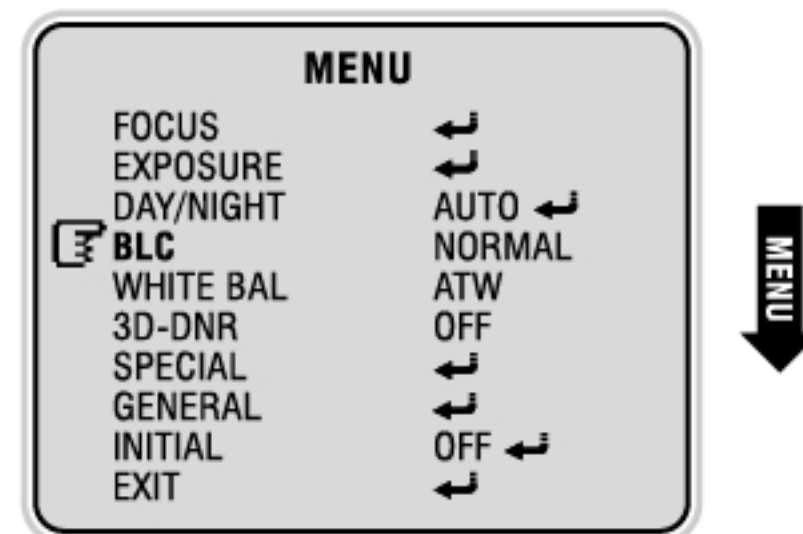
- Initializes the changed category in night Day/Night menu.

### 4. EXIT

- Closes the sub-menu and moves to the main menu.

## ■ Main Menu- BLC

- Press the MENU button to move to the sub-menu.

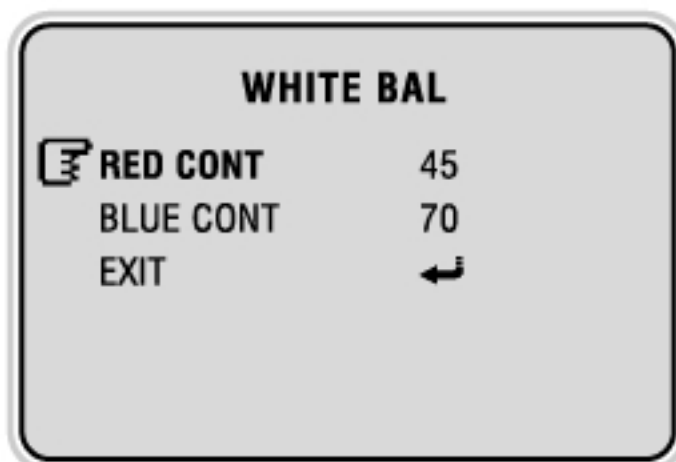


### 1. BLC

- Use to select BLC mode.
- BLC can be set from NORMAL, C1, C2, L1, L2, U1, U2, D1, D2, R1, R2 and vice versa using the NEAR/FAR button.

## ■ Main Menu- WHITE BAL

- Adjusts picture color.
- Press the MENU button to move to the sub-menu.
- You can select between ATW, MANUAL, INDOOR, OUTDOOR, and PUSH using the NEAR/FAR button.
  - **ATW:** Automatically adjusts color according to the available lighting.
  - **MANUAL:** Color can be corrected when the user increases or decreases "Red Control" or "Blue Control".
  - **INDOOR:** Set color temperature to be 5400°K.
  - **OUTDOOR:** Set color temperature to be 3200°K.
  - **PUSH:** Color will be automatically adjusted while the MENU button is pressed in the temporary automatic mode.



### 1. RED CONT

- Can be changed in special mode only, and R-Gain value is adjusted.
- Can be set from 0 to 255.

### 2. BLUE CONT

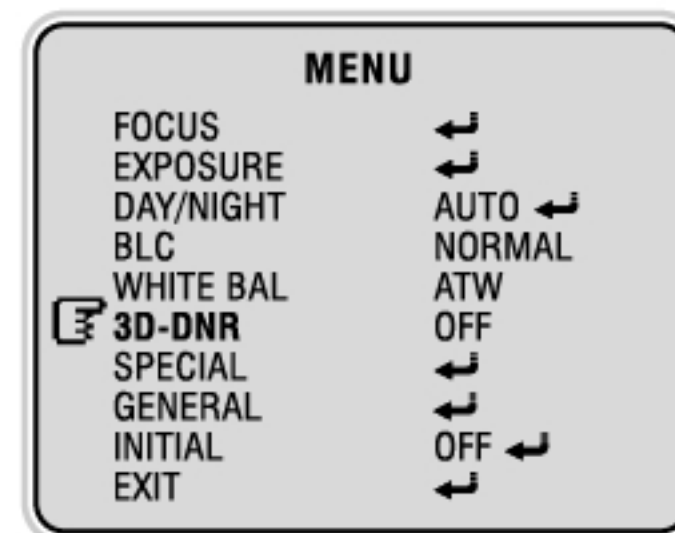
- Can be changed in special mode only, and B-Gain value is adjusted.
- Can be set from 0 to 255.

### 3. EXIT

- Closes the sub-menu and moves to the main menu.

## ■ Main Menu- 3D-DNR

- Press the MENU button to move to the sub-menu.



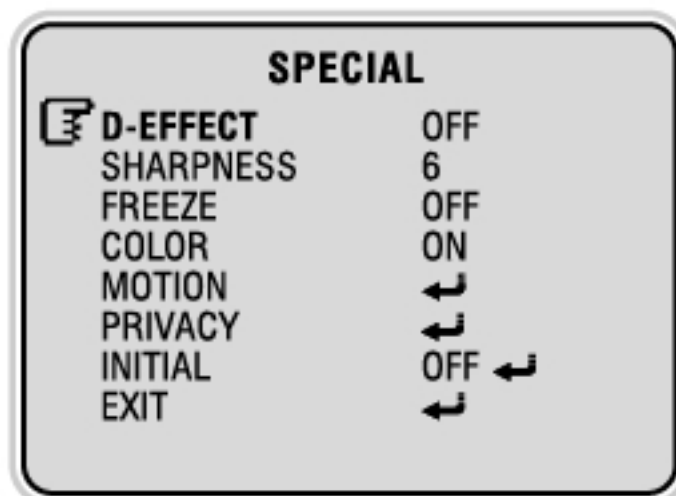
### 1. 3D-DNR

- To reduce the image noise especially during the low ambient lighting conditions.
- You can adjust between OFF, LOW, MIDDLE, HIGH using the NEAR/FAR button.



## ■ Main Menu- SPECIAL

➔ Press the MENU button to move to the sub-menu.



### 1. D-EFFECT

➔ You can select between OFF, V-FLIP, ROTATE, MIRROR using the NEAR/FAR button.

- **V-FLIP:** You can flip the picture horizontally on the screen.
- **ROTATE:** You can rotate 180 degrees the picture.
- **MIRROR:** You can flip the picture vertically on the screen.

### 2. SHARPNESS

➔ Adjusts sharpness of outlines.  
➔ Can be set from 1 to 16.

### 3. FREEZE

➔ Freeze the video.

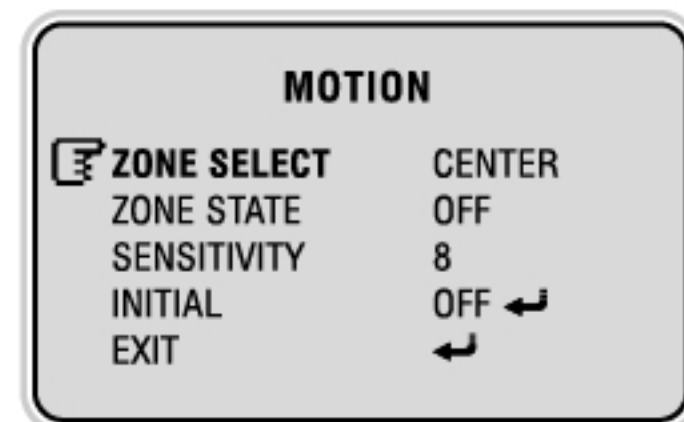
### 4. COLOR

➔ You can select between ON/OFF using the NEAR/FAR button.

## 5. MOTION

➔ When there is movement of the subject in the screen, there will be an alarm, or the user will be informed through communications or "MD" will display on the screen.

➔ Press the MENU button to move to the sub-menu.



### 1 ZONE SELECT

- Sets motion detection field.  
Can be set to CENTER, WHOLE, UPPER and OUT.

### 2 ZONE STATE

- Enables or disables motion detection function.

### 3 SENSITIVITY

- Sets sensitivity to detect movement.
- Can be set from 1 (low response) to 15 (sensitive).

### 4 INITIAL

- Initializes the changed category in MOTION menu.

### 5 EXIT

- Closes the sub-menu and moves to the main menu.

### ! Note

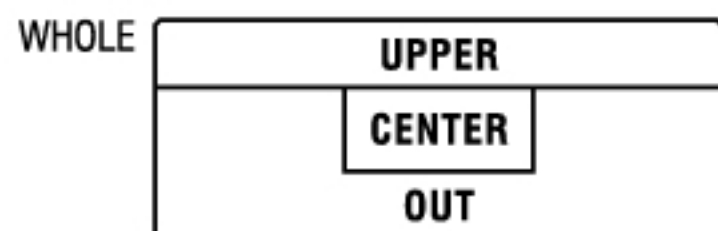
- There is a signal every time there is movement by the subject. If motion is detected, MD(Motion Detected) is displayed on the upper left of the screen. This message enables the user to set On-screen display state in the menu.

## Caution

- Error can occur in the motion detection function in the following cases.
    - (1) When lighting is unsteady.
    - (2) When light changes often even though there is no movement of the subject.
- It is recommended that this function should be used after setting the detection sensitivity and detection field after monitoring the environment for an extended time.**

## Note

- The detection field on screen is as follows:



## 6. PRIVACY

- Select PRIVACY using the TELE/WIDE button and press the MENU button to active the PRIVACY option.

PRIVACY	
MASK NUMBER	0
MASK STATE	OFF
MASK COLOR	GRAY
TOP	036
BOTTOM	127
LEFT	056
RIGHT	341
INITIAL	OFF
EXIT	



### 1 MASK NUMBER: To specify the PRIVACY area

- Select AREA using the TELE/WIDE button. You can select area from 0 ~ 3 position using the NEAR/FAR button.

PRIVACY	
MASK NUMBER	0
MASK STATE	OFF
MASK COLOR	GRAY
TOP	036 (031)
BOTTOM	127 (120)
LEFT	056 (052)
RIGHT	342 (345)
INITIAL	OFF
EXIT	



(000): NTSC

### 2 MASK STATE: To display the Privacy Zone area

- Select DISPLAY using the TELE/WIDE button. You can select between ON/OFF using the NEAR/FAR button.

- (1) ON: display the Privacy Zone area
- (2) OFF: disable

PRIVACY	
MASK NUMBER	0
MASK STATE	OFF
MASK COLOR	GRAY
TOP	036 (031)
BOTTOM	127 (120)
LEFT	056 (052)
RIGHT	342 (345)
INITIAL	OFF
EXIT	



(000): NTSC

### 3 MASK COLOR: To change color of privacy zone

- Select COLOR using the TELE/WIDE button. You can adjust from GRAY, BLACK, WHITE or YELLOW using the NEAR/FAR button.

PRIVACY	
MASK NUMBER	0
MASK STATE	OFF
MASK COLOR	GRAY
TOP	036 (031)
BOTTOM	127 (120)
LEFT	056 (052)
RIGHT	342 (345)
INITIAL	OFF
EXIT	



(000): NTSC

### 4 TOP/BOTTOM/LEFT/RIGHT: Users can specify PRIVACY ZONE area

- Select TOP, BOTTOM, LEFT, or RIGHT using the TELE/WIDE button. You can adjust the privacy zone using the NEAR/FAR button.

- (1) TOP: extend or reduce the upper area of the PRIVACY ZONE area } - NTSC: 0~239
- (2) BOTTOM: extend or reduce the bottom area of the PRIVACY ZONE area } - PAL:0~279
- (3) LEFT: extend or reduce the left side of the PRIVACY ZONE area } - NTSC: 0~749
- (4) RIGHT: extend or reduce the right side of the PRIVACY ZONE area } - PAL:0~739



### 5 INITIAL: To reset to factory default only on the PRIVACY mode.


- Select INITIAL using the TELE/WIDE button. You can reset the PRIVACY mode using the MENU button.

### 6 EXIT: To return to SPECIAL MENU

- Select EXIT using the TELE/WIDE button. You can return to SPECIAL using the MENU button.

## ■ Main Menu- GENERAL

- ➔ Sets up the general operation of the camera.
- ➔ Press the MENU button to move to the sub-menu.

GENERAL	
 CAM ID	001
DISPLAY	↕
CAM TITLE	↕
LANGUAGE	ENG
PROTOCOL	P/D
BAUDRATE	9600
VERSION	
INITIAL	OFF ↕
EXIT	↕




### 1. CAMERA ID

- ➔ Displays the camera's ID.
- ➔ Camera ID can be specified using numbers from 000 to 255 by using the NEAR/FAR button.

### 2. DISPLAY

- ➔ Displays on the screen.

DISPLAY	
 WHOLE OSD	ON
FUNC OSD	ON
MOTION DET	ON
CAMERA ID	ON
ZOOM MAG	ON
CAM TITLE	ON
INITIAL	ON
EXIT	↕



#### 1 WHOLE OSD

- All on-screen display is "ON" or "OFF".
- Nothing will be displayed if specified as "Hidden" even when other categories are individually set as "ON". (Exception: Initial logo when power is turned on.)

#### 2 FUNC OSD

- Images displayed on the upper area of the screen. Refer to the "On-Screen Display" section- images 1 to 5.

#### 3 MOTION DET

- "MD" is displayed on the upper left of the screen when motion is detected.

#### 4 CAMERA ID

- Displays ID number on the upper right of the screen.

#### 5 ZOOM MAG

- Displays zoom on lower right of the screen.
- The number in Dx270 shows the magnification, and D represents digital zoom.

#### 6 CAM TITLE

- Displays texts explaining screen area on the lower left of the screen.

#### 7 INITIAL

- Initializes the changed category in on-screen display menu.

#### 8 EXIT

- Closes the sub-menu and moves to the main menu.

### Note

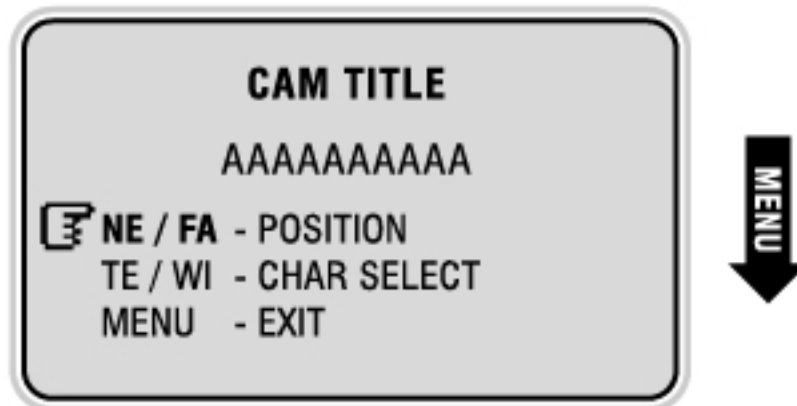
- Refer to the "On-Screen Display" for details.

### 3. CAM TITLE

- Edits and displays the information of camera or explanation on the area of the image being captured at the bottom left of the screen.
- Maximum of 10 letters can be used/ edited.

#### 1 CAM TITLE

- User can edit explanation or condition of camera, and this will be displayed on the lower left screen.



1. You can choose up to 48 symbols from the available symbols table.

■	&	-	.	/	0	1	2	3	4	5	6	7	8	9	:
←	↑	↓	→	~	↶	A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

2. Select the location of letters using the TELE/WIDE button.  
A downward arrow will blink on top of the letter to edit.
3. Select letters using the NEAR/FAR button.
4. To exit, press the MENU.

#### Note

- ■ : denotes a blank letter and will be displayed as a blank space on the actual screen.

### 4. LANGUAGE

- Displays the currently set language.
- Language can be set from ENG to CHN and vice versa using the NEAR/FAR button.

### 5. PROTOCOL

- DEF: Default
- P/D: Pelco-D
- P/P: Pelco-P

### 6. BAUDRATE

- You can select 2400/ 4800/ 9600/ 38400 bps.

### 7. VERSION

- Displays the camera's version.

### 8. INITIAL

- Resets the current general settings category to the initial settings.

### 9. EXIT

- Closes the sub-menu and moves to the main menu.

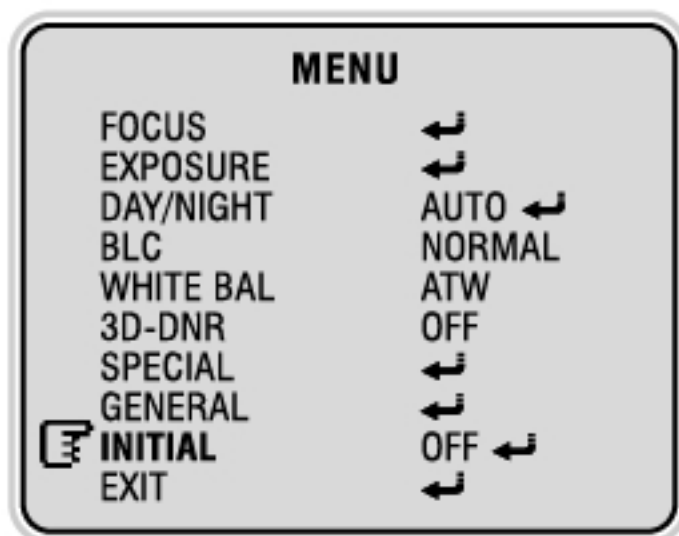
### Caution

- Change the data of the sub-menu using the NEAR/FAR button.



## ■ Main Menu- INITIAL

- Initializes all current settings.
- No sub-menu.
- Press the MENU button to initialize the entire camera settings.
- Note that all settings in the sub-menus will be initialized.



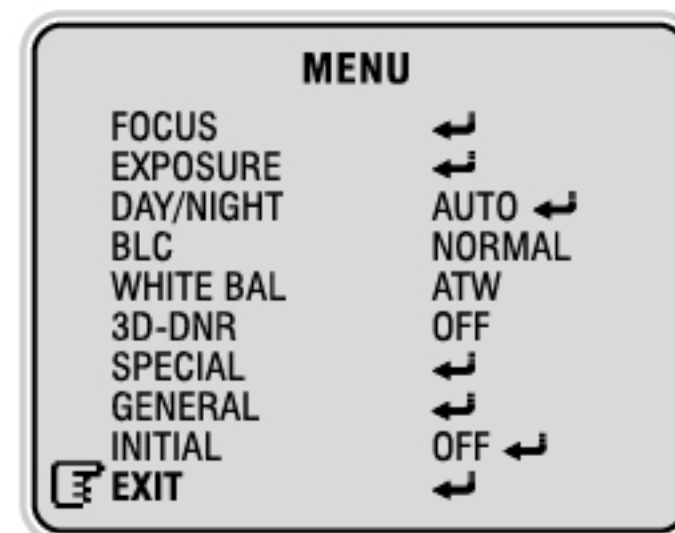
- **OFF STATE:** Indicates that settings are not initialized.
- **ON STATE:** Indicates that camera settings have been initialized.

### Caution

Please use caution when performing this function.  
Every setting (even in all sub-menus) will be initialized. (except some menus CAM ID, CAM TITLE, LANGUAGE, PROTOCOL, BAUDRATE of GENERAL menu)  
Initialization in sub-menus will initialize each category of the sub-menu only.

## ■ Main Menu- EXIT

- Closes menu.
- Press the MENU button to close menu.



## 10. Specifications

Signal System	NTSC	PAL
Scanning System	2 : 1 Interlace	
Horizontal Scanning Frequency	15.734 kHz	15.625 kHz
Vertical Scanning Frequency	59.94 Hz	50 Hz
Image Sensor	1/4 inch IT CCD	
Total Pixels	811(H) x 508(V) 410K	795(H) x 596(V) 470K
Effective Pixels	768(H) x 494(V) 380K	752(H) x 582(V) 440K
Horizontal Resolution	580 TV Lines (BW 600 TV Lines), Sharpness Max.	
S/N Ratio	More than 50dB (AGC off)	
Lens	27x Zoom Video AF (F1.6(W), F3.7(T) f = 3.6~97.2mm)	
Angle of View (HOR)	55.21° ~ 2.12°	
Minimum Illumination	Day Mode: 0.5 Lux(30 IRE)/ Night Mode: 0.1 Lux(30 IRE) / DSS (128FLD) Mode: 0.0005 Lux (30 IRE)	
Synchronization	Internal	
Signal Output	1Vp-p Composite Output with 75Ω Terminated	
Brightness	0 ~ 48	
DSS	OFF / ON (FLD2 ~ FLD128)	
3D-DNR	LOW / MIDDLE / HIGH	
White Balance	ATW / MANUAL / INDOOR / OUTDOOR / PUSH	

### 12V DC Input Model

AGC	ON / OFF ( 0 ~ 255)
BLC	Normal/ C1/ C2/ L1/ L2/ U1/ U2/ D1/ D2/ R1/ R2
Digital-ZOOM	x10
Day & Night	AUTO / DAY / NIGHT
Color	ON / OFF
Motion Detection	ON / OFF (4 Programmable Zone)
Privacy	ON / OFF (4 Programmable Zone)
D-EFFECT	V-FLIP / MIRROR / ROTATE
Sharpness	1 ~ 16
Baud Rate (RS-485)	2400 / 4800 / 9600 / 38400
OSD Language	ENG / CHN
IR LED & SENSOR	IR LED 206EA (850nm 15°), Sensor 1EA (Beam spreads Max. 100m<328ft>)
Supply Voltage	12V DC (±10%)
Power Consumption	Max. 36W (3.0A/ 12V DC)
Operating Temperature	-30°C to 50°C (-22°F to 122°F) {with Fan & Heater}
/ Humidity	/ 30% ~ 80% RH
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
/ Humidity	/ 20% ~ 90% RH