

Super Wide Dynamic **High Performance Box Camera**

INSTRUCTION MANUAL



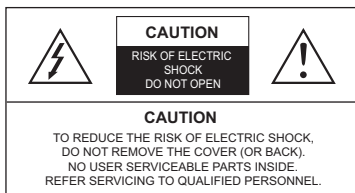
sWDR Box camera (SONY)

- DC12V
- DC12V / AC24V (Dual Power)

Please read this manual carefully before installation and operation of the product.

Dear Customers!

By selecting this product, you have decided to use a professional device that guarantees highest quality and reliability. We would like to thank you very much for your confidence and kindly ask you to read the following instructions carefully before installation and operation in order to take full advantage of all quality features regarding this product.



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 the fire hazards

- Do NOT use power source 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.

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1. Precautions

- Please read the manual carefully before the installation in order to make use the camera to be set up correctly and to have the best picture quality.
- Please keep the manual in good condition for your future reference and service application.
- Installation and services should only be carried out by an authorized personnel according to local safety regulations.
- If any liquid or solid matter gets into the housing, immediately disconnect the camera from power supply and have it checked by your authorized dealer before reusing.
- Avoid installing the camera at extremely hot or cold places.
- If you are not a certified person, never try to dismantle the camera. To avoid electric shock, never remove the screws or covers. There are no parts inside that need maintenance by the user. All maintenance should be carried by qualified personnel.
- Avoid installing the camera at a place of high humidity.
- Avoid installing the camera at the place exposed to gas or oil.
- Keep the top glass of the lens always clean in order to obtain the best picture quality all the time. Be careful not to be stained by fingerprint.
- Don't face the camera directly toward sunlight or sunlight reflecting area. CCD may go defective at this condition.
- Please give a special attention to keep the unit from dangerous drop or external shock during the process of transportation or handling.
- Never try to touch the camera in wet hand. It may cause an electric shock.
- Do not expose the camera to radioactivity. It causes a serious damage on the CCD.

2. Limitation of liability

This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or noninfringement of the third party's right. This publication could include technical inaccuracies or typographical errors. Changes are added to the information herein, at any time, for the improvements of this publication and/or the corresponding product(s).

3. Disclaimer of warranty

In no event shall seller be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to below :

- (1) Any damage and loss, including without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product;
- (2) Personal injury or any damage caused by inappropriate use or negligent operation of the user;
- (3) unauthorized disassemble, repair or modification of the product by the user;
- (4) Inconvenience or any loss arising when images are not displayed, due to any reason or cause including any failure or problem of the product;
- (5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined by the devices of third party.
- (6) Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the result of that surveillance-camera's picture, including saved data, for some reason, becomes public or is used for the purpose other than surveillance.

4. Package



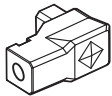
Super Wide Dynamic High Performance Box Camera 1EA



Instruction manual 1EA



C Mount Adaptor 1EA



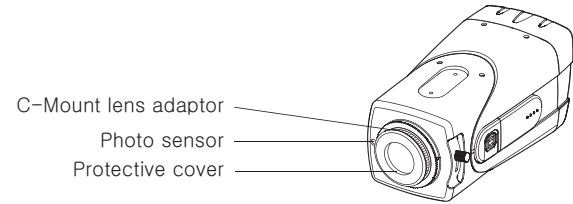
Iris Jack 1EA



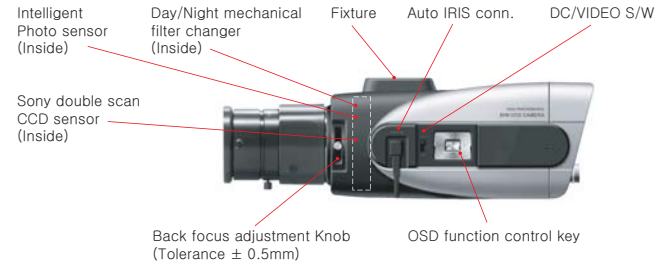
RS-485 Lead wire 1EA

5. Name and function of each part

5-1. Front

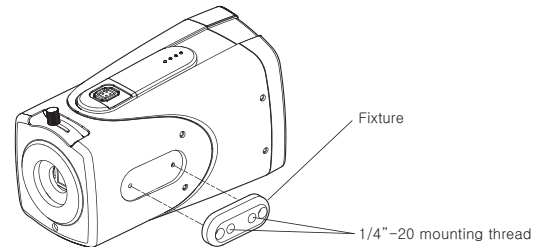


5-2. Right side



- * Back focus adjustment Knob : Fine tune the Back Focal Length
- * DC / VIDEO Select S/W : UP (VIDEO IRIS), DOWN (DC IRIS)

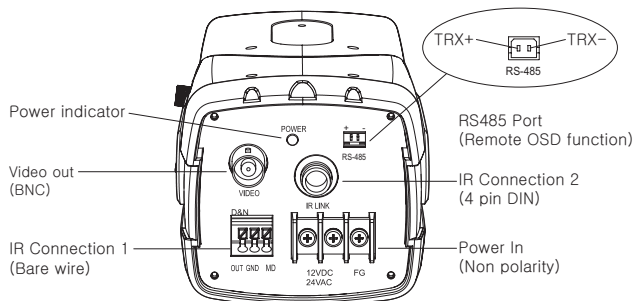
5-3. Bottom



5. Name and function of each part

Fixture can be separated and attached on the top side as well.
Please use the supplied clamp screws only to change the position of the bracket. Using screws more than 5mm depth can do a serious damage to the inside of this camera.
* Use an international standard 1/4"-20 mounting screw to install the camera.

5-4. Rear side



- MD/FD : Motion signal output.
- Power indicator : Red LED ON when camera's working.
- VIDEO OUTPUT : BNC-Fe.
- External IR LINK(IR Connection 1) : Working with any IR Illuminators
- RS-485 Terminal : PELCO-D(TRX+ , TRX-)
- External IR LINK(IR connection 2) : Working with VL60 IR Illuminator
- POWER INPUT : Power input terminal.

6. Installation

6-1. Lens

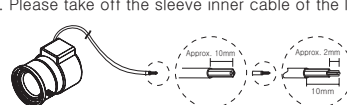
Lens is not supplied with the unit. C-Mount or CS-Mount type of lens is useable.
Please select a lens that has a good F-Stop number in order to get the best picture quality. Use of DC Auto iris lens is recommended to achieve the best results for operating this product effectively.

Caution

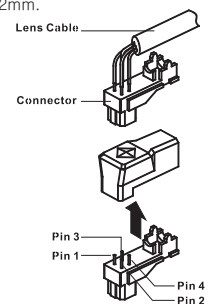
Please make sure the surface of the lens be always clear. Clean dirt or water drops with soft cloth in order to avoid the picture blooming or reflection.

6-2. When using an Auto Iris Lens (DC-drive or Video-drive)

1. Please take off the sleeve outer cable of the lens by 10mm.
2. Please take off the sleeve inner cable of the lens by 2mm.



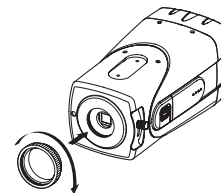
Pin No.	Lens	
	DC	VIDEO
No.1 Pin	Damping -	Red (Power)
No.2 Pin	Damping +	NC
No.3 Pin	Drive +	White (Video)
No.4 Pin	Drive -	Black (GND)



3. Solder the wires on the pin-connector (iris-jack) supplied with the lens according to the pin configuration as shown in the drawing.
4. Assemble the lens.
5. Connect the Auto Iris jack.
6. Adjust the DIP S/W to DC or Video according to the type of lens.

6-3. When using a C-mount Lens

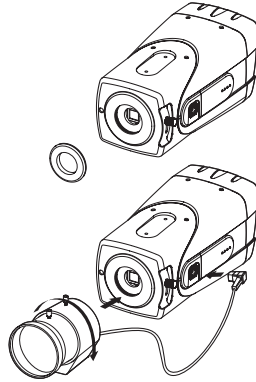
- Please assemble C-Mount adaptor.
- C-Mount adaptor is included in the package.
- Fix the lens by turning it clockwise.



6. Installation

6-4. When using a CS-mount Lens

- Take off the Protection cover.
- Take off the C-MOUNT adaptor.
- Assemble the CS-MOUNT lens by turning it clockwise.

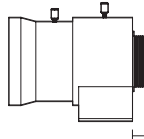


- When used with an Auto Iris lens, please insert the iris jack into the Iris socket which is located on the right side of the camera.

- Please set the lens selection switch, located on the side of the camera to DC or VIDEO depending on the type of the Auto Iris lens selected.

Caution

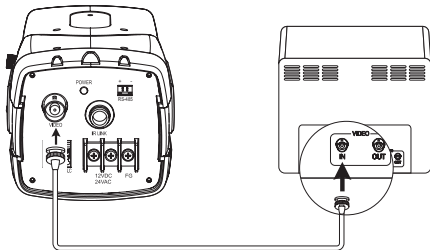
- Use the lens as shown in the picture here.
- When the lens is out of the spec, it could damage the camera inside or may not be correctly fitted with the camera.
- Use the lens less than 450g. Heavier lens can damage the camera.



C-MOUNT Lens : Less than 11mm
CS-MOUNT Lens : Less than 6mm

6-5.Video Monitor

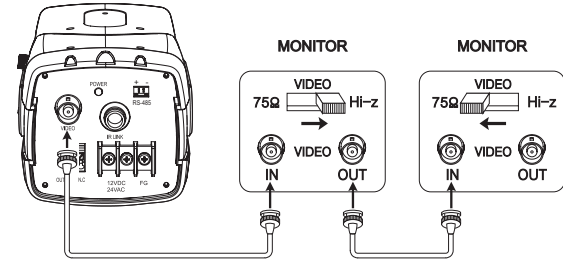
Connect Video cable with BNC-male connector to the monitor



6. Installation

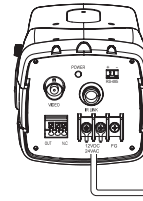
6-6. Impedance alliance in the system connection.

Make sure to connect the cable with the power off. Please locate the impedance switch of each equipment as instructed. Locate the switch to Hi-z position for the interim equipment. Locate the switch to 75Ω for the last equipment.



6-7. Power

Please check if the model is 12VDC only or 12VDC/24VAC Dual Power or 230VAC before the installation. Please refer to the voltage description on the rear panel to choose the right power source.



• 12VDC camera

Please make sure to use a UL/CE approved and 12VDC/500mA regulated power supply.

• 12VDC/24VAC Dual power camera

You can use either 12VDC Power or 24VAC Power source with non-polarity connection.

7. State-of-the-art image enhance technologies

7-1. True Day & Night image conversion for 24 hours clear view



True Day/Night switching

The image is converted to B/W mode from Color and the IR responsive filter is automatically removed in at an appointed Lux level by OSD.



True Color with a Blue filter/Precise focus with IR filter

This dual filter mechanism is uniquely designed to have a blue filter in daytime for a precise color reproduction and to have an IR focus corrective filter at nighttime so that there is no focus shift when the IR lights are activated.

7-2. Super Wide Dynamic (sWDR)



sWDR

Light level is controllable with provided easy-to-use OSD menu that enables the camera to be ideally set up for the most of different levels of backlight or contrast lighting situations.

7-3. The Maximum sensitivity with the best sensor and the latest technology



Conventional



sWDR

Used with the latest Sony Double scan CCD sensor, this unit provides the highest light sensitivity of 0.2 Lux/F1.2. In addition, the built-in Day/Night function completely removes the color signal noises for an ultra clear nighttime image quality.

7-4. Wide range of Automatic White Balance (1,800°K~ 10,500°K)



False White Balance

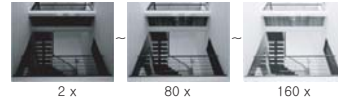


sWDR

Automatic White Balance of this unit provides an extensive range of color temperature control that covers from 1,800°K to 10,500°K, generating a natural color image without being red or blue in varying light conditions.

7. State-of-the-art image enhance technologies

7-5. Digital Slow Shutter (DSS)



2 x

80 x

160 x

The DSS function allows the camera can display the bright image even in extreme darkness.

Important Tips : IR Distance can be extended twice longer when <DSS> is set 2x ~ 160 xs.

Caution : When DSS is adjusted to more than 8 times(8x), the picture becomes brighter but the frame rate relatively becomes slower resulting in the picture becomes slow motioned.

7-6. Day/Night signal link out put (IR Link)

Does IR responded image clear?

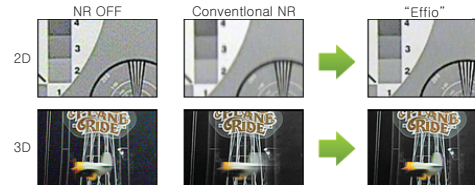
When IR illumination is combined, the IR responded image becomes defocused. This unit incorporates a clear solution for this conventional problem. The image quality of this unit is absolutely sharp and clear under IR lights in operation.

7-7. 960H Sensor

960H Sensor를 적용하여 주간에는 650TVL과 야간에는 700TVL이상의 영상을 구현함. (선명한사진과 약간 흐린사진을 비교로하여 넣어주세요)

7-8. 2DNR / 3DNR (2D Noise Reduction / 3D Noise Reduction)

새로운 2DNR / 3DNR의 기능이 적용되어 주간/야간의 환경에서 발생하는 Noise를 제거하고 움직임은 물체나 사람의 잔상을 최소화하여 선명한 영상을 구현함.



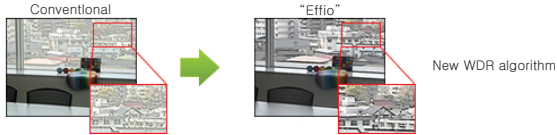
Preserved edge by New 2D-NR

Un-blurred moving object by New 3D-NR

7. State-of-the-art image enhance technologies

7-9. New Super Wide Dynamic (sWDR)

새로운 WDR기능을 적용하여 기존의 WDR보다 선명도와 색 재현성이 뛰어나함.



8. Other features

8-1. Camera ID setting

Users can use the camera identification (Camera ID) to assign a name of the camera. The camera ID consists of up to 15 alphanumeric characters.

8-2. Digital Zoom (1.5x, 2x, 3x)



The screen can be digitally zoomed with provided OSD control. (Digital Pan/Tilt)

8-3. Privacy zone masking



When the unit is observing a wide area, the captured image can be masked for privacy purposes. Users can easily configure the size and position of the required privacy zones.

8-4. Dual switching power (w/Auto Line-lock) -Dual Power version

The unit builds in highly efficient switching power control that self configures 12VDC or 24VAC input and 24VAC line pulse automatically (Automatic line-lock). Double insulated power design guarantees no ground loop when used with multiple cameras and system equipment together through one power source.

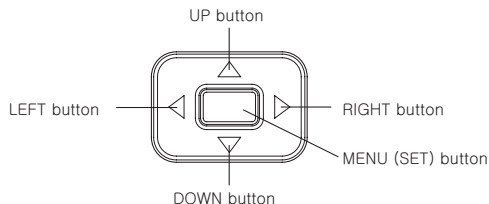
9. How to operate key functions

9-1. MENU TREE

1. SYSTEM	RS-485TERM(P-D)	ON/OFF (RS485 termination)
	BAUD RATE	9600/4800/2400 bps(BAUD RATE:communication)
	D&N MODE	AUTO/COLOR/BW/D&N MODE Setting)
	D&N LUX	1 Lux ~ 9 Lux (D&N Operation LUX)
	FILTER DLY	01SEC ~ 15SEC (Filter Change Delay Time)
	SYNC	NT/L-L (SYNC MODE)
	L/L-PHASE	NTSC(0~520) / PAL(0~620)
	GSD COLOR	WHITE/BLUE/YELLOW/RED/GREEN
2. AWB	WB MODE	ATW / PUSH / HOLD/ USER
	RED CONT	00~100 (USER → RED CONT)
	BLUE CONT	00~100 (USER → BLUE CONT)
3. AE	IRIS	DC / VIDEO / MANUAL (IRIS MODE)
	DC LEVEL	00 ~ 100 (DC IRIS LEVEL)
	FLICKERLESS	OFF / GAIN / SHUTTER
	SHUT. SPEED	1/60, 1/50~1/10,000 (SHUTTER SPEED)
	AGC	OFF/12dB/18dB/24dB/30dB/36dB/42dB/44dB
	DSS	OFF/2x ~ 160x (DIGITAL SLOW SHUTTER)
	5. WDR	WDR MODE
WDR LEVEL		00 ~ 50 (WDR INDOOR LEVEL)
OUTDOOR LEVEL		00 ~ 50 (WDR OUTDOOR LEVEL)
BLC MODE		OFF / ON (Back Light Compensation)
5. PRIVACY	AREA NUM	1 ~ 4 (PRIVACY AREA NUMBER)
	MASK	OFF / MOSAIC / COLOR
	YGAIN	1 / 2 / 3 (MASK COLOR GAIN)
	COLOR	BLACK/WHITE/BLUE/YELLOW/GREEN/RED
	SIZE	SIZE ADJ (L / R / U / D SIZE ADJ)
POSITION	POSITION ADJ (L / R / U / D POSITION ADJ)	
6. DISPLAY	CAMERA ID	01 ~ 225 (Individual ID)
	ID DISPLAY	ON / OFF (CAMERA ID ON/OFF)
	CAMTITLE	ON / OFF (CAMERA NAME: L / R / U / D)
7. EFFECT	SHARPNESS	00~15 (SHARPNESS ADJ)
	COLOR GAIN	R-GAIN(00 ~ 30) , B-GAIN(00 ~ 30)
	REVERSAL	NOR/ MIR/ VER/ FLIP (Image REVERSE)
	DIGITAL ZOOM	X1/X1.5 /X2/X3 (Digital Pan/Tilt)
	BLEMISH	ON / OFF (White Blemish Compensation)
	2DNR	OFF / ON (00 ~ 06) 2D Noise Reduction Level
	3DNR	OFF / ON (00 ~ 31) 3D Noise Reduction Level
8. MOTION	MD NUM	1 ~ 4 (MOTION AREA NUMBER)
	MD DEFINE	OFF / ON
	MD LEVEL	LOW / MID / HIGH
	MD DISPLAY	ON / OFF (Monitor Display)
	MD SIZE	SIZE ADJ (L / R / U / D SIZE ADJ)
	POSITION	POSITION ADJ (L / R / U / D POSITION ADJ)
9. FACE	FD DEFINE	OFF / ON (Face Detect ON / OFF)
	FD LEVEL	XLOW / LOW / MID / HIGH / XHIGH
	FD DISPLAY	ON/OFF (Monitor Display)
10. FACTORY	FACTORY INIT	OFF / LOAD (Initialization)
10. EXIT		

9. How to operate key functions

Setting up the Menu with OSD control key



9-2. MAIN MENU

MAIN MENU	
1. SYSTEM	MENU
2. AWB	MENU
3. AE	MENU
4. WDR	MENU
5. PRIVACY	MENU
6. DISPLAY	MENU
7. EFFECT	MENU
8. MOTION	MENU
9. FACE	MENU
10. FACTORY	INIT
11. EXIT	

Select a category by using the UP/DOWN Button.

1.1 Press MENU button

Main MENU screen is appeared on the monitor.

1.2 Select a category by using UP/DOWN button.

When the UP/DOWN button is pressed, the white Bar is moved upward or downward.

MAIN MENU	
1. SYSTEM	MENU
2. AWB	MENU
3. AE	MENU
4. WDR	MENU
5. PRIVACY	MENU
6. DISPLAY	MENU
7. EFFECT	MENU
8. MOTION	MENU
9. FACE	MENU
10. FACTORY	INIT
11. EXIT	

10 numbers of SUB-Menus are categorized.

Press MENU button to enter into the selected category.

Following window display is appeared after pressing the MENU button with the cursor at <FACTORY INIT> menu.

Press the LEFT or RIGHT button to change the setup value or condition.



- To finish the setting, please move the cursor (White bar) onto the SAVE/RETURN position and press the MENU button key.

NOTE

The mark "----" on the MENU screen means a specific Sub-menu is deactivated in order to activate a major function.

9. How to operate key functions

Useful function

- How to return to FACTORY SET-UP
MAIN MENU → <FACTORY INIT> → LOAD
- How to return to the SET-UP of each Category
EACH MENU → <RESET> → LOAD

When the RESET is ON at EACH MENU, the Setting value of each menu only returns to the factory set-up condition. Other settings are remained as adjusted by the user. This function eliminates a time consuming trouble by avoiding the whole functions already adjusted by the user returning to the factory set up by any faulty set-up or mistake.

9-3. SUB MENU

(1) SYSTEM MENU

1-1. 485 TERM (P-D) : ON / OFF

Adjust the OSD menu via remote control unit (DVR, PTZ Controller etc.)

RS-485 communication port: PELCO-D (P-D) protocol is supported and the port is always open.

Communication format

- Specification : RS-485
- Protocol : PELCO-D
- Communication speed : 9600bps, 4800bps, 2400bps
- Start bit : 1bit
- Data bit : 8bit
- Parity bit : none
- Stop bit : 1bit

SYSTEM MENU	
1. 485TERM (P-D)	: OFF
2. BAUD RATE	: 9600
3. D&N MODE	: AUTO
4. D&N LUX	: 05 LUX
5. FILTER DLY	: 05 SEC
6. SYNC	: INT
7. L/L-PHASE	: 260
8. OSD COLOR	: WHITE
9. SYSTEM RESET	: OFF
10. SAVE/RETURN	

To adjust the OSD MENU with PTZ Controller via RS-485 port,

PTZ Controller Commander

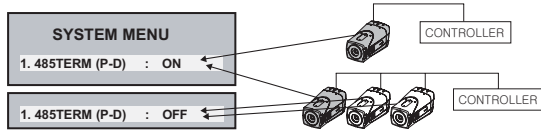
- Joystick Left ----- LEFT KEY Button
- Joystick Right ----- RIGHT KEY Button
- Joystick Up ----- UP KEY Button
- Joystick Down ----- DOWN KEY Button
- IRIS Open ----- MENU KEY Button

CAUTION : When Using a controller, please press <IRIS OPEN> key on the controller's key board in order to enter <MAIN MENU> of OSD window.(IRIS Open key at controller acts as a MENU Button at this unit. Mainly use it to SET the selection.)

9. How to operate key functions

* 485 TERM (P-D) : OFF / ON

- When using one camera with one controller, RS485 termination resistance should be ON. The termination resistance is automatically adjusted by setting the sub-menu <485TERM (P-D)> to ON. Please refer to the drawing below.
- When using more than 2 cameras with one controller, RS485 termination (TERM) on the last camera should be ON and the rest of cameras should be OFF. The dark view of camera at the drawing below shows that the dark camera's TERM is ON.



- CAUTION : According to the RS485 communication regulation, the maximum cable distance should be within 1.2KM.

1-2. BAUD RATE : 9600 / 4800 / 2400

Baud Rate

The less communication speed provides the more stable communication quality.
(Ideal communication speed is 9600bps.)
9600 / 4800 / 2400 bps is adjustable.

1-3. D&N MODE : AUTO / COLOR / B/W

Day&Night Mode

D&N MODE	AE MENU	
	AGC	DSS
AUTO1	MID	4X
AUTO2	HIGH	8X

- AUTO : The image displays Color at daytime and automatically turns to B/W mode at nighttime. Darkness Lux level is adjustable. Day/Night filter is automatically switched on and off at the designated lux level.
- COLOR : The image displays Color all the time.
- B/W : The image displays B/W all the time.

1-4. D&N LUX : 1, 3, 5, 7, 9 Lux

Day&Night Lux

This mode works only when D&N MODE is set to <AUTO>. Factory default is 5LUX. When the light level comes down below 5 Lux, the camera turns to nighttime mode with the image changed to B/W automatically.

- Lux level is adjustable at 1, 3, 5, 7, 9 Lux.
(Ideal is 5 Lux)

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

9. How to operate key functions

- CAUTION : When D&N MODE is set to COLOR or B/W, <D&N LUX> mode shows '----'. Change the D&N MODE to AUTO in this case.

1-5. FILTER DLY : 1 SEC ~ 15 SEC

Filter Change Delay

This mode works only when D&N MODE is set to <AUTO>. This is to set up a delay time for the filter mechanism and IR Operation to start after the image changed from Color to B/W.

- Adjustable from 1 to 15 sec (Default: 5 Sec)

- CAUTION : When D&N MODE is set to COLOR or B/W, <D&N LUX> mode shows '----'. Change the D&N MODE to AUTO in this case.

1-6. SYNC : INT / L - L

Sync (Internal : INT / Line Lock : L/L)

When DC12V power is input, Sync mode is automatically fixed to <INT> mode, when 24VAC/230VAC power is used, <INT> or <L/L> mode is selectable.

- CAUTION : 24VAC/230VAC type camera. Default set up is <L/L>. When 24VAC/230VAC is used, <INT> mode is selectable.

1-7. L/L - PHASE : NTSC-0~520, PAL-0~620

Adjustable Line Lock PHASE.

1-8. OSD COLOR : WHITE / BLUE / YELLOW / RED / GREEN

OSD COLOR를 사용자가 변경할 수 있음.

1-9. SYSTEM RESET : OFF / LOAD

System Reset

SYSTEM RESET is used to decide to remain the changes or to return to the factory default value. It functions when the MENU button in the camera or IRIS OPEN KEY at the Controller is pressed.

- OFF : Changes of SUB menus are stored.
- LOAD : Changes within the SYSTEM MENU only return to 'factory default'.

1-10. SAVE/RETURN

This is to save the changed data and returns to MAIN MENU after all the settings in the SYSTEM MENU are completed.

- Press the MENU button in the camera.

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

SYSTEM MENU	
1. 485TERM (P-D) :	OFF
2. BAUD RATE :	9600
3. D&N MODE :	AUTO
4. D&N LUX :	05 LUX
5. FILTER DLY :	05 SEC
6. SYNC :	INT
7. L/L-PHASE :	260
8. OSD COLOR :	WHITE
9. SYSTEM RESET :	OFF
10. SAVE/RETURN	

9. How to operate key functions

(2) AWB MENU

AWB MENU : Auto White Balance

Enter AWB MENU at category 2 in the MAIN MENU. Use this menu when you need to adjust the coloration of the image.

AWB MENU	
1. WB MODE	: USER
2. RED CONT.	: 10
3. BLUE CONT.	: 10
4. AWB RESET	: OFF
5. SAVE/RETURN	

2-1. WB MODE : AUTO / PUSH / USER

Selectable AUTO / PUSH / USER

- ATW is generally used. It is suitable for viewing a scene with one or various colors mixed on the background.(IN DOOR / OUT DOOR)
- PUSH : It is suitable when the object's background is in high color temperature. (Ex. Clear sky, Sunset)
- HOLD : The white balance is automatically adjusted in a specific environment. In order to obtain the best result, press the set button while the camera focuses on white paper. If the environment including the light source is changed, you have to adjust the white balance again.
- USER : At USER mode RED CONT (Red-Gain) and BLUE CONT (Blue-Gain) is manually adjustable by pressing the left or right OSD button.

2-2. RED CONT: 00 ~ 100

2-3. BLUE CONT: 00 ~ 100

2-4. AWB RESET: OFF / LOAD

AWB RESET: Reset is operated by

- Changing the mode from OFF to LOAD
 - Pressing the MENU button of camera or IRIS OPEN key of Controller.
- * Only AWB menu is returned to the factory default.

AWB MENU	
1. WB MODE	: USER
2. RED CONT.	: 16
3. BLUE CONT.	: 16
4. AWB RESET	: OFF
5. SAVE/RETURN	

2-5. SAVE / RETURN

- Leave the AWB RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

(3) AE MENU (Auto Exposure)

3-1. IRIS : MANUAL/ DC/VIDEO

Please set the Iris Mode(DC/VIDEO/MANUAL) according to the type of the lens. When DC Iris lens is used, the menu should be set to DC condition.

AE MENU	
1. IRIS	: DC
2. BRIGHTNESS	: 25
4. FLICKERLESS	: OFF
5. SHUT.SPEED	: —

3-2. BRIGHTNESS : 00 ~ 50

Brightness is adjustable from 00~ 50 (Default : 25)

AE MENU	
1. IRIS	: DC
2. BRIGHTNESS	: 25
4. FLICKERLESS	: OFF
5. SHUT.SPEED	: —

9. How to operate key functions

3-3. FLICKERLESS : OFF / Shutter / Gain

This is used only when there is a difference in frequency between the power system (50Hz) and TV system (60Hz). In this case flicker is occurred on the monitor. Please set the mode to <ON>. In most countries other than Japan do not need this set up.
* Factory default is <OFF>.

- ▶ This mode should set to <GAIN> with Auto Iris lens and <Shutter> with Manual Iris lens.

3-4. SHUT. SPEED : OFF, 1/60, 1/50,,,1/10000

- NTSC : OFF, 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
 - PAL : OFF, 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
- * Use this function only when the light level on the application is fixed all the time.
* Factory default is "----"

3-5. AGC : OFF / 12dB / 18dB / 24dB / 30dB / 36dB / 42dB / 44dB

AGC Gain is adjustable to OFF/ 12dB / 18dB / 24dB / 30dB / 36dB / 42dB / 44dB.

3-6. DSS : OFF / 2X / 4X / 6X / 8X / 10X / 20X / 40X / 80X / 160X

DSS (Digital slow shutter)

This is an electronically activated function to improve the sensitivity for viewing low light condition in addition to the original sensitivity from CCD sensor itself. Shutter level is adjustable from OFF to 160 times.
- When DSS level is higher, the much brighter picture becomes white the more ghosts are occurred.
- During DSS function in operation, Noise, Spots and White blemish are increased at the same rate of DSS level increasing.
But this is not a malfunction.

AE MENU	
1. IRIS	: DC
2. BRIGHTNESS	: 25
3. FLICKERLESS	: OFF
4. SHUT SPEED	: —
5. AGC	: MID
6. DSS	: 2X
7. AE RESET	: OFF
8. SAVE/RETURN	

3-7. AE RESET : OFF / LOAD

AE RESET : Reset is operated by

- Changing the mode from OFF to LOAD
 - Pressing the MENU button of camera or IRIS OPEN key of Controller.
- * Only AE MENU is returned to the factory default.

3-8. SAVE / RETURN

- Leave the AE RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

9. How to operate key functions

(4) WDR MENU (Wide Dynamic Range)

4-1. WDR MODE: OFF / WDR1 / WDR2

WDR Function scans both dark and bright areas clearly and this model realized its best set up for the most of different levels of backlight or contrast lighting situations.

- * WDR1 : CDS신호에 의해 주간에는 WDR ON상태를 유지하고 야간에는 WDR OFF상태로 변경됨.
- * WDR2 : 주간/야간 모두 WDR ON상태로 유지함.

4-2. INDOOR LEVEL : 00 ~ 50

When < WDR MODE> is WDR1 or WDR2, the next category, 실내의 밝기를 조정함 00~50(Default is 16)
* When the first category <WDR MODE> is OFF, WDR LEVEL is not activated.

4-3. OUT DOOR LEVEL : 00 ~ 50

When < WDR MODE> is WDR1 or WDR2, the next category, 실외의 밝기를 조정함 00~50(Default is 16)
* When the first category <WDR MODE> is OFF, WDR LEVEL is not activated.

4-4. BLC MODE : ON / OFF

BLC (Back light compensation)

When there is a bright light coming from the background of the object, this mode makes the darkened object to be configurable. This mode can be used when WDR mode is not necessary.

- * BLC MODE : ON /OFF is adjustable by pressing the Left or Right OSD button.

4-5. WDR RESET : OFF / LOAD

WDR RESET : Reset is operated by

- Changing the mode from OFF to LOAD
- Pressing the MENU button of camera or IRIS OPEN key of Controller.

- * Only WDR MENU is returned to the factory default.

4-6. SAVE / RETURN

- Leave the WDR RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

WDR MENU	
1. WDR MODE	: OFF
2. WDR LEVEL	: —
3. OUTDOOR LEVEL	: —
4. BLC MODE	: OFF
5. WDR RESET	: OFF
6. SAVE/RETURN	

WDR MENU	
1. WDR MODE	: WDR1
2. WDR LEVEL	: 16
3. OUTDOOR LEVEL	: 16
4. BLC MODE	: OFF
5. WDR RESET	: OFF
6. SAVE/RETURN	

WDR MENU	
1. WDR MODE	: OFF
2. WDR LEVEL	: —
3. OUTDOOR LEVEL	: —
4. BLC MODE	: ON
5. WDR RESET	: OFF
6. SAVE/RETURN	

WDR MENU	
1. WDR MODE	: OFF
2. WDR LEVEL	: —
3. OUTDOOR LEVEL	: —
4. BLC MODE	: OFF
5. WDR RESET	: OFF
6. SAVE/RETURN	

WDR MENU	
1. WDR MODE	: OFF
2. WDR LEVEL	: —
3. OUTDOOR LEVEL	: —
4. BLC MODE	: OFF
5. WDR RESET	: OFF
6. SAVE/RETURN	

9. How to operate key functions

(5) PRIVACY MENU

5-1. AREA NUM : 1 ~ 4

Privacy zones can be masked on the picture.
AREA NUM: Up to 4 numbers of areas can be masked.

5-2. MASK : OFF / MOSAIC / COLOR

When <MASK> is MOSAIC or COLOR, designated AREA NUM is activated.

5-3. YGAIN: 1 / 2 / 3

MASK가 COLOR일 때 블록의 밝기를 설정함.

5-4. COLOR : BLACK / WHITE / BLUE / YELLOW / GREEN / RED

MASK가 COLOR일 때 블록의 색을 설정할 수 있음.

5-5. SIZE : PUSH MENU

This is to adjust the size of the MASK area.

- Set the <MASK> as ON.
- Move the White background onto the <SIZE> category.
- Press MENU Button. Then this category becomes <3.SIZE : L/R/U/D>.
- Now you can adjust the size of the wanted area by using Left/Right/Up/Down OSD buttons.
- In order to exit, press the OSD MENU button. Thereafter you can continue to move onto a different function.

5-6. POSITION : PUSH MENU

This is to adjust the position of the MASK area.

- MASK is ON
- Move the White Bar to <4. POSITION : PUSH MENU>
- Press MENU Button. Then this category becomes <4.POSITION : L/R/U/D>
- Now you can adjust the position of the wanted area by using Left/Right/Up/Down OSD buttons.
- In order to exit, press the MENU button (OSD Key). Thereafter you can continue to move onto a different function.

5-7. PRIVACY RESET : OFF / LOAD

PRIVACY RESET : Reset is operated by

- Changing the mode from OFF to LOAD
- Pressing the MENU button of camera or IRIS OPEN key of Controller.

- * Only PRIVACY menu is returned to the factory default.

PRIVACY MENU	
1. AREA NUM	: 1
2. MASK	: MOSAIC
3. YGAIN	: ---
4. COLOR	: ---
5. SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. PRIVACY RESE	: OFF
8. SAVE/RETURN	

PRIVACY MENU	
1. AREA NUM	: 1
2. MASK	: MOSAIC
3. YGAIN	: 3
4. COLOR	: BLACK
5. SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. PRIVACY RESE	: OFF
8. SAVE/RETURN	

PRIVACY MENU	
1. AREA NUM	: 1
2. MASK	: MOSAIC
3. YGAIN	: 3
4. COLOR	: BLACK
5. SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. PRIVACY RESE	: OFF
8. SAVE/RETURN	

PRIVACY MENU	
1. AREA NUM	: 1
2. MASK	: MOSAIC
3. YGAIN	: 3
4. COLOR	: BLACK
5. SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. PRIVACY RESE	: OFF
8. SAVE/RETURN	

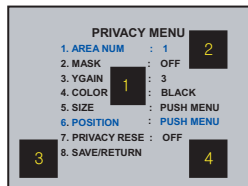
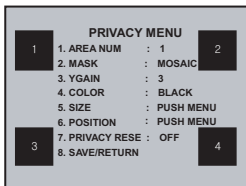
PRIVACY MENU	
1. AREA NUM	: 1
2. MASK	: MOSAIC
3. YGAIN	: 3
4. COLOR	: BLACK
5. SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. PRIVACY RESE	: OFF
8. SAVE/RETURN	

9. How to operate key functions

5-6. SAVE / RETURN

- Leave the PRIVACY RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button.
 - Adjusted data and functions are automatically saved.

☞ NOTE : To setup Multiple PRIVACY zones
Up to maximum 4 zones can be set up.



- For 1st zone.
 - Write <1> on the right space of <AREA NUM> to be <AREA NUM : 1>
 - Then change the next category <MASK> to ON from OFF.
 - Then Masking are number 1 is created
 - Then follow the steps as instructed at <POSITION : PUSH MENU>
- For 2nd zone.
 - Write <2> on the right space of <AREA NUM> to be <AREA NUM: 2>.
 - Repeat the process as explained above (A).
- 3rd zones and 4th zones are adjustable in the same way.

(5) DISPLAY MENU

5-1. CAMERA ID : 001 ~ 225

This is used to communicate with the camera via RS-485 port.

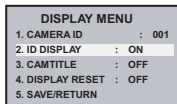
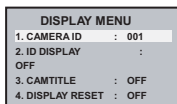
* In case of connecting with multiple cameras,
please assign individual ID to each camera.

5-2. CAMERA ID : OFF/ON

CAMERA ID is displayed on the monitor.

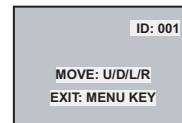
- When <ID DISPLAY> is ON, CAMERA ID is displayed on the top right side of the monitor.
- Recommendable to locate the CAMERA ID on the top left side, bottom-left side, top-right side or top-left side.

* To move the position of the Camera ID,
a. Change the category <ID DISPLAY> to ON from OFF.
b. Then press the MENU button (OSD Key).



9. How to operate key functions

- Move the position of CAMERA ID by using the LEFT/RIGHT/UP/DOWN OSD buttons.
 - CAMERA TITLE should not be overlapped with CAMERA ID
- In order to exit, press the MENU button (OSD Key).



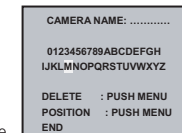
☞ CAUTION

- Please check the following points when using a PTZ Controller
- Adjust the CAMERA ID and the Controller's ADDRESS same.
 - Adjust the <BAUD RATE> in SYSTEM MENU same with the Controller.

7-3. CAMTITLE : OFF / ON

CAMTITLE (Camera Title)

- When Camera ID is input, CAMTITLE image is displayed on the monitor. Move the White Bar to Category 3. <CAMTITLE: OFF> and change OFF to ON.
- Press the MENU button (OSD Key) and then CAMERA NAME window is appeared.
- Choose a letter you want to use by moving the cursor (the cursor is not seen but the letter is blinking) onto the letter by using LEFT/RIGHT/UP/DOWN OSD buttons.
- Press the MENU button (OSD Key). Then the letter will be written on the space of CAMERA NAME.
- To remove the written letter, move the cursor to the <DELETE> category and press PUSH MENU. Then the letter is removed one by one.
- To change the position of the written letter,
 - Move the cursor to the <POSITION> category.
 - Press the MENU button (OSD Key).
 - Move the position of the cursor by using the LEFT/RIGHT/UP/DOWN OSD buttons.
 - Press the MENU button again to save the input and to return to the <CAMERA NAME> category.
 - Move the cursor to <EXIT> and press the MENU button again to return to <DISPLAY MENU>.

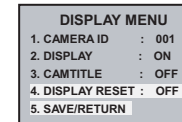


☞ NOTE: Maximum characters of camera title are 8.

7-4. DISPLAY RESET : OFF / LOAD

DISPLAY RESET : Reset is operated by

- Changing the mode from OFF to LOAD
 - Pressing the MENU button of camera or IRIS OPEN key of Controller.
- * Only Display menu is returned to the factory default.



7-5. SAVE / RETURN

- Leave the DISPLAY RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

9. How to operate key functions

(7) EFFECT MENU

7-1. SHARPNESS : 00 ~ 15

To set up the sharpness level of the picture.
- Adjustable between 00~15. (Default is 8)

7-2. COLOR GAIN: R-GAIN / B-GAIN

사용자가 색의 농도를 조정할 수 있음.
커서를 COLOR GAIN에 놓고 SET KEY를 누르면 색의 농도를 조정할 수 있는 하위메뉴로 들어감.
하위메뉴에 들어간 후 R-GAIN과 B-GAIN을 이용하여 색의 농도를 조정함.

R-GAIN : 00~30(Default is 15)
B-GAIN : 00~30(Default is 15)

7-3. REVERSAL : NOR/ MIR/ VER/ FLIP

* NOR : Normal image

* MIR : Mirror image



* VER : Vertical Reversal image

* FLIP over image



NOTE

- When the camera should be tilted on to the reverse direction (to backward) in consideration of the position of the CDS sensor, this can be solved by using the <FLIP> function.

→ 2. REVERSAL : FLIP

- When the camera should be installed in upright direction like in the picture here, the image is converted to normal position by using the <VER> function.

→ 2. REVERSAL : VER

CAUTION

- When WDR is ON, <DIGITAL ZOOM : ON> is not activated.
- Please set the <WDR> as OFF when to use <DIGITAL ZOOM>.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: OFF
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF

1. R-GAIN	: 15
2. B-GAIN	: 15

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: NOR
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: OFF
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

9. How to operate key functions

7-4. DIGITAL ZOOM : OFF / X1.5 / X2 / X3

Set up the magnitude rate of DIGITAL ZOOM.
- 4 different set up is available. OFF(1 times), X1.5, X2, X3.

X1.5, X2, X3의 배열에서 MENU KEY를 누르면 Digital Pan/Tilt 기능으로 영상의 위치를 조정할 수 있음.

7-5. BLEMISH : ON / OFF

WHITE BLEMISH compensation function.
- This is to set up a special function to trace and cure White Dead Cells (called "WHITE DEFECT") automatically.

RECOMMENDATION!

Please set up <BLEMISH : ON> after the installation.
When BLEMISH function ON right after the POWER in, the picture may not be seen for a short period of time.

7-6. 2DNR & 3DNR

Noise Reduction function.

2DNR : OFF / (02)

커서를 (02)에 놓고 Set Key를 누르면 하위메뉴에서 레벨을 조정함. - Adjustable between 00~06. (Default is 2)

*레벨이 높아질수록 저조도 윤곽이 약해짐
3DNR : OFF / (06)

커서를 (06)에 놓고 Set Key를 누르면 하위메뉴에서 레벨을 조정함. - Adjustable between 00~31. (Default is 6)

*레벨이 높아질수록 영상 결림 정도가 높아짐.

7-7. EFFECT RESET : OFF / LOAD

EFFECT RESET : Reset is operated by

- Changing the mode from OFF to LOAD
- Pressing the MENU button of camera or IRIS OPEN key of Controller.

* Only EFFECT menu is returned to the factory default.

7-8. SAVE / RETURN

- Leave the EFFECT RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: NOR
4. DIGITAL ZOOM	: OFF

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

9. How to operate key functions

(8) MOTION MENU

8-1. MD NUM : 1~4

Motion Zone – Can be Masked on the picture.
MD NUM : Up to 4 numbers of areas can be masked.

8-2. MD DEFINE : ON / OFF

When < MD DEFINE > is ON, designated AREA NUM is activated.

8-3. MD LEVEL

MD LEVEL is adjustable to LOW / MID / HIGH.

8-4. MD DISPLAY

화면의 알람을 ON/OFF 할 수 있다.

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

MOTION MENU	
4. MD DISPLAY	: ON
5. MD SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. MD RESET	: OFF
8. SAVE/RETURN	

MOTION MENU	
4. MD DISPLAY	: ON
5. MD SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. MD RESET	: OFF
8. SAVE/RETURN	

8-5. MD SIZE : PUSH MENU

This is to adjust the size of the motion area.

- Set the < MD DEFINE > as ON.
- Move the white background on to the < MD SIZE > category.
- Press MENU button. Then, this category becomes < 5. MD SIZE : L/R/U/D >.
- Now you can adjust the size of the wanted area by using Left/Right/Up/Down OSD buttons.
- In order to exit, press the OSD MENU button.
Thereafter, you can continue to move onto a different function.

8-6. POSITION : PUSH MENU

This is to adjust the position of the MASK area.

- MD DEFINE
- Move the white bar to < 6. Position : PUSH MENU >.
- Press MENU button. Then, this category becomes < 6. POSITION : PUSE MENU >.
- Now you can adjust the position of the wanted area by using Left/Right/Up/Down OSD buttons.
- In order to exit, press the MENU button. (OSD Key)
Thereafter, you can continue to move onto a different function.

MOTION MENU	
4. MD DISPLAY	: ON
5. MD SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. MD RESET	: OFF
8. SAVE/RETURN	

9. How to operate key functions

8-7. MD RESET : OFF / LOAD

MD RESET : Reset is operated by
– Changing the mode from OFF to LOAD.
– Pressing the MENU button of camera or IRIS open key of controller.
* Only motion menu returned to the factory default.

MOTION MENU	
4. MD DISPLAY	: ON
5. MD SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. MD RESET	: OFF
8. SAVE/RETURN	

8-8. SAVE / RETURN

- Leave the MOTION RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.

MOTION MENU	
4. MD DISPLAY	: ON
5. MD SIZE	: PUSH MENU
6. POSITION	: PUSH MENU
7. MD RESET	: OFF
8. SAVE/RETURN	

(9) FACE MENU

9-1. FACE DEFINE : OFF / ON

FACE DEFINE을 ON을 하면 4명의 얼굴까지 검출함
* 눈,코,입을 포함하여 2/3이상 얼굴이 나와야 하며, 모니터의 얼굴크기가 3Cm이상 되어야함. 그리고 Monitor의 상하좌우 가장자리의 얼굴은 검출하지 못함.

FACE MENU	
1. FD DEFINE	: OFF
2. FD LEVEL	: MID
3. FD DISPLAY	: ON
4. FD RESET	: OFF
5. SAVE/RETURN	

9-2. FD LEVEL : XLOW / LOW / MID / HIGH / XHIGH

얼굴검출의 민감도를 조정할 수 있음.

FACE MENU	
1. FD DEFINE	: OFF
2. FD LEVEL	: MID
3. FD DISPLAY	: ON
4. FD RESET	: OFF
5. SAVE/RETURN	

9-3. FD DISPLAY : ON / OFF

화면의 알람을 ON/OFF할 수 있다.

FACE MENU	
1. FD DEFINE	: OFF
2. FD LEVEL	: MID
3. FD DISPLAY	: ON
4. FD RESET	: OFF
5. SAVE/RETURN	

9-4. FD RESET : OFF / LOAD

FD RESET : Reset is operated by
– Changing the mode from OFF to LOAD
– Pressing the MENU button of camera or IRIS OPEN key of Controller.

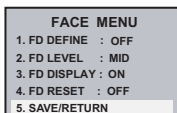
FACE MENU	
1. FD DEFINE	: OFF
2. FD LEVEL	: MID
3. FD DISPLAY	: ON
4. FD RESET	: OFF
5. SAVE/RETURN	

* Only FACE DETECT menu is returned to the factory default.

9. How to operate key functions

9-5. SAVE / RETURN

- Leave the FACE RESET to OFF condition.
- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.



(10) FACTORY INIT

10-1. FACTORY INIT : OFF / LOAD

This is for the whole function in all Menus to return to the default condition. (to factory default)

- * Change the <FACTORY INIT : OFF> to <FACTORY INIT : LOAD> and press the MENU button or Iris Open Key of controller.

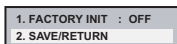


CAUTION

Please note that the adjusted settings are changed to the factory default when the <FACTORY INIT> menu is ON.

10-2. SAVE / RETURN

- Place the WHITE BAR on SAVE/RETURN position.
- Press the MENU Button. Adjusted data and functions are automatically saved.



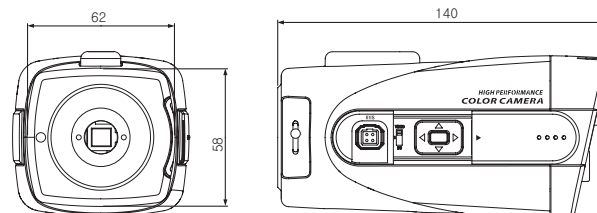
(11) EXIT

10. Troubleshooting

Before sending the camera out for repair, check the items below. If the problem persists after checking these items, contact your service center.

Problems	Troubleshooting
Nothing appears on the screen.	<ul style="list-style-type: none">● Please check the power connection.● Please check the video signal line connection.
The video image is not clear.	<ul style="list-style-type: none">● Please check if the lens or the outer glass is clean. - Dirt or fingerprints on the lens can affect the image blooming or reflection. Gently wipe any dirt or fingerprints off the lens or the glass with a soft cloth.● Please check and adjust contrast feature of the monitor.● Please check if the camera is exposed directly toward a bright light, sunlight, or sun light reflecting area. Please move the camera's position in this case.
The screen is dark.	<ul style="list-style-type: none">● Please check and adjust contrast feature of the monitor.● If there is any interim equipment, set the Hi-z position properly and check the terminals.● Please check if the power supply is within the specification. - When the cable connection requires a long distance, there may need a higher power supply or an additional power/video amplification.
The camera's surface is too hot and black stripes appear on the screen.	<ul style="list-style-type: none">● Please check if the power supply is regulated and is within the standard requirement of the product.
The screen is flickering.	<ul style="list-style-type: none">● Please check if the camera is facing directly toward sunlight or fluorescent light.

Dimension (mm)



11. Specification

Category	Specification	Description	
	Power	DC12V	DC12V/AC24V
Imager	Image sensor	1/3" Sony Double Scan CCD	
	Effective Pixels	976(H) x 494(V) - NTSC, 976(H) x 582(V) - PAL	
	H.Resolution	650TV Lines (Day) / over 700TV Lines (Night)	
	Sync system	Internal	Line Lock
	Scanning system	NTSC 525 lines PAL 625 lines 2:1 Interlaced	
	Video output	1.0 Vp-p composite. 75 Ohms	
	S/N ratio	More than 52 dB (AGC Off)	
	Min. Illumination	0.0001Lux (F1.2)	
Function Control (OSD)	WDR	OFF / WDR1 / WDR2	
	2DNR / 3DNR	2DNR : OFF / 0-6, 3DNR : OFF / 0-31	
	White balance	ATW / Push Lock / Hold / User Selectable (1,800°K-10,500°K)	
	Gain Control	OFF / 12dB / 18dB / 24dB / 30dB / 36dB / 42dB / 44dB Selectable	
	Shutter speed	1/60~1/10,000 sec (NTSC), 1/50~1/10,000 sec (PAL)	
	Digital Slow Shutter	OFF / 2x ~ 160x (DSS)	
	Privacy Masking	OFF / Mosaic / Color (4 programmable zones)	
	Digital zoom	OFF / 1.5x / 2x / 3x (Digital Pan / Telt)	
	Motion Detection	OFF / On (4 programmable zones)	
	Face Detection	OFF / On (4 face detections)	
Power	Power source	12VDC	12VDC/24VAC
	Operating current	Normal	At 12VDC : 180mA At 24VAC : 130mA
		Max	At 12VDC : 260mA At 24VAC : 160mA
Mechanical	Lens	C/SC Mount (Manual / DC / Video)	
	True Day/Night	With mechanical Filter change (a Blue filter built-in)	
	Operating Temp	14° F ~122° F (-10° C~+50° C)	
Environmental	Humidity	Within 90% RH	
	Measurement (mm)	62(W) X 58(V) X 140(L)	
Physical	Weight (Approx.g)	500	

Specifications are subject to change without prior notice for improvement

MEMO