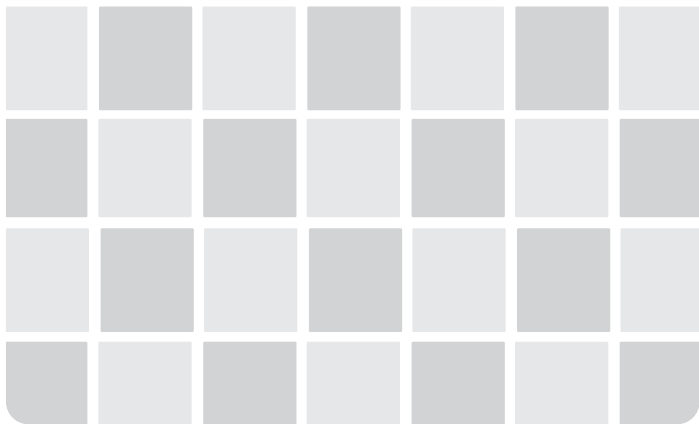


OSD CONTROL

USER'S GUIDE



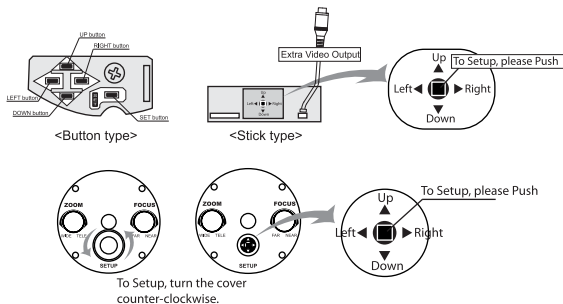
CAMERA OPERATION

SETUP MENU	
EXPOSURE	LENS AGC SENSE - UP BACKLIGHT 3D - DNR RETURN
WHITE BALANCE	AWB MODE R-Y GAIN B-Y GAIN RETURN
DAY&NIGHT	D&N MODE BURST C_SUP A_SUP SMART IR RETURN
IMAGE ADJUST	MIRROR SHARPNESS GAMMA LSC MONITOR RETURN
MOTION	MOTION AREA SENSITIVITY DISPLAY HOLD TIME ALARM OUTPUT RETURN
PRIVACY	MASK1 MASK2 MASK3 MASK4 MASK5 MASK6 MASK7 MASK8 RETURN
SPECIAL	LANGUAGE TITLE COMMUNI CATION DPC FACTORY SET RETURN
EXIT	

CAMERA OPERATION

Settings

Settings can be made using the 5 buttons.

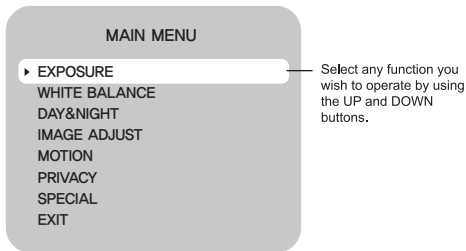


1. Please press the SETUP button

- Settings can now be made. The SETUP menu is displayed on the monitor.

CAMERA OPERATION

2. Please select any function you wish to activate by using the UP and DOWN buttons.
 - The arrow can be moved up or down by using the UP and DOWN buttons. Please position the arrow to point to the function you wish to operate.



3. Please press the LEFT or RIGHT button if you wish to change mode.
 - When the LEFT or RIGHT button is pressed, available values and modes are displayed in order. Please keep pressing the button until you get to the mode you wish to operate.
4. Please select 'EXIT' and then press the SETUP button to finish the setting.

NOTE

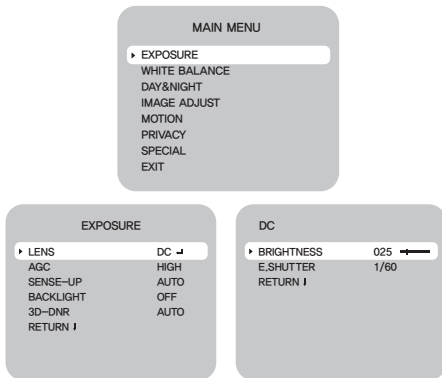
- If  appears at the mode you wish to operate, it means that there is a sub-menu which can be selected by pressing the SETUP button.

CAMERA OPERATION

EXPOSURE

The EXPOSURE menus SHUTTER/IRIS controls, BLC, HLI, D-WDR, AGC and 3D DNR, will set SENSE-UP etc. and it will be able to change a condition.

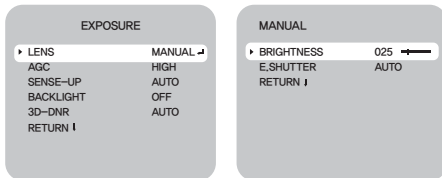
This function is used to adjust the brightness of the screen.



► LENS

- EXPOSURE - LENS - DC
 - DC modes use DC-IRIS lenses and they control AE. Then, electronic shutter speed default 1/60.
- EXPOSURE - LENS - DC - BRIGHTNESS
 - BRIGHT : Setting for target brightness.
 - Controls DC IRIS at the bright value which is set, Bright control from 1 to 100.
- EXPOSURE - LENS - DC - E.SHUTTER
 - LENS - DC mode setting.
 - E.SHUTTER : Electronic shutter value setting mode in DC IRIS
 - 1/60(1/50), 1/100, 1/120FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/100000 sec. (default : 1/50 (1/60))
- RETURN

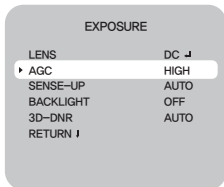
CAMERA OPERATION



- EXPOSURE - LENS
 - Selection of LENS modes.
 - The ELC means fixed LENS mode.
 - The ELC modes with electronic shutter AE controls.
 - When use DC-IRIS lens, DC-IRIS full open conditions.
 - DC modes use DC-IRIS lenses and they control AE. This time, Electronic shutter default shutter speed 1/60
- EXPOSURE - LENS - MANUAL - BRIGHTNESS
 - BRIGHT : For target brightness control
 - AE controls this in compliance with a set bright control. Bright control from 1 to 100.
- EXPOSURE - LENS - MANUAL - E.SHTTER
 - E.SHUTTER - setting value of electronic shutter
 - Select mode : Auto, 1/60(1/50), 1/100, 1/120FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000, 1/100000 sec, (default : AUTO)
 - When selecting in Auto mode (default) : The shutter mode from 1/60 to 1/100000 is controlled with automatic.
- RETURN

▶ AGC (Auto Gain Control)

- The higher the gain level, the brighter the screen - but the higher the noise.

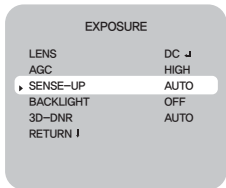


AGC : Auto Gain Control level set OFF / LOW / MIDDLE / HIGH.

CAMERA OPERATION

► SENSE – UP

- Sense-up is realized in the most low illumination quality and it provides the image without a noise at the low illumination quality.
- When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.

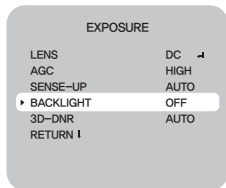


EXPOSURE - SENSE - UP

- When it is low dark condition, SENSE -UP uses
- AUTO / OFF / X2 / X4 / X8 / X16 / X32 / X64 / X128 / X256 / X512 / X1024
- AUTO mode basically sets X4 by manufacture.
- In case of SENSE-UP operating, the 3D-DNR is operated LOW level.

► BACKLIGHT

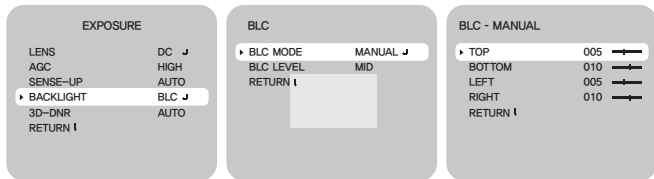
Please select the mode you wish to operate by pressing the LEFT or RIGHT button.



CAMERA OPERATION

BACKLIGHT – BLC (Back Light Compensation)

Possible to select two areas at AREA SEL and can control GAIN, Expand or reduce a length area by HEIGHT and the width area by WIDTH, Move to a width direction by LEFT/RIGHT and the length direction by TOP/BOTTOM.

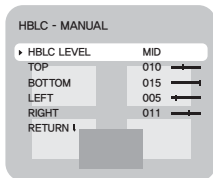
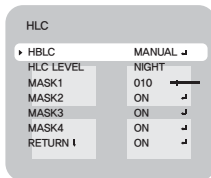
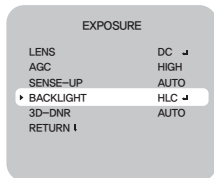


- EXPOSURE – BACKLIGHT – BLC – BLC MODE
 - Select AUTO or MANUAL
 - Sets the total AE level at AE value of select window area.
 - AUTO, the case which modes will select seeks the darkest area with automatic and photometry weight, AE controls does.
- EXPOSURE – BACKLIGHT – BLC – BLC MODE – MANUAL
 - BLC window setting at manual mode
 - TOP / BOTTOM / LEFT / RIGHT zone setting.
 - TOP : 0 ~ (BOTTOM - 1), 1 step.
 - BOTTOM : (TOP + 1) ~ 16, 1 step.
 - LEFT : 0 ~ (RIGHT - 1), 1 step.
 - RIGHT : (LEFT + 1) ~ 16, 1 step.
- EXPOSURE – BACKLIGHT – BLC – BLC LEVEL
 - BLC level select mode.
 - Select OFF / LOW / MID / HIGH
- RETURN

CAMERA OPERATION

BACKLIGHT – HLC (High Light Compensation)

Can select the LEVEL value control and MODE.

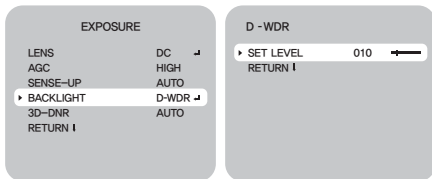


- EXPOSURE – BACKLIGHT – HLC
 - It is a function which reverses the area about strong light.
 - The HLC mode control by BLC window area, (HBLC)
- EXPOSURE – BACKLIGHT – HLC – HBLC
 - Sets HBLC area of separate way from HLC mode
 - HBLC LEVEL : OFF / LOW / MID / HIGH
 - HBLC zone sets regulate HBLC zone with square window of the screen.
 - TOP / BOTTOM / LEFT / RIGHT control mode
 - TOP : 0 ~ (BOTTOM - 1), 1 step / BOTTOM : (TOP + 1) ~ 16, 1 step / LEFT : 0 ~ (RIGHT - 1), 1 step / RIGHT : (LEFT + 1) ~ 16, 1 step
- EXPOSURE – BACKLIGHT – HLC – MODE
 - Use mode set of HLC (ALL DAY / NIGHT).
 - ALL DAY : Always operating HLC
 - NIGHT : Only NIGHT environment operating. But if DAY condition, not operating HLC
- EXPOSURE – BACKLIGHT – HLC LEVEL
 - Setting of HLC level (1 ~ 100, 1 step, default : 10) Inverse zone will increase in low level
- EXPOSURE – BACKLIGHT – HLC – MASK SEL
 - Window has 4 zones : MASK1 ~ 4 User sets each mask window.
 - TOP / BOTTOM / LEFT / RIGHT control mode
 - TOP : 0 ~ (BOTTOM - 1), 1 step / BOTTOM : (TOP + 1) ~ 34, 1 step / LEFT : 0 ~ (RIGHT - 1), 1 step / RIGHT : (LEFT + 1) ~ 45, 1 step
- RETURN

CAMERA OPERATION

BACKLIGHT – D-WDR (Digital Wide Dynamic Range)

Realize the improved backlight compensation function more than existed DWDR (Digital Wide Dynamic Range) with a fusion ratio of the optimum by pixel, when they composite both a shutter of high speed at the light area and the shutter of low speed at the dark area



- When the BACKLIGHT menu screen is displayed, select 'D-WDR' by using the Up and Down buttons so that the arrow indicates 'D-WDR'.
- Use the Left/Right buttons to change the DWDR threshold level in the sub menu according to the contrast between bright and dark areas.



DWDR ON



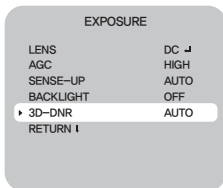
DWDR OFF

- **OFF** : BACKLIGHT function does not operate.

CAMERA OPERATION

BACKLIGHT – 3D DNR (3Dimension Digital Noise Reduction)

Improve S/N ratio and more clean the low illumination quality and can be monitoring at night clearly without the image drag and noise phenomenon.



- AUTO : Level sets for 3D DNR.
- OFF : 3D DNR function does not operate.
- OFF / LOW / MID / HIGH, The noise level reduces in high level but ghost image increase more.

BACKLIGHT – RETURN

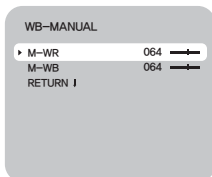
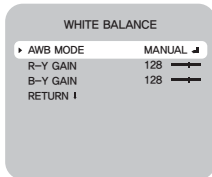
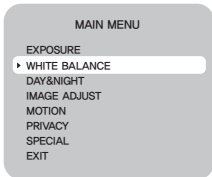
Select this to save the changes in the menu and return to the MAIN menu.

CAMERA OPERATION

WHITE BALANCE

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

1. Please position the arrow to point to 'WHITE BALANCE' on the SETUP menu by using the UP and DOWN buttons.
2. Please select the mode you wish to operate by pressing the LEFT or RIGHT button.



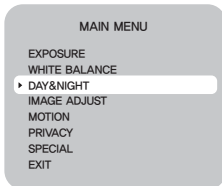
- WHITE BALANCE – AWB MODE
 - ATW : Auto Tracking White Balance mode
 - MANUAL : User can change color
 - M, WR : If it is higher than default (64), the white point moves toward RED. And it is lower than it moves toward GREEN.
Control range : 0 ~ 128, 1 step, default : 64
 - M, WB : If it is higher than default (64), the white point moves toward BLUE. And it is lower than it moves toward YELLOW.
Control range : 0 ~ 128, 1 step, default : 64
 - PUSH : When pushing ENTER, the white balance operate automatically in fixed color temperature area.
- COLOR – R-Y GAIN
 - The color gain controls R-Y
 - If it increases more than default (128) value, R-Y gain extends to vertical shaft in color vector. And if it decrease, it shortens (0 ~ 255, 1 step, default : 128)
- COLOR – B-Y GAIN
 - The color gain controls B-Y
 - If it increases more than default (128) value, B-Y gain extends to horizontal shaft in color vector. And if it decrease, it shortens (0 ~ 255, 1 step, default : 128)
- RETURN : Select this to save the changes in the menu and return to the MAIN menu.

CAMERA OPERATION

DAY & NIGHT

You can display pictures in color or black and white.

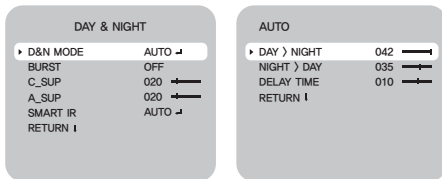
- When the SETUP is on the screen, please position the cursor to 'DAY & NIGHT' by using the button. And then press the button.



► D&N MODE

The camera will automatically show color image in high lux and black / white image in low lux.

You can use 'DAY & NIGHT' function when 'D&N MODE' is 'AUTO'.



• DAY&NIGHT - D&N MODE - AUTO

- D&N is decided by AGC gain level.
- DAY>NIGHT: It controls gain level for changing Night mode ($((\text{DAY}>\text{NIGHT} + 1) \sim 42, 1 \text{ step})$ unit dB.
- NIGHT>DAY: It controls gain level for changing DAY mode. ($(35 \sim (\text{NIGHT}>\text{DAY} - 1), 1 \text{ step})$ unit dB.
- DWELL TIME: D&N change on continual time condition set DAY>NIGHT or NIGHT>DAY.

For protecting hunting, (0 ~ 15, 1 step) unit : sec

- RETURN : Select this to save the changes in the menu and return to the MAIN menu.

CAMERA OPERATION

- DAY&NIGHT - D&N MODE – COLOR : This picture is always displayed in color.
- DAY&NIGHT - D&N MODE – B&W : This picture is always displayed in black and white.
You can turn on or off the burst signal on B/W mode.
- DAY&NIGHT - D&N - EXT

DAY & NIGHT		EXT	
► D&N MODE	EXT ▾	► DAY > NIGHT	190
BURST	OFF	NIGHT > DAY	030
C_SUP	020	DELAY TIME	005
A_SUP	020	RETURN I	
SMART IR	AUTO ▾		
RETURN I			

- EXT mode: D&N decision by external CDS signal.
- DAY>NIGHT: ADC level for changing Night mode, (0 ~ 255, 1 step)
- NIGHT>DAY : ADC level for changing Day mode, (0 ~ 255, 1 step)

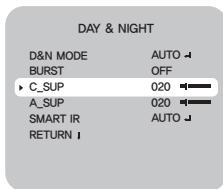
► BURST

DAY & NIGHT	
D&N MODE	AUTO ▾
► BURST	OFF
C_SUP	020
A_SUP	020
SMART IR	AUTO ▾
RETURN I	

- BURST (AUTO) : When it is Night mode, color burst ON/OFF controls.
- BURST (EXT) : When it is Night mode, color burst signal selects ON/OFF.

CAMERA OPERATION

► C_SUP / A_SUP



- DAY&NIGHT - C_SUP

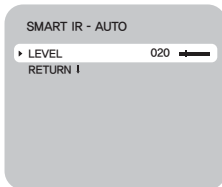
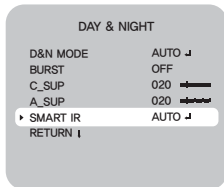
- The color noise suppress in Night mode / 0 ~100, 1 step. Unit %.

- DAY&NIGHT - A_SUP

- The Aperture level suppress in Night mode / 0 ~100, 1 step. Unit %.

► SMART IR

Can adjust the display saturation as AUTO or OFF.



► RETURN

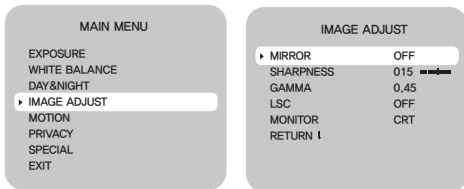
Select this to save the changes in the menu and return to the MAIN menu.

IMAGE ADJUST

Please position the arrow to point to 'ADJUST' by using the UP or DOWN button.

Please select 'ON' by pressing the LEFT or RIGHT button.

CAMERA OPERATION



- MIRROR : Image change mirror ON/OFF mode



MIRROR ON



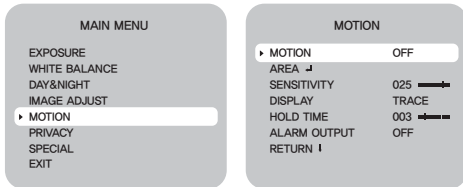
MIRROR OFF

- SHARPNESS : Sharpness level control (0 ~ 30, 1 step)
- GAMMA
 - User can adjust GAMMA level.
 - Selecting of 0.45 / 0.60 / 1.0 / USER.
 - After selecting USER mode, the gamma value adjust 0.20 ~ 1.00. (0.05 step)
- LSC (Lens Shading Compensation) : Lens Shading Compensation ON/OFF mode
In order to complement the quality of the lens is a function which increases gain of screen angle. (0 ~ 30, 1 step.)
In increasing level, side image is bright.
- MONITOR : The DISPLAY MONITOR mode can support two kinds of display (CRT/LCD)
- RETURN : Select this to save the changes in the menu and return to the MAIN menu.

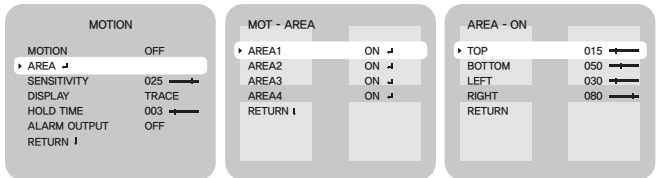
MOTION

CAMERA OPERATION

The function informs alarm on camera when being moving by the screen. The setting zones are 4 area.



- MOTION : Select operates ON/OFF



- AREA SEL : Select each area

MOTION - AREA SEL - AREA i

MASK MODE: Selected area operates MASK area.

TOP / BOTTOM / LEFT / RIGHT

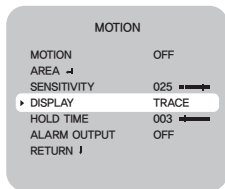
TOP : 0 ~ (BOTTOM - 1), 1 step.

BOTTOM : (TOP + 1) ~ 145, 1 step.

LEFT : 0 ~ (RIGHT - 1), 1 step.

RIGHT : (LEFT + 1) ~ 192, 1 step

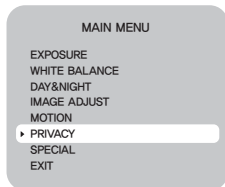
CAMERA OPERATION



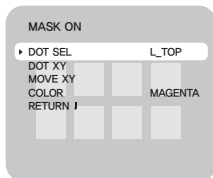
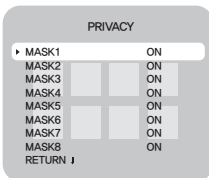
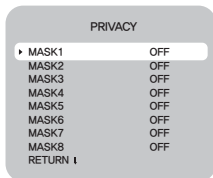
- SENSITIVITY : Control MOTION sensitivity. (1 ~ 30, 1 step)
- DISPLAY: Control alarm mode when MOTION indicates. (Select of OFF / MESSAGE / TRACE)
 - i) MESSAGE mode: MOTION ICON display when MOTION indicates.
 - ii) TRACE mode: Display selected window in AREA
- HOLD TIME: The time of alarm control when MOTION indicat. (1 ~ 15, 1 step) Unit : sec
- ALARM OUTPUT : Select operates ON/OFF
- RETURN : Select this to save the changes in the menu and return to the MAIN menu.

PRIVACY

The mask controls about the zone where the privacy is necessary. The total mask is 8 zones.
The each mask color can control GRAY, BLACK, WHITE, RED, GREEN, BLUE, MAGENTA, CYAN.



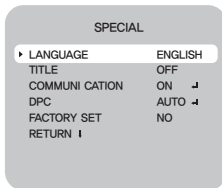
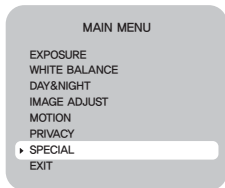
CAMERA OPERATION



- PRIVACY – MASK1 ~ MASK 8
 - The each mask selects ON/OFF
- PRIVACY – MASK
 - After selecting each mask, it can select color, location, area of mask.
 - DOT SEL : The each mask can change area.
(L_TOP / L_BOT / R_BOT / R_TOP)
 - DOT XY : The selected point in mask controls size.
 - MOVE XY : The selected mask can move.
 - COLOR SET : The selected mask can change color.
(GRAY / BLACK / WHITE / RED / GREEN / BLUE / MAGENTA / CYAN)

SPECIAL

Please position the arrow to point to 'SPECIAL' on the SETUP menu by using the UP and DOWN buttons.
Please select the mode you wish to operate by pressing the UP or DOWN button.



- LANGUAGE : ENGLISH, A SPANISH, PORTUGUESE, RUSSIAN, GERMAN, ITALIAN, NEDERLAND, KOREAN, CHINESE

CAMERA OPERATION

SPECIAL

LANGUAGE	ENGLISH
▶ TITLE	ON ▾
COMMUNI CATION	ON ▾
DPC	AUTO ▾
FACTORY SET	NO
RETURN	⏮

USER TITLE

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 0 1 2 3 4 5
 6 7 8 9 ! " # \$ % & ' () * +
 , - . / : ; < = > ? @ [\] ^ _
 ← → CLR POS RET ⏮

- TITLE
 - User writes TITLE / User sets TITLE ON/OFF.
 - After selecting TITLE ON, it can write TEXT to display on screen.
- USER TITLE - Text setting mode / User can write text 64 characters.
 - ←, → : When it modify, user can move revision text.
 - CLR: User can remove all text.
 - POS: The text move to the position.
 - RET : After finishing USER TITLE to the upper menu.
- COMMUNI CATION

SPECIAL

LANGUAGE	ENGLISH
TITLE	OFF
▶ COMMUNI CATION	ON ▾
DPC	AUTO ▾
FACTORY SET	NO
RETURN	⏮

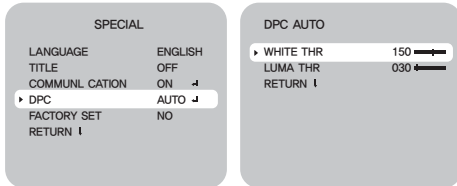
COMMUNL CATION

▶ ID	001
BAUD RATE	9600
PROTOCOL	PELCO - D
RETURN	⏮

- ID : When user set a couple of camera, it can set camera ID of each camera, 0 ~ 255
- COMMUNI. (communication setting) : User can set RS485 comm. ON /OFF.
 - Setting RS485 communication.
 - PROTOCOL: Supporting for PELCO-D.
 - BAUDRATE: 2400 / 4800 / 9600 / 19200. Unit : bps

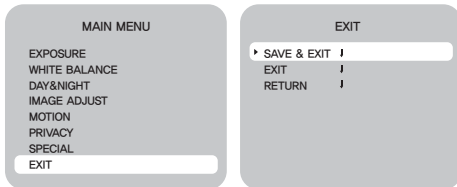
CAMERA OPERATION

- DPC (Dead Pixel Compensation)
 - It is the function to compensate for CCD defect. User can select OFF / MANUAL.



- DPC - MANUAL
 - After selecting MANUAL mode, menu move to the DPC control mode
 - WHITE THR : White defect threshold. (0 ~ 255, 1 step)
 - LUMA THR : Black defect threshold. (0 ~ 255, 1 step)
- FACTORY SET : Factory initial data mode set.
Camera setting data factory original data.
After factory set mode, user has to enter SAVE&EXIT.
- RETURN : Select this to save the changes in the menu and return to the MAIN menu.

EXIT



- SAVE & EXIT
- EXIT
- RETURN

