

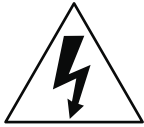


USER MANUAL

ULTRA HIGH RESOLUTION TRUE DAY/NIGHT CAMERA
with SMART IR and 3D DNR

ZB2812IR





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 & CE 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 other than those specified.

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

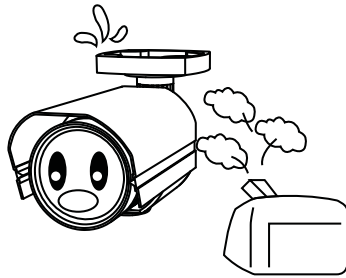
Precautions

Do not install the camera in extreme temperature conditions.



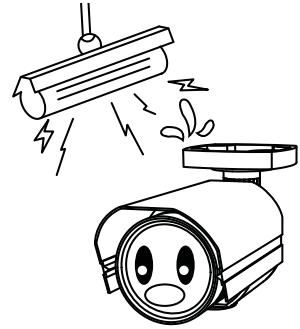
Only use the camera in conditions where temperatures are between -20°C and $+50^{\circ}\text{C}$. Be especially careful to provide ventilation when operating under high temperatures.

Do not install or use the camera in an environment where the humidity is high.



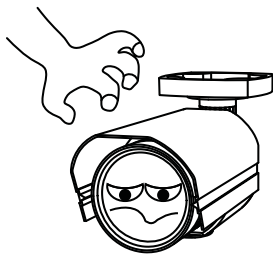
Do not install or use the camera in an environment where the humidity is high.

Do not install the camera under unstable lighting conditions.



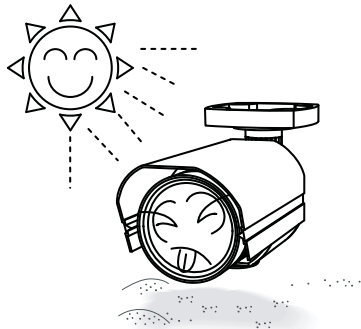
Severe lighting change or flicker can cause the camera to work improperly.

Do not touch the front lens of the camera.



This is one of the most important parts of the camera. Be careful not to leave fingerprints on the lens cover.

Never keep the camera pointed directly at strong light.



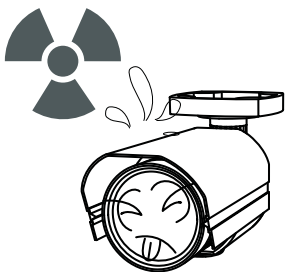
Severe lighting change or flicker can cause the camera to work improperly.

Do not drop the camera or subject it to physical shocks.



It can cause malfunctions to occur.

Do not expose the camera to radioactivity.



If exposed to radioactivity the CCD will fail.

NOTE

* If the camera is exposed to spotlight or an object reflecting strong light, smear or blooming may occur.

* please check that the power satisfies the normal specification before connecting the camera.

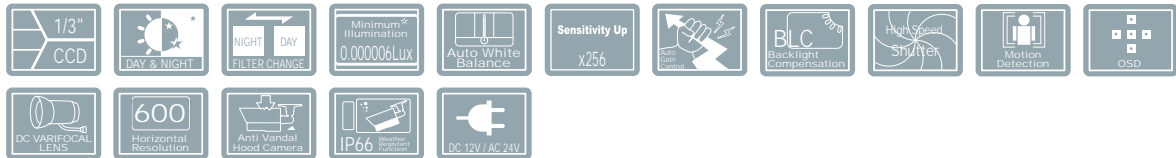
Specification

Ultra High Resolution True Day/Night Camera with Smart IR and 3D DNR

Built-in 14-power infrared LEDs with CDS Sensor
Camera OSD Control



600TV Lines
DC Auto Iris Varifocal
Lens (2.8mm-12mm)
True Day/Night Capability
ICR-IR Cut Filter Removable
850nm IR LEDs * 14pcs



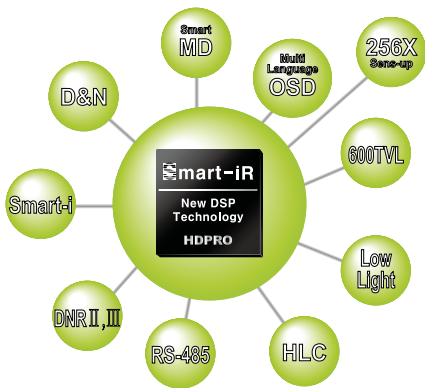
SPECIFICATIONS

MODEL	ZB2812IR
Sensor	1/3" Sony Super HAD CCD II
Total Pixels	NTSC=811(H) * 508(V) / PAL=795(H) * 595(V)
Effective Pixels	NTSC=768(H) * 494(V) / PAL=752(H) * 582(V)
Scanning System	2:1 Interlace
Synchronisation	Internal
O.S.D	Available
Dynamic Range	52dB
Backlight	BLC / HSBLC / Off Selectable
Resolution	600TV Lines(Colour), 650TV Lines(B/W)
S/N (Y signal)	52dB (AGC Off, Weight On)
Min. Illumination	0.000006Lux(IR LED ON)
White Balance	ATW / AWB / Manual / SET → AWC / Indoor / Outdoor
Electronic Shutter Speed	Auto (1/60sec ~ 1/120,000sec)
Sens-Up	Auto / Off(Selectable limit x2 ~ x256)
Gain Control	High, Middle, Low, Off Selectable
3 DNR	Off/On (1~100 Level Adjustable)
D-WDR	Indoor / Outdoor / Off
Motion Detection	On/Off (4 Zone, Alarm Output)
Privacy	On/Off (8 Zone)
Mirror	Off / Mirror / V-Flip / Rotate
Freeze	On/Off
Sharpness	0~31'(Level Adjustable)
D&N Selection	Colour / Auto / Ext / BW
Digital Zoom	On(*32) / Off
Blemish Compensation	Auto:128 Point / Manual:4 Point
Power	DC 12V (Dual Power AC 24V / DC 12V-Option)
Power Consumption	CDS ON:250mA Max
Lens	DC Auto Iris Varifocal Lens(2.8mm-12mm)
Operating Temperature/Humidity	-20 ~ +50 Deg C. RH 95% Max.
Storage Temperature/Humidity	-20 ~ +60 Deg C. RH 95% Max.
Dimension	70mm(W) * 90mm(H) * 188mm(D)
Weight	500g

Contents

Contents	1
About 3D - DNR / Smart - IR	2
Safety Instructions	3
General Features	4
Menu Set Up	5
▶ OSD Control Button	5
▶ Set Up Menu	6
▶ Menu Set Up	9
▶ Lens	10
▶ Exposure	11
▶ Back Light	13
▶ White Bal.	16
▶ Day & Night	17
▶ 3DNR	19
▶ Special	20
◆ Camera Title	20
◆ D - Effect	23
◆ Motion	25
◆ Privacy	26
◆ Defect	27
▶ Adjust	28
▶ Reset	29
▶ Exit	29
Trouble Shooting	30

About Smart-IR/D-WDR/BLC/3D DNR(600TVL)



Core Technology

New Smart-HD DSP Chipset Ensures 600TVL Ultra High Resolution.

Innovative Technology of Powerful Sens Up under Ultra Low Light Level : Min. Illumination 0.00001 Lux
Smart-i HD DSP is the 3rd generation core chipset actualizing 600TVL ultra high resolution!

One Step Upgrade: The best video quality even at night is ensured through 2D/3D filtering with the function of noise removal.

3D-DNR, Min. Illumination 0.00001 Lux (sens-up*256x)

All In One: 3DDNR, Smart IR, HSBLC, Privacy Zone, RS-485 (Option)



Smart-IR OFF



Smart-IR ON



Smart-IR

No Saturation Image, Vivid Image in darkness!
"Smart IR" camera makes very sharp video image in darkness!

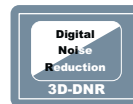
This technology eliminates saturation of video image of the closer object in darkness by control of the IR sensitivity. Saturation never happens in our "Smart IR" cameras, you can enjoy vivid image in any dark condition!



3D-DNR OFF



3D-DNR ON



3D Filtering Method of Newly Advanced DNR Function

Newly developed 3D filtering enhances Digital Noise reduction at low light levels. 3D Filtering of the Video Signal Optimises the Signal to Noise ratio, giving vastly improved low light visibility and a powerful Sens-Up function (up to 256 times magnification).



Standard Camera



600TV Lines Camera



600TV Lines

The combination of a Sony Super HAD CCD image sensor and DNR DSP provides an excellent resolution of 600 TV lines.



Digital WDR OFF



Digital WDR ON



D-WDR(Digital Wide Dynamic Range)

D-WDR is a powerful and ultra advanced technology that captures cleaner and superior high Resolution pictures even where images appear dark because there is a strong back light present.



Normal BLC



HS BLC



High Spotlight BLC Function

High Spotlight BLC Function is Especially Effective to Read the Number Plate of the Vehicles in the Street or Parking Lot at Night Time. Especially Users Can Adjust and Select the Special Required Area to Observe the Target Object Under the Strong Spots of Light Exist.



Standard Image



Minimum Illumination Image



Illumination

With an Incredibly Minimum Illumination of Amazing 0.00001Lux can Capture Good Images Even in Extremely Low Light Conditions and Related Noises are Significantly Reduced by the Ultra Advanced DNR(Digital Noise Reduction) Technology.

Safety Instructions

Precautions for use

- ☞ Please read this manual thoroughly before using the camera to become familiar with the correct operational procedures.

Cautions When Using

- ☞ Do not open the camera body and touch any electrical parts to avoid possible electric shocks.
- ☞ Do not insert objects into the camera body to prevent fire hazards and electric shock.
- ☞ Do not touch the camera with wet hands - to avoid an electric shock.
- ☞ Do not disconnect the power cord from a power plug when still connected to the outlet.
- ☞ Always disconnect the power by removing the plug from the power socket.
- ☞ If the camera emits a burning smell, immediately disconnect it from the power source and report the problem to your distributor.

Cautions When Install

- ☞ Only apply power after installation of the product.
- ☞ Do not install the camera in a position facing directly at a strong light source.
- ☞ Do not install or use the camera in areas of high humidity.
- ☞ Do not install near any cooling or heating equipment.
- ☞ Do not install the camera in dusty environments.
- ☞ Do not install the camera in places where the camera is subjected to physical shocks.
- ☞ This products must be used with a regulated adaptor for power, such as the Genie PSU1SM.

General Features



3D Filtering Method of Newly Advanced DNR Function

➡ Newly developed 3D filtering enhances Digital Noise reduction at low light levels. 3D Filtering of the Video Signal Optimises the Signal to Noise ratio, giving vastly improved low light visibility and a powerful Sens-Up function (up to 256 times magnification).



600TV Lines

➡ The combination of a Sony Super HAD CCD image sensor and DNR DSP provides an excellent resolution of 600 TV lines.



D-WDR(Digital Wide Dynamic Range)

➡ D-WDR is a powerful and ultra advanced technology that captures cleaner and superior high Resolution pictures even where images appear dark because there is a strong back light present.



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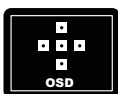
Illumination

➡ With an Incredibly Minimum Illumination of Amazing 0.00001Lux can Capture Good Images Even in Extremely Low Light Conditions and Related Noises are Significantly Reduced by the Ultra Advanced DNR(Digital Noise Reduction) Technology.



Smart-IR

➡ No Saturation Image, Vivid Image in darkness! "Smart IR" camera makes very sharp video image in darkness! This technology eliminates saturation of video image of the closer object in darkness by control of the IR sensitivity. Saturation never happens in our "Smart IR" cameras, you can enjoy vivid image in any dark condition!



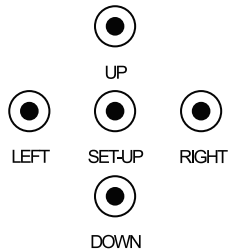
Additional Functions

➡ OSD - On Screen Display menu with multi-Language support.
Privacy Masking - 8 zones, Sens-Up - x256 times, Digital Zoom - x32

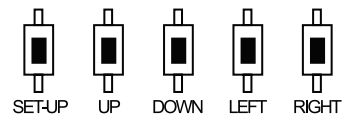
OSD Control Button

1. Type A, Type B, Type C of OSD button could be used when it needs to OSD control.
2. Type D is extra Option (wired Remote controller)

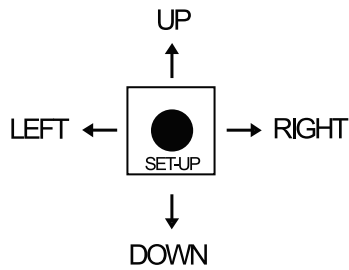
Type A



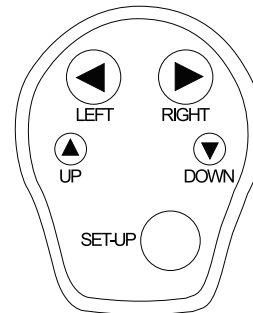
Type B



Type C



Type D (Option)



How to Set Up the camera menu

● Setup Menu

SET UP MENU	DEFAULT SET	MENU			
LENS	DC	BRIGHTNESS (0~100 Adjustable)			
		RETURN	RET END		
	MANUAL				
EXPOSURE	SHUTTER	AUTO,1/60,1/50, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000,1/100000, x256, x128, x64, x32, x16, x8, x4, x2			
	AGC	OFF			
		LOW			
		MIDDLE			
		HIGH			
		OFF			
	SENS-UP	AUTO	SENS-UP(x2 ~ x256 Level Selectable)		
			RETURN	RET END	
		OFF			
	BLC	BLC	GAIN	LOW MIDDLE HIGH	
			AREA	POSITION SIZE AGAIN	
			DEFAULT		
			RETURN	RET END	
			HSBLC	LEVEL	0~8 Selectable
				MODE	ALL DAY NIGHT ONLY
		AREA		POSITION SIZE AGAIN	
		DEFAULT			
		RETURN		RET END	
		D-WDR	INDOOR	LOW-LEVEL (0 ~15 Adjustable)	
				HIGH-LEVEL (0 ~15 Adjustable)	
	RETURN			RET END	
	OUTDOOR		LOW-LEVEL (0 ~15 Adjustable)		
			HIGH-LEVEL (0 ~15 Adjustable)		
RETURN			RET END		
	OFF				
RETURN	RET END				
WHITE BAL	ATW				
	AWB				
	AWC->SET				
	MANUAL	BLUE (0 ~100 Level Selectable)			
		RED (0 ~100 Level Selectable)			
		RETURN	RET END		
	INDOOR				
OUTDOOR					

DAY/NIGHT	COLOUR			
	AUTO	DELAY (0 ~63 Adjustable)		
		D->N(AGC) (48 ~192 Adjustable)		
		N->D(AGC) (0 ~144 Adjustable)		
		RETURN	RET	
			END	
	EXT			
B/W	BURST	ON/OFF		
	IR SMART	ON	GAIN	
			AREA	
			RETURN (RET/END)	
	OFF			
3DNR	ON	LEVEL (RANGE 0 ~100 Level Selectable)		
		RETURN	RET	
			END	
	OFF			
SPECIAL	CAM TITLE	ON/OFF		
	D-EFFECT	FREEZE	ON/OFF	
		MIRROR	MIRROR	
				V-FLIP
				ROTATE
				OFF
	D-ZOOM	ON	D-ZOOM (x1 ~ x32)	
			PAN (-100 ~ 100)	
			TILT (-100 ~ 100)	
			RETURN (RET/END)	
		NEG. IMAGE	ON/OFF	
		RETURN	RET	
			END	
	RS485 (OPTION)	CAM ID		
		ID DISPLAY	ON/OFF	
		BAUDRATE		
		RETURN	RET	
			END	
	MOTION	ON	AREA SELECT (AREA1 ~ AREA4)	
			AREA DISPLAY	POSITION
				SIZE
				AGAIN
			SENSITIVITY (0 ~ 40)	
		MOTION VIEW	ON/OFF	
		RETURN	RET	
		END		
	OFF			
PRIVACY	ON	AREA SELECT		
		AREA DISPLAY	POSITION	
			SIZE	
			AGAIN	
		COLOUR		
	RETURN	RET		
		END		
	OFF			
SYNC (OPTION)	INT			
	L/L			

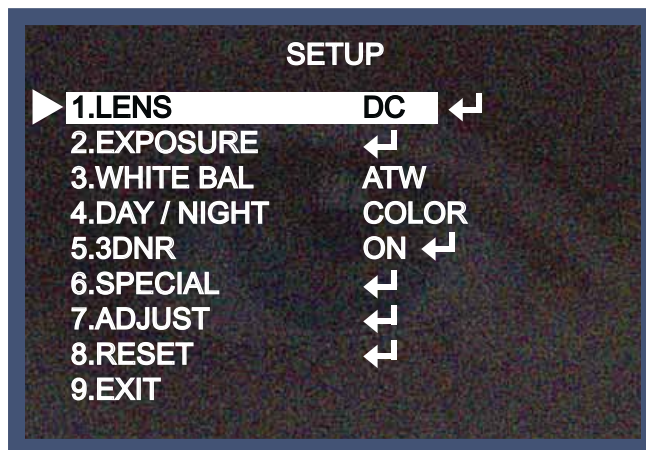
	DEFECT	SENS-UP (x4 ~ x64)		
		DIFFERENCE (1 ~6)		
		START		
		RETURN	RET	
			END	
	RETURN	RET		
		END		
ADJUST	SHARPNESS	0 ~31 Level Adjustable		
	MONITOR	CRT	LEVEL (0 ~63)	
			BLUE GAIN (0 ~100)	
			RED GAIN (0 ~100)	
			RETURN	RET
				END
		LCD	GAMMA (USER ~ 1.00)	
			LEVEL (0 ~63)	
			BLUE GAIN (0 ~100)	
			RED GAIN (0 ~100)	
			RETURN	RET
				END
	USER	GAMMA (USER ~ 1.00)		
		LEVEL (0 ~63)		
BLUE GAIN (0 ~100)				
RED GAIN (0 ~100)				
RETURN		RET		
	END			
RESET	RET			
	END			
RESET	FACTORY	RESET		
	RETURN	RET		
		END		
EXIT				

Menu Set Up

Menu items can be selected by using the OSD buttons of the camera

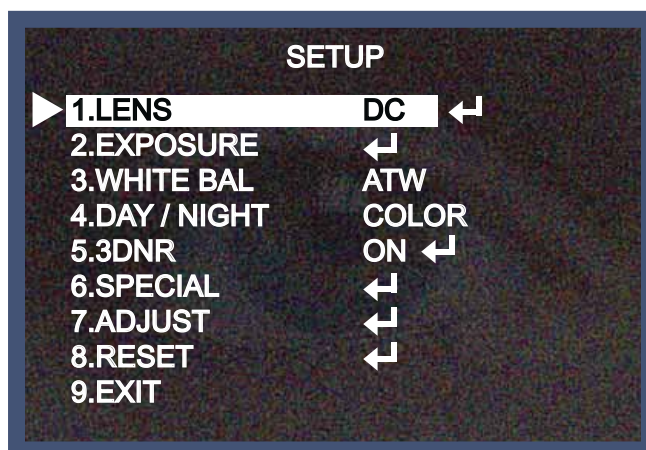
1. Press the Set Up button.

* The Set Up menu will be displayed on the monitor.



2. Move and select the required function using the Up and Down button.

* Move the arrow indicator Up or Down to select the desired feature by pressing the Up or Down button.



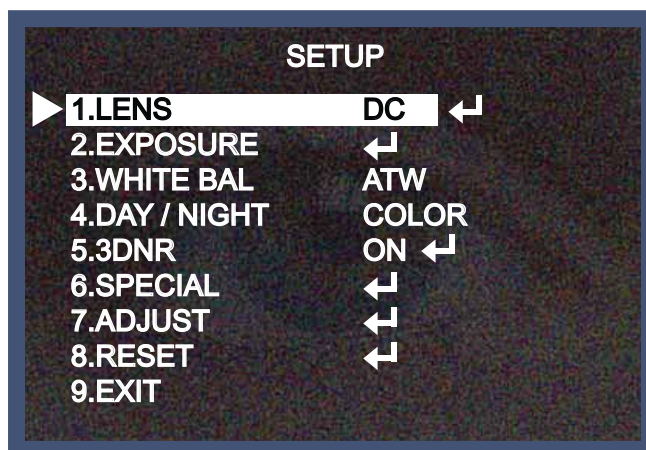
3. Change menu settings using the Left or Right button.
- * Available values or Status are displayed by pressing the Left or Right buttons.
Press the button until desired value / status is displayed.
4. After Changing the setting move the arrow indicator to EXIT and press the SET button to EXIT.

NOTE

- * Move to the available submenu by moving ← arrow to desired feature.
- * Submenu is not available when this symbol is display " - - - - "

Lens

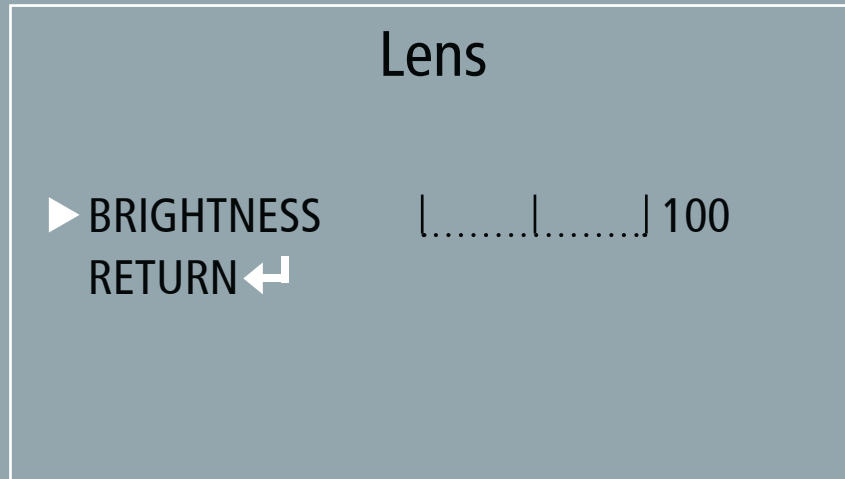
1. Move the arrow indicator to LENS using the Up and Down buttons on the Set Up menu screen.
2. Select the desired lens type by pressing the Left or Right button.



→ DC:DC Auto Iris Lens

NOTE

* When DC is selected, the brightness can be adjusted. The brightness control range is 1 ~ 100.

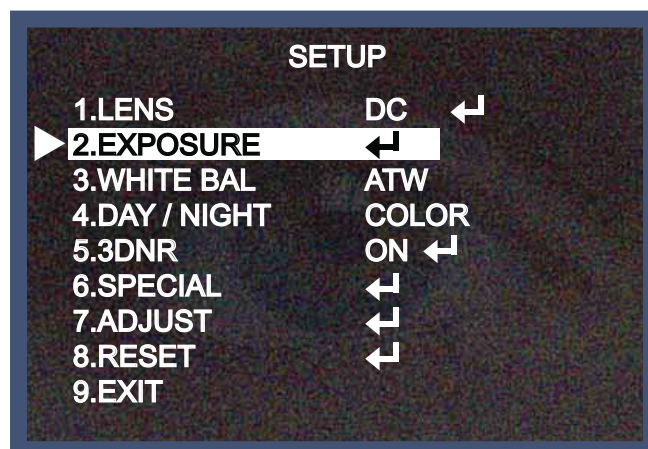


3. Press the RETURN to return to the SETUP menu.

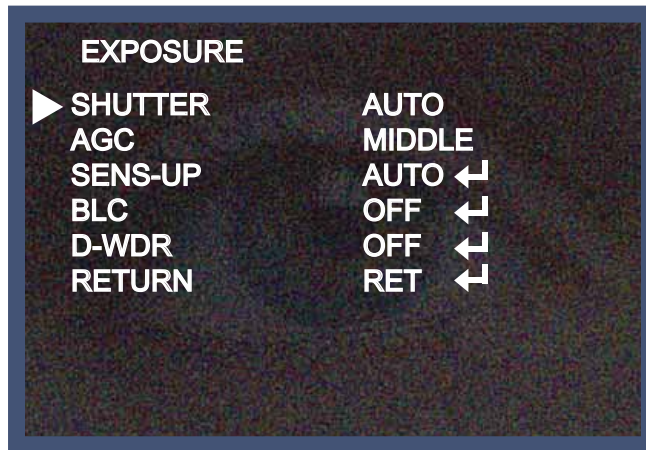
Exposure

This function is used to select Automatic or Manual shutter speed control.

1. On the Set Up menu screen select EXPOSURE by using the Up or Down button.
2. Select the desired shutter mode by pressing the Left or Right button.



* FLK : Select FLK mode when flickering occurs; caused by the unmatched frequency of electric lights.



NOTE

*Shutter: Select Shutter using the Up or Down button, you can adjust the shutter speed from 1/60, FLK, 1/250~1/100,000.

→FLK: Select FLK mode if flickering occurs; caused by the unmatched frequency of electric light. If select FLK mode, sense-up does not operate.

* AGC(AUTO GAIN CONTROL):

A higher gain increases brightness but also increases any noise.

OFF : Deactivates the AGC function

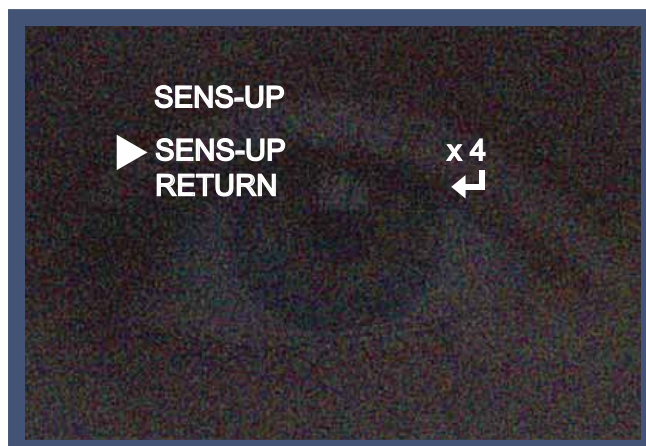
LOW : Sets automatic gain control to LOW.

MIDDLE : Sets automatic gain control to MIDDLE.

HIGH : Sets automatic gain control to HIGH

* SENS - UP:

At night and/or in dark conditions, the Sens-Up mode can be selected to desired value from x2 ~ x256.



* RETURN:

Select Return to save the changes in the EXPOSURE menu and return to the SETUP menu.

NOTE

- * Pressing the SET button in AUTO mode allows adjustment of image brightness by increasing or decreasing the shutter speed (x2 ~x256).
- * The higher the level, the brighter the image becomes, but it is possible that an after image (ghosting) could appear.
- * When SENS-UP is activated the increased magnification can induce noise and pixilation; this is quite normal.

Back Light(BLC)

This camera which is using 3D-DNR DSP provides intelligent light level control to overcome even strong backlight conditions.



* OFF: BLC function does not operate.

* BLC: Select LOW/MID/HIGH

User can select and define a specific area in scene and view the area clearly.

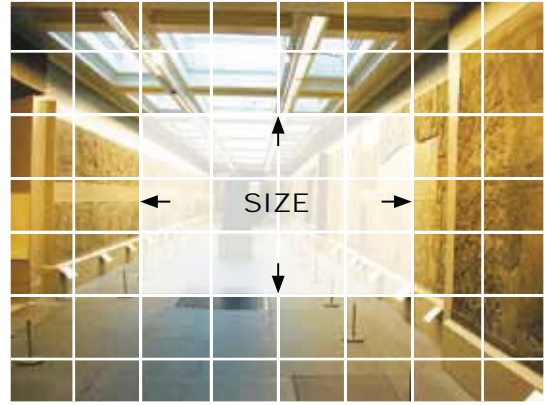
Press the "ENTER" button at the AREA menu, you can change the area as shown in picture 1.

Press the "ENTER" button again after area setting, you can change the area as shown in picture 2.

Default: Press the Default to return to factory defaults.



PICTURE 1



PICTURE 2

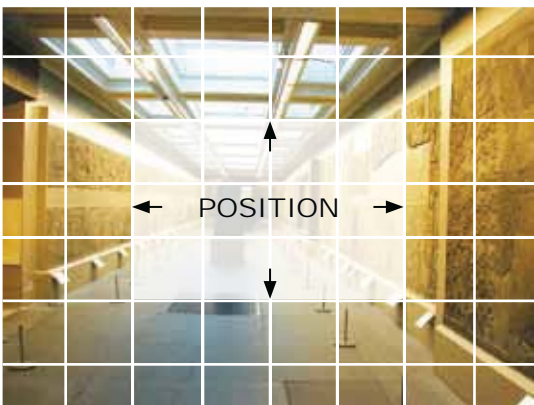
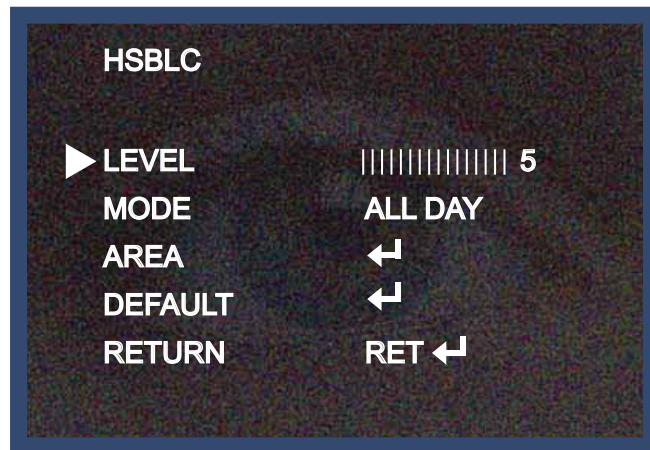
* HSBLC: HSBLC function is especially effective for reading car number plates at the night time.

You can select and define the required observation area for the target object and ignore a strong light area.

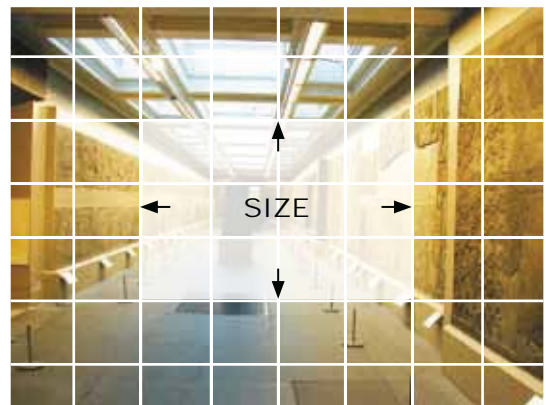
Press the "ENTER" button at the AREA menu, you can change the position as shown in Picture 1.

Press the "ENTER" button again after area setting, you can change the position as shown in Picture 2.

Default: Press the Default to return to factory defaults.



PICTURE 1



PICTURE 2



HSBLC OFF



HSBLC ON

* D-WDR: This camera which is using 3D-DNR DSP provides intelligent light level control to overcome even strong backlight conditions.

→OFF: D-WDR function does not operate.

When there are simultaneous bright & dark image area WDR makes them both distinct and can be selected as OUTDOOR and INDOOR.



D-WDR OFF



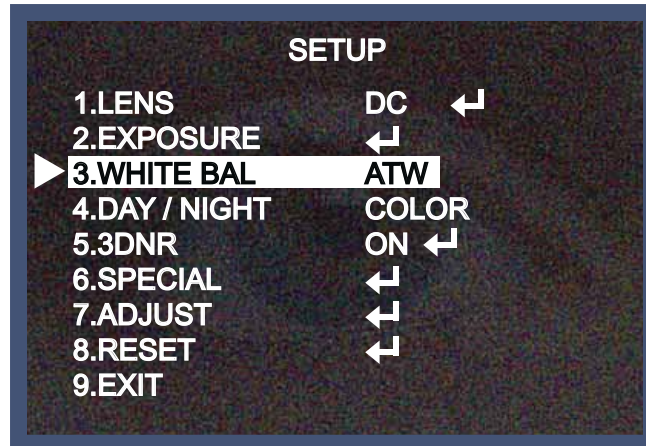
D-WDR ON

* RETURN: Select Return to save the changes in the EXPOSURE menu and return to the SETUP menu.

White Balance

The White Balance function is used to control the "on-screen" colours.

1. Move the arrow indicator to WHITE BAL on the SETUP menu screen using the Up and Down button.
2. Select the desired mode by using the Left or Right button.



* There are five user selectable White Balance settings available.

* ATW : (Auto Tracking White Balance)

Normal setting; when the colour temperature range is from 1,800°K to 10,500°K. (Ex: a fluorescent lamp or outdoors)

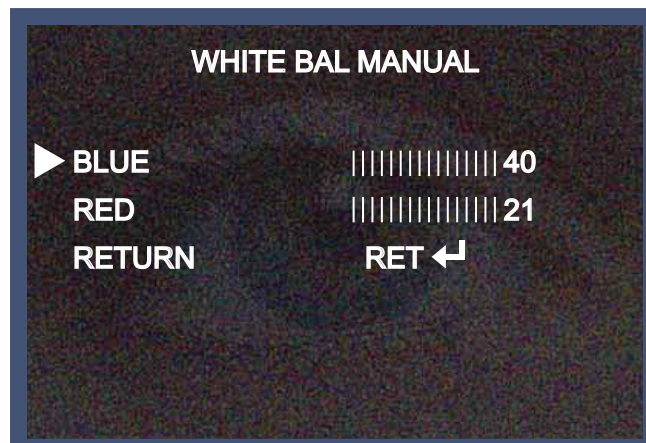
* AWB : The White Balance is automatically adjusted in a specific environment.

* AWC → SET : To obtain the best results press the SET button while the camera is focused onto white paper. If the environment, and/or light source changes, the White Balance will require re-adjustment.

* MANUAL : Used for fine adjustment of White Balance. Set White Balance first using ATW or AWC then change to MANUAL and press SETUP button. Increase or decrease the value of R-Gain(Red) and B-Gain(Blue) while monitoring the color of the image.

* OUTDOOR : Select this when the colour temperature is 5,400°k.

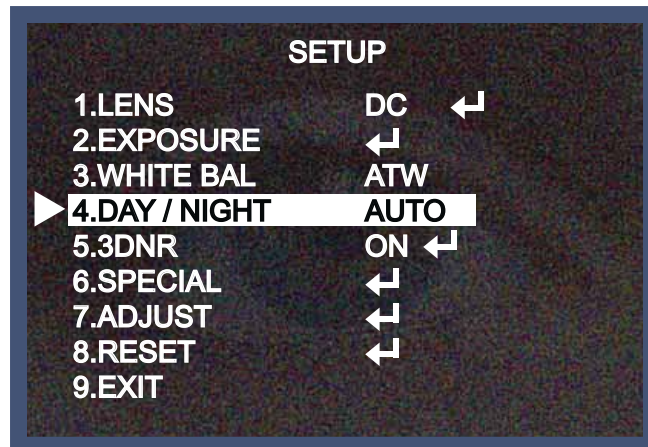
* INDOOR : Select this when the colour temperature is 3,100°k.



Day / Night

Picture can be displayed in either colour of black and white.

1. Select DAY / NIGHT using the Up or Down button on the SETUP menu screen.



2. Select the desired mode using the Left and Right buttons.

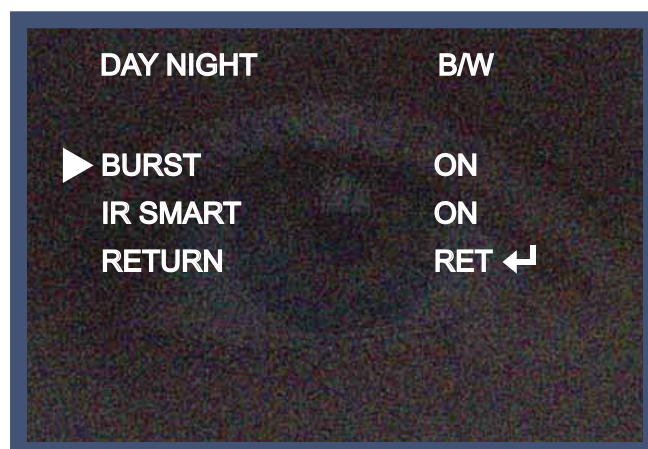
* EXT : This mode allows the application of a filter to external signals.

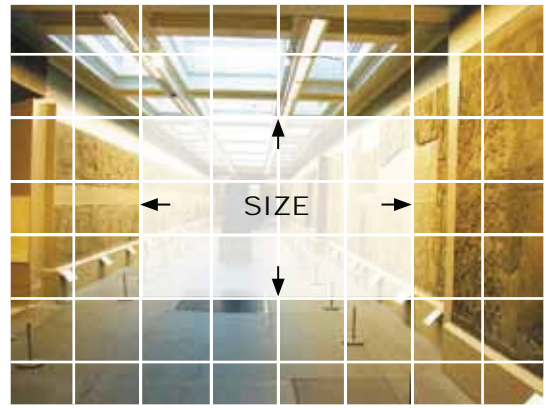
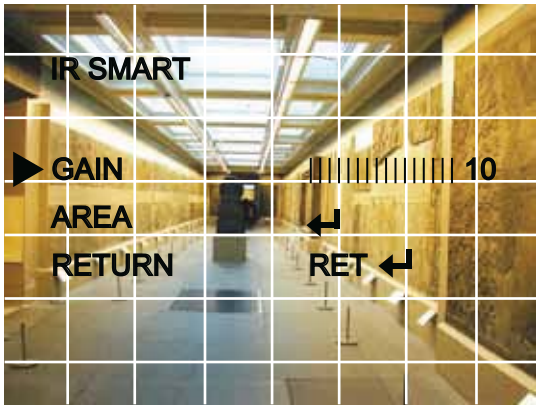
* COLOUR : The picture is always displayed in colour.

* BW : This picture is always displayed in black and white.

Select BW using the button and press the menu to activate COLOUR BURST option.

IR SMART : It controls the IR LED(bright portion base), saturation is not expected.





AREA



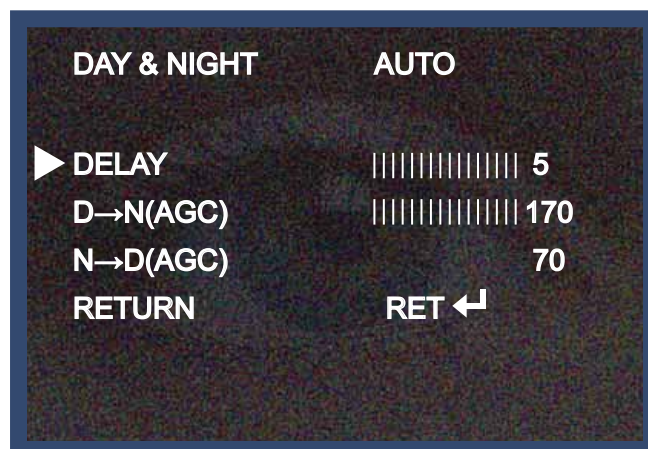
SMART IR OFF



SMART IR ON

→ AUTO: The mode will automatically switches to COLOUR in normal condition and switches to BW mode when ambient illumination is low.

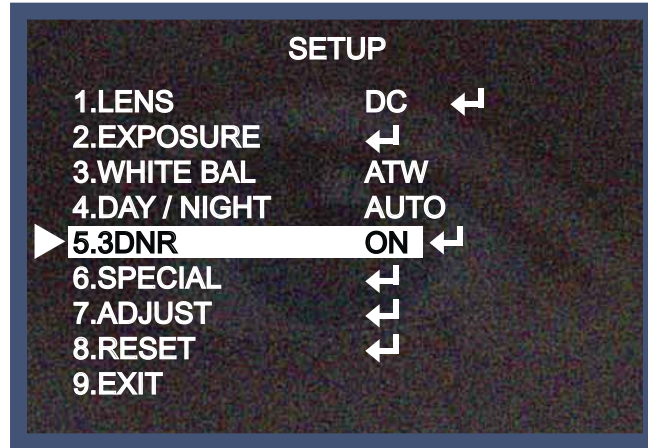
Press the SET button to set the switching time or D→N(AGC), N→D(AGC) in AUTO mode.



3DNR

3DNR is used to reduce the level of background noise in a low luminance environment.

1. Move the arrow indicator to 3DNR by using the Up and Down button.



2. Select whether or not to activate 3DNR by using the Left and Right buttons.

* ON: Activates 3DNR - Digital noise reduction can be adjusted between 0 ~ 100.

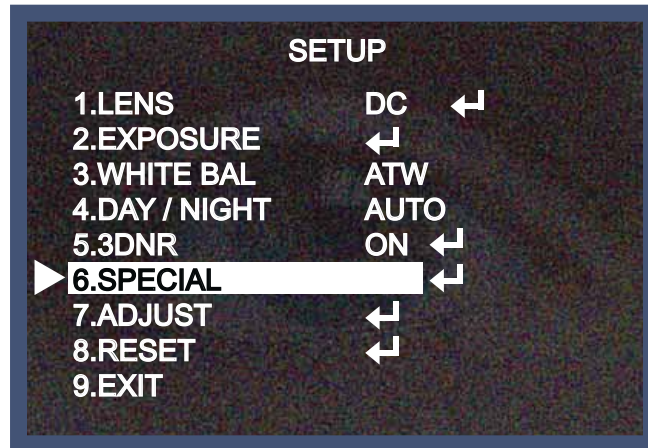
* OFF: Deactivates 3DNR - noise is not reduced.



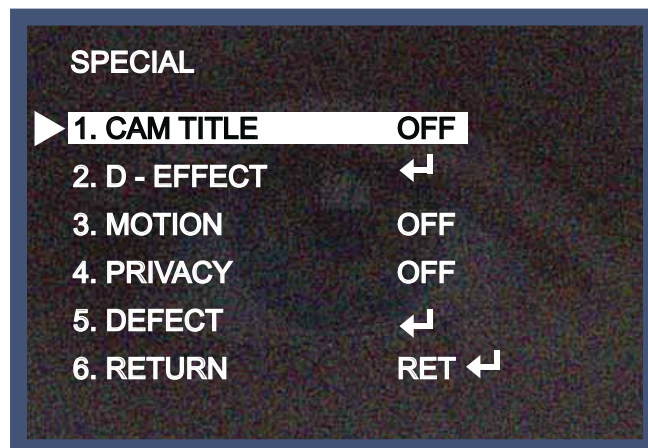
* Select RETURN by using the Up or Down button to return to Set Up menu.

Special

When the SETUP menu screen is displayed, select SPECIAL using the Up and Down buttons.



Select one of the mode using the Up and Down button.



1. CAM TITLE : When input, the Camera ID is displayed on the monitor.

1-1) Move the arrow indicator to CAMERA ID using the Up or Down button on the SETUP menu screen.

1-2) Set to ON using the Left or Right button.

NOTE

* When CAMERA TITLE is set to OFF, the CAMERA TITLE is not displayed on the monitor.

1-3) Press the SETUP button.



1-4) The CAMERA TITLE can be up to 15 alphanumeric characters in length.

① Move the cursor to choose an alphanumeric character.



② Choose a character in displayed range A~Z, a~z, 0~9 using the Up, Down, Left and Right buttons.

③ Select the desired character by pressing the SETUP button.

- The cursor moves to the next position, after character input, by pressing the SETUP button.

④ Repeat the above steps until the Camera ID has been created.

NOTE

* In cases where the wrong Camera ID has been input.....

Move the cursor to CLR and press SETUP button to erase characters from left to right, and repeat the above steps to input the characters again.

1-5) To select the position where the Camera ID should be displayed on the screen.

① Move the cursor to POS and press the SET button.



② Created camera ID is displayed.

(Factory default position)

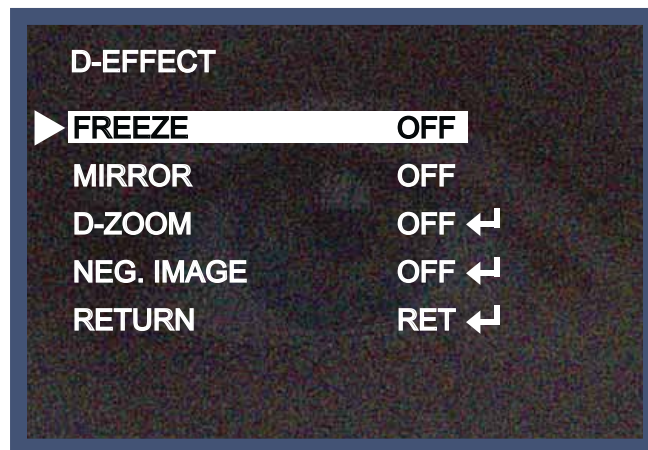


③ Select a new position by using the four directional button, Press the SET button to confirm the position.

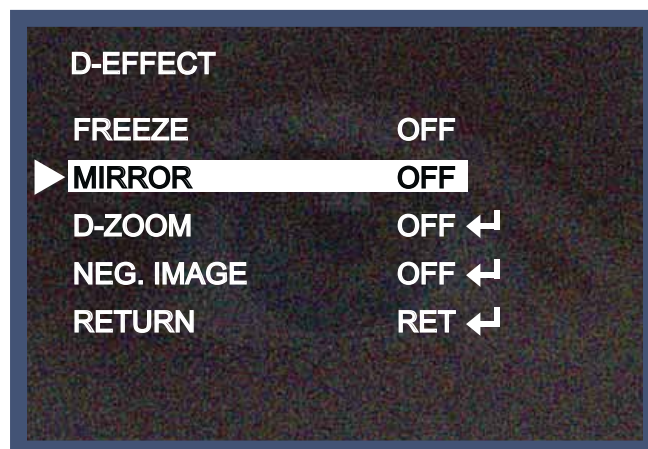


2. D - EFFECT

Move the cursor to D-EFFECT and press the SET button to set the other image functions.



2 -1) MIRROR : Flip the image horizontally on the screen.



- * V-FLIP : Flip the image vertically on the screen.
- * ROTATE : Flip the horizontal image vertically on the screen.
- * OFF : Disabled.



MIRROR ON

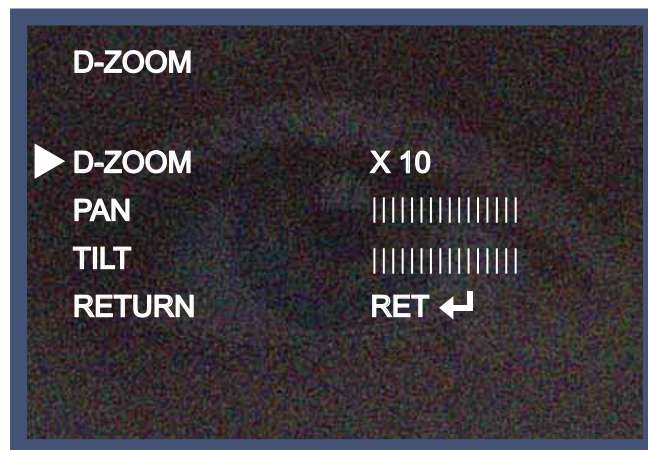


MIRROR OFF

2-2) D - ZOOM: Digital zoom available, range x1 ~ x32.

PAN : The pan range can be controlled between -10 ~ + 100

TILT : The tilt range can be controlled between -10 ~ + 100



NOTE

* PAN and TILT function should be available when using the digital zoom.

2-3) FREEZE : Image freezing or moving image.

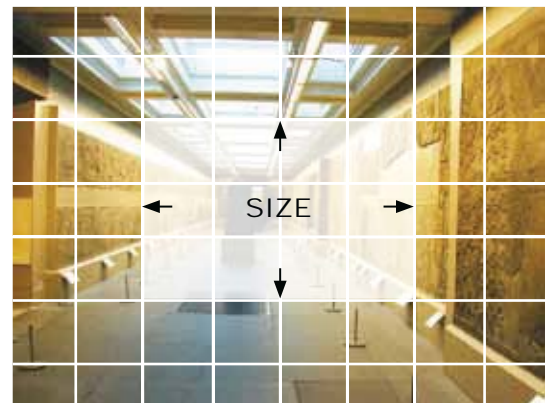
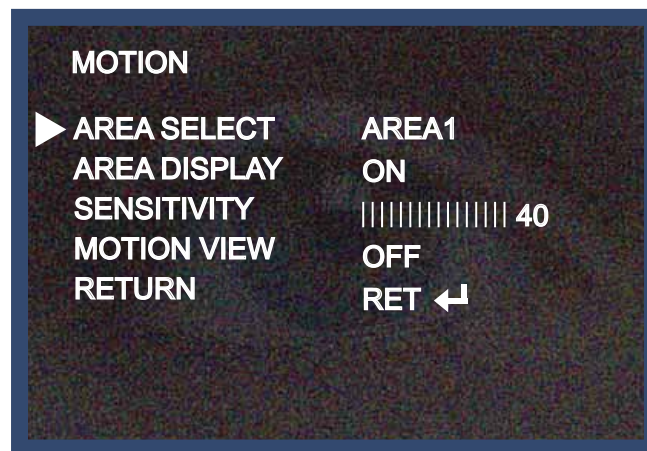
2-4) NEG. IMAGE :

ON : Activates negative image just like film

OFF : Normal image

2-5) RETURN : Move the arrow indicator to RETURN after complete the setup to return to SPECIAL menu.

3. MOTION



3-1) When the special menu screen is displayed, use the Up or Down button to access the MOTION menu.

AREA SELECT : You can select from area 1~4 position.

AREA DISPLAY) ON: Display the Motion Detected area on the screen. You can set the location and size as shown in pictures 1,2.

SENSITIVITY: To setup the motion sensitivity. You can adjust the motion sensitivity of a movement between level 0~40.

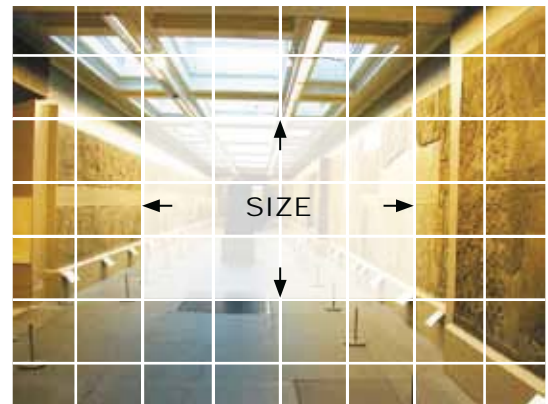
MOTION VIEW : If camera detects movement, the words of "MOTION DETECTION" will appear on the monitor.

RETURN : To return to the SPECIAL menu after completing the setup.

4. PRIVACY

Hide an area you want to hide on the screen.

4-1). When the SPECIAL menu screen is displayed, press the Up and Down buttons to set to PRIVACY.



4-2). Set up the area mode using the 4 direction buttons.

① AREA SELECT : You can select up to 8 MD area.

② AREA DISPLAY : OFF : Disabled

ON : Activates area display

③ Move the arrow indicator to COLOUR to select the desired colour of each area cells by using the Left / Right button to select between the 15 different colour.

RETURN : Move the arrow indicator to RETURN after completing the setup to return to SPECIAL menu.

4-3) SYNC : INT (Internal Synchronisation)

Move the arrow indicator to RETURN after complete the setup to return to SETUP menu.

5. DEFECT

You can eliminate white spots (defects) up to max 128 points.

SENS-UP : To eliminate defects, set the high level of sens-up. You can set to max 64x, but 32x is best to eliminate defects.

DIFF : You can set the size of DEFECT from 1 to 6.

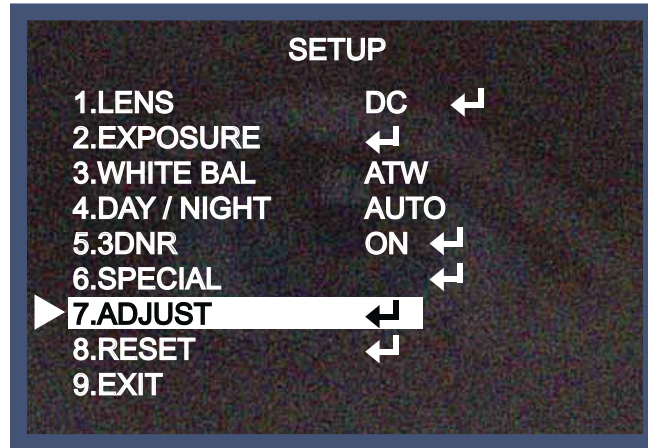
START : Press the "ENTER" button, it will start to eliminate defects "PROCESSING NOW..." will be displayed on the monitor.

In case of manual IRIS lens, you should cover the lens.



ADJUST

1. When the SETUP menu screen is displayed, select ADJUST using the Up and Down buttons.



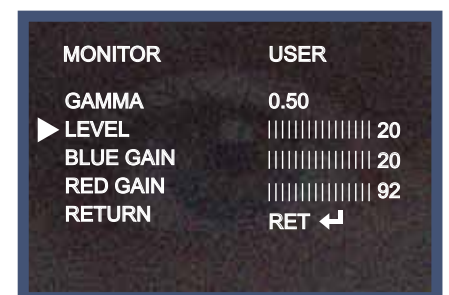
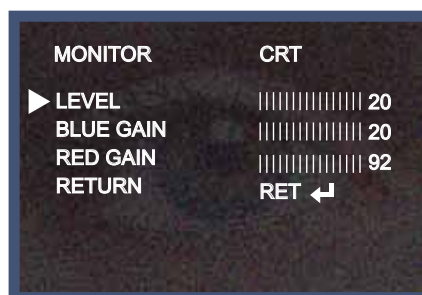
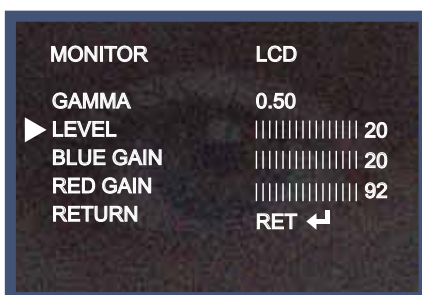
2. Select the desired mode by using Up or Down button..



SHARPNESS : Improving image clarity. The level can be adjusted to obtain an improved image.

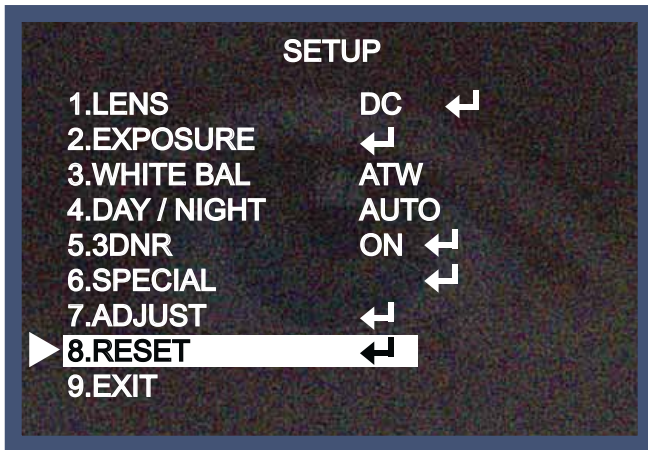
However, when the level is set too high it can distort the image or cause noise.

You can adjust from level 1 to 31, and can set to monitor function as LCD, CRT and USER.



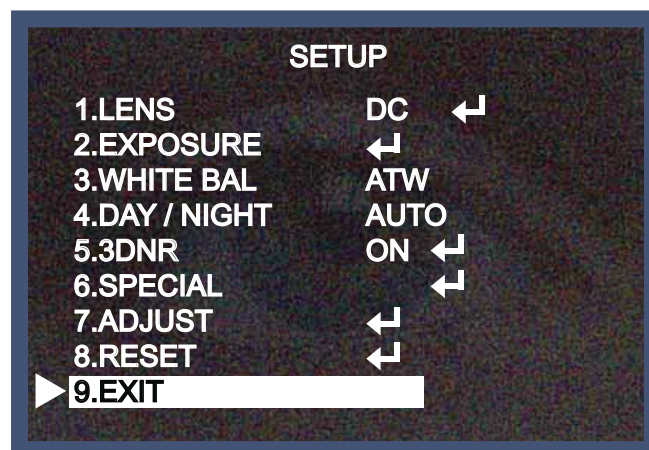
RESET

Resets the camera settings to the factory defaults.



EXIT

Press the SET button in the EXIT menu to save the current settings and exit the SETUP menu.



● Trouble Shooting

PROBLEM	POSSIBLE CAUSE
Nothing appears on the screen.	☞ Check the power cable, power supply output and video connection between the camera and monitor.
The image on the screen is dim.	<ul style="list-style-type: none"> ☞ Are the camera lens or the lens glass dirty? Clean the lens / glass with a soft clean cloth. ☞ Adjust the monitor controls, as required. ☞ If the camera is facing a very strong light, change the camera position. ☞ Adjust the lens focus.
The image on the screen is dark.	<ul style="list-style-type: none"> ☞ Adjust the contrast control of the monitor. ☞ If there is an intermediate device, correctly set the 75Ω/Hi-z.
The camera is not working properly and the surface of the camera is hot.	☞ Check the camera is correctly connected to an appropriate regulated power source.
Motion Detection is not activated.	<ul style="list-style-type: none"> ☞ Has MOTION DET been set to ON in the menu? ☞ Has MD AREA been properly defined?
The colour of the picture is not correct.	☞ Check the settings in WHITE BALANCE menu.
The image on the screen flickers.	☞ Make sure that the camera isn't facing direct sunlight or fluorescent lighting. If necessary, change the camera position.
The SENS-UP does not work.	<ul style="list-style-type: none"> ☞ Check that the AGC setting in the EXPOSURE menu is't set to OFF. ☞ Check the EXPOSURE menu and make sure SHUTTER is set to AUTO.

▶ MEMO



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