

INSTRUCTION MANUAL

1080p HD-SDI Weather/Vandal Resistant Dome Camera

HHDO15DIG

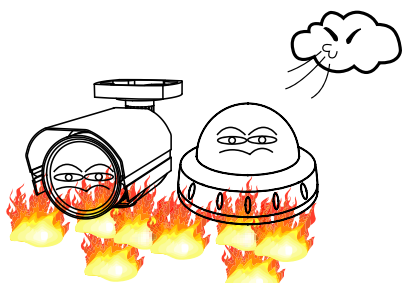


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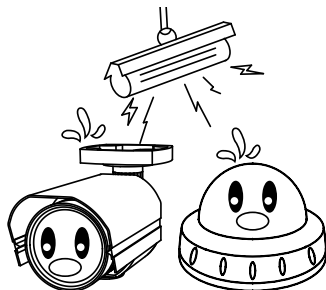
Precautions

Do not install the camera in extreme temperature conditions.



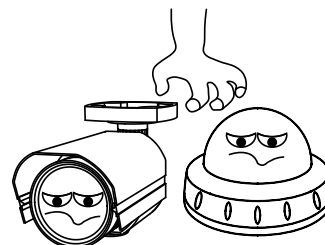
Only use the camera under conditions where temperatures are between $-4^{\circ}\text{F} \sim +140^{\circ}\text{F}$. Be especially careful to provide ventilation when operating under high temperatures.

Do not install the camera under unstable lighting conditions.



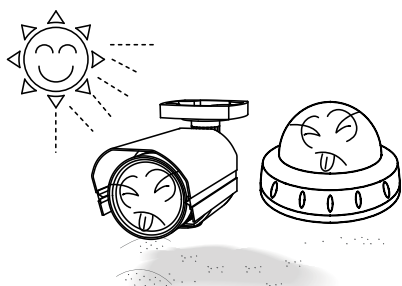
Severe lighting change or flicker can cause the camera to work improperly.

Do not touch the front lens of the camera.



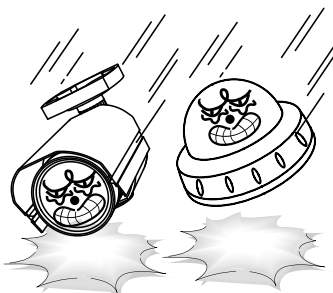
This is one of the most important parts of the camera. Be careful not to leave fingerprints on the lens cover.

Never keep the camera pointed directly at strong light.



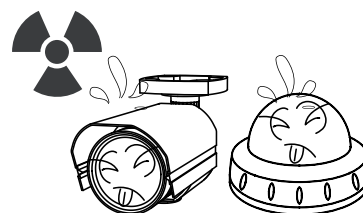
It can cause malfunctions to occur.

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



Housing damage can compromise weatherproof ratings.

Do not expose the camera to radioactivity.

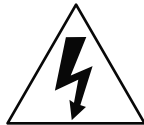


If exposed to radioactivity the CCD will fail.

NOTE

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

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



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 his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electric shock and risk of fire hazards:
⚠ Do NOT use power sources other than those specified.

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

Safety Instructions

Precautions for use

- ❶ This camera should be installed by qualified personnel only
- ❶ There are no user serviceable parts inside
- ❶ Do not disassemble this camera other than to make initial adjustments
- ❶ Use a UL approved regulated 24 volt AC or 12 volt DC power supply
- ❶ Use appropriate low voltage power cable to prevent fire or electrical shock
- ❶ Please insure that your installation area can support the weight of the camera

Please handle this camera carefully :

- ❶ Do not use a strong or abrasive detergent when cleaning the camera
- ❶ Do not install near cooling or heating device

Package Contents

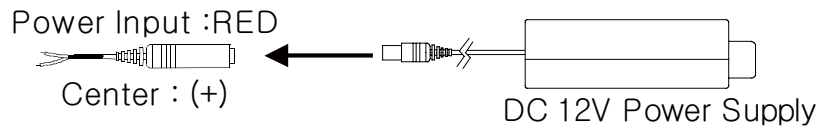
Please make sure that the following items are included in the Package:

- 1) HHD015D1G
 - 1 Video Test Connector, Power Jack
 - 1 Chameleon Cover
 - 1 Wrench
 - Set Screw
 - 3 Tapping Screws 4x40
 - 3 Plastic Anchor

CAMERA INSTALLATION

CONNECT POWER CABLE

1. WHEN USING 12 VOLTS DC (constant voltage 500 mA)

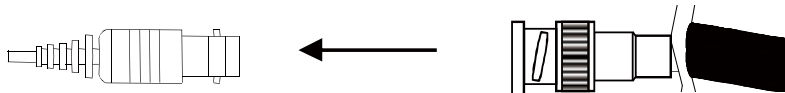


2. WHEN USING 24 VOLTS AC (40 Volt Amps)



3. CONNECT VIDEO CABLE

– CONNECT BNC CABLE TO THE BNC JACK.

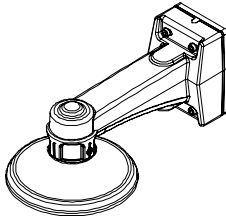


CAMERA INSTALLATION

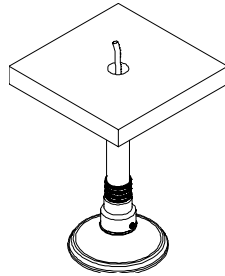
Compatibility

1) HHDO15D1G

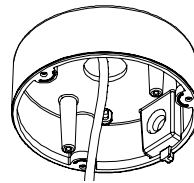
INTWM



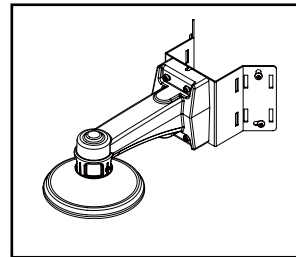
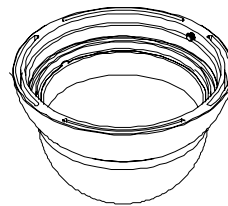
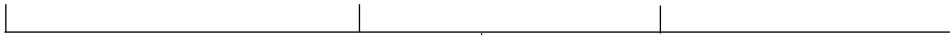
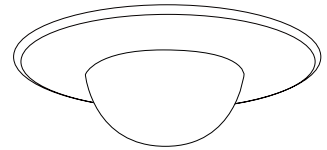
INTPM



CVCJBD

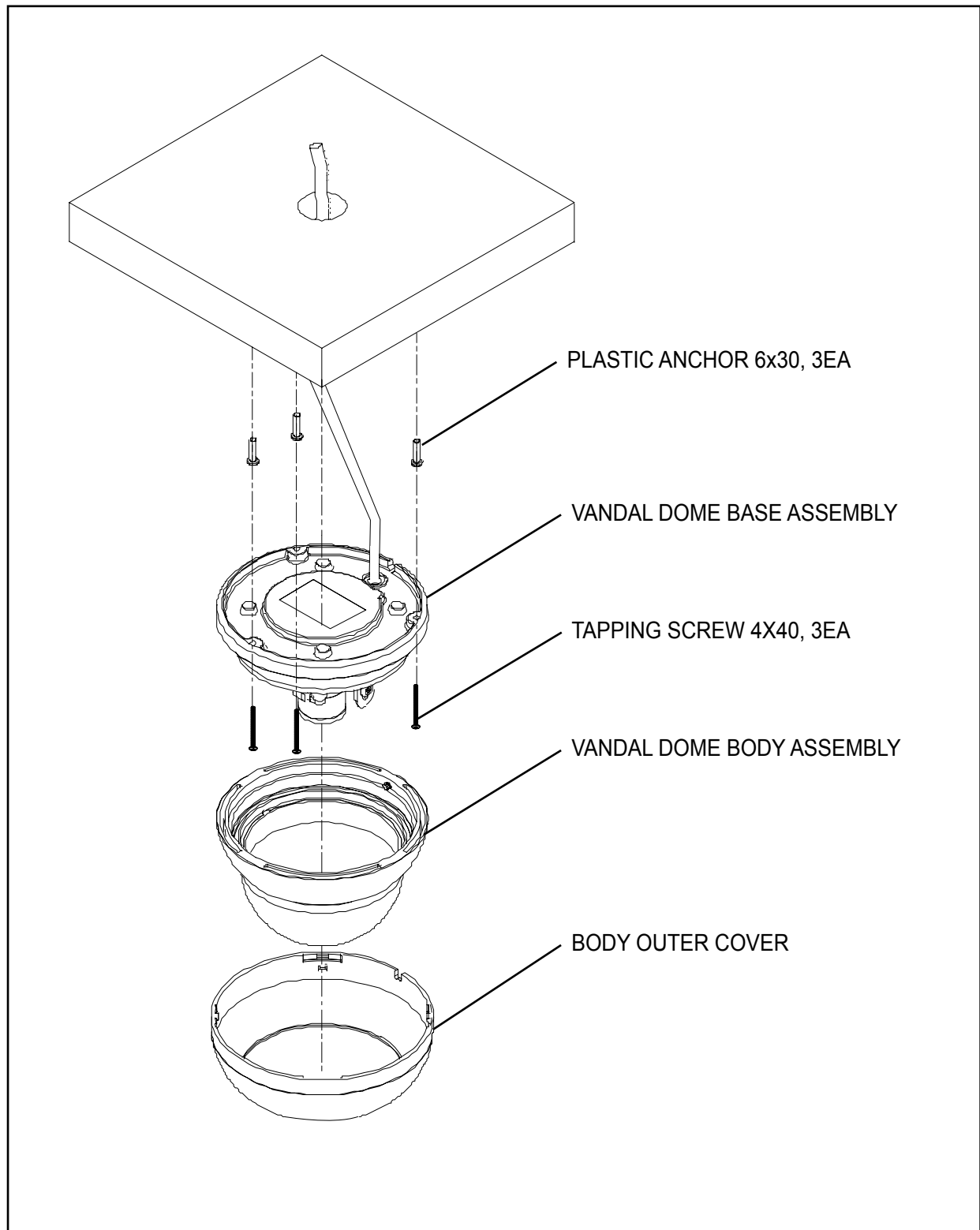


DFM



CAMERA INSTALLATION

1. HHDO15D1G



1080p HD-SDI

(Weather/Vandal Resistant Dome Camera)

DC Auto Iris Varifocal Lens 2.8-10mm



■ HHDO15D1G (2.8-10mm)

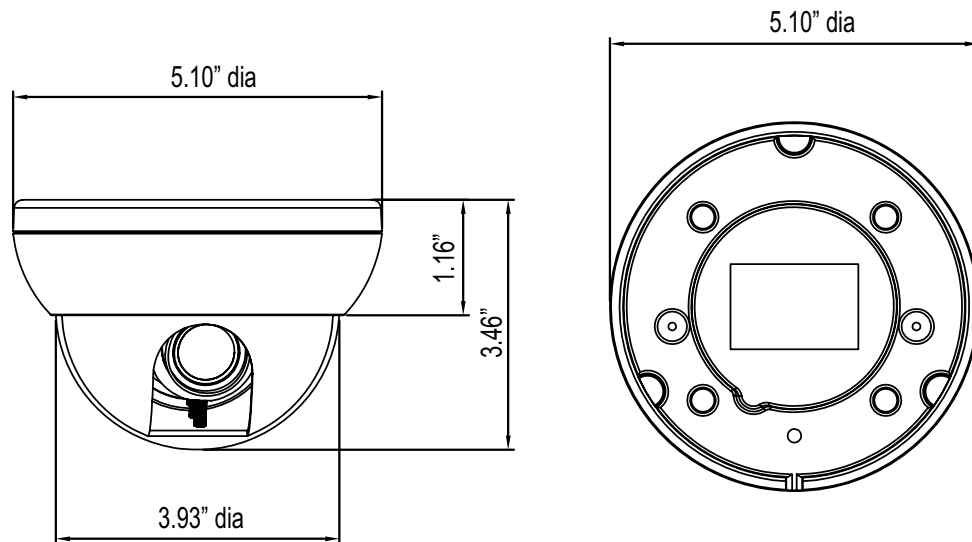


SPECIFICATIONS

MODEL		HHDO15D1G
Image Sensor	Sensor Type	1/3" PANASONIC 2.1Mega CMOS Sensor
	Total Pixels	2010(H) X 1092(V), 2.22M Pixels
	Active Pixels	1944(H) X 1092(V), 2.12M Pixels
Resolution		1920 X 1080P (1080P / 30fps)
Scanning System		Progressive Scan
Min. Illumination		COLOR : 0.5 Lux @ F1.2 , 0.01 Lux(Sens-UP X60) BW : 0.3 Lux @ F1.2 , 0.001 Lux(Sens-UP X60)
Video Output		HD-SDI, CVBS
HD Format		1080P / 720P
S/N Ratio		More than 50dB (AGC off)
Lens	Focal Length	f = 2.8mm ~ 10mm
	Drive Type	2 Mega DC Auto Iris
Function	AGC	OFF/LOW/MIDDLE/HIGH
	Shutter Speed	AUTO, 1/25 ~ 1/50,000 sec, x2 ~ x30
	Digital Slow Shutter(Sens-UP)	OFF/Auto x2 ~ x30
	Sharpness	1 ~ 100 Level Adjustable
	Level	ON/OFF
	Resoution	OFF/BLC/HSBLC
	BLC/HSBLC	OFF/ON
	LSC	COLOR/BW/AUTO/EXT
	Day&Night	ATW/AWC->SET/INDOOR/OUTDOOR/MANUAL
	White Balance	OFF/LOW/MIDDLE/HIGH
	DNR	X64 (PIP)
	D-ZOOM	OFF/LOW/MIDDLE/HIGH
Power Source	ACCE	OFF/8 Zone
	Privacy	3 Zone On/Off/Sensitivity/Area setting
	Motion Detection	Dual POWER(DC12V/AC24V)
Power Consumption		DC : 250mA ±10% AC : 120mA ±10%
Storage Temperature		-4°F~140°F(Humidity : 20%RH ~ 95%RH)
Operating Temperature		-4°F~140°F(Humidity : 20%RH ~ 80%RH)
Dimension(WxHxD)		5.1" (Dia) * 3.46" (H)
Weight		1 lbs

CAMERA DIMENSION

1) HHDO15D1G



General Features



DNR(Digital Noise Reduction)

- ☞ SPECO DNR technology utilizes both an adaptive 2D filter reducing noise in the brightness of the image and an adaptive 3D filter reducing noise caused by movement. The result is that HD-SDI camera supports Motion Adaptive DNR function that removes noise and greatly reduce motion blur.



HD(High Definition) Surveillance

- ☞ HD-SDI Camera provides the superb surveillance conditions than normal VGA camera.



ACCE(Adaptive Color & Contrast Enhancement)

- ☞ HD-SDI Image Enhancer source of the software can be activated. HD-SDI Image Enhancer improves the clarity of images taken in poor conditions such as fog, smoke, rain or snow. Applied to live or recorded color video, it delivers real-time results and displays visual details that would otherwise have been difficult to see.



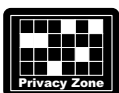
HLC(High Light Compensation)

- ☞ High Light Compensation function is especially effective for reading car number plates at night time. Users can select and define the required observation area for the target object and ignore strong highlight areas.



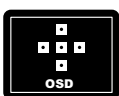
Illumination

- ☞ With an Incredibly Minimum Illumination of Amazing 0.001Lux 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.



Privacy Zone

- ☞ A "Privacy zone" can be set if you desire to block viewing of specific areas in the picture.



Additional Functions

- ☞ OSD - On Screen Display menu
Privacy Masking - 8 zones, Sens-Up - x60 times, Digital Zoom - x64

How to Set Up the camera menu

● Setup Menu

SET UP MENU	DEFAULT SET	MENU				
LENS	DC	INDOOR				
		OUTDOOR				
	VIDEO	RETURN	RET			
			END			
	MANUAL					
EXPOSURE	SHUTTER	NTSC : AUTO,1/30,1/60, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000,1/50000, x2, x4, x6, x8, x10, x15, x20, x30				
		PAL : AUTO,1/25,1/50, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000,1/50000, x2, x4, x6, x8, x10, x15, x20, x30,				
		AUTO,1/25,1/30,1/60,1/50, FLK,1/120 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000,1/50000, x2, x4, x6, x8, x10, x15, x20, x25, x30, x60				
	AGC	OFF				
		LOW				
		MIDDLE				
	SENSE-UP	AUTO	SENSE-UP(x2 ~ x60 Level Selectable)			
			RETURN	RET		
		OFF		END		
	BRIGHTNESS	0~100 Level Selectable				
	ACCE	OFF				
		LOW				
		MIDDLE				
	DEFOG	HIGH				
		OFF				
		LOW				
		MIDDLE				
	BLC	HIGH				
		OFF				
		BLC	GAIN	LOW		
				MIDDLE		
				HIGH		
			AREA	POSITION		
		SIZE				
		AGAIN				
		DEFAULT				
		RETURN	RET			
		END				
		HSBLC	SELECT	AREA1 ~ AREA4		
			DISPLAY	ON	POSITION	
				OFF	SIZE	
	RET/AGAIN					
	LEVEL		0 ~ 100 Level Selectable			
	MODE		ALL DAY			
	NIGHT					
	BLACK MASK	ON/OFF				
	DEFAULT					
	RETURN	RET				
	END					
	RETURN	RET				
	END					
	WHITE BAL	ATW				
		AWC-->SET				
		MANUAL	BLUE (0 ~100 Level Selectable)			
RED (0 ~100 Level Selectable)						
	RETURN	RET				
		END				
DAY/NIGHT	COLOR					
	B/W	BURST	ON/OFF			
		IR SMART	ON	LEVEL	0 ~ 15 Level Selectable	
				AREA	POSITION	
			SIZE			
		RET/AGAIN				
		OFF				
	IR LED	ON/OFF				
	IR PWM	0 ~ 100 Level Selectable				
	RETURN	RET				
	END					
	EXT	DELAY	0 ~60 Level Selectable			
		RETURN	RET			
	END					
AUTO	DELAY	0 ~60 Level Selectable				
	D --> N (AGC)	0 ~ 100 Level Selectable				
	N --> D (AGC)	0 ~ 100 Level Selectable				
	RETURN	RET				
		END				

NR	2DNR	ON/OFF					
	3DNR	OFF					
		ON	S-LEVEL	0 ~ 100 Level Selectable			
			E-LEVEL	0 ~ 100 Level Selectable			
			RETURN	RET END			
		RETURN					
	LEVEL	~ 100 Level Selectable					
	SMART NR	ON/OFF					
SPECIAL	CAM TITLE	RET					
		END					
	D-EFFECT	ON					
		OFF					
		FREEZE	ON/OFF				
		MIRROR	MIRROR				
			V-FLIP				
			ROTATE				
OFF							
D-ZOOM		ON	PIP	ON/OFF			
			D-ZOOM	x2 ~ x64 Level Selectable			
			PAN&TILT	PIP/D-ZOOM			
	DEFAULT						
	RETURN	RET	END				
	NEG. IMAGE	ON/OFF					
RETURN	RET END						
MOTION	ON	AREA SELECT	AREA1 ~ AREA3				
		DISPLAY	ON	POSITION	SIZE		
			OFF	RET/AGAIN			
			POSITION				
		AREA DISPLAY	SIZE				
			AGAIN				
		SENSITIVITY	0 ~ 60 Level Selectable				
		MOTION VIEW	ON/OFF				
		DEFAULT					
		RETURN	RET	END			
	OFF						
	PRIVACY	ON	AREA SELECT	AREA1 ~ AREA8			
AREA DISPLAY			ON	POSITION	SIZE		
			OFF	RET/AGAIN			
			COLOR				
DEFAULT			1 ~ 16 Selectable				
RETURN		RET	END				
DEFECT	OFF						
	LIVE DPC	AUTO/ON/OFF					
	LEVEL	0 ~ 60 Level Selectable					
	STATIC DPC	ON/OFF					
	START						
	LEVEL	0 ~ 60 Level Selectable					
	SENS-UP	x2 ~ x60 Level Selectable					
RETURN	RET	END					
RETURN	RET END						
ADJUST	SHARPNESS	SHARPNESS	ON/OFF				
		LEVEL	0 ~ 100 Level Selectable				
		RESOLUTION	ON/OFF				
		RETURN	RET END				
	MONITOR	LCD	GAMMA	AUTO, USER1, USER2, 0.45 ~ 1.00 Level Selectable			
			BLUE GAIN	0 ~ 100 Level Selectable			
			RED GAIN	0 ~ 100 Level Selectable			
			RETURN	RET	END		
			END				
		CRT	BLACK LEVEL	-30 ~ 30 Level Selectable			
			BLUE GAIN	0 ~ 100 Level Selectable			
			RED GAIN	0 ~ 100 Level Selectable			
			RETURN	RET	END		

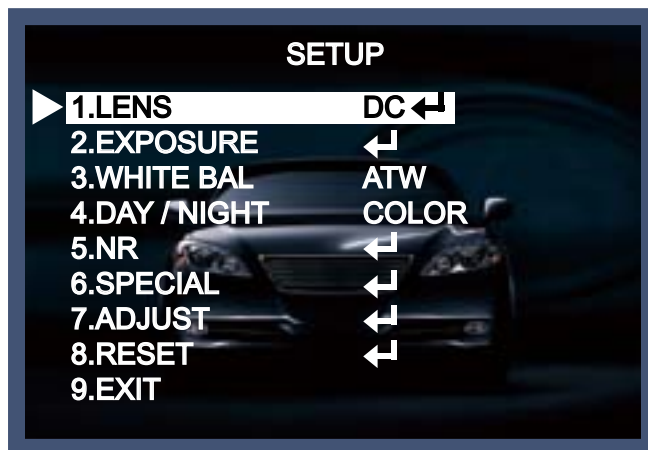
ADJUST	OSD	TEXT COLOR	1 ~ 8 Level Selectable
		OUTLINE	ON/OFF
		RETURN	RET
			END
	LSC	ON/OFF	
	NTSC / PAL	NTSC	
		PAL	
	RESOLUTION	720P / 1080P	
	RETURN	RET	
		END	
RESET	FACTORY	RESET	
	RETURN	RET	
		END	
EXIT			

Menu Set Up

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

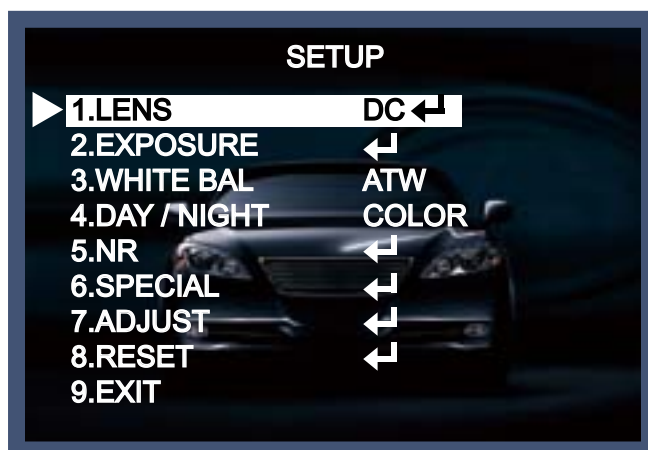
1. Press the Set Up button.

* 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

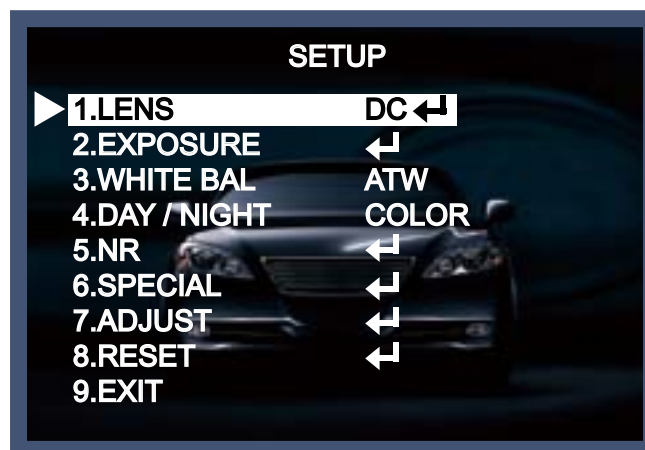
* Move to the available submenu by moving  arrow to desired feature.

* Submenu is not available when this symbol is displayed

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.



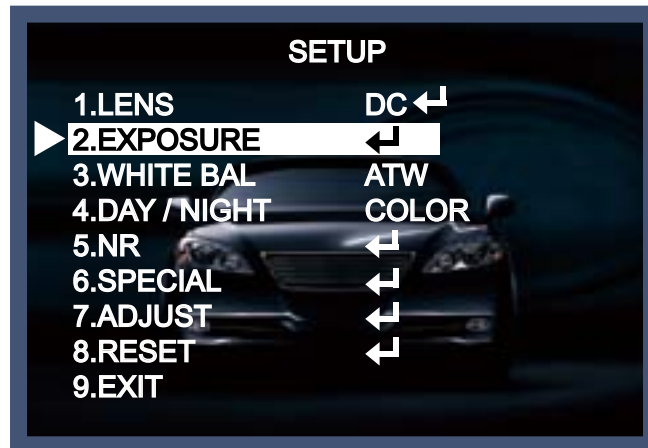
 DC: DC Auto Iris Lens

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

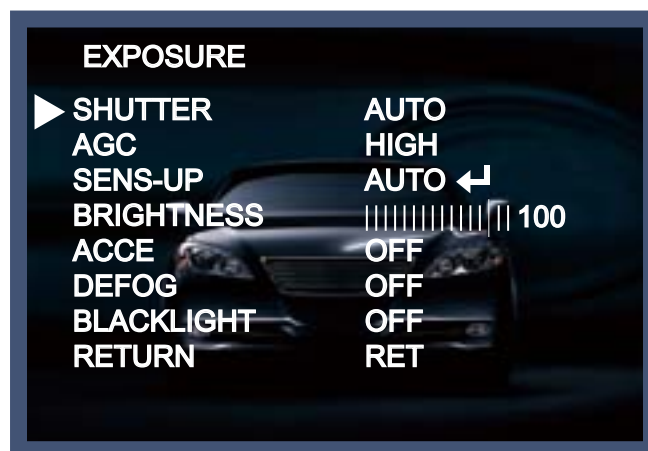
Exposure

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 AUTO, 1/30, 1/60, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/50000, x2, x4, x6, x8, x10, x15, x20, x30, x60

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

*Low Shutter Control: sensitivity boost up by frame accumulation for extremely low illumination conditions

* AGC(AUTO GAIN CONTROL):

A higher gain increases brightness but also increases any noise.

OFF : Deactivate the AGC function

LOW : Set automatic gain control to LOW.

MIDDLE : Set automatic gain control to MIDDLE.

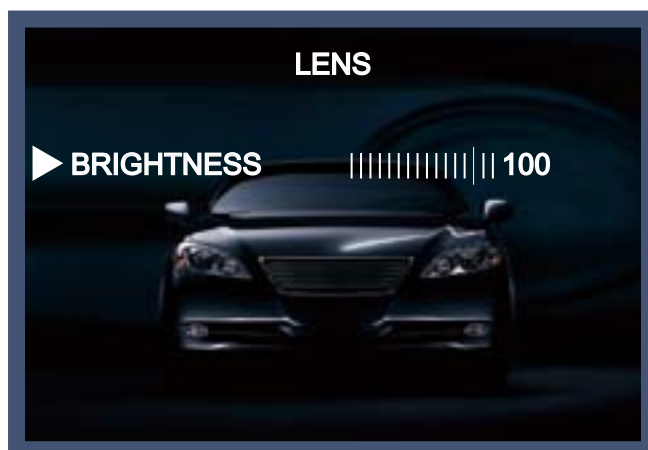
HIGH : Set automatic gain control to HIGH

* SENS - UP:

At night and/or in dark conditions, the Sens-Up mode can be selected to desired value from x2 ~ x60



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



* 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 ~x60).
- * 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 pixelation; this is quite normal.

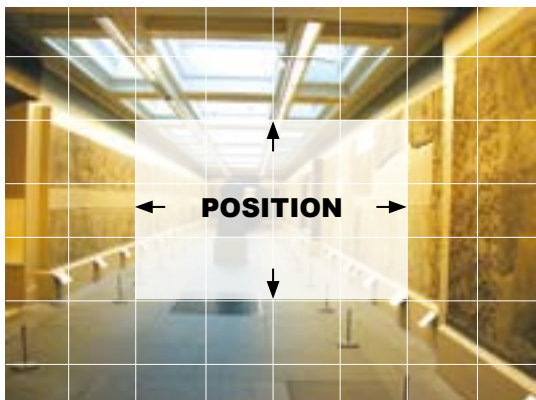
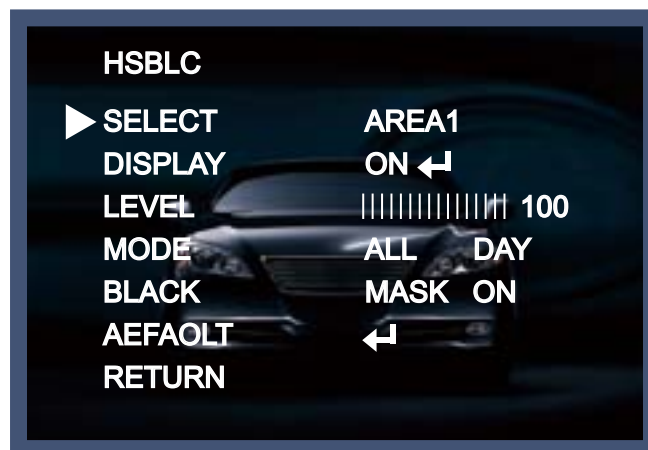
* HSBLC: HSBLC function is especially effective for reading car number plates at the night time.

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

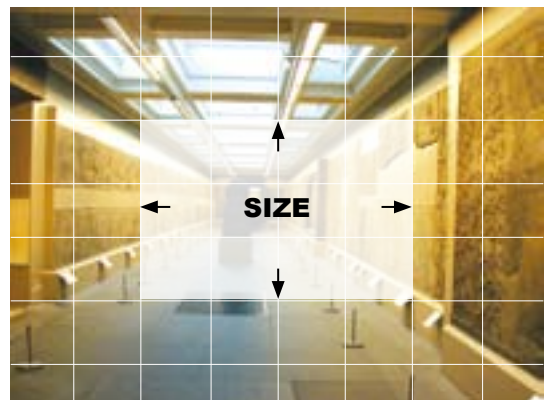
Press the "ENTER" button at the AREA menu, you can change the position as shown in Picture 1.

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

* ACCE: contrast enhancement by Digital Dynamic Range Compensation.

→OFF: ACCE function does not operate.

WDR compensates for bright and dark areas in the same scene.



ACCE OFF



ACCE ON

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

* DEFOG: Adapt visibility enhancement on the low contrast scene.

* BLC(Back Light): This camera witch is using 3D-DNR DSP provides intelligent light level control to overcome even strong backlight conditions.



* OFF: BLC function does not operate.

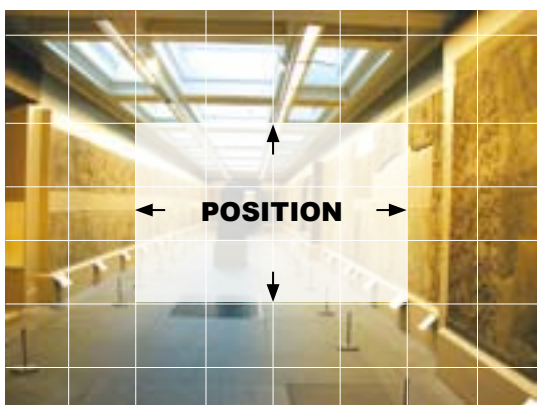
* BLC: Select LOW/MID/HIGH

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

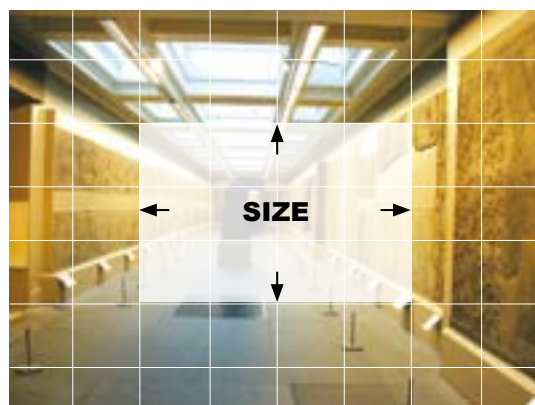
Press the Enter button to adjust the position of the area selected as shown in picture 1.

Press the Enter button again to adjust the area size as shown in picture 2.

Default: Press the Default to return to factory defaults.



PICTURE 1

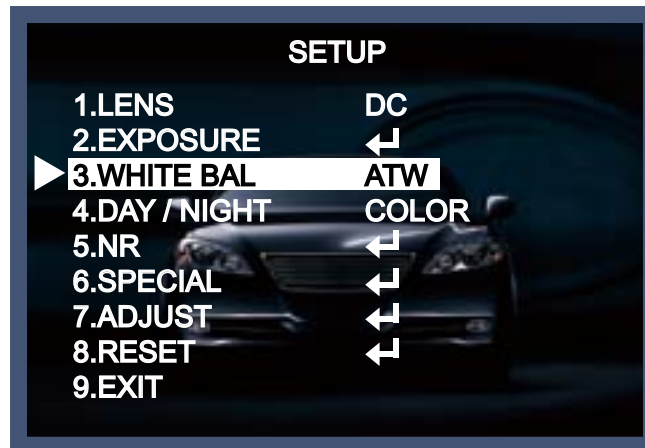


PICTURE 2

White Balance

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

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.



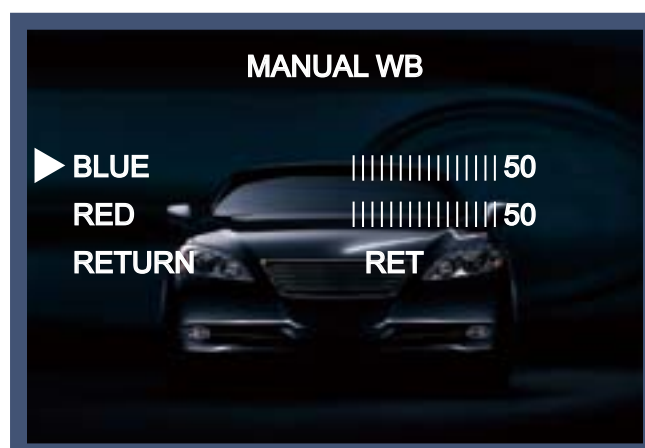
*** There are three user selectable White Balance settings available.**

* ATW : (Auto Tracking White Balance)

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

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

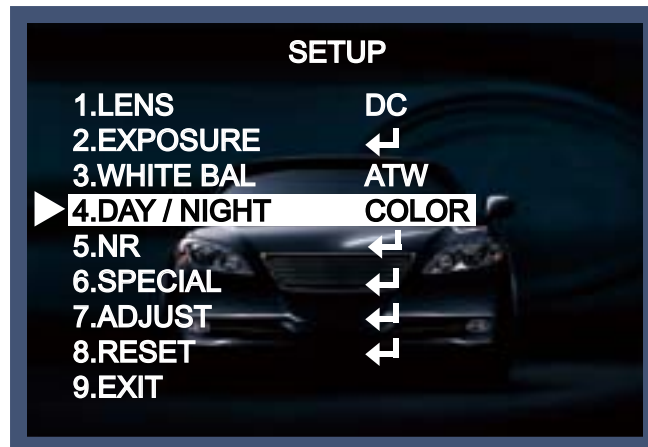
* MANUAL : Use for fine adjustment of White Balance. Set White Balance first using ATW or AWC then change to MANUAL and press SETUP button. Increase or decrease the value of R-Gain(Red) and B-Gain(Blue) while monitoring the color of the image.



Day / Night

Picture can be displayed in either color or black and white.

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



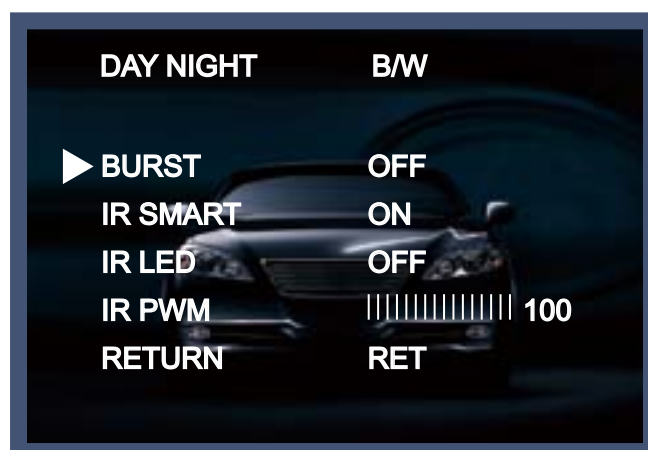
2. Select the desired mode using the Left and Right buttons.

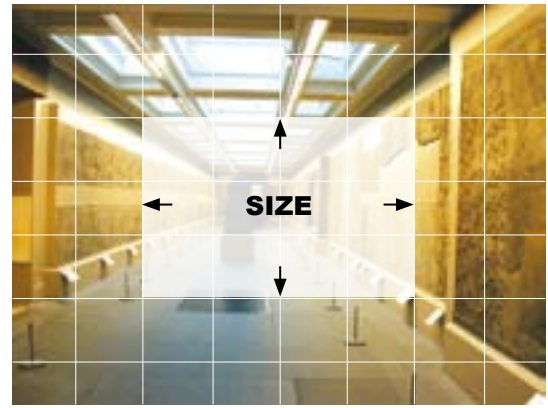
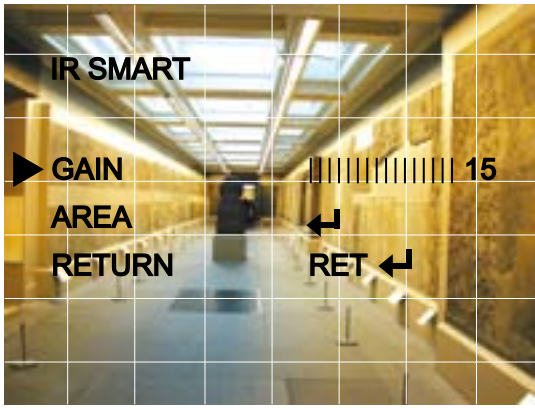
* COLOR : The picture is always displayed in color.

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

Select BW using the button and press the menu to activate COLOR 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 switch to COLOR in normal condition and switch to BW mode when ambient illumination is low.

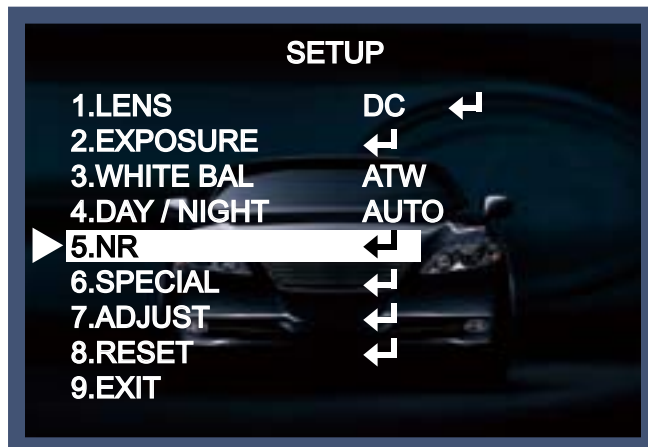
Press the SET button to set the switching time or D→N(AGC), N→D(AGC) in AUTO mode.



NR

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

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



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

: based on noise variance from AGC value

: 2D-edge preserving & flat area noise reduction

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

: motion adaptive temporal IR filtering

: edge preserving & ghost elimination

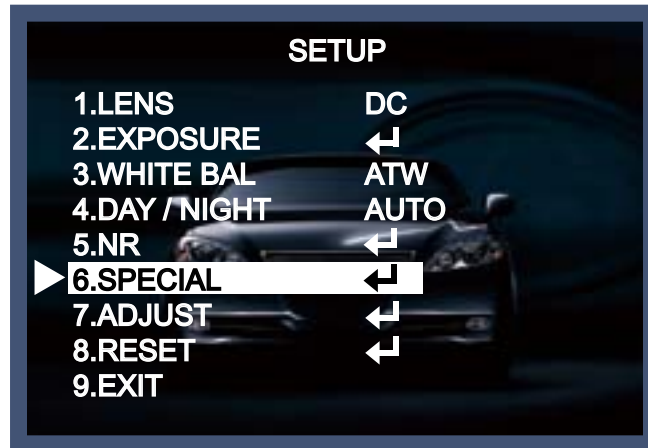
: adaptive weight control by noise level



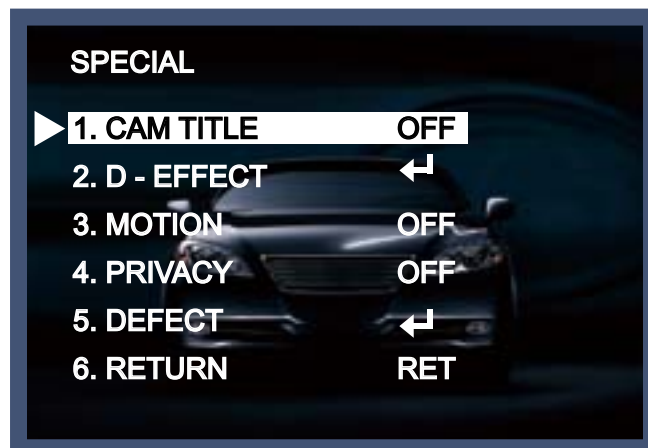
* Select RETURN by using the Up or Down button to return to Set Up menu.

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.

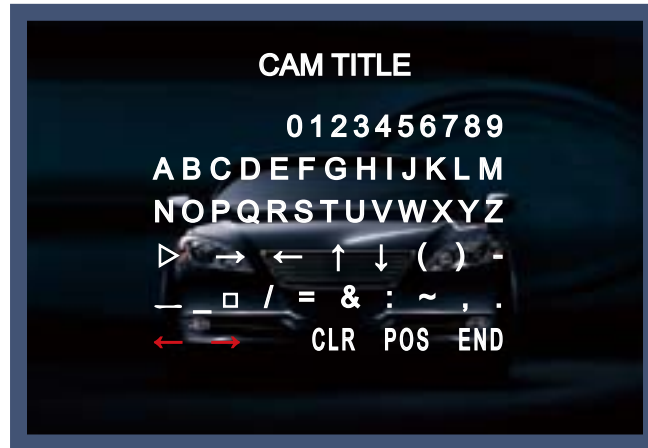
1-1) Move the arrow indicator to CAMERA ID using the Up or Down button on the SETUP menu screen.

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

NOTE

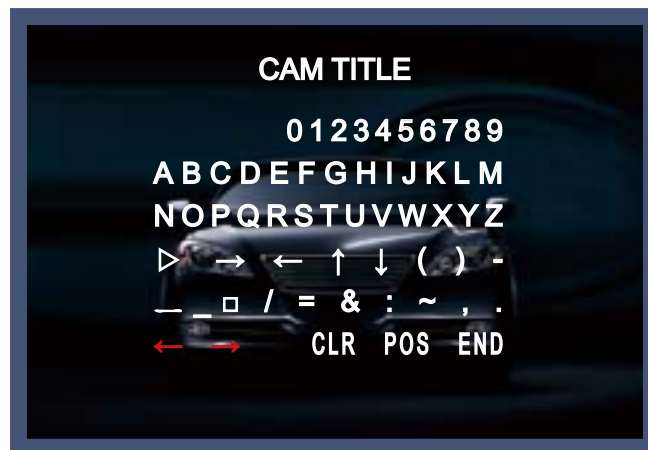
* When CAMERA TITLE is set to OFF, the CAMERA TITLE is not displayed on the monitor.

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.

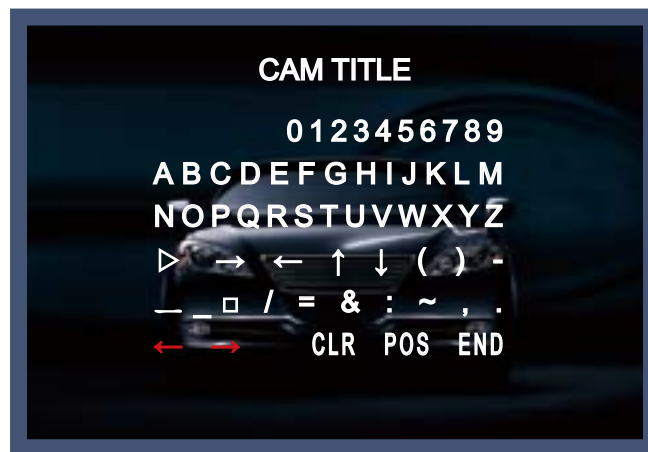
NOTE

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

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) How 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)

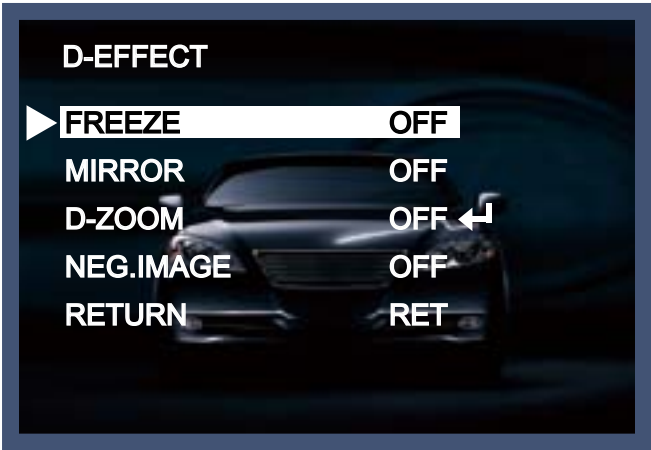


③ Select a new position by using the four directional button, Press the SET button to confirm the position.

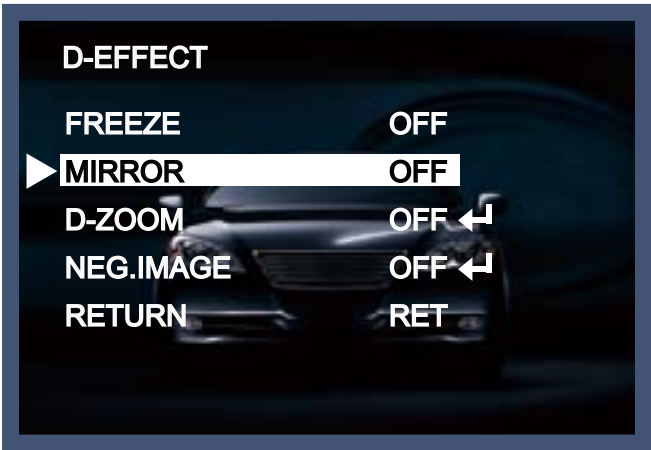


2. D - EFFECT

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 image vertically and horizontally on the screen.
- * OFF : Disabled.



MIRROR ON

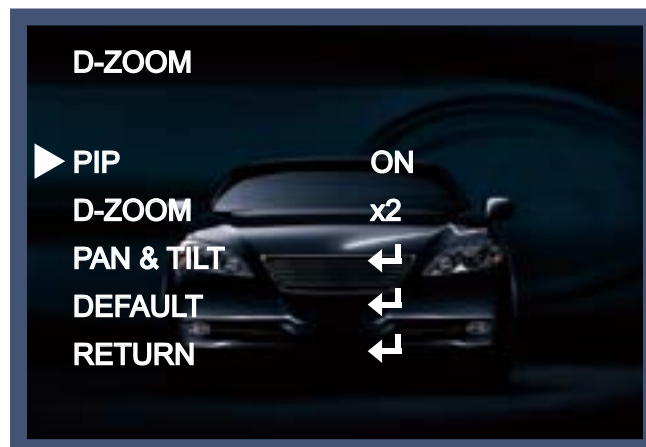


MIRROR OFF

2-2) DIGITAL - ZOOM: up to x64 bi-cubic linear digital zoom and PIP using anti-aliasing down scaling.

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

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



NOTE

* Pan and tilt functions are available when digital zoom function is activated.

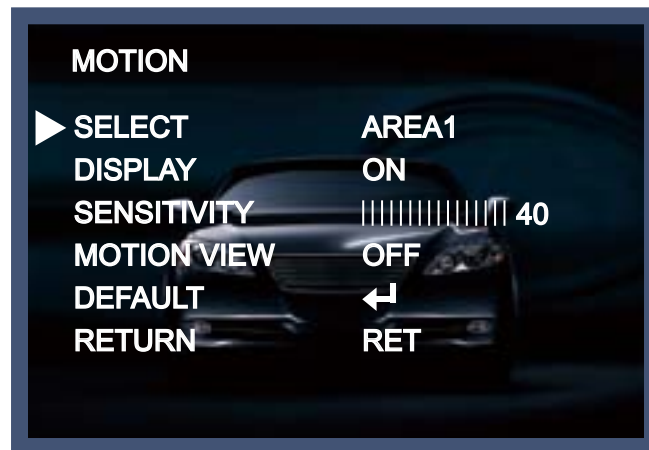
2-3) NEG. IMAGE :

ON : Activate negative image just like film

OFF : Normal image

2-4) 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 1~3 position.

AREA DISPLAY) ON: Display the Motion Detected area on the screen. You can set the location and size like picture 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 word "MOTION DETECTION" will appear on the monitor.

RETURN : Return to the SPECIAL menu after completing the setup.

4. PRIVACY

Disable an area 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 : Activate area display

- ③ Adjust the width of the area by using the left/right button.
- ④ Adjust the height of the area by using the left/right button.
- ⑤ Move the arrow indicator to the LEFT / RIGHT and TOP / BOTTOM to select the desired area position by using the LEFT or RIGHT button.
- ⑥ Move the arrow indicator to COLOR to select the desired color of each area cells by using the Left / Right button to select between the 15 different colors.

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

5. DEFECT

SENSE-UP : To eliminate defect, set the high level of sense-up. You can set to max 60x, but 10x is best to eliminate defect.

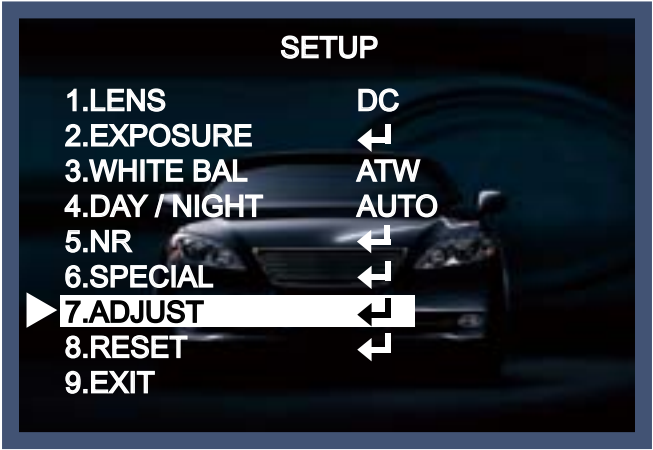
DIFF : You can set the size of DEFECT from 1 to 6.

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

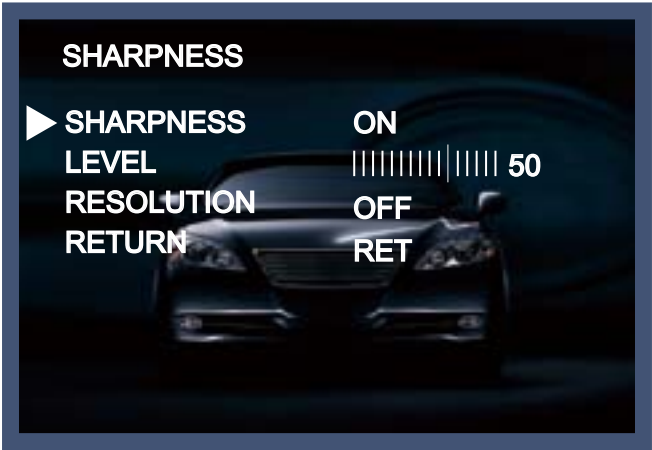


Adjust

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



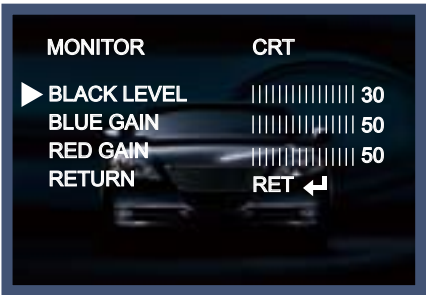
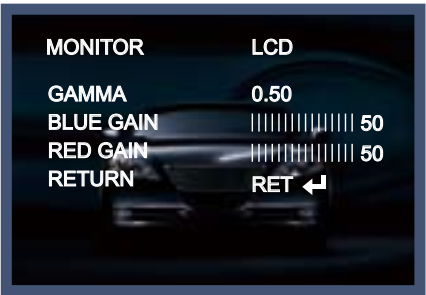
2. Select the desired mode by using Up or Down button.



SHARPNESS : Improve clarity in image. 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 100, and can set to monitor function as LCD, and CRT.



LSC(Lens Shading Compensation) : Improve shading of the Lens.



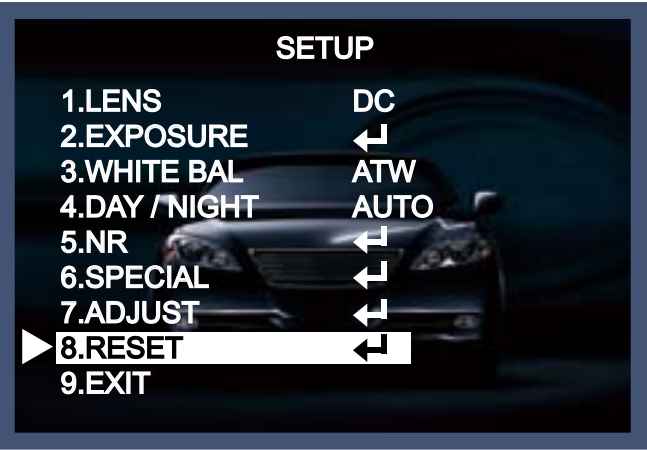
LSC OFF



LSC ON

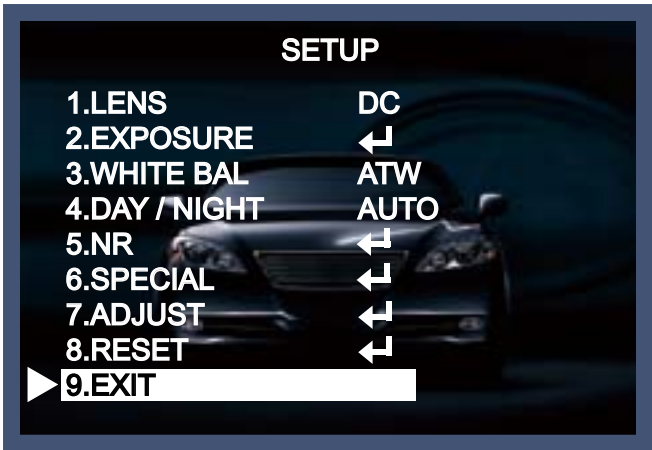
Reset

Reset 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.	☞ 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.	☞ 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.	☞ Has MOTION DET been set to ON in the menu? ☞ Has MD AREA been properly defined?
The color 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 INTENSIFY does not work.	☞ Check that the AGC setting in the EXPOSURE menu isn't set to OFF. ☞ Check the EXPOSURE menu and make sure SHUTTER is set to----- .



LIMITED WARRANTY - VIDEO PRODUCTS

THIS WARRANTY IS VALID ONLY ON PRODUCTS PURCHASED AND USED IN THE UNITED STATES OF AMERICA AND CANADA. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL USER.

SUBJECT TO CONDITIONS AND EXCLUSIONS FOUND BELOW, THIS PRODUCT IS WARRANTED AGAINST MANUFACTURING DEFECTS IN MATERIAL AND WORKMANSHIP FOR THE FOLLOWING PERIOD FOR PARTS AND LABOR:

SPECO TECHNOLOGIES CAMERAS	5 YEARS	DVRs	3 YEARS
SPECO TECHNOLOGIES IP CAMERAS.....	2 YEARS	NVRs	3 YEARS
SPECO PTZ AND VL CAMERAS.....	1 YEAR	BALANCE OF	
SPECO TECHNOLOGIES MONITORS.....	1 YEAR	SPECO TECHNOLOGIES LINE	1 YEAR
IR LEDS	90 DAYS		

SPECO TECHNOLOGIES WILL REPAIR OR REPLACE (AT OUR DISCRETION) ANY PARTS FOUND TO BE DEFECTIVE FOR THE WARRANTY PERIOD SPECIFIED. WE WILL PROVIDE A REPLACEMENT FOR ANY DEFECTIVE PART.

CONDITIONS

- 1. YOU MUST OBTAIN A RETURN AUTHORIZATION (RA) NUMBER FOR ANY MERCHANDISE BEING RETURNED TO SPECO TECHNOLOGIES, WHETHER FOR RETURN/EXCHANGE OR REPAIR, WHETHER IN OR OUT OF WARRANTY.**
2. THIS WARRANTY WILL BE HONORED ONLY UPON PRESENTATION OF THE ORIGINAL DATED BILL OF SALE OR SALES SLIP.
3. TRANSPORTATION OF THE PRODUCT TO OUR SERVICE DEPARTMENT IS THE RESPONSIBILITY OF THE USER. REPAIRED OR REPLACED PRODUCT WILL BE RETURNED PREPAID DURING THE WARRANTY PERIOD.
4. SPECO TECHNOLOGIES DOES NOT AUTHORIZE ANY INTERNET OR MAIL ORDER PRODUCT SALES. IF A SPECO TECHNOLOGIES PRODUCT IS PURCHASED FROM AN UNAUTHORIZED DISTRIBUTOR OR OTHER SOURCE, INCLUDING RETAILERS, MAIL ORDER SELLERS AND ONLINE SELLERS, IT WILL NOT BE HONORED OR SERVICED UNDER THE EXISTING SPECO TECHNOLOGIES WARRANTY POLICY. ANY SPECO TECHNOLOGIES PRODUCT PURCHASED FROM THESE ONLINE MERCHANTS WILL VOID THE APPLICABLE WARRANTY AND IS INELIGIBLE FOR TECHNICAL SUPPORT. IF YOU HAVE QUESTIONS ABOUT A RESELLER, PLEASE CONTACT SPECO TECHNOLOGIES AT 1-800-645-5516 FOR A LIST OF UNAUTHORIZED DEALERS, VISIT: www.specotech.com/unauthorized.

EXCLUSIONS

1. THIS WARRANTY SHALL NOT COVER ADJUSTMENT OF CUSTOMER OPERATED CONTROLS AS EXPLAINED IN THE APPROPRIATE Model 's INSTRUCTION MANUAL OR PRODUCTS WHICH HAVE BEEN ALTERED, ABUSED, OR HAVE MISSING OR ALTERED SERIAL NUMBERS.
2. THIS WARRANTY SHALL NOT APPLY TO UNCRATING, SETUP, INSTALLATION, OR THE REMOVAL AND REINSTALLATION OF PRODUCTS AFTER REPAIR.
3. THIS WARRANTY SHALL NOT APPLY TO REPAIRS OR REPLACEMENTS NECESSITATED BY ANY CAUSE BEYOND THE RESULT OF MANUFACTURE INCLUDING, BUT NOT LIMITED TO, ANY MALFUNCTION, DEFECTS OR FAILURE CAUSED BY OR RESULTING FROM UNAUTHORIZED SERVICE OR PARTS, IMPROPER MAINTENANCE, MODIFICATION OR REPAIR BY THE USER, ABUSE, MISUSE, NEGLIGENCE, ACCIDENT, FIRE, FLOOD, OR OTHER ACTS OF NATURE, INCORRECT LINE VOLTAGE, DAMAGE OR IMAGE BURNS TO TELEVISION PICTURE TUBES CAUSED BY OR ATTRIBUTABLE TO THE USE OF ANY ACCESSORY, ELECTRONICS GAME OR DEVICE, OR DAMAGE CAUSED TO IMAGE PICKUP DEVICES BY EXCESSIVE LIGHT.

THE FOREGOING IS IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND WE DO NOT AUTHORIZE ANY PARTY TO ASSUME FOR US ANY OTHER OBLIGATION OR LIABILITY. IN NO EVENT SHALL WE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OF THIS PRODUCT, OR FOR ANY DELAY IN THE USE OF THIS PRODUCT DUE TO CAUSES BEYOND OUR CONTROL. SOME STATES DO NOT ALLOW LIMITATIONS OF HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF CONSEQUENTIAL DAMAGES. THE ABOVE LIMITATIONS ON IMPLIED WARRANTY AND CONSEQUENTIAL DAMAGES MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

NOTE: FOR YOUR PROTECTION IN THE EVENT OF THEFT OR LOSS OF THIS PRODUCT, PLEASE FILL IN THE INFORMATION REQUESTED BELOW AND RETAIN WITH YOUR SALES RECEIPT.

MODEL NO.: _____ SERIAL NO.: _____
(LOCATED ON BACK OR BOTTOM OF UNIT)

DATE OF PURCHASE: _____

WHERE PURCHASED: _____ PURCHASE PRICE: _____

Speco Technologies
200 New Highway
Amityville, NY 11701
www.specotech.com

**FOR MORE INFORMATION REGARDING SERVICE OR RETURN,
CALL US TOLL FREE: 1-800-645-5516 IN METRO NY: 631-957-8700**

ALWAYS USE DISCRETION WHEN INSTALLING VIDEO AND/OR AUDIO SURVEILLANCE EQUIPMENT ESPECIALLY WHEN THERE IS AN EXPECTATION OF PRIVACY. INQUIRE REGARDING FEDERAL, STATE AND/OR LOCAL REGULATIONS APPLICABLE TO THE LAWFUL INSTALLATION OF VIDEO AND/OR AUDIO RECORDING OR SURVEILLANCE EQUIPMENT. PARTY CONSENT MAY BE REQUIRED.

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