Marshall

1080 HD-SDI

OPERATION GUIDE

Models:

CV340 Series
CV500 Series

Please read this guide carefully before installaing and using the camera.
Please retain this guide for reference.

MENU STRUCTURE

LENS	DC	MODE: OUTDOOR, INDOOR, LENS: ADJUST
	VIDEO	
	MANUAL	
	P-IRIS	MODE: AUTO, MANUAL
		LEVEL
		LIMIT
EXPOSURE	SHUTTER	1/30~60, FLK, 1/240, 480, 1000, 2000, 5000, 10000, 50000, X2~30, AUTO
	AGC	1~15
	SENSE-UP	AUTO (x2~x30), OFF
	BRIGHTNESS	1~100
	D-WDR	OFF, ON
	DEFOG	OFF, ON
		POSITION/SIZE, GRADATION, DEFAULT
BACKLIGHT	WDR	GAIN, PRIORITY
	BLC	GAIN, AREA, DEFAULT
	HSBLC	AREA, DISPLAY, LEVEL,
		MODE, BLACK MASK, DEFAULT
WHITE BALANCE	ATW	
	AWB	
	AWC-SET	
	INDOOR	
	OUTDOOR	
	MANUAL	BLUE: 1~100, RED: 1~100
DAY & NIGHT	AUTO	DELAY
		N ⟶D (AGC)
		N⟶ D (AGC)
	COLOR	
	B/W	BURST: ON, OFF
		IR SMART: ON, OFF
		IR LED: ON, OFF
		IR PWM: 0~100
	EXT	
NR	2DNR	ON, OFF
	3DNR	ON, OFF
		LEVEL: 0~100
		START. AGC: 0~100
		END. AGC: 0~100

MENU STRUCTURE

SPECIAL	CAM TITLE	
	D-EFFECT	FREEZE
		MIRROR: MIRROR, V-FLIP, ROTATE
		D-ZOOM
		SMART D-ZOOM (Function disabled.)
		NEG.IMAGE
		DIS (Function disabled.)
	MOTION	SELECT: AREA
		DISPLAY: ON, OFF
		SENSIVITY: 0~100
		MOTION VIEW: ON, OFF
		DEFAULT
	PRIVACY	SELECT: AREA
		DISPLAY: COLOR
		COLOR
		TRANS.
		DEFAULT
	LANGUAGE	
	DEFECT	LIVE DPC: OFF, AUTO, ON
		STATIC DPC: OFF, ON
	RS-485	CAM ID: 0~255
		ID DISPLAY: OFF, ON
		BAUD RATE: 2400~38400
	VERSION	
ADJUST	SHARPNESS	0~15
	MONITOR	LCD: GAMMA, ADAPT, LEVEL, BLUE/RED GAIN
		CRT: BLACK LEVEL, BLUE/RED GAIN
	LSC	OFF, ON
	VIDEO. OUT	NTSC, PAL
	RESOLUTION	1080P, 720P
	PRAME RATE	1080P: B-30/25P, A-30/25P, A-60/50P, 59.94I
		720P: B-30/25P, 59.94P
RESET		
EXIT		

OSD Joystick and Button

OSD
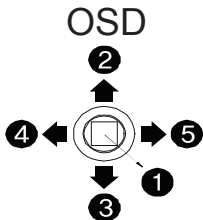
① SET *Used to access the menu and confirm selection.*
② UP *Used to move the cursor up.*
③ DOWN *Used to move the cursor down*
④ LEFT *Used to move the cursor to left and change the value.*
⑤ RIGHT *Used to move the cursor to right and change the value.*

Press SET button to access the MAIN MENU.

Select each sub-menu by using the UP, DOWN, LEFT, and RIGHT buttons.
Press the SET button to select.

Use the UP & DOWN buttons to select the desired item.

MAIN MENU	
1. LENS	DC ←
2. EXPOSURE	←
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ←
6. NR	←
7. SPECIAL	←
8. ADJUST	←
9. RESET	←
10. EXIT	←

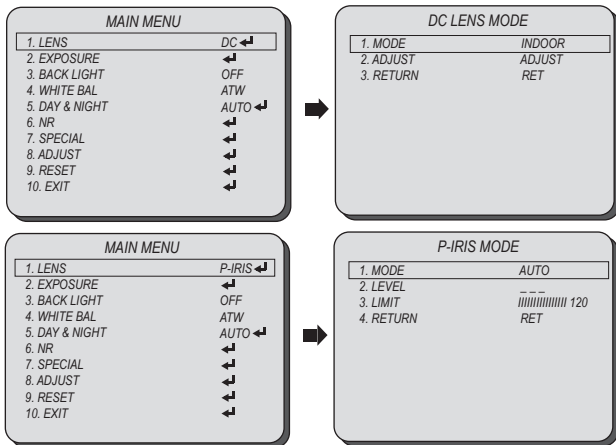*Use the LEFT & RIGHT buttons to change the sub-item.*

← *Icon indicates "Press OSD Button" or "Enter Sub Menu".*

--- *Icon indicates "Not Available".*

Select LENS using the UP or DOWN button.
You can change between MANUAL, DC, VIDEO, and P-IRIS using the LEFT or RIGHT button.

- **MANUAL:** Manual Lens (Fixed focal or fixed IRIS lens)

- **DC:** DC Auto Iris Varifocal Lens.
  You can change the DC mode between INDOOR and OUTDOOR mode using the LEFT or RIGHT button.
  - **MODE: INDOOR, OUTDOOR**
  - **ADJUST:** Activates the automatic lens adjustment function.

- **VIDEO:** Auto Iris Varifocal Lens.

- **P-IRIS:** P-IRIS Lens (helps to improve the image quality with regards to iris contrast, resolution and depth of field and keeps the best image quality at different environment of light source.
  You can change the mode between AUTO and MANUAL mode using the LEFT or RIGHT button.
  - **MODE: MANUAL, AUTO**
  - **LEVEL, LIMIT:** Set the level and limi of P-IRIS lens adjustment function.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

DC LENS MODE	
1. MODE	INDOOR
2. ADJUST	ADJUST
3. RETURN	RET

MAIN MENU	
1. LENS	P-IRIS ↵
2. EXPOSURE	↵
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

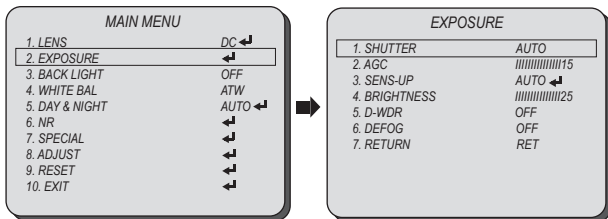| P-IRIS MODE	
1. MODE	AUTO
2. LEVEL	_ _ _
3. LIMIT	||||||||||||||| 120
4. RETURN	RET

Select EXPOSEURE using the UP or DOWN button.
You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

■ **SHUTTER:** You can adjust the shutter speed of the lens.

You can adjust the shutter speed manually or select shutter speed mode from FLK or AUTO mode using the LEFT or RIGHT button.

- **FLK:** Select this when you experience picture flicker, this happen when there is a clash with the installed lighting frequency.
- **AUTO:** Enable AUTO to control the shutter speed automatically. If AUTO is selected, the shutter speed is automatically controlled depending on the ambient illumination of the subject.
- **1/60sec ~ 1/50,000sec, x2~x30:** You can control shutter speed manually using the LEFT or RIGHT button.
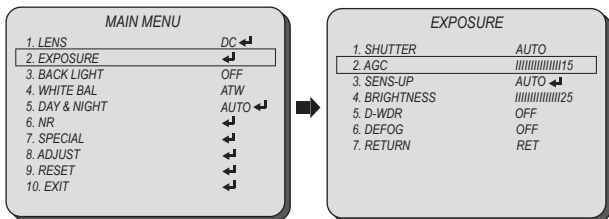
MAIN MENU	
1. LENS	DC ◄┘
2. EXPOSURE	◄┘
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ◄┘
6. NR	◄┘
7. SPECIAL	◄┘
8. ADJUST	◄┘
9. RESET	◄┘
10. EXIT	◄┘

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	////////////////15
3. SENS-UP	AUTO ◄┘
4. BRIGHTNESS	////////////////25
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

■ *If the shutter mode is set to AUTO, carefully position the camera during installation since the produced image might be poorly framed due to a bright light source.*
■ *When the SHUTTER is set to FLK mode, 1/240 ~ 50,000, or x2~x30, SENS-UP will be disabled.*

Select EXPOSEURE using the UP or DOWN button.
You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

■ **AGC(AUTO GAIN CONTROL):** A function which controls the amplification/ gain process automatically if the illumination falls under the usable level.

```
              MAIN MENU                            EXPOSURE
    1. LENS              DC ↵            1. SHUTTER         AUTO
    2. EXPOSURE          ↵              2. AGC             ||||||||||||||15
    3. BACK LIGHT        OFF            3. SENS-UP         AUTO ↵
    4. WHITE BAL         ATW            4. BRIGHTNESS      ||||||||||||||25
    5. DAY & NIGHT       AUTO ↵         5. D-WDR           OFF
    6. NR                ↵              6. DEFOG           OFF
    7. SPECIAL           ↵              7. RETURN          RET
    8. ADJUST            ↵
    9. RESET             ↵
    10. EXIT             ↵
```
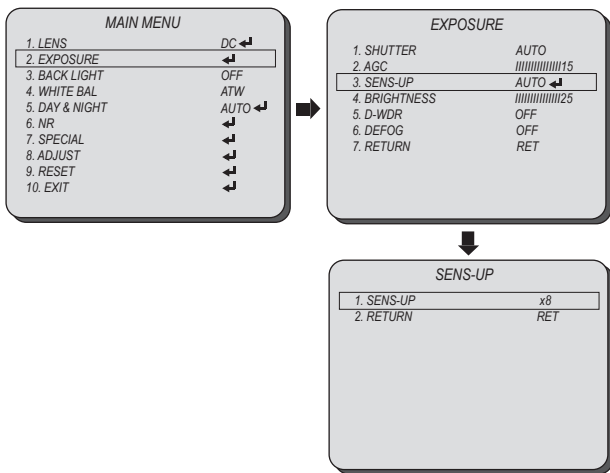
Select EXPOSEURE using the UP or DOWN button.
You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

■ **SENS-UP:** When it is in low luminance condition, the camera automatically detects the light level and maintains a clear picture quality if this mode is activated.
You can select the sense-up mode from OFF or AUTO mode using the LEFT or RIGHT button.

- **OFF:** Deactivates the SENS-UP function.
- **AUTO:** Activates the SENS-UP function.

  x2~x30: You can select SENS-UP level using the LEFT or RIGHT button.

MAIN MENU	
1. LENS	DC ◄┘
2. EXPOSURE	◄┘
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ◄┘
6. NR	◄┘
7. SPECIAL	◄┘
8. ADJUST	◄┘
9. RESET	◄┘
10. EXIT	◄┘

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	//////////////15
3. SENS-UP	AUTO ◄┘
4. BRIGHTNESS	//////////////25
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

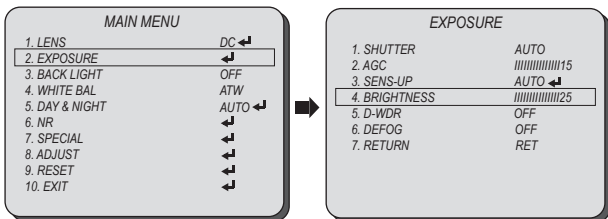| SENS-UP	
1. SENS-UP	x8
2. RETURN	RET

■ *Ghosting in object movements may occur if the sens-up is set to higher level.*

Select EXPOSEURE using the UP or DOWN button.
You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.
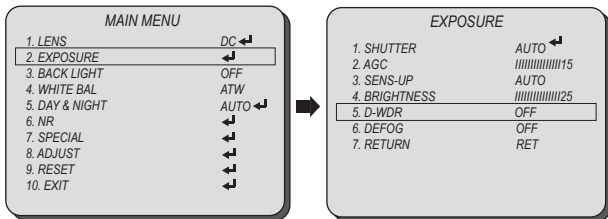
■ **BRIGHTNESS:** Adjust the screen brightness.
You can adjust the brightness level from 1 ~ 100 using the LEFT or RIGHT button.

MAIN MENU	
1. LENS	DC ◄┘
2. EXPOSURE	◄┘
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ◄┘
6. NR	◄┘
7. SPECIAL	◄┘
8. ADJUST	◄┘
9. RESET	◄┘
10. EXIT	◄┘

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	///////////////15
3. SENS-UP	AUTO ◄┘
4. BRIGHTNESS	///////////////25
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

■ *Higher BRIGHTNESS setting may cause noise, spots, or white image.*

■ **D-WDR :** DWDR(ACCE) illuminates darker areas of an image while retaining the same light level for brighter areas to even out the overall brightness of images with high contrast between bright and dark areas.
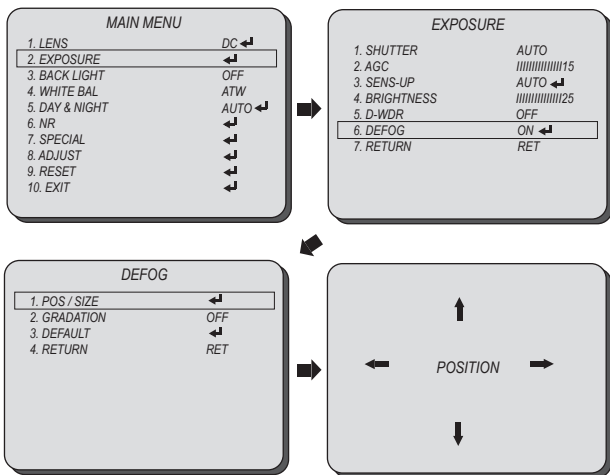*You can select the DWDR level from OFF and ON using the LEFT or RIGHT button.*

MAIN MENU	
1. LENS	DC ◄┘
2. EXPOSURE	◄┘
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ◄┘
6. NR	◄┘
7. SPECIAL	◄┘
8. ADJUST	◄┘
9. RESET	◄┘
10. EXIT	◄┘

EXPOSURE	
1. SHUTTER	AUTO ◄┘
2. AGC	///////////////15
3. SENS-UP	AUTO
4. BRIGHTNESS	///////////////25
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

EXPOSURE

DEFOG

Select EXPOSEURE using the UP or DOWN button.
You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

■ **DEFOG:** DEFOG feature will help increase visibility in extreme weather conditions, such as fog, rain or in a very strong luminous intensity.

You can select the DEFOG level from OFF and ON using the LEFT or RIGHT button.

● **POS / SIZE:** Adjust the position and size of the DEFOG function.
● **GRADATION:** Adjust the gradation level of the DEFOG function.
● **DEFAULT**: Reset the DEFOG function.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	OFF
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	//////////////15
3. SENS-UP	AUTO ↵
4. BRIGHTNESS	//////////////25
5. D-WDR	OFF
6. DEFOG	ON ↵
7. RETURN	RET

DEFOG	
1. POS / SIZE	↵
2. GRADATION	OFF
3. DEFAULT	↵
4. RETURN	RET

POSITION

Select BACKLIGHT using the UP or DOWN button.
You can select OFF, BLC, or HSBLC menu using the LEFT or RIGHT button.

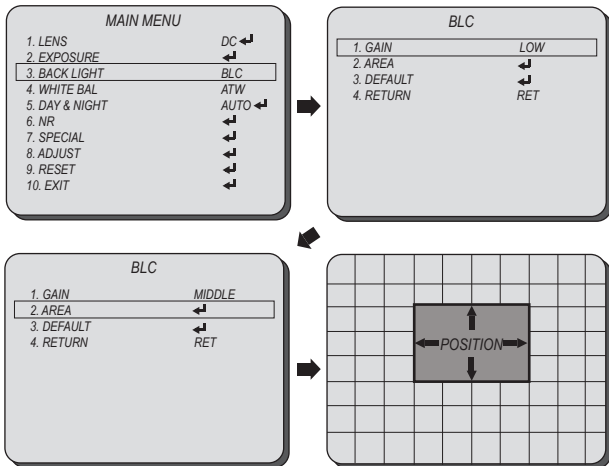■ **BLC:** Enables a user to select a desired area on a picture and view that area more clearly.

● **GAIN:** Adjust level of the BLC function.
  You can select the GAIN level from LOW, MIDDLE, and HIGH using the LEFT or RIGHT button.
● **AREA:** Select the area to be enhanced.
  You can select the BLC area using the UP, DOWM, LEFT or RIGHT button.
● **DEFAULT:** Set the BLC setting value as default.

```
         MAIN MENU                          BLC
 1. LENS            DC
 2. EXPOSURE                        1. GAIN           LOW
 3. BACK LIGHT     BLC              2. AREA
 4. WHITE BAL      ATW              3. DEFAULT
 5. DAY & NIGHT    AUTO             4. RETURN         RET
 6. NR
 7. SPECIAL
 8. ADJUST
 9. RESET
 10. EXIT
```

```
         BLC
 1. GAIN          MIDDLE
 2. AREA
 3. DEFAULT
 4. RETURN        RET
```
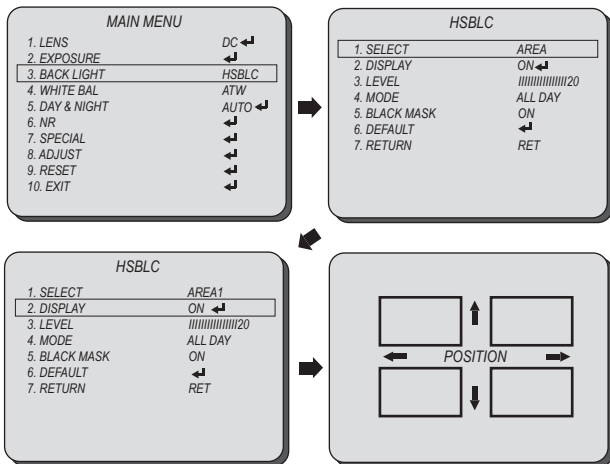
POSITION

■ BACKLIGHT function will help distinguish an object in front of the strong background lighting.

BACKLIGHT

■ **HSBLC:** If the scene contains extremely bright light areas such as; from car headlight, the light can mask out much of the on-screen detail.

- ● **SELECT:** Select the area to be enhanced (AREA1, AREA2, AREA3, AREA4)
- ● **DISPLAY:** Display the zone or not and adjust the size and position.
  - ▬ *POSITOIN:* **Adjust the position.**
  - ▬ *SIZE :* **Adjust the size.**
- ● **LEVEL:** Adjust level of the HLC function.
- ● **MODE:** Select the HSBLC mode from NIGHT and ALL DAY.
- ● **BLACK MASK:** Enable/Disable BLACK MASK function.
- ● **DEFAULT:** Set the HSBLC setting value as default.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	HSBLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

HSBLC	
1. SELECT	AREA
2. DISPLAY	ON ↵
3. LEVEL	//////////////20
4. MODE	ALL DAY
5. BLACK MASK	ON
6. DEFAULT	↵
7. RETURN	RET

HSBLC	
1. SELECT	AREA1
2. DISPLAY	ON ↵
3. LEVEL	//////////////20
4. MODE	ALL DAY
5. BLACK MASK	ON
6. DEFAULT	↵
7. RETURN	RET

POSITION

■ *Because there can be a difference in the effectiveness of HSBLC according to the amount of light area in the screen, optimize the installation angle for the best HSBLC performance.*
■ *HSBLC is only activated in low luminance condition if a bright area exceeds a designated size.*
■ *HSBLC is not activated in day light or when bright light is not present at night.*
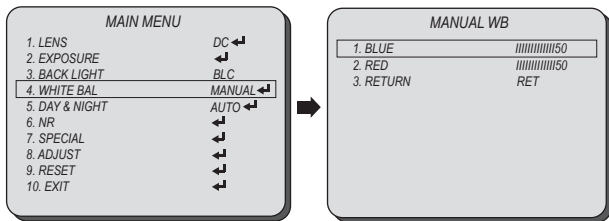
WHTE BALANCE

Select WHITE BALANCE using the UP or DOWN button.
You can change the white balance mode between ATW, AWC→SET, INDOOR, OUTDOOR, AWB,
or MANUAL using the LEFT or RIGHT button.

- **ATW (Auto Trace White Balance):** continuously adjusts camera color balance in accordance with any change in color temperature. compensates for color temperature changes within the range of 2000K to 10000K.
- **AWC → SET:** The white balance is automatically adjusted in a specific luminance environment. To find the optimal luminance level for the current environment, point the camera towards a shoot of white paper and press the SET button.
- **INDOOR:** Select this when the color temperature is between 4,500˚K and 8,500˚K.
- **OUTDOOR:** Select this when the color temperature is between 1,700˚K and 11,000˚K. (Ex. sodium light inclusion)
- **AWB (Auto White Balance):** controls the automatic adjustment of the light source's color temperature.
- **MANUAL:** Select this to fine-tune White Balance manually.
  You can adjust the blue and red tone level manually.

  - **BLUE:** Adjust the blue tone of the image. (0~100)
  - **RED:** Adjust the red tone of the image. (0~100)

MAIN MENU	
1. LENS	DC ◄┘
2. EXPOSURE	◄┘
3. BACK LIGHT	BLC
4. WHITE BAL	MANUAL ◄┘
5. DAY & NIGHT	AUTO ◄┘
6. NR	◄┘
7. SPECIAL	◄┘
8. ADJUST	◄┘
9. RESET	◄┘
10. EXIT	◄┘

MANUAL WB	
1. BLUE	//////////50
2. RED	//////////50
3. RETURN	RET

- *Set White Balance first by using the ATW or AWB mode. After that switch to MANUAL mode,*
- *White Balance may not work properly under the following conditions. In this case, select the AWC mode.*
  - *When the ambient illumination of the subject is dim.*
  - *If the camera is directed towards a fluorescent light or is installed in place where illumination changes dramatically, the White Balance operation may become unstable.*
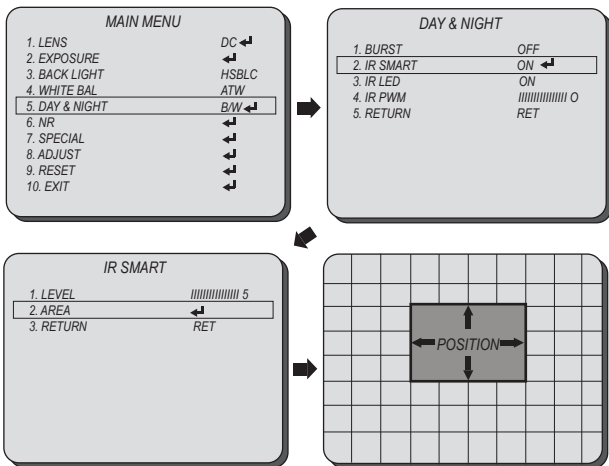
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Select DAY & NIGHT using the UP or DOWN button.
You can change the day & night mode between COLOR, B/W, AUTO, or EXT using the LEFT or RIGHT button.

■ **COLOR:** The picture is always displayed in color.
■ **B/W:** The picture is always displayed in black and white.

You can select and adjust BURST, IR SMART, IR LED, and IR PWM.

　　BURST: Determines whether to transmit the burst signal or not .
　　IR SMART: Decrease screen saturation of objects within a short range.

　　　── **LEVEL:** Adjust level of the IR SMART function.
　　　── **AREA:** Select the area to activate the IR SMART.
　　　　　You can select IR SMART area using the UP, DOWN, LEFT or RIGHT button.
　　　── **IR LED:** Enable/Disable IR LEDs.
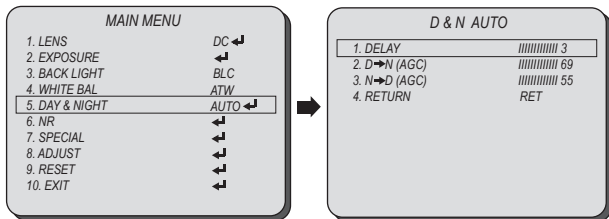　　　── **IR PWM:** Adjust the IR LEDs output level.

```
           MAIN MENU                        DAY & NIGHT
  1. LENS            DC ⏎            1. BURST            OFF
  2. EXPOSURE           ⏎            2. IR SMART         ON ⏎
  3. BACK LIGHT     HSBLC            3. IR LED           ON
  4. WHITE BAL        ATW           4. IR PWM    |||||||||||| O
  5. DAY & NIGHT    B/W ⏎           5. RETURN           RET
  6. NR                ⏎
  7. SPECIAL           ⏎
  8. ADJUST            ⏎
  9. RESET             ⏎
 10. EXIT              ⏎
```

```
           IR SMART
  1. LEVEL       |||||||||||| 5
  2. AREA              ⏎
  3. RETURN          RET
```

POSITION

DAY & NIGHT

Select DAY & NIGHT using the UP or DOWN button.
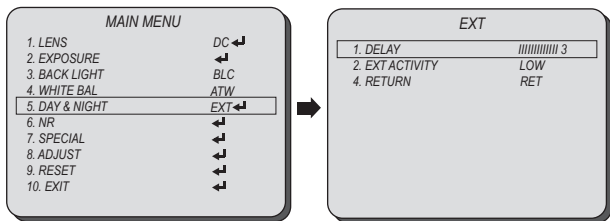*You can change the day & night mode between COLOR, B/W, AUTO, or EXT using the LEFT or RIGHT button.*

- **AUTO:** The mode is switched to COLOR in a normal environment, but switched to B/W mode when ambient illumination is low.
  - **DELAY:** You can select day/night switching delay time from. (0s ~ 60s)
  - **D→N (AGC):** Adjust the brightness of the lighting where the mode switch occurs from day to night.
  - **N→D (AGC):** Adjust the brightness of the lighting where the mode switch occurs from night to day.
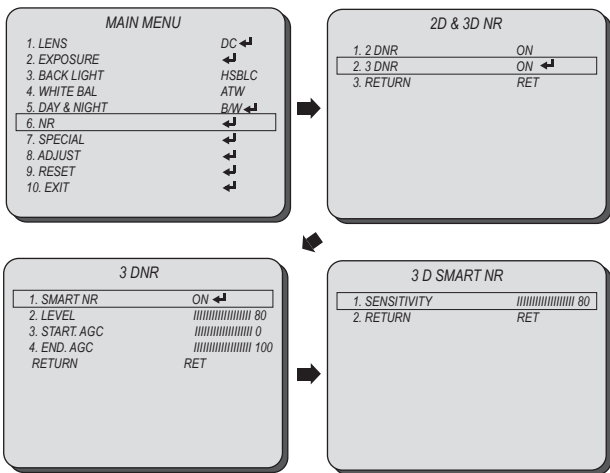
MAIN MENU	
1. LENS	*DC* ↵
2. EXPOSURE	↵
3. BACK LIGHT	*BLC*
4. WHITE BAL	*ATW*
5. DAY & NIGHT	*AUTO* ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

D & N AUTO	
1. DELAY	*IIIIIIIIIIII 3*
2. D→N (AGC)	*IIIIIIIIIIII 69*
3. N→D (AGC)	*IIIIIIIIIIII 55*
4. RETURN	*RET*

- **EXT:** Control the image modes of Color and B/W when an external controller is synchronized via the D&N IN In port.

MAIN MENU	
1. LENS	*DC* ↵
2. EXPOSURE	↵
3. BACK LIGHT	*BLC*
4. WHITE BAL	*ATW*
5. DAY & NIGHT	*EXT* ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

EXT	
1. DELAY	*IIIIIIIIIII 3*
2. EXT ACTIVITY	*LOW*
4. RETURN	*RET*

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NR (Noise Reduction)

Select NR (NOISE REDUCTION) using the UP or DOWN button
You can move the menu from 2DNR and 3DNR and set each menu using the LEFT or RIGHT button.

- **2DNR:** Reducing noise in the brightness of the image.
- **3DNR:** Reducing noise causing by movement.
  - **SMART NR:** Automatically activates 3DNR according to environment and preset.
    - **SENSITIVITY:** Adjust the sencivity of 3DNR level.
  - **LEVEL:** Adjust 3DNR level.
  - **START. AGC:** Set the start level of 3DNR function.
  - **END. AGC:** Set the end level of 3DNR function.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	HSBLC
4. WHITE BAL	ATW
5. DAY & NIGHT	B/W ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

2D & 3D NR	
1. 2 DNR	ON
2. 3 DNR	ON ↵
3. RETURN	RET

3 DNR	
1. SMART NR	ON ↵
2. LEVEL	IIIIIIIIIIIIIIII 80
3. START. AGC	IIIIIIIIIIIIIIII 0
4. END. AGC	IIIIIIIIIIIIIIII 100
RETURN	RET

3 D SMART NR	
1. SENSITIVITY	IIIIIIIIIIIIIIII 80
2. RETURN	RET

■ *When adjusting the noise reduction level in the NR mode, remember that the higher the level set, the more the noise level will be reduced, as will the brightness of the image.*
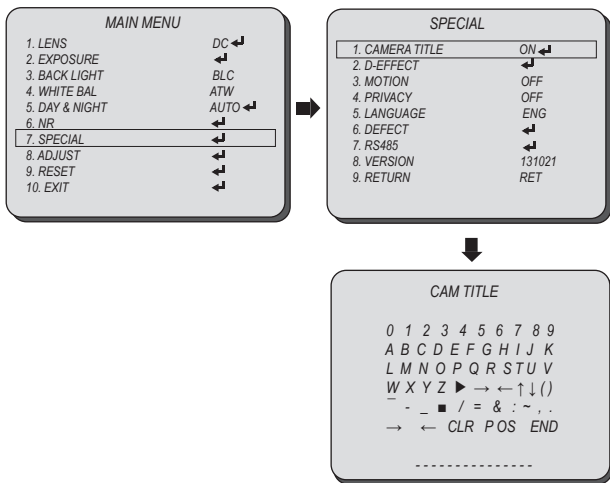
Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE,
DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **CAM TITLE:** If you enter a title, the title will appear on the monitor.
You can input the camera title from the virtual keyboard using the LEFT, RIGHT, UP, DOWN, and
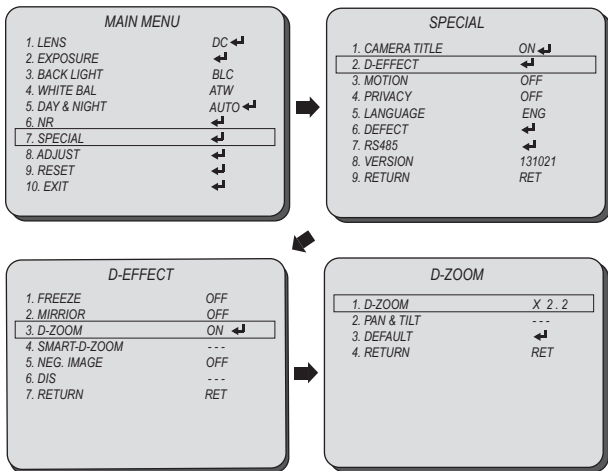*SET button.*

```
              MAIN MENU
    1. LENS                DC ↵
    2. EXPOSURE               ↵
    3. BACK LIGHT          BLC
    4. WHITE BAL           ATW
    5. DAY & NIGHT        AUTO ↵
    6. NR                     ↵
    7. SPECIAL                ↵
    8. ADJUST                 ↵
    9. RESET                  ↵
   10. EXIT                   ↵
```

```
                SPECIAL
    1. CAMERA TITLE        ON ↵
    2. D-EFFECT               ↵
    3. MOTION             OFF
    4. PRIVACY            OFF
    5. LANGUAGE          ENG
    6. DEFECT                 ↵
    7. RS485                  ↵
    8. VERSION          131021
    9. RETURN            RET
```

```
               CAM TITLE

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

        - - - - - - - - - - - - - - -
```

Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE,
DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **D-EFFECT**

You can select the digital effect mode from FREEZE, MIRROR, D-ZOOM, and NEG.IMAGE
using the UP or DOWN button.

- **FREEZE:** You can stop the image or reactivate it.
- **MIRROR:** You can adjust or rotate the picture vertically and or horizontally.
  You can select MIRROR, V-FLIP, and ROTATE using the LEFT or RIGHT button.
- **D-ZOOM:** You can use a digital zoom of X 1 ~ X 62.
  Select ON using LEFT and RIGHT button and press SET button to display the DIGITAL ZOOM menu .
- **NEG. IMAGE:** You can flip the color on screen.

MAIN MENU	
1. LENS	DC ◀┘
2. EXPOSURE	◀┘
3. BACK LIGHT	BLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ◀┘
6. NR	◀┘
7. SPECIAL	◀┘
8. ADJUST	◀┘
9. RESET	◀┘
10. EXIT	◀┘

SPECIAL	
1. CAMERA TITLE	ON ◀┘
2. D-EFFECT	◀┘
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG
6. DEFECT	◀┘
7. RS485	◀┘
8. VERSION	131021
9. RETURN	RET

D-EFFECT	
1. FREEZE	OFF
2. MIRRIOR	OFF
3. D-ZOOM	ON ◀┘
4. SMART-D-ZOOM	- - -
5. NEG. IMAGE	OFF
6. DIS	- - -
7. RETURN	RET

D-ZOOM	
1. D-ZOOM	X 2. 2
2. PAN & TILT	- - -
3. DEFAULT	◀┘
4. RETURN	RET

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Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY,
LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **MOTION:** This product has a feature that allows you to observe the object movement,
and display <MOTION> indicator on the screen.
*You can select the digital effect mode from SELECT AREA, DISPLAY, SENSIVITY, MOTION VIEW, \
and DEFAULT using the UP or DOWN button.*

- **SELECT AREA:** You can select up to 3 motion detection areas.
  You can select the motion detection area using the LEFT or RIGHT button.
- **DISPLAY:** Adjust the size and position of the selected area.
  Select ON using LEFT and RIGHT button and press SET button to display the motion zone.
  - **POSITOIN:** Adjust the position.
  - **SIZE:** Adjust the size.
- **SENSITIVITY:** Adjust the sensitivity of the motion detection.
  You can select the motion detection zone color using the LEFT or RIGHT button.
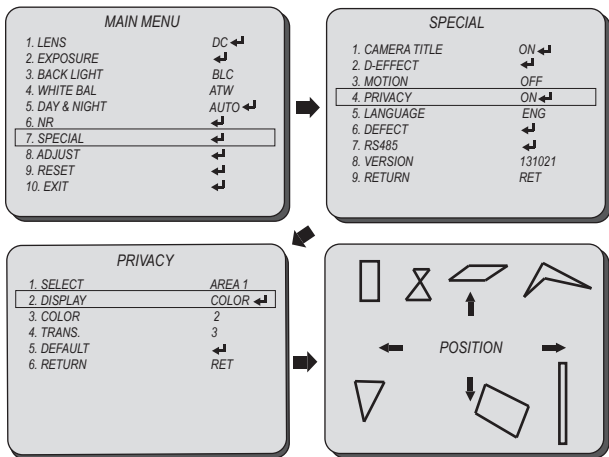- **MOTION VIEW:** *You can select ON to display the motion detection.*
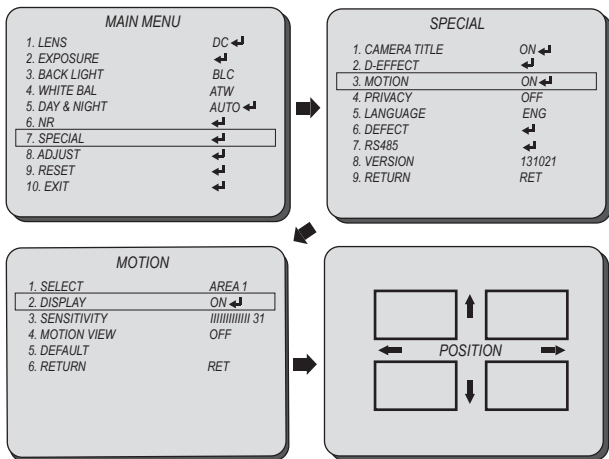
Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY,
LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **PRIVACY:** Task an area you want to hide on the screen.
   You can select the digital effect mode from SELECT AREA, DISPLAY, COLOR, TRANS., and DEFAULT using the UP or DOWN button.

   ● **SELECT:** You can select up to 8 PRIVACY areas.
      You can select the privacy area using the LEFT or RIGHT button.
   ● **DISPLAY:** Adjust the size and position of the selected area.
      You can select privacy area menu from OFF, INV., MOSAIC, COLOR using the LEFT or RIGHT button and press SET button to display the privacy zone.
         - POSITOIN: Adjust the position
         - SIZE: Adjust the size.
   ● **COLOR:** Determine area color. You can select 16 different colors.
      You can select privacy area color from 0 to 15 using the LEFT or RIGHT button.
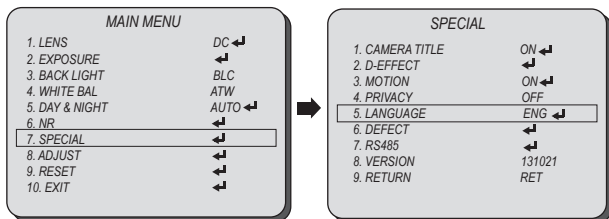   ● **TRANS.:** Adjust the transparency of the selected pravacy area.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	BLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

SPECIAL	
1. CAMERA TITLE	ON ↵
2. D-EFFECT	↵
3. MOTION	OFF
4. PRIVACY	ON ↵
5. LANGUAGE	ENG
6. DEFECT	↵
7. RS485	↵
8. VERSION	131021
9. RETURN	RET

PRIVACY	
1. SELECT	AREA 1
2. DISPLAY	COLOR ↵
3. COLOR	2
4. TRANS.	3
5. DEFAULT	↵
6. RETURN	RET

POSITION

Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY,
LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **LANGUAGE:** You can select the menu language according to your requirements.
You can select the language from ENG, JPN, CHN1, CHN2, KOR, GER, FRA, ITA, SPA, POL, RUS,
POR, NED, TUR, HEB, and ARB using the LEFT or RIGHT button.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	BLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

SPECIAL	
1. CAMERA TITLE	ON ↵
2. D-EFFECT	↵
3. MOTION	ON ↵
4. PRIVACY	OFF
5. LANGUAGE	ENG ↵
6. DEFECT	↵
7. RS485	↵
8. VERSION	131021
9. RETURN	RET

■ **RS-485:** Using RS-485 communication, the camera menu can be accessed using
System Controller or the DVR (Other Equipment).

- **CAM ID:** You can select a camera ID from 0 to 254.
  You can select the camera ID using the LEFT or RIGHT button.
- **ID DISPLAY:** Select ON to display the camera ID.
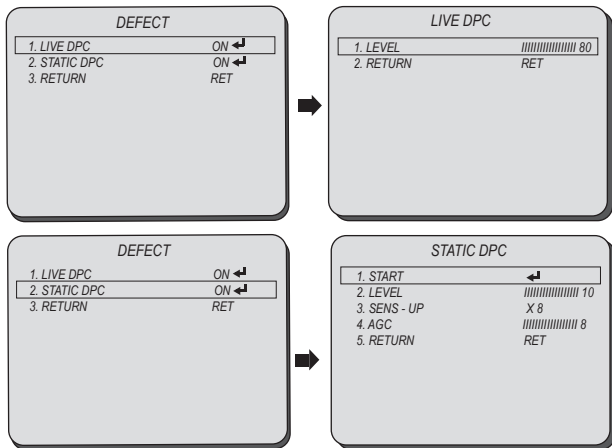- **BAUD RATE:** You can select a baud rate.
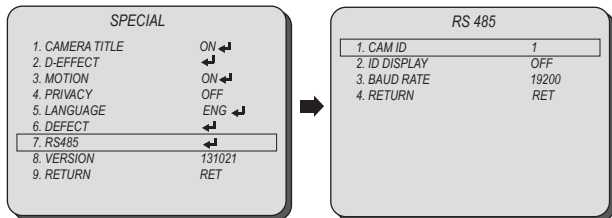
SPECIAL	
1. CAMERA TITLE	ON ↵
2. D-EFFECT	↵
3. MOTION	ON ↵
4. PRIVACY	OFF
5. LANGUAGE	ENG ↵
6. DEFECT	↵
7. RS485	↵
8. VERSION	131021
9. RETURN	RET

RS 485	
1. CAM ID	1
2. ID DISPLAY	OFF
3. BAUD RATE	19200
4. RETURN	RET

Select SPECIAL using the UP or DOWN button.
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY,
LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ **DEFECT:** Dead pixels consist of two types: static dead pixel and dynamic dead pixel. The first can be found from the beginning while the second is found over time after using sensors for a certain period of time. Dynamic dead pixels may not be visible on the screen of ordinary illumination. However, they can be made visible by amplifying the analog/digital gain. Dead pixel correction (DPC) corrects such defects.

You can select the defect correction mode from LIVE DPC and STATIC DPC using the UP or DOWN button.

- **LIVE DPC:** Auto Dead pixel correction
  - **LEVEL:** Level of Auto Dead pixel correction
- **STATIC DPC:** Manual Dead pixel correction
  - **START:** Start Dead pixel correction
  - **LEVEL:** Level of Manual Dead pixel correction
  - **SENS-UP:** Select Sens-Up Value
  - **AGC:** Select Sens-Up Value

DEFECT	
1. LIVE DPC	ON ↵
2. STATIC DPC	ON ↵
3. RETURN	RET

LIVE DPC	
1. LEVEL	///////////////// 80
2. RETURN	RET

DEFECT	
1. LIVE DPC	ON ↵
2. STATIC DPC	ON ↵
3. RETURN	RET

STATIC DPC	
1. START	↵
2. LEVEL	///////////////// 10
3. SENS - UP	X 8
4. AGC	///////////////// 8
5. RETURN	RET

Select ADJUST using the UP or DOWN button.
You can select the sub-menu from SHARPNESS, MONITOR, LSC, VIDEO. OUT,
RECOLUTION, and FRAME RATE using the UP or DOWN button.

■ **SHARPNESS:** As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.

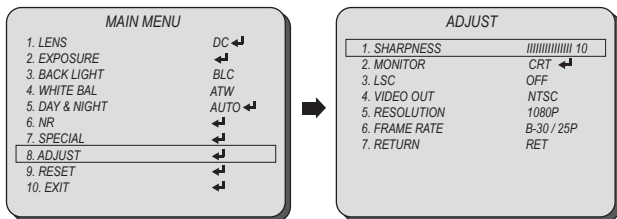*You can adjust the SHARPNESS level using the RIGHT or LEFT button.*

■ **LSC:** Lens shading compensation.
Select ON to activate the brightness compensation on the corner of lens.

You can select the LSC function from OFF and ON using the RIGHT or LEFT button.

■ **VIDEO. OUT:** Select video type from NTSC or PAL.

You can select the VIDEO OUT mode from NTSC and PAL using the RIGHT or LEFT button.

```
          MAIN MENU                        ADJUST
  1. LENS            DC ↵            1. SHARPNESS    ||||||||||| 10
  2. EXPOSURE          ↵            2. MONITOR      CRT ↵
  3. BACK LIGHT      BLC            3. LSC          OFF
  4. WHITE BAL       ATW            4. VIDEO OUT    NTSC
  5. DAY & NIGHT     AUTO ↵         5. RESOLUTION   1080P
  6. NR                ↵            6. FRAME RATE   B-30 / 25P
  7. SPECIAL           ↵            7. RETURN       RET
  8. ADJUST            ↵
  9. RESET             ↵
  10. EXIT             ↵
```

Select ADJUST using the UP or DOWN button.
You can select the sub-menu from SHARPNESS, MONITOR, LSC, VIDEO. OUT,
RECOLUTION, and FRAME RATE using the UP or DOWN button.

■ **MONITOR:** Choose the appropriate setting for your monitor.
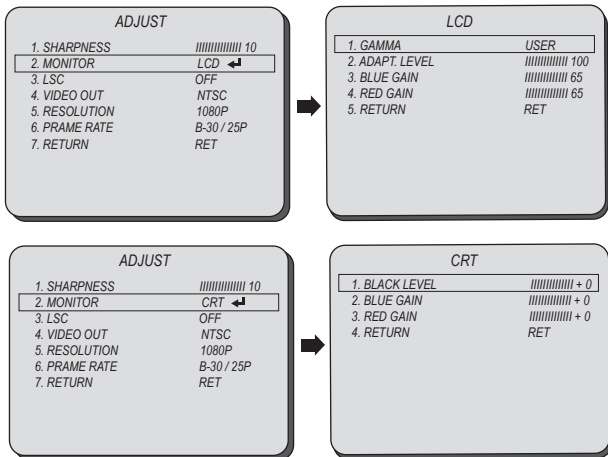 *You can select the monitor mode from LCD or CRT using the LEFT or RIGHT button.*

  ● **LCD:** Select this menu item when using an LCD monitor.
      - GAMMA: Select and adjust the gamma level.
      - ADAPT. LEVEL: Adjust the adaption level.
      - BLUE GAIN: Adjust the Blue gain level.
      - RED GAIN: Adjust the Red gain level.
  ● **CRT:** Select this menu item when using an CRT monitor.
      - BLACK: Adjust the contrast level.
      - BLUE: Adjust the Blue gain level.
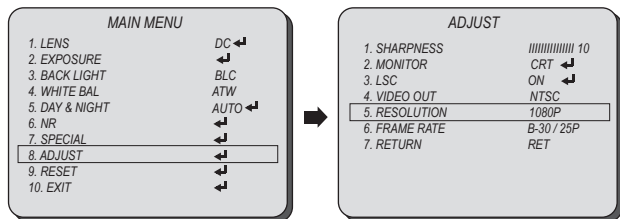   **- RED:** Adjust the Red gain level.

ADJUST	
1. SHARPNESS	IIIIIIIIIIIII 10
2. MONITOR	LCD ◄┘
3. LSC	OFF
4. VIDEO OUT	NTSC
5. RESOLUTION	1080P
6. PRAME RATE	B-30 / 25P
7. RETURN	RET

LCD	
1. GAMMA	USER
2. ADAPT. LEVEL	IIIIIIIIIIIII 100
3. BLUE GAIN	IIIIIIIIIIIII 65
4. RED GAIN	IIIIIIIIIIIII 65
5. RETURN	RET

ADJUST	
1. SHARPNESS	IIIIIIIIIIIII 10
2. MONITOR	CRT ◄┘
3. LSC	OFF
4. VIDEO OUT	NTSC
5. RESOLUTION	1080P
6. PRAME RATE	B-30 / 25P
7. RETURN	RET

CRT	
1. BLACK LEVEL	IIIIIIIIIIIII + 0
2. BLUE GAIN	IIIIIIIIIIIII + 0
3. RED GAIN	IIIIIIIIIIIII + 0
4. RETURN	RET

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Select ADJUST using the UP or DOWN button.
You can select the sub-menu from SHARPNESS, MONITOR, LSC, VIDEO. OUT,
RECOLUTION, and FRAME RATE using the UP or DOWN button.

■ **RESOLUTION:** Select the resolution from 1080P or 720P.

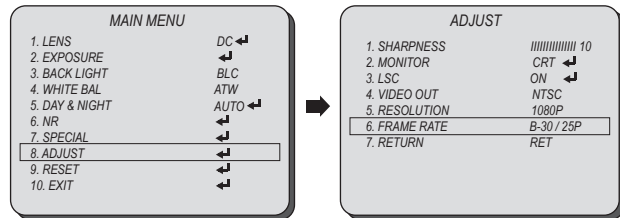*You can select the RESOLUTION fron 1080P and 720P using the LEFT or RIGHT button.*

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	BLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

➡

ADJUST	
1. SHARPNESS	//////////// 10
2. MONITOR	CRT ↵
3. LSC	ON ↵
4. VIDEO OUT	NTSC
5. RESOLUTION	1080P
6. FRAME RATE	B-30 / 25P
7. RETURN	RET

■ **FRAME RATE:** Select the frame rate.

● B-30/25P, A-30/25P, A-60/50P, 59.94I (RESOLUTION is set as 1080P)
  You can select the FRAME RATE using the LEFT or RIGHT button.

● B-30/25P, 59.94P (RESOLUTION is set as 720P)
  You can select the FRAME RATE using the LEFT or RIGHT button.

MAIN MENU	
1. LENS	DC ↵
2. EXPOSURE	↵
3. BACK LIGHT	BLC
4. WHITE BAL	ATW
5. DAY & NIGHT	AUTO ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

➡

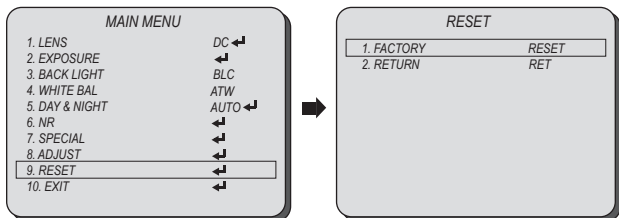| ADJUST	
1. SHARPNESS	//////////// 10
2. MONITOR	CRT ↵
3. LSC	ON ↵
4. VIDEO OUT	NTSC
5. RESOLUTION	1080P
6. FRAME RATE	B-30 / 25P
7. RETURN	RET

RESET

Select RESET using the UP or DOWN button.

■ **RESET:** Reset the camera settings to the factory defaults.
  You can reset the camera setting using the SET button.

MAIN MENU	
1. LENS	*DC* ↵
2. EXPOSURE	↵
3. BACK LIGHT	*BLC*
4. WHITE BAL	*ATW*
5. DAY & NIGHT	*AUTO* ↵
6. NR	↵
7. SPECIAL	↵
8. ADJUST	↵
9. RESET	↵
10. EXIT	↵

RESET	
1. FACTORY	*RESET*
2. RETURN	*RET*

TROUBLE SHOOTING

PROBLEM	SOUTION
Nothing appears on the screen.	• Check that the power cord and line connection between the camera and monitor are properly connected. • Check that video cable is connected with the Analog BNC (Yellow). • When the camera's HD-SDI BNC output is directly connected to the monitor's BNC terminal: Make sure the monitor supports HD-SDI signal input. • When the camera's HD-SDI BNC output is connected to the DVR: Make sure the DVR supports HD-SDI signal input. • HD-SDI output is converted into other format such as DVI and VGA by using video converter: Make sure the converter's HD-SDI input format
The image on the screen is dim.	• Is lens stained with dirt? Clean your lens with soft, clean cloth. • Set the monitor to the proper condition. • If the camera is exposed to very strong light, change the camera position. • Re-adjust the back-
The image on the screen is dim, when the LED is on.	• Check if the LEDs are shaded and reflected by the camera ring, camera base, or other objects near the camera.
The LEDs are reflected over the dome or cover.	• Check if the LEDs are shaded and reflected by the camera ring, camera base, or other objects near the camera.
The image on the screen is dark.	• Adjust the contrast feature of the monitor. • If there is an intermediate device, set 75Ω properly; Check the termination.
The camera is not working properly, and the surface of the camera is hot.	• Check that you have properly connected the camera to an appropriate power source.
The SENS-UP function does not work.	• Check that AGC of EXPOSURE SETUP menu is 'OFF'.
The Motion Detection function does not work.	• Check that MOTION DET of SPECIAL SETUP menu is 'OFF'.
Color is not correct.	• Check the setting of WHITE BAL SETUP menu .
The screen flickers continually.	• Ensure the camera is not pointing towards the sun. • Is the camera framing the sun or other bright light source? • If there is an intermediate device, set 75Ω properly; Check the termination. • HD-SDI video may not appear to be normal if distance exceeds the maximum transferrable distance. • When a BNC cable adaptor is used to combine two or more BNC cables for distributed HD-SDI video transfer, make sure the impedance of the adaptor is 75Ω. Otherwise, it may cause shorter transfer distance or broken video transfer.

1080 HD-SDI Camera

HD