

OPERATION GUIDE

Models:

CV340 Series CV500 Series

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

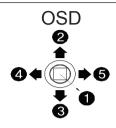
MENU STRUCTURE

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

MENU STRUCTURE

	CAM TITLE	
		FREEZE
		MIRROR: MIRROR, V-FLIP, ROTATE
		D-ZOOM
	D-EFFECT	SMART D-ZOOM (Function disabled.)
		NEG.IMAGE
		DIS (Function disabled.)
	MOTION	SELECT: AREA
		DISPLAY: ON, OFF
		SENSIVITY: 0~100
		MOTION VIEW: ON, OFF
		DEFAULT
SPECIAL		SELECT: AREA
		DISPLAY: COLOR
	PRIVACY	COLOR
		TRANS.
		DEFAULT
	LANGUAGE	
	DEFECT	LIVE DPC: OFF, AUTO, ON
	DEI EOI	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 BATE	1080P: B-30/25P, A-30/25P, A-60/50P, 59.94I
	I MAIVIE DATE	720P: B-30/25P, 59.94P
RESET		
EXIT		

OSD Joystick and Button



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

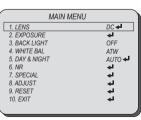
4 LEFT Used to move the cursor to left and change the value.

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.



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

---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.

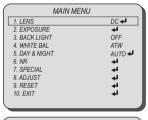
- MANUAL: Manual Lens (Fixed focal or fixed IRIS lens)
- DC: DC Auto Iris Varifocal Lens.

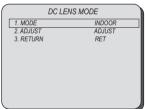
You can change the DC mode between INDOOR and OUTDOOR mode using the LEFT or RIGHT button.

- 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.

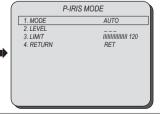
You can change the mode between AUTO and MANUAL mode using the LEFT or RIGHT button.

- MODE: MANUAL, AUTO
- LEVEL, LIMIT: Set the level and limi of P-IRIS lens adjustment function.





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

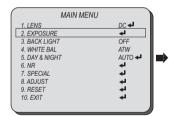


You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

■ 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.

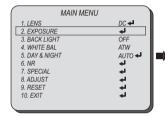


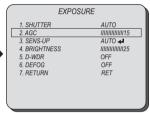


- If the shutter mode is set to AUTO, carefully position the camera during installation since the produced image might be poorly framed due to a bright light source.
- When the SHUTTER is set to FLK mode, 1/240 ~ 50,000, or x2~x30, SENS-UP will be disabled

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

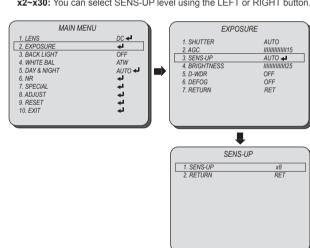
AGC(AUTO GAIN CONTROL): A function which controls the amplification/ gain process automatically if the illumination falls under the usable level.





You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the LIP 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.
 - Deactivates the SENS-LIP function
 - AUTO: Activates the SENS-UP function
 - x2~x30: You can select SENS-UP level using the LEFT or RIGHT button.

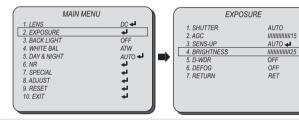


■ Ghosting in object movements may occur if the sens-up is set to higher level.

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

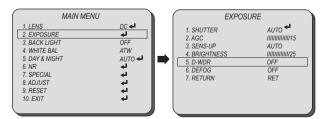
■ BRIGHTNESS: Adjust the screen brightness.

You can adjust the brightness level from 1 ~ 100 using the LEFT or RIGHT button.



- 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.

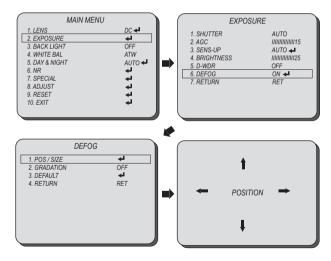


You can select SHUTTER, AGC, SENS-UP, BRIGHTNESS, D-WDR, and DEFOG menu using the UP or DOWN button.

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

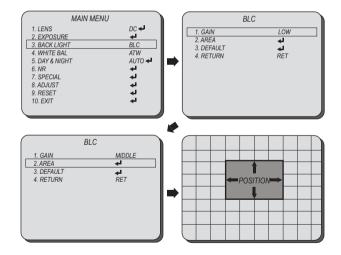
You can select the DEFOG level from OFF and ON using the LEFT or RIGHT button.

- POS / SIZE: Adjujst the position and size of the DEFOG function.
- GRADATION: Adjujst the gradation level of the DEFOG function.
- DEFAULT: Reset the DEFOG function.



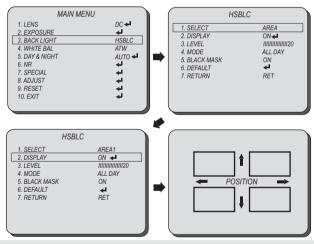
Select BACKLIGHT using the UP or DOWN button. You can select OFF, BLC, or HSBLC menu using the LEFT or RIGHT button.

- 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.



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

- 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.



- 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

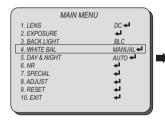
Select WHITE BALANCE using the UP or DOWN button.

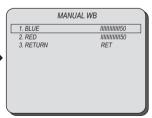
You can change the white balance mode between ATW, AWC→SET, INDOOR, OUTDOOR, AWB, or MANUAL using the LEFT or RIGHT button.

- 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)





- 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.

Select DAY & NIGHT using the UP or DOWN button.

You can change the day & night mode between COLOR, BW, AUTO, or EXT using the LEFT or RIGHT button.

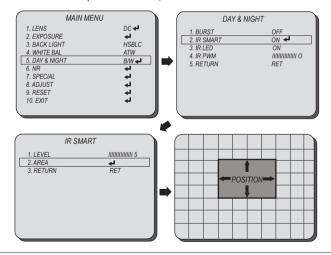
- COLOR: The picture is always displayed in color.
- B/W: The picture is always displayed in black and white.

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.

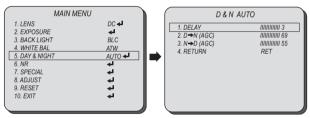
- IR LED: Enable/Disable IR LEDs.
- IR PWM: Adjust the IR LEDs output level.



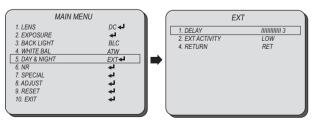
Select DAY & NIGHT using the UP or DOWN button.

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.



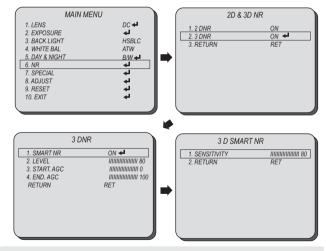
■ EXT: Control the image modes of Color and B/W when an external controller is synchronized via the D&N IN In port.



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.

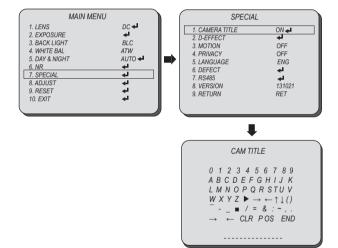


When adjusting the noise reduction level in the NR mode, remember that the higher the level set, the more the noise level will be reduced, as will the brightness of the image.

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.

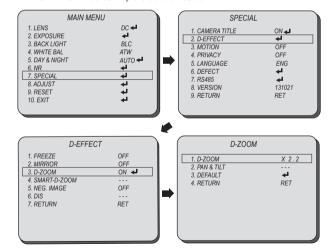


You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ 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.



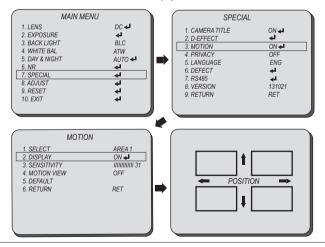
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ 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.

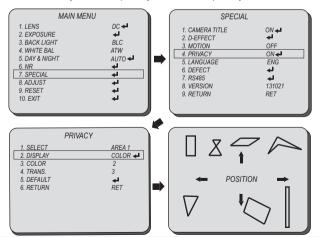


You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ 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.

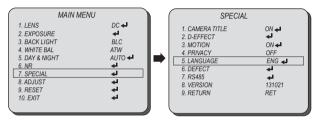
- SELECT: You can select up to 8 PRIVACY areas.
- You can select the privacy area using the LEFT or RIGHT button.
- DISPLAY: Adjust the size and position of the selected area.
 You can select privacy area menu from OFF, INV., MOSAIC, COLOR using the LEFT or RIGHT button and press SET button to display 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 transparancy of the selected pravacy area.



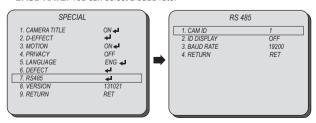
You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ 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.



- 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.

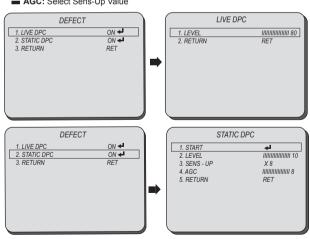


You can select the sub-menu from CAM TITLE, D-EFFECT, MOTION, PRIVACY, LANGUAGE, DEFECT, RS485, and VERSION using the UP or DOWN button.

■ 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



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.

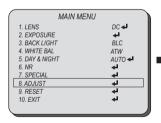
- SHARPNESS: As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.

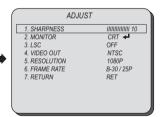
 You can adjust the SHARPNESS level using the RIGHT or LEFT button.
- LSC: Lens shading compensation.
 Select ON to activate the brightness compensation on the corner of lens.

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.



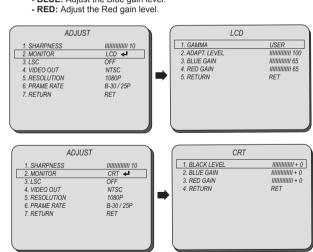


Select ADJUST using the UP or DOWN button.

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.
 - 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.

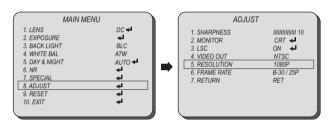


Select ADJUST using the UP or DOWN button.

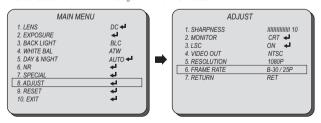
You can select the sub-menu from SHARPNESS, MONITOR, LSC, VIDEO. OUT, RECOLUTION, and FRAME RATE using the UP or DOWN button.

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

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



- 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.

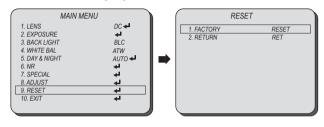


RESET

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.



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 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 7500 property, 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 750. Otherwise, it may cause shorter transfer distance or broken video transfer.

