ENFORCER®

Zeta Series

OSD (On-Screen Display)

Manual

2 Different OSD Programming Options:

In-Line Joystick
- Built into the camera
- Program the OSD from the camera

Optional External Controller (Model: EV-18C)
- Access the OSD near the DVR without having to uninstall the camera
- One controller can be used to program several cameras

For the following cameras:

NTSC Model #	PAL Model #	Lens	Resolution	IR LEDs
EV-1806-N3GQ	**EV-1806-P3GQ**	3.6mm	600 TV lines	30
EV-1816-N6GQ	**EV-1816-P6GQ**	6.0mm	600 TV lines	42
EV-1816-NKGQ	**EV-1816-PKGQ**	2.8~12mm	600 TV lines	42
EV-1826-NKGQ	**EV-1826-PKGQ**	2.8~12mm	600 TV lines	84

SL/ **SECO-LARM**

FC CE RoHS

Table of Contents:

Programmable Features:

- **Shutter**
  Manually adjust the shutter speed

- **Day / Night Mode**
  Adjust the level that the camera switches from color to B/W when the ambient light is low

- **Backlight Compensation (BLC)**
  Adjust the exposure to properly display the subject in front of the bright light source.

- **Highlight Compensation (HLC)**
  Define target areas and remove spotlights to make certain objects visible

- **Adaptive Tone-Curve Reproduction (ATR)**
  Adjust the brightness values of the image for a more detailed picture

- **White Balance**
  Adjust the color temperature and image color of the picture

- **Picture Adjustment**
  Adjust the camera's brightness, contrast, sharpness, hue, and gain

- **2D Noise Reduction (NR)**
  Adjust for less interference on the screen in an area with low illumination

- **Privacy Masking**
  Block out a certain portion of the image

- **Motion Detection**
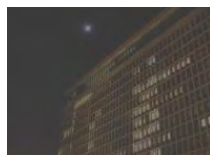 Detect if there is motion in the scene
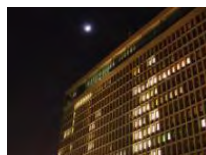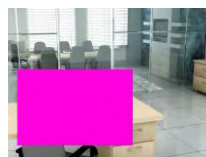

HLC OFF   HLC ON

ATR OFF   ATR ON

2D NR OFF   2D NR ON

Privacy Masking OFF   Privacy Masking ON

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Please read the camera installation manual for safety precautions and detailed instructions on how to install the camera.

Connecting the Controller:

There are three ways to use the optional OSD controller:

1. Near the camera with optional local monitor (Fig. 1) – Plug the camera's video cable into the OSD controller's "BNC In" port, and plug the local monitor's cable into the OSD controller's "BNC Out" port. Programming can be done by the camera installer.
2. Near the camera, but no optional remote monitor (Fig. 1) – Plug the camera's video cable into the OSD controller's "BNC In" port, and plug the cable from the DVR or remote monitor into the OSD controller's "BNC Out" port. Programming in this fashion may require two people.
3. Near the DVR or other video target (Fig. 2) – Connect the cable from the camera into the OSD controller's "BNC In" port, and plug the cable from the DVR or other video target into the OSD controller's "BNC Out" port.

NOTE: Connect power to the OSD controller only **AFTER** the device is connected to the video cables.

Sample Installations for the Optional Zeta Series OSD Controller:

Fig.1: Access on Camera Side.

Zeta Series Camera

Included 12VDC power adapter

OSD Controller

Optional local monitor

Monitor

Remote DVR, multiplexer
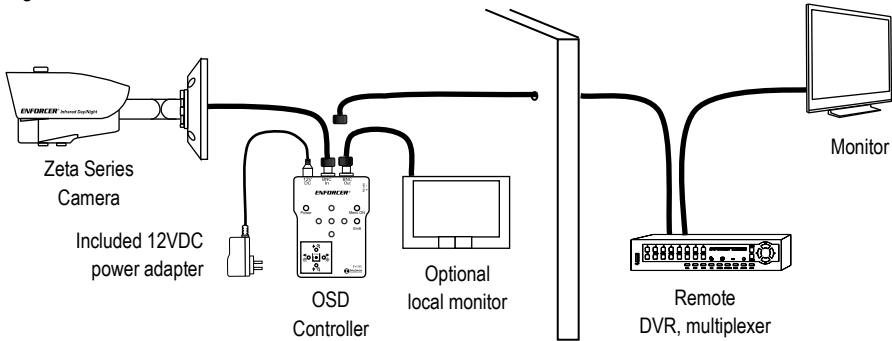
Fig. 2: Access on DVR / Multiplexer Side.

Zeta Series Camera

Monitor

Included 12VDC power adapter

OSD Controller

Remote DVR, multiplexer

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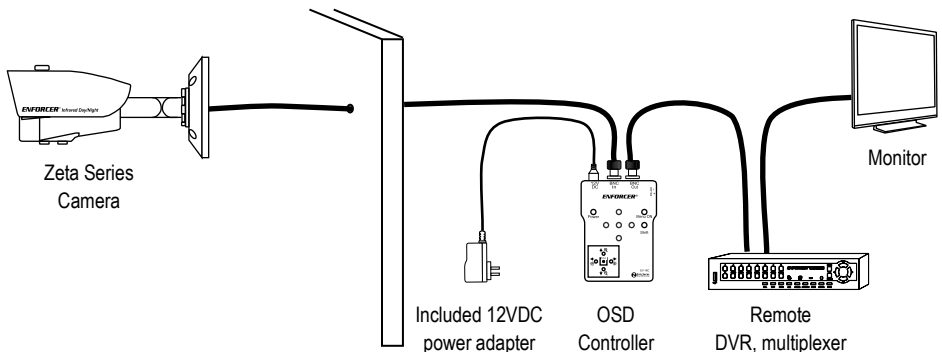
## Menu Setup

Zeta Series-OSD Controller

Menu items can be selected by using the OSD (On Screen Display) Controller.

1. If the Menu ON LED is lit, press the ENTER button.
   The SETUP menu will be displayed on the monitor.
2. Move to and select the required function using the UP and DOWN buttons.
3. Change the menu setting using the LEFT and RIGHT buttons.
   Available values are displayed by pressing the LEFT and RIGHT buttons.
4. After choosing the setting, move the cursor to EXIT and press the ENTER button to exit.
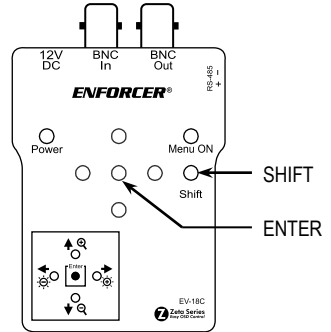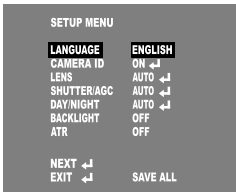

Note:

When the Menu Control is off, the OSD controller will access its secondary functions. The up and down arrows will control the zoom. The left and right arrows will control the brightness.

In-Line Joystick

1. Press down on the joystick to open the OSD menu.
2. Use the joystick to navigate the OSD menu.
3. To select an item, press down on the joystick.
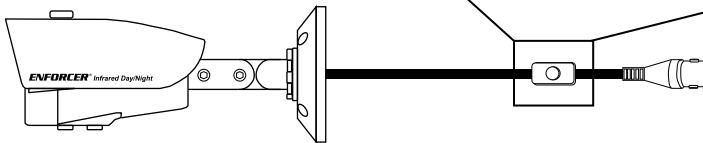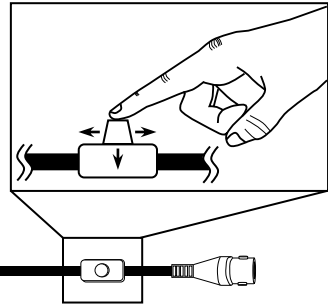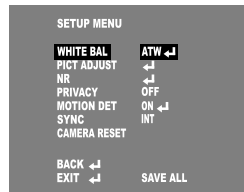
Menu Diagram 1   Menu Diagram 2

Note:

- Move to available options by moving the cursor to the desired feature.
- A submenu is available where the options reads ↵ .

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Menu Diagram 1:

SETUP MENU	SETTING	SETTING OPTIONS
1) **LANGUAGE** (see page 6)	English, Japanese, German, French, Russian, Portuguese, Spanish, Simplified Chinese	
2) **CAMERA ID** (see page 7)	ON	Set a name for the camera to display on screen
	OFF	Disable camera ID
3) **LENS** (see page 7)	AUTO	TYPE: DC MODE: AUTO / OPEN / CLOSE SPEED: 0~255 Level Adjustable
	MANUAL	Set for fixed lens camera
4) **SHUTTER / AGC** (see page 8)	AUTO	High Luminance: MODE[1]: SHUT + AUTO IRIS / AUTO IRIS / SHUT BRIGHTNESS: 0~255 Level Adjustable Low Luminance: MODE: AGC / OFF BRIGHTNESS: x0.25, x0.50, x0.75, x1.00
	MANUAL	MODE: SHUT + AGC SHUTTER: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 AGC: 6.00, 12.00, 18.00, 24.00, 30.00, 36.00, 42.00, 44.80
5) **DAY / NIGHT** (see page 9)	AUTO	BURST: ON / OFF DELAY CNT: 0~255 Level Adjustable DAY ➔ NIGHT: 0~255 Level Adjustable NIGHT ➔ DAY: 0~255 Level Adjustable
	COLOR	Display color image
	B/W	BURST: ON / OFF
6) **BACKLIGHT** (see page 10)	OFF	Disable backlight compensation
	BLC	Enable backlight compensation
	HLC	Enable highlight compensation
7) **ATR** (see page 11)	ON	LUMINANCE: LOW / MID / HIGH CONTRAST: LOW / MIDLOW / MID / MIDHIGH / HIGH
	OFF	Disable adaptive tone-curve reproduction
8) **NEXT**	Access Menu Diagram 2	
9) **EXIT**	Exit menu and save settings	
10) **SAVE ALL**	Save menu setting without exiting the menu	

[1] In MANUAL lens mode, only SHUT mode is available. In AUTO lens mode, SHUT + AUTO IRIS and AUTO IRIS modes are also available.

Menu Diagram 2:

SETUP MENU	SETTING	SETTING OPTIONS
WHITE BAL (see page 11)	ATW	SPEED: 0~255 Level Adjustable DELAY CNT: 0~255 Level Adjustable ATW FRAME: x0.50, x1.00, x1.50, x2.00 ENVIRONMENT: INDOOR / OUTDOOR
	PUSH	Disable white balance mode
	USER1	B:GAIN: 0~255 Level Adjustable R:GAIN: 0~255 Level Adjustable
	USER2	B:GAIN: 0~255 Level Adjustable R:GAIN: 0~255 Level Adjustable
	ANTI CR	Enable anti-color rolling
	MANUAL	LEVEL: 22~44 Level Adjustable
	PUSH LOCK	Disable white balance mode by pressing enter
PICT ADJUST (see page 13)	MIRROR	ON / OFF
	BRIGHTNESS	0~255 Level Adjustable
	CONTRAST	0~255 Level Adjustable
	SHARPNESS	0~255 Level Adjustable
	HUE	0~255 Level Adjustable
	GAIN	0~255 Level Adjustable
NR (see page 13)	ON	NR MODE: OFF / Y / C / Y/C Y LEVEL: 0~15 Level Adjustable C LEVEL: 0~15 Level Adjustable
	OFF	Disable 2D noise reduction

PRIVACY
(see page 14)
	ON	AREA SEL: Up to 4 selectable zones
		   TOP: 0~244 Level Adjustable
		   BOTTOM: 0~244 Level Adjustable
		   LEFT: 0~378 Level Adjustable
		   RIGHT: 0~378 Level Adjustable
		COLOR: White / Black / Red / Green / Blue / Yellow / Cyan
		   / Magenta
		TRANSP: 0.00, 0.50, 0.75, 1.00
		MOSAIC: ON / OFF

	OFF	Disable privacy masking

MOTION DET
(see page 15)
	ON	DETECT SENSE: 0~127 Level Adjustable
		BLOCK DISP: ON / OFF / ENABLE
		MONITOR AREA: ON / OFF
		AREA SEL: Up to 4 selectable zones
		   TOP: 0~244 Level Adjustable
		   BOTTOM: 0~244 Level Adjustable
		   LEFT: 0~378 Level Adjustable
		   RIGHT: 0~378 Level Adjustable

	OFF	Disable motion detection
SYNC (see page 15)	Internal synchronous mode	
CAMERA RESET (see page 15)	Reset the camera to factory setting	
BACK	Access Menu Diagram 1	
EXIT	Exit menu	
SAVE ALL	Save menu setting	

Language:

This function is used to select the OSD display language.

1. Select LANGUAGE by moving the cursor UP and DOWN on the SETUP menu screen.
2. Select the desired language by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.

Camera ID:

This function is used to set a name for the camera.

1. Select CAMERA ID on the SETUP menu screen.
2. Turn the CAMERA ID ON or OFF by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. If CAMERA ID is ON, use the cursor to select the character in the alphabet list. Press the ENTER button (OSD controller) or the joystick button to input the character.
4. Select RETURN to return to the SETUP menu.

- CHR1/CHR2: Change the characters.
- ←→↑↓: Adjust the cursor position.
- CLR: Forward delete the selected character.
- POS: Set the location of the camera ID text.
- RETURN: Save and return to the SETUP menu.

```
CAMERA ID

CAMERAID

ABCDEFGHIJKLMNOPQRSTUV
WXYZ0123456789-!"#$%&'
( )_`, ¥ : ; <=>?@ \ ^*.x+ /
      CHR1    CHR2
      ←→↑↓ CLR POS ↵

RETURN ↵
```
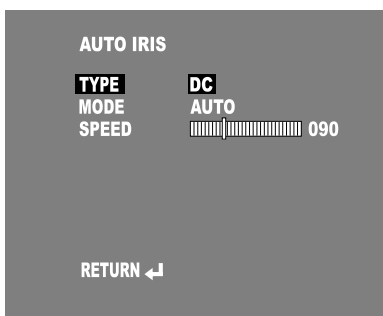
Lens:

This function is used to select the camera's lens type.

1. Select LENS on the SETUP menu screen.
2. Select the desired lens type by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. Select RETURN to return to the SETUP menu.

↵ **AUTO:** Select automatic mode for DC Auto Iris lens.

- Type: Select lens type (DC).
- Mode: Select the mode (AUTO, OPEN or CLOSE).
- SPEED: Set the auto iris movement speed. Adjustable range: 0~255.

➢ **MANUAL:** Select manual mode for manual or fixed lens.

```
AUTO IRIS

TYPE       DC
MODE       AUTO
SPEED      |||||||||||||||||||||||||| 090




RETURN ↵
```

Shutter / Automatic Gain Control (AGC):

This function is used to manually adjust the shutter speed and AGC settings.

1. Select SHUTTER / AGC on the SETUP menu screen.
2. Select the desired shutter or AGC type by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. Select RETURN to return to the SETUP menu.

↵ **AUTO:** The camera is in automatic shutter mode.

    A.   HIGH LUMINANCE

- MODE: Select shutter mode.
  SHUT – Length of time a camera's shutter is open.
  AUTO IRIS – Adjust the iris to allow specific amount of exposure.
  SHUT + AUTO IRIS – Combination of both SHUT and AUTO IRIS.
  In manual lens mode only SHUT mode is available. In automatic lens mode AUTO IRIS or SHUT + AUTO IRIS mode are also available.
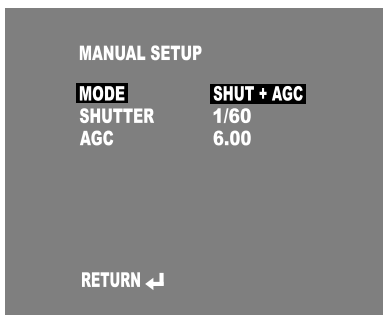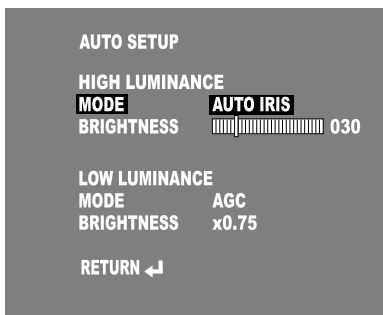- BRIGHTNESS: Set the auto-exposure image brightness. Adjustable range: 0~255.

    B.   LOW LUMINANCE

- MODE: Select low luminance mode (AGC or OFF).
- BRIGHTNESS: Select the automatic gain value. This setting has no effect if AGC is on. Adjustable range: x0.25, x0.50, x0.75, x1.00.

↵ **MANUAL:** The camera is in a fixed shutter mode.

- MODE: Select shutter mode (SHUT + AGC).
- SHUTTER: Selectable shutter speed. Adjustable range: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000.
- AGC: Set the gain value. Adjustable range: 6.00, 12.00, 18.00, 24.00, 30.00, 36.00, 42.00, 44.80.

AUTO SETUP

HIGH LUMINANCE
MODE   AUTO IRIS
BRIGHTNESS   030

LOW LUMINANCE
MODE   AGC
BRIGHTNESS   x0.75

RETURN ↵

MANUAL SETUP

MODE   SHUT + AGC
SHUTTER   1/60
AGC   6.00

RETURN ↵

Day/Night Mode:

This function will automatically switch to color mode in normal conditions and black/white (B/W) mode when ambient light is low.

1. Select DAY/NIGHT on the SETUP menu screen.
2. Select the desired DAY/NIGHT setting by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. Select RETURN to return to the SETUP menu.
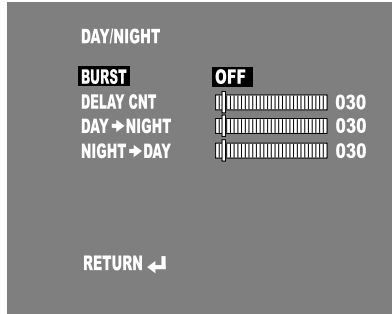
↵ **AUTO:** The camera image will switch to color in normal situation and B/W when ambient light is low.

- BURST: Set the BURST mode (ON or OFF). When BURST mode is ON, the image colors will be suppressed, but present when the camera switches to B/W mode. When the BURST mode is OFF, the image colors will be B/W when the camera switches to B/W mode.
- DELAY CNT: Set the COLOR/B&W interchange delay time. Adjustable range: 0~255 sec.
- DAY→NIGHT: Define light level to trigger B/W mode. Adjustable range: 0~255.
- NIGHT→DAY: Define light level to trigger COLOR mode. Adjustable range: 0~255.

➢ **COLOR:** The camera image will always display in color.

↵ **B/W:** The camera image will always display in B/W.

- BURST: Set the BURST mode (ON or OFF). When the BURST mode is ON, the image colors will be suppressed, but present. When the BURST mode is OFF, the image colors will be B/W.
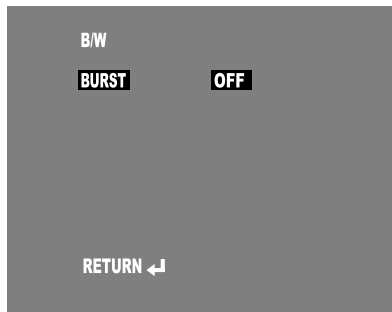
Backlight Compensation (BLC):

This function is used to control the light-level to overcome strong backlight conditions.

1. Select BACKLIGHT on the SETUP menu screen.
2. Select the desired BLC mode by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.

➢ **Backlight Compensation (BLC):** Select this mode to correct the exposure of the subjects in front of a strong backlight.

BLC OFF

BLC ON

➢ **Highlight Compensation (HLC):** Select this mode to improve the picture by displaying shades of grey on the strong backlight.

HLC OFF

HLC ON

Adaptive Tone-Curve Reproduction (ATR):

This function will adjust the brightness value of the image for a more detailed picture.

1. Select ATR on the SETUP menu screen.
2. Select the desired ATR setting by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. Select RETURN to return to SETUP menu.

   - LUMINANACE: Set the ATR brightness (LOW, MID or HIGH).
   - CONTRAST: Set the ATR contrast (LOW, MIDLOW, MID, MIDHIGH or HIGH).


```
ATR

LUMINANCE        MID
CONTRAST         MID




RETURN ↵
```
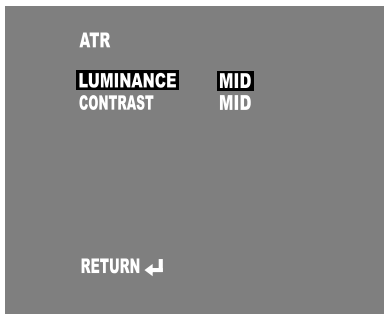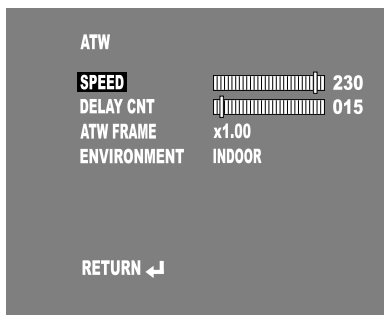

ATR OFF

ATR ON

White Balance:

This function is used to adjust the color temperature and image color of the picture.

1. Select WHITE BAL on the SETUP menu screen.
2. Select the desired white balance mode by pressing the LEFT and RIGHT buttons (OSD controller) or joystick button.
3. Select RETURN to return to SETUP menu.

↵ **Automatic Tracking White Balance (ATW):** When the image color temperature changes, it will automatically adjust the white balance color temperature range from 1,800°K~10,500°K. (Ex. A fluorescent lamp or outdoors)

```
ATW

SPEED        |||||||||||||||||||||||| 230
DELAY CNT    |||||||||||||||||||||||| 015
ATW FRAME    x1.00
ENVIRONMENT  INDOOR



RETURN ↵
```

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White Balance, continued

- SPEED: Set the ATW speed. Adjustable range: 0~255.
- DELAY CNT: Set the ATW delay time. Adjustable range: 0~255 sec.
- ATW FRAME: Set the ATW zone ratio. Adjustable range: x0.50, x1.00, x1.50, x2.00.
- ENVIRONMENT: Set the ATW environment (INDOOR or OUTDOOR).

➢ **PUSH:** In the push mode, the white balance setting will be disabled.

↵ **USER 1/2 WB:** Independently set the white balance setting for USER 1 or USER 2.

- B-GAIN: Set the blue gain. Adjustable range: 0~255.
- R-GAIN: Set the red gain. Adjustable range: 0~255.

```
USER1 WB

B-GAIN      |||||||||||||||||||||||||   030
R-GAIN      |||||||||||||||||||||||||   030




RETURN ↵
```

➢ **ANTI CR:** Select this mode when color rolling or flickering caused by the unmatched frequency of electric lights occurs.

↵ **MANUAL:** Set the white balance manually.
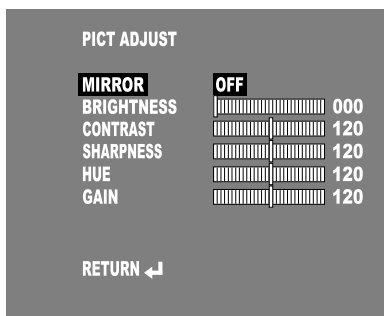
- LEVEL: Set the color on-screen. Adjustable range: 22~45.

```
MANUAL WB

LEVEL      |||||||||||||||||||||||||   045




RETURN ↵
```

➢ **PUSH LOCK:** In the push lock mode, the white balance setting will be disabled when the ENTER button (OSD controller) or joystick is pressed.
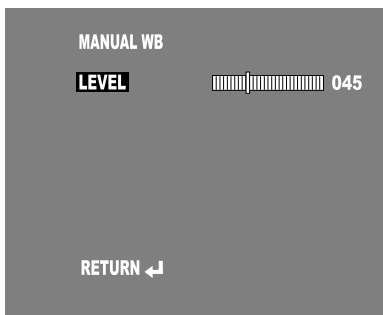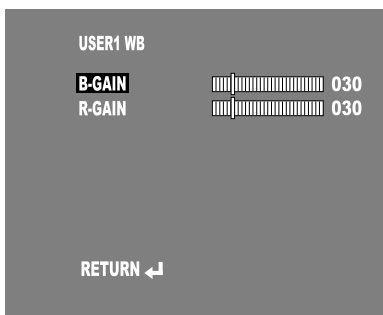
Picture Adjustment:

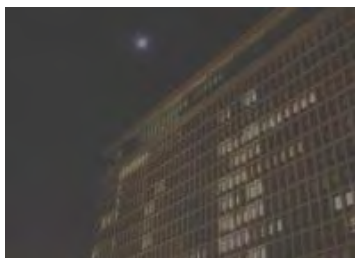This function is used to set the camera's picture setting.

1. Select PICT ADJUST on the SETUP menu screen.
2. Select the desired picture setting by pressing the LEFT and RIGHT buttons (OSD controller) or joystick button.
3. Select RETURN to return to SETUP menu.

- MIRROR: Flip the original image horizontally.
- BRIGHTNESS: Set picture brightness. Adjustable range: 0~255
- CONTRAST: Set picture contrast. Adjustable range: 0~255
- SHARPNESS: Set picture sharpness. Adjustable range: 0~255
- HUE: Set picture hue. Adjustable range: 0~255
- GAIN: Set picture gain. Adjustable range: 0~255

```
PICT ADJUST

MIRROR        OFF
BRIGHTNESS    |||||||||||||||||||||||| 000
CONTRAST      ||||||||||||||||||||||||| 120
SHARPNESS     ||||||||||||||||||||||||| 120
HUE           ||||||||||||||||||||||||| 120
GAIN          ||||||||||||||||||||||||| 120

RETURN ↵
```

2D Noise Reduction (NR):

This function is used to adjust the gain level to reduce the interference on the screen in an area with low illumination.

1. Select NR on the SETUP menu screen.
2. Select the desired 2D NR mode by pressing the LEFT and RIGHT buttons (OSD controller) or the joystick button.
3. Select RETURN to return to SETUP menu.

- NR: Set the noise reduction mode (OFF, Y, C or Y/C).
- Y LEVEL: Set brightness signal noise reduction level. Adjustable range: 0~15.
- C LEVEL: Set color signal noise reduction level. Adjustable range: 0~15.
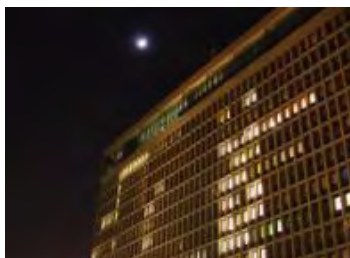
| 2D NR OFF	2D NR ON

Privacy Masking:

This function is used to distort or block out a certain portion of the image for privacy reasons.
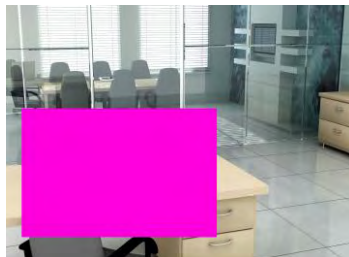
1. Select PRIVACY on the SETUP menu screen.
2. Select the desired privacy masking by pressing the LEFT and RIGHT buttons (OSD controller) or joystick button.
3. Select RETURN to return to SETUP menu.
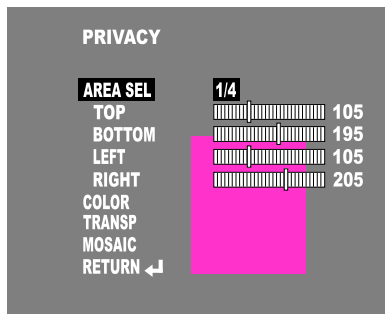
- AREA SEL: Up to 4 privacy masking zones.
- TOP: Set vertical start position. Adjustable range: 0~244.
- BOTTOM: Set vertical end position. Adjustable range: 0~244.
- LEFT: Set horizontal start position. Adjustable range: 0~378.
- RIGHT: Set horizontal end position. Adjustable range: 0~378.
- COLOR: Select zone color (white, black, red, green, blue, yellow, cyan, or magenta).
- TRANSP: Select degree of transparency. Adjustable range: 0.00, 0.50, 0.75, 1.00.
- MOSAIC: Set mosaic setting (ON or OFF). When the MOSAIC is ON, it will distort the selected area.
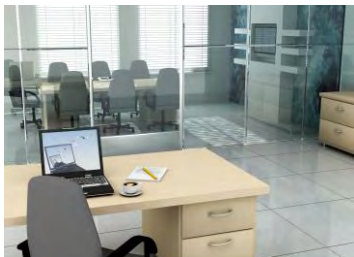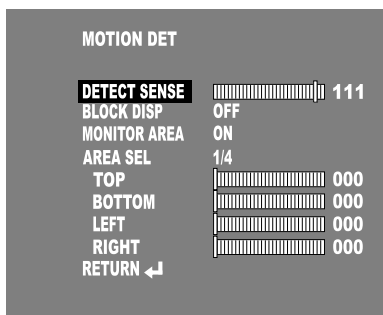

Privacy Masking OFF

Privacy Masking ON

Motion Detection:

This function is used to detect moving objects on-screen.

1. Select MOTION DET on the SETUP menu screen.
2. Select the desired motion detection mode by pressing the LEFT and RIGHT buttons (OSD controller) or joystick button.
3. Select RETURN to return to SETUP menu.

- DETECT SENSE: Set detection sensitivity. Adjustable range: 0~127.
- BLOCK DISP: Mosaic blocks will appear where movement is present (ON, OFF or ENABLE). In ENABLE mode, select certain area to display the mosaic blocks. To exit ENABLE mode hold the ENTER button (OSD controller) or press down on the joystick for 3 seconds and then release.
- MONITOR AREA: Set detection area.
- AREA SEL: Up to 4 detection zones.
- TOP: Set vertical start position. Adjustable range: 0~127.
- BOTTOM: Set vertical end position. Adjustable range: 0~127.
- LEFT: Set horizontal start position. Adjustable range: 0~127.
- RIGHT: Set horizontal end position. Adjustable range: 0~127.

MOTION DET	
DETECT SENSE	111
BLOCK DISP	OFF
MONITOR AREA	ON
AREA SEL	1/4
TOP	000
BOTTOM	000
LEFT	000
RIGHT	000
RETURN ↵	

Sync:

Internal synchronized mode.

Reset:

Select to reset the camera settings to the factory default.

Next / Back:

Select to advance or return to the previous menu diagram.

Exit:

Select to save current settings and exit the SETUP menu.

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Troubleshooting:

The screen is blank, despite working as expected before using the OSD controller or joystick.	• Check that the camera is powered up. • Check that the OSD controller is powered up. • Check that the monitor is powered up. • Check that the power supply's polarity is correct. • Check that the video cable from the camera or the monitor is connected properly to the OSD controller.
The menu buttons do not work (OSD controller only).	• Check that the menu control is on. • Check if the camera is compatible with the OSD controller. • Check that the power supply's polarity is correct.

Zeta Series OSD Controller

Model #: EV-18C

- Access the OSD menu without having to be near the camera
- Controller easily connects to existing coax line for quick OSD access

IMPORTANT
Users and installers of this product are responsible for ensuring this product complies with all national, state, and local laws and statutes related to monitoring and recording audio and video signals. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or statutes.

WARNING
Stop using the camera if you see a malfunction such as smoke or unusual heat, as it could cause fire or electric shock. Do not open the case of this device, as there are no field serviceable components inside.

FCC COMPLIANCE STATEMENT
Information to the user: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC 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 or her own expense.

WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for a period of one (1) year from the date of sale to the original consumer customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM.
This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship.
The sole obligation of SECO-LARM, and the purchaser's exclusive remedy, shall be limited to replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damages of any kind to the purchaser or anyone else.

NOTICE
The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors.

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