

epcom[®]

**ENHANCED EFFIO-E
ON SCREEN DISPLAY
INFRARED CAMERA**

U S E R M A N U A L

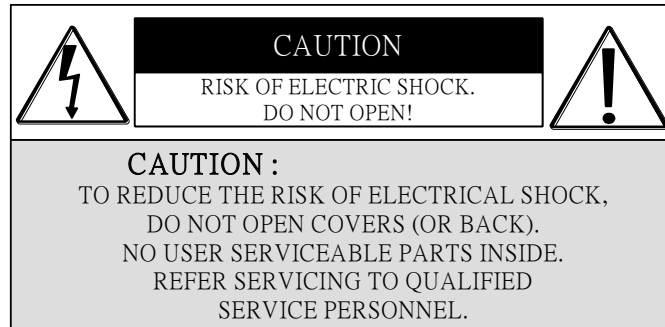
R040638F/1-SYS

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The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information herein.

1. SAFETY PRECAUTIONS



It is advised to read the Safety Precaution Guide through carefully before operating the product, to prevent any possible danger.

 **WARNING:** Alert the user to the presence of un-insulated “dangerous voltage”.

 **CAUTION:** Alert the user the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Please be extra careful not to shake the product.

Please avoid places where frequent vibrations or shocks.

Do not install the product in extreme temperature conditions.

Only use the camera under conditions where temperatures are between -10°C and +50°C. Be especially careful to provide ventilation when operating under high temperatures.

Do not install the product in an environment where the humidity is high.

Unless the product is waterproof or weatherproof, otherwise it can cause the image quality to be poor.

Never keep the product to direct strong light or sunlight.

It can damage the product.

Do not spill liquid of any kind on the product.

If it gets wet, wipe it dry immediately. Alcohol or beverage can contain minerals that corrode the electronic components.

When any abnormal occurs, make sure to unplug the unit, and contact your local dealer.

2. INTRODUCTION

Clear image quality has been achieved by employing a 1/3" Hi-Res. CCD, which provides a horizontal resolution of 700 TV lines. The camera can be by External Light Sensor; it provides Color image in full light condition (Day) and provides B/W image in low light condition (Night) to reach the best effect. High performance: providing unique ATR (Adaptive Tone Reproduction) , DNR (Digital Noise Reduction), HLC (High Light Compensation), CRS (Color Rolling Support), Privacy function, Mirror function, as well as manually adjusting picture quality functions (Such as Contrast/Sharpness/Color etc.).

3. FEATURES

High Resolution

CCD Sensor provides high resolution reaching 700 TVL with advanced and clear picture quality.

Excellent Sensitivity

High sensitivity, low smear, high anti-blooming and high S/N ratio.

Adaptive Tone Reproduction (ATR)

ATR is the Single Scan WDR function; it has the other name with Digital WDR, Software WDR. perfectly shows the image details between dark and light. Newly added environment dynamic detection switch, enhancing WDR image efficiency.

Digital Noise Reduction (DNR)

With 2DNR enable, it can reduce the noise to produce extremely clear picture quality even under low light condition. It can also saving the size of recording image from DVR.

Day & Night

Mechanic IR Cut-Filter driving unit with Light Sensor.

High Light Compensation (HLC)

By setting mask are, the user will experience better operation convenience see a clearer image.

Privacy Mask

Privacy image masking with free position, support up to 8 areas of privacy masking zone. Privacy area enlarges with digital zoom-in function.

Motion Detection

Camera-site takes the initiative in providing motion detection alert for a more comprehensive monitoring and careful editing of motion detection area. When there are changes within the detection area, the camera immediately issues a warning.

Lens (External manual focus)

Built-in DC-type Vari-Focal lens with ICR.

Infrared

Built in the 42 pieces IR LED to support 40 Meters

OSD

OSD (On Screen Display) Setup Menu. Camera tile setup of up to 16 alphanumeric letters.

Mechanism

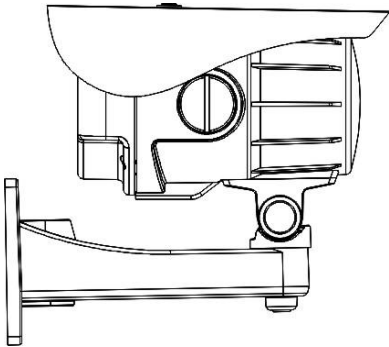
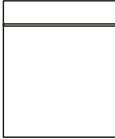

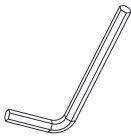
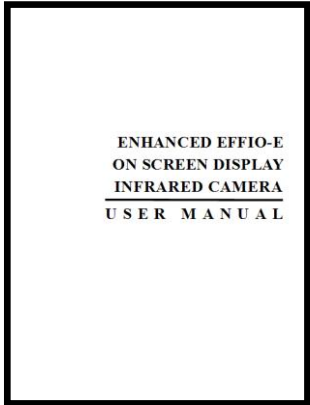
Weatherproofing Housing Design and Internal wire system with anti-cut bracket.

Application

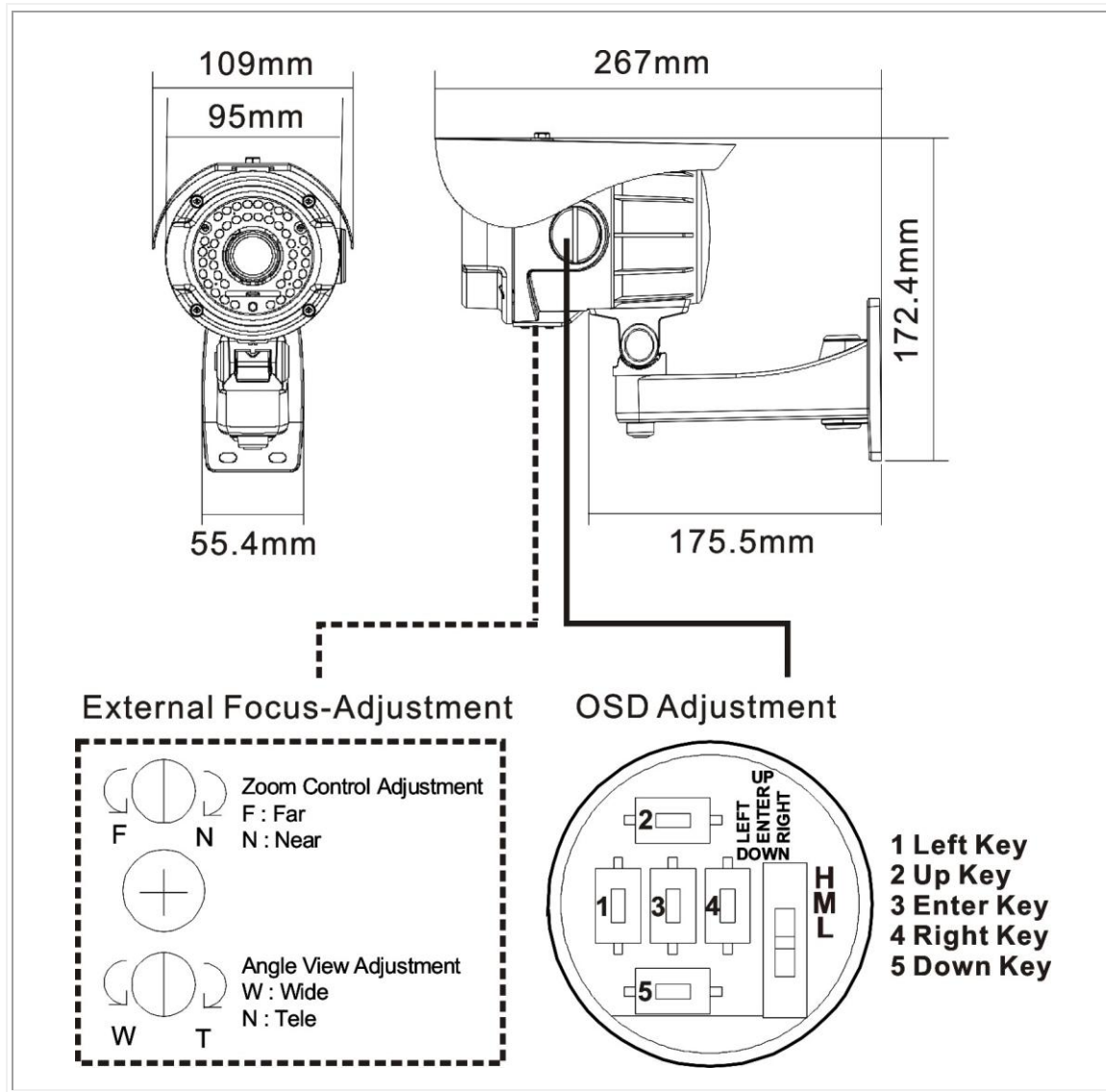
All function can be operated from OSD: AES (Automatic Electronic Shutter), AI (Auto Iris), GC (Gain Control), WB (White Balance), BLC (Back Light compensation), and Horizontal Mirror.

4. PACKING LIST

Check to make sure all of the items shown below are included in your Portable Security Recorder Kit. If something is missing, contact your dealer as soon as possible.

Item Description	Item Picture	QTY
Camera & Bracket		1
Appurtenances		1
Fix retaining screw & Anchor (for bracket)		4
L-Wrench		1
Instruction Manual		1

5. NAME and FUNCTION of EACH PART



1~5.OSD Button (Menu):

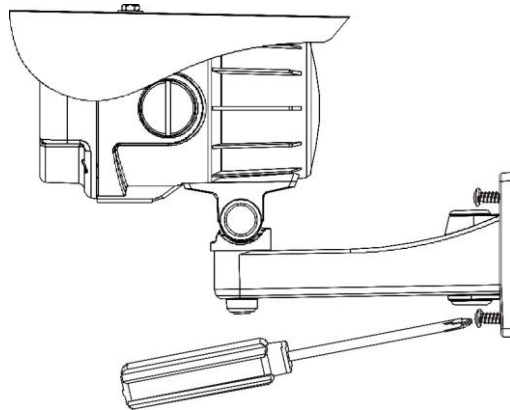
No.	Name	Function
1	LEFT	LEFT
2	UP	UP
3	ENTER	Get in MENU and ENTER
4	RIGHT	RIGHT
5	DOWN	DOWN

6. INSTALLATION

6.1 Camera Installation

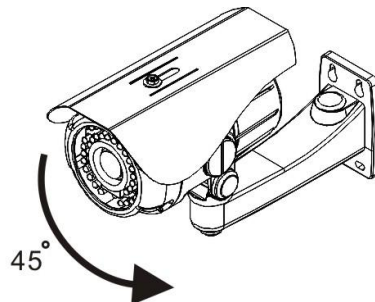
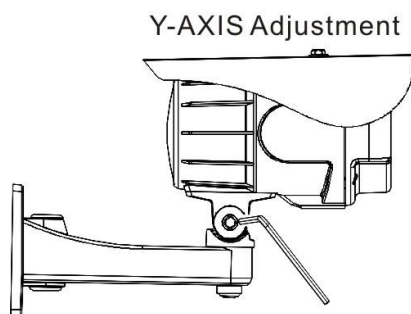
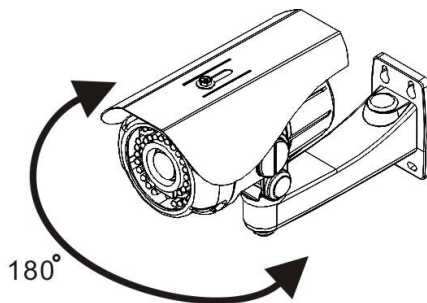
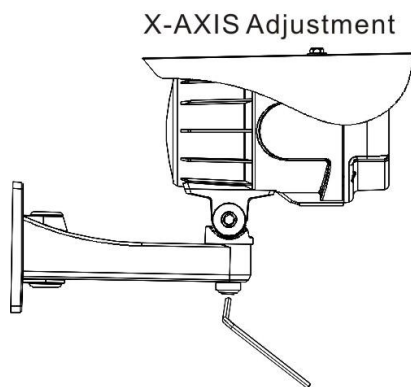
1. Install Camera

Use the supplied screws (in the appurtenance bag), and secure the camera in position.



2. Adjust 2-Axis Bracket

Adjust the bracket while checking the view angle from Axis) the monitor. Loosen the X-Y screws and then adjust the 2-Axis bracket (X-Y to get the desired viewing angle.

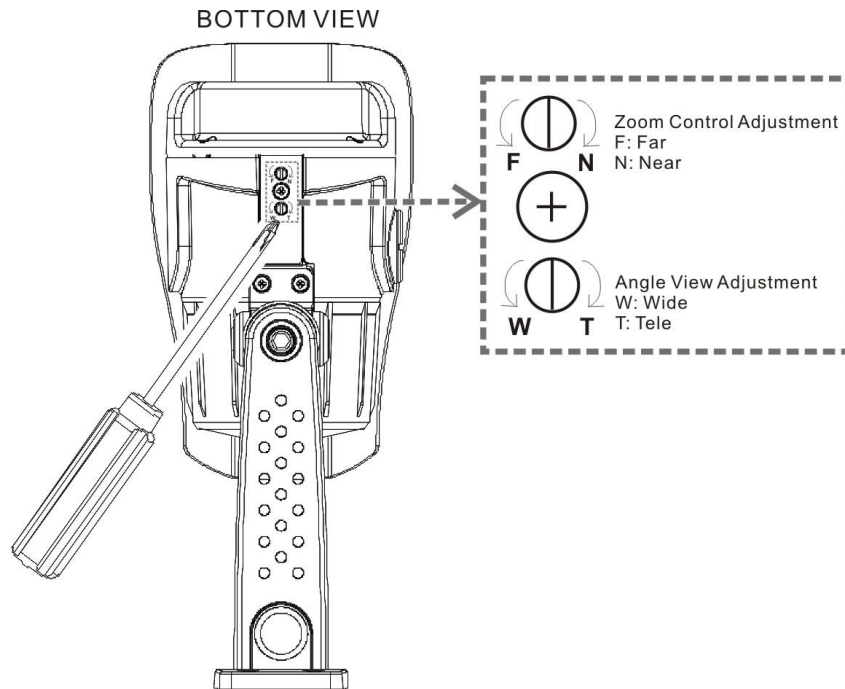


NOTE: This product is not suitable for horizontal 360° continuous rotation.

3. Focus Adjustment

Focus adjustment should be done with zoom focus at the same time. Use the screwdriver to adjust the zoom/ focus ratio (from wide to tele or near to far).

NOTE: Focus adjustment position differs depending on model type.



4. Remove the Controller Cap

With your free hand or a coin remove the controller cap and make adjustments.

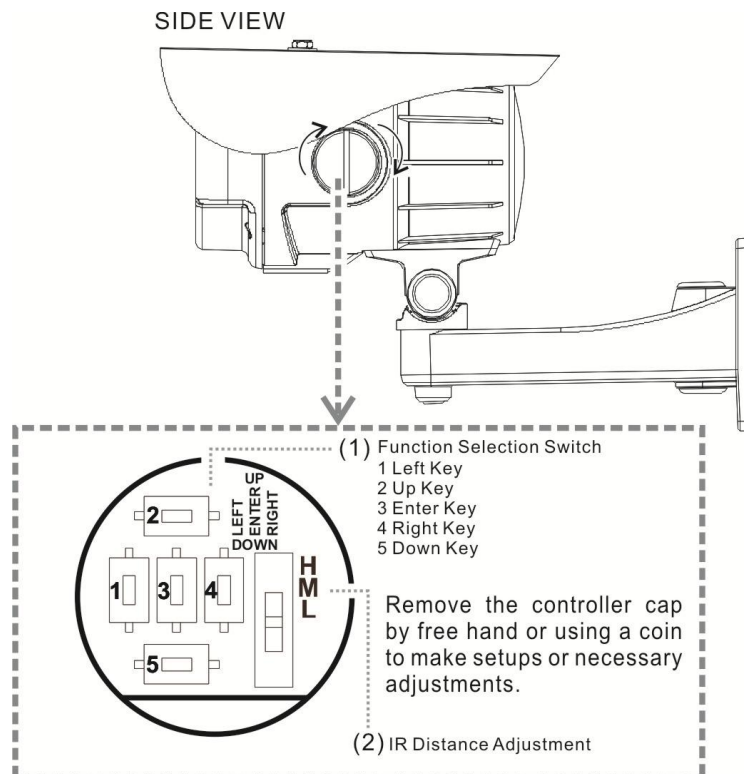


Table below shows the suggested LED brightness and IR distance adjustment:

LED Brightness	IR Distance	Focal Length
H (High)	25m~40m	9~22mm
M (Middle)	15m~25m	6~12mm
L (Low)	10m~15m	3.7~6mm

(1) Function Switch

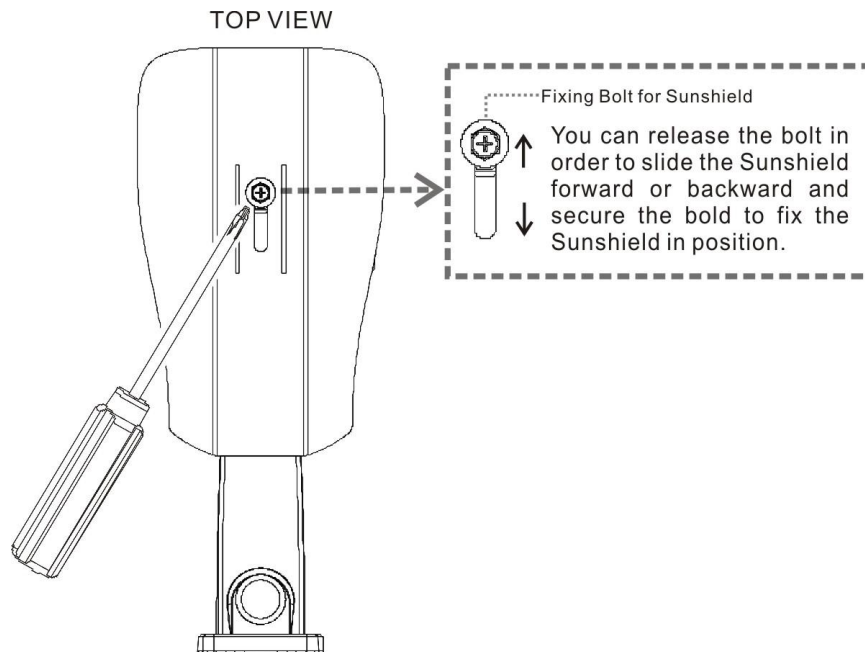
- 1 Left Key
- 2 Up Key
- 3 Enter Key
- 4 Right Key
- 5 Down

(2) IR Distance Adjustment

Installer may use IR adjustment function according to installation conditions. It is suggested that the view angle should be checked before setting up the IR distance.

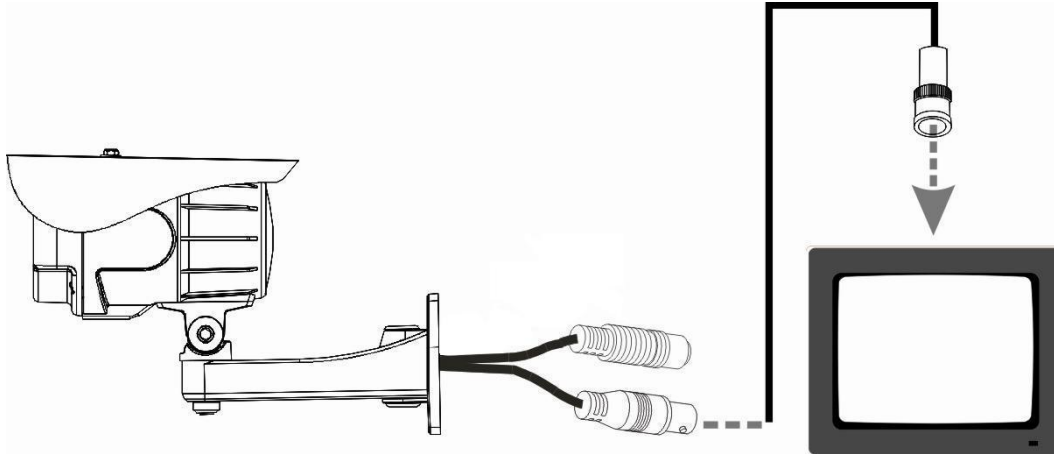
5. Install Sunshield

To install the sunshield, please follow the instruction shown below:



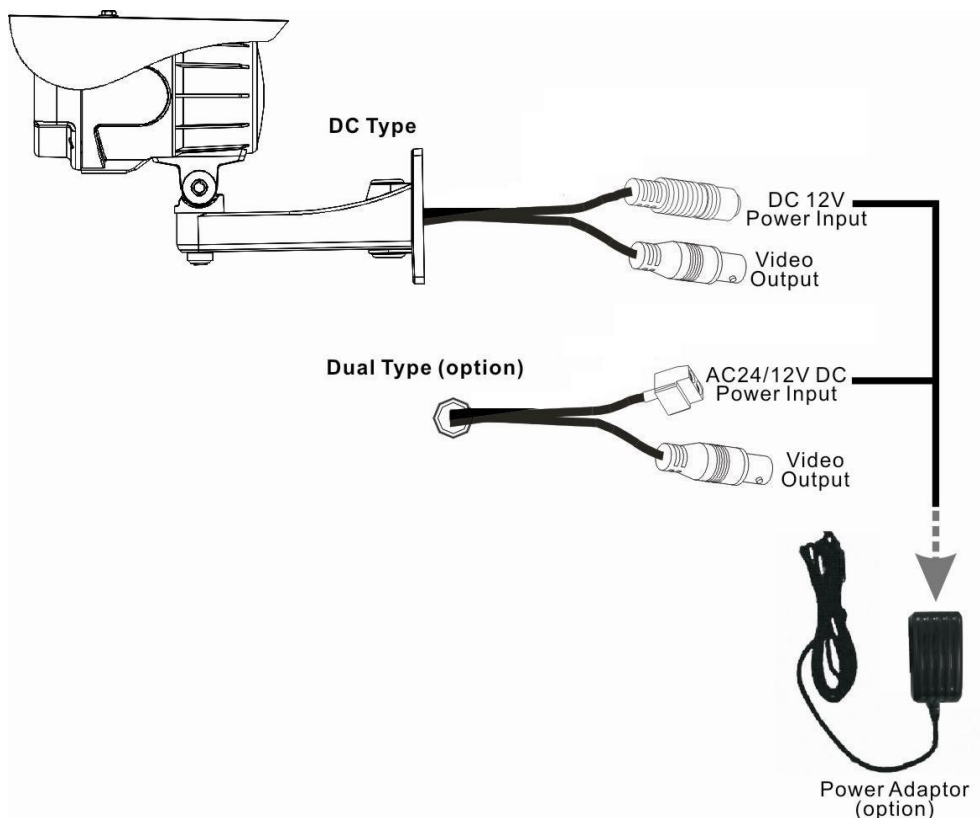
6.2 Connect to Monitor

Connect the Video-out port of the camera to a monitor. As the connecting method varies depending on the instrument, therefore refer to the manual supplied with the instrument for more information.



6.3 Connect the Power

Connect to a DC 12V, 500mA adaptor or an AC 24/ DC 12V adaptor (optional).



Note: The Alarm out application cable is the optional item, so the standard type not provides it.

7. OPERATION

7.1 OSD Framework

Main Menu Display

OSD Setup Menu page 1	
LENS	AUTO↵
SHUTTER /AGC	AUTO↵
WHITE BAL	ATW
BACKLIGHT	OFF
ATR	OFF
NR	↵
PICT ADJUST	↵
NEXT ↵	
EXIT ↵	SAVE ALL

OSD Setup Menu page 2	
PRIVACY	OFF
MOTION DET	OFF
CAMERA ID	OFF
LANGUAGE	ENGLISH
CAMERA RESET	
BACK ↵	
EXIT ↵	SAVE ALL

Main Menu Setup

- In order to display the setup menu on the screen, set the menu command or press the button panel.
- Use UP/ DOWN control buttons to select each item.
- Use LEFT/ RIGHT control buttons to change the data.
- Use MENU control button to ENTER/ EXIT the menu display.
- ↵=ENTER

7.2 OSD Main Menu Description

7.2.1 LENS: MANUAL /AUTO selectable.

- **LENS: MAUNAL**

Not adjustment

- **LENS: AUTO**

AUTO	TYPE : DC
	MODE : AUTO/ OPEN /CLOSE
	SPEED : 000~255

AUTO: Camera automatically controls the lens.

OPEN: Lens fully open.

CLOSE: Lens fully closed.

SPEED: Speed of the lens.

7.2.2 SHUTTER/AGC: AUTO / MANUAL selectable.

- **SHUTTER/AGC: AUTO**

AUTO	HIGH LUMINANCE
	MODE : SHUT+AUTO IRIS / AUTO IRIS / SHUT
	BRIGHTNESS : 000~255
	LOW LUMINANCE
	MODE : AGC / OFF
	BRIGHTNESS : x0.25 、 x0.50 、 x0.75 、 x1.00

HIGH LUMINANCE

When LENS is setup to AUTO mode

SHUT+AUTO IRIS: Exposure is controlled by auto electronic shutter combined with auto iris.

AUTO IRIS: Exposure controlled by auto iris.

When LENS is setup to Manual mode

SHUT: Exposure controlled by electronic shutter.

LOW LUMINANCE

Setup low lux environment, minimum AGC level.

- **SHUTTER/AGC: MANUAL**

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

SHUTTER: Fixed electronic shutter speed.
AGC: Fixed AGC gain control.

7.2.3 WHITE BAL

ATW / PUSH / USER1 / USER2 / ANTI CR / MANUAL / PUSH LOCK selectable.

- **WHITE BAL.: ATW**

ATW	SPEED : 000~255
	DELAY CNT : 000~255
	ATW FRAME : x0.50、x1.00、x1.50、x2.00
	ENVIRONMENT : INDOOR、OUTDOOR

SPEED : ATW Speed
DELAY CNT : ATW Delay Time
ATW FRAME : ATW Frame Range Setup
ENVIRONMENT : ATW Environment Range Setup

- **WHITE BAL.: PUSH**

The function will keep detecting the Color Temperature, and then it will keep saving the parameter to camera.

- **WHITE BAL.: USER1**

USER1	B-GAIN : 000~255
	R-GAIN : 000~255

- **WHITE BAL.: USER2**

USER2	B-GAIN : 000~255
	R-GAIN : 000~255

- **WHITE BAL.: MANUAL**

MANUAL	LEVEL : 19~54
--------	---------------

- **WHITE BAL.: ANTI CR**

The function can reduce the color rolling issue, and it is the same with CRS (Color Rolling Support) function.

- **WHITE BAL.: PUSH LOCK**

The function will detect the Color Temperature to save into the camera.

7.2.4 BACKLIGHT: BLC / HLC / OFF selectable.

- **BACKLIGHT.: BLC**

Enable the function of Back Light Compensation, and the detection method is the BLC Smart.

- **BACKLIGHT.: HLC**

Enable the function of High Light Compensation.

7.2.5 ATR: ON / OFF selectable.

- **ATR.: ON**

LUMINANCE	LOW 、 MID 、 HIGH
CONTRAST	LOW 、 MIDLOW 、 MID 、 MIDHIGH 、 HIGH

LUMINANCE : Set the extent of the luminance compression

CONTRAST : Set the extent of the contrast enhancement.

NOTE: If you enable the ATR function, please avoid to enable the BACKLIGHT function in the same time.

7.2.6 NR: ↵

NR MODE	Y/C 、 Y 、 C 、 OFF
Y LEVEL	000~015
C LEVEL	000~015

NR MODE : Set the DNR mode of Y/C, Y and C.

Y LEVEL : Set the Y filter strength.

C LEVEL : Set the C filter strength.

NOTE: The Y/C mode is the automatic DNR mode.

7.2.7 PICT ADJUST: ↵

MIRROR	ON / OFF
BRIGHTNESS	000~255
CONTRAST	000~255
SHARPNESS	000~255
HUE	000~255
GAIN	000~255

Adjust all camera parameters here.

7.2.8 NEXT: ↵

Move to MAIN MENU, page 2

7.2.9 EXIT: ↵

Exit OSD to choose the list.

7.2.10 SAVE ALL:

When you change the OSD menu settings, before leaving the OSD item option SAVE ALL. Press ENTER key to change the memory settings for the OSD.

7.2.11 DAY/NIGHT : AUTO / DAY / NIGHT / EXT1 / EXT2 selectable.

- DAY/NIGHT: AUTO

AUTO	BURST : ON/OFF
	DELAY CNT : 000~255
	DAY → NIGHT : 000~255
	NIGHT → DAY : 000~255

BURST : Selects whether to output the burst signal when under Night status has been identified.

DELAY CNT : Set the Night/ Day identification transfer time (Default: 4Sec.).

DAY → NIGHT : Set the threshold for identifying the Night status from the Day status.

NIGHT → DAY : Set the threshold for identifying the Day status from the Night status.

- DAY/NIGHT: DAY
Day mode forcibly

- DAY/NIGHT: NIGHT
Night mode forcibly

Night	BURST : ON/OFF
	IR OPTIMIZER : ON/OFF
	MODE : CENTER/AUTO
	LEVEL : 00~31

BURST : Selects whether to output the burst signal.

IR OPTIMIZER : The IR Optimizer function makes it possible to minimize this overexposure by optimizing the exposure control during Night operations.

MODE : Set the IR OPTIMIZER operating mode.

LEVEL : Adjusts the reference level of the IR Optimizer (Default: Level 5).

- DAY/NIGHT: EXT1
DN_IN 0[h]: Night mode
1[h]: Day mode

- DAY/NIGHT: EXT2
DN_IN 0[h]: Day mode
1[h]: Night mode

7.2.12 PRIVACY: ON / OFF selectable.

- PRIVACY: ON

AREA SEL	Max. 8
TOP	000~244 (NTSC) / 000~288(PAL)
BOTTOM	000~244 (NTSC) / 000~288(PAL)
LEFT	560TVL : 000~378 (NTSC) 、 000~370 (PAL) 650TVL : 000~474 (NTSC) 、 000~468 (PAL)
RIGHT	560TVL : 000~378 (NTSC) 、 000~370 (PAL) 650TVL : 000~474 (NTSC) 、 000~468 (PAL)
COLOR	1~8
TRANSP	0.00 / 0.50 / 0.75 / 1.00
MOSAIC	ON / OFF

AREA SEL : Select the mask frame to be adjusted.

NOTE: When the MONITOR AREA has been set to ON by the MOTION DET setting, only 4 PRIVACY AREA SEL are selectable (1 / 4, 2 / 4, 3 / 4, 4 / 4).

TOP : Set the top side of the mask frame selected
 BOTTOM : Set the bottom side of the mask frame selected
 LEFT : Set the left side of the mask frame selected
 RIGHT : Set the right side of the mask frame selected
 COLOR : Set the colors of the mask frames.
 TRANSP : Set the transparency ratio of the mask frames.
 MOSAIC : Set the mask frame mosaic function to ON or OFF.

7.2.13 MOTION: ON / OFF selectable.

● MOTION DET: ON

DETECT SENSE	000~127
BLOCK DISP	ON / OFF / ENABLE
MONITOR AREA	ON / OFF
AREA SEL	1~4
TOP	000~244 (NTSC) / 000~288(PAL)
BOTTOM	000~244 (NTSC) / 000~288(PAL)
LEFT	540TVL : 000~378 (NTSC) 、 000~370 (PAL) 650TVL : 000~474 (NTSC) 、 000~468 (PAL)
RIGHT	540TVL : 000~378 (NTSC) 、 000~370 (PAL) 650TVL : 000~474 (NTSC) 、 000~468 (PAL)

DETECT SENSE: Set the motion detection sensitivity.

BLOCK DISP: Control the ON/ OFF status of the motion detection block display.

MONITOR AREA: Set whether to use the monitoring frames.

AREA SEL: Select the monitoring frame to be set.

TOP: Set the top side of the monitoring frame selected

BOTTOM: Set the bottom side of the monitoring frame selected

LEFT: Set the left side of the monitoring frame selected

RIGHT: Set the right side of the monitoring frame selected

7.2.14 CAMERA ID: ON / OFF selectable.

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

ABCDEFGHIJKLMNOPQRSTU VWXYZ0123456789-!"#\$%&' ()_` , ¥ : ; < = > ? @ \ ^ * . x + /	Each User Font
← → ↑ ↓	The camera ID cursor moves in the direction of the arrow when the Enter operation input is performed from the status in which ←, →, ↑ or ↓ has been selected using the character selection cursor.
CLR	The character selected by the camera ID cursor is cleared when the Enter operation input is performed from the status in which CLR has been selected using the character selection cursor.
POS	The display switches to the camera ID display position setting screen when the Enter operation input is performed from the status in which POS has been selected using the character selection cursor. On the camera ID display position setting screen, the camera ID display position is changed in real time in response to the left, right, up or down operation input. When the Enter operation input is performed, the display position is entered, and the display returns to the camera ID setting screen.

7.2.15 LANGUAGE

There are 8 kind of language: English / Japanese / German / French / Russian / Portuguese / Spanish / Simplified Chinese selectable.

7.2.16 CAMERA RESET

Reset Factory default setup.

7.2.17 BACK

Return to MAIN MENU, page1.

8. SPECIFICATION

Model no.	EYB115VDR	
Image Device	1/3" COLOR Ex-view HAD CCD II (Sony Chipset)	
Effective Picture Elements	NTSC: 976x494 PAL: 976x582	
Horizontal Resolution	700 TVL	
Minimum Illumination	0.01 Lux/F1.2	
S/N Ratio	More than 48dB (AGC OFF)	
Shutter Speed Control	Auto:NTSC1/60~1/100,000s,PAL1/50~1/100,000s Manual: 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	
Lens Furnished	Vari-Focal Lens with ICR	
Auto Iris Control	DC Driver	
Gain Control	Auto/ Manual	
White Balance	ATW / PUSH / USER1 / USER2 / ANTI CR / Manual / PUSH LOCK	
ATR	ON/ OFF	
IR Optimizer	ON/ OFF	
DNR	ON/ OFF	
Back Light Compensation	ON/ OFF	
High Light Compensation	ON/ OFF	
PRIVACY	Maximum 8 Areas	
MOTION DET	4 Areas	
Camera ID	Up to 52 Characters	
Mirror	ON/ OFF	
Positive/ Negative	ON/OFF	
Video Output	1Vp-p/ 75 Ohms	
Infrared Luminary	42 pieces IR- LED	
Wavelength	850 nm.	
Illuminate Distance	Up to 40m, Low / Mid / High switchable	
Power Supply	DC 12V±10%, or Dual Power DC12V/AC24V (Optional)	
Power Consumption	IR ON (Low): 320mA (Mid): 420mA (High):750mA IR OFF: 130mA @DC12V Max	
Operating Temp.	-10°C ~ 50 °C (14 to 122°F)	
Gamma Characteristic	0.45	
Synchronous System	INT	
Heater (Optional)	Operating Temp.	-40°C ~ 50 °C (104 °F ~ 122 °F)
	Power Consumption	1. 5A (DC12V only)
Dimensions (WxD)	32 mm x32 mm (Camera board) 37 mm x35 mm (OSD board)	

Note: Design and specifications are subject to change without prior notice.

MEMO