

HD CCTV

EDH5102

1080p Mini Dome Camera

User's Manual



EverFocus

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Cautions

1. Do not install the camera near electric or magnetic fields.
2. Never disassemble the camera beyond the recommendations in this manual nor introduce materials other than those recommended herein.
3. Try to avoid facing the camera toward the sun.
4. Keep the power cable away from water and other liquids and never touch the power cord with wet hands.
5. Never install the camera in areas exposed to oil, gas or solvents.
6. Do not operate the camera beyond the specified temperature or humidity. Use the camera at temperatures within $-10^{\circ}\text{C}\sim 45^{\circ}\text{C}$ ($14^{\circ}\text{F}\sim 113^{\circ}\text{F}$) and humidity between 20%~ 80%; this device is not rated as submersible.
7. Determine the **polarity** of the power adapter pigtail before connecting the camera to the power source. The input power source is **12V DC**.

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1. Introduction

The EDH5102 is an HDcctv indoor mini dome camera. Based on a progressive scan CMOS sensor, the camera provides 1080p high resolution images and superior video quality compared to traditional CCTV images. This superior resolution not only captures more critical evidentiary information, but the inherent ability for megapixel video also extends the area of coverage, expedites completion of investigations, resolves complaints and reduces both capital and operational costs.

No major upgrade to the IT network is required to deploy this powerful technology; HDcctv cameras communicate at digital speeds up to 1.5 Gb/s over existing or new coaxial cable (RG59 or other types for longer distances), using industry standard BNC connectors. The EDH5102 supports both NTSC and PAL scanning systems.

1.1 Packing List

- Camera body x 1
- Power Adapter (with OSD Menu Joystick) x 1
- Accessory kit x 1 (Screw x 2 , Anchor x 2)
- User Manual x 1
- Template x 1
- Power Adapter Pigtail x 1

1.2 Features

- Real time HDcctv 1080p HD video over coax for superlative image detail
- 1/3" 2.1 megapixel Color Progressive CMOS sensor
- Provides 3D DNR / DSS to improve image clarity, particularly in low light scenes
- Electronic Lens Shading Compensation to offset diminished light transmission through lens periphery for uniform image illumination
- CTB [Contrast Boost] to deliver properly exposed images despite bright light sources, deep shadows and/or unbalanced lighting in the same scene
- Supports Digital Zoom / BLC [Back Light Compensation] / HLMASK [Highlight Suppression Mask] / Privacy Zones (up to 32)
- DPC [Defect Pixel Correction] Dead pixel compensation for increased clarity and extended service life
- SD TV Out for aim and focus using a standard hand held test monitor

2. Cable Description

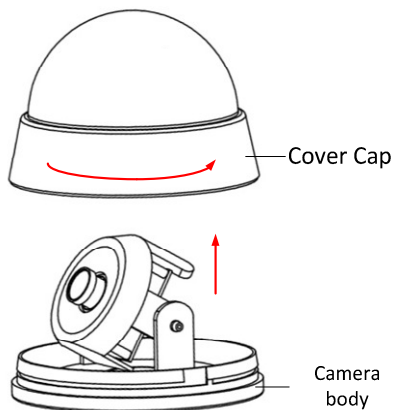


No.	Name	Descriptions
1	Power Cable	Connects to a DC 12V power source.
2	HDcctv Output	Connects to an HDcctv device, such as a DVR or HD monitor, using a 75 Ohm BNC-type coaxial cable.
3	RS485+ (Green)	Connects to an RS-485 device, such as EverFocus' EKB500 keyboard.
4	RS485- (Blue)	Connects to an RS-485 device, such as EverFocus' EKB500 keyboard.
5	Test-Out	Connects to a SD CVBS monitor for setting image aim and focus.

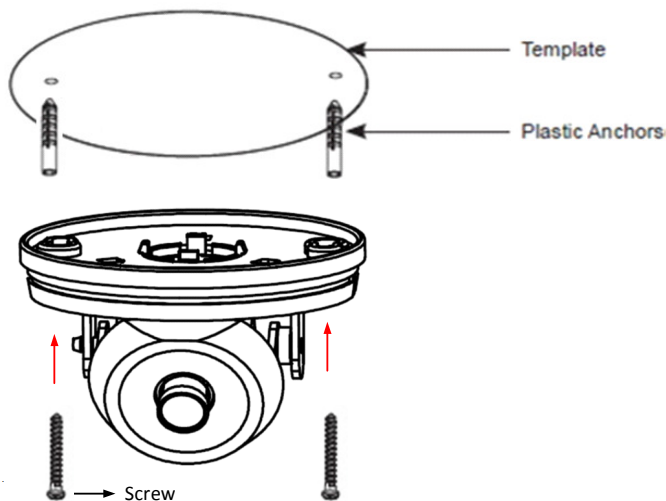
3. Installation

3.1 Installation and Adjustment

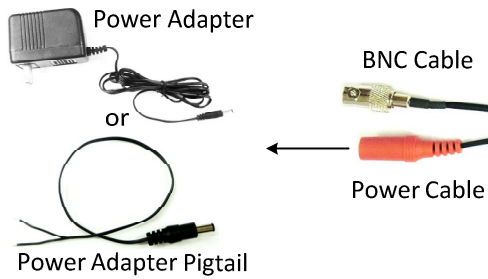
1. Stick the mounting **template** on the position where you want to attach the camera.
2. Drill the two holes on the template for screwing the camera with the supplied screws and anchors, and the circle in the middle only if you want to wire the cables through the wall / ceiling.
3. Insert the supplied anchors into the holes.
4. Remove the cover cap from **the camera body**.



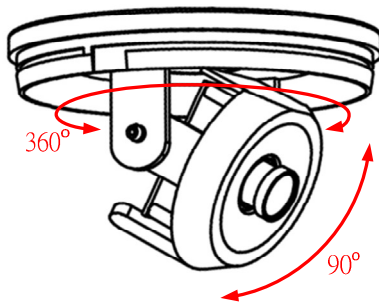
5. Attach the camera body to the correct position and then screw the camera body to the wall / ceiling using the supplied two screws.



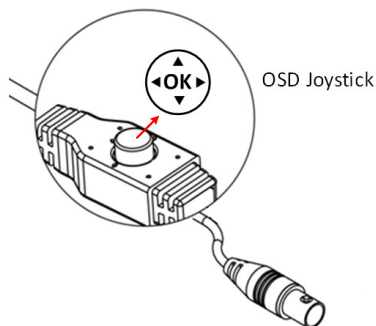
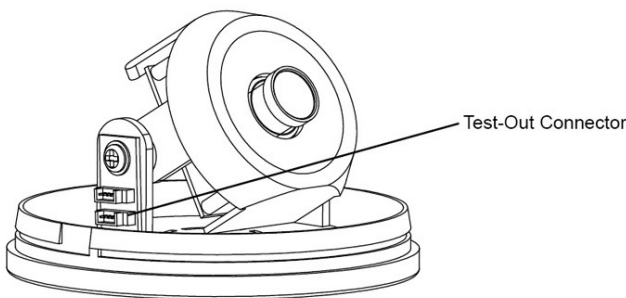
6. Connect the camera to the 12V DC power source using the supplied power adapter pigtail or a power adapter.



7. Connect the camera to a DVR or a portable monitor using the Test-Out cable for viewing the camera view while adjusting camera angles. You can also use the OSD Menu Joystick to configure camera settings.
 - a. Adjust camera angles by tilting or rotating the camera.



- b. To configure camera settings using the OSD Menu Joystick, connect one end of the Test-Out cable to the Test-Out connector on the camera module and the other end to the portable monitor.



- Push the Joystick up / down to select among menu items.
- Push the Joystick left / right to adjust the level of the selected item.
- Press the Joystick to enter the submenu or exit the OSD Setup Menu.

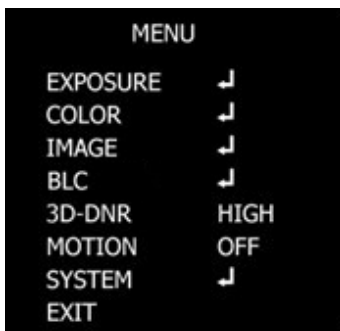
8. Screw the camera cover cap back to the camera.

4. Configuration in the OSD Menu

You can use the Joystick on the rear panel of the camera to configure camera settings in the OSD menu. For details on the OSD menu structure, see *OSD Menu Structure* in *Appendix*.

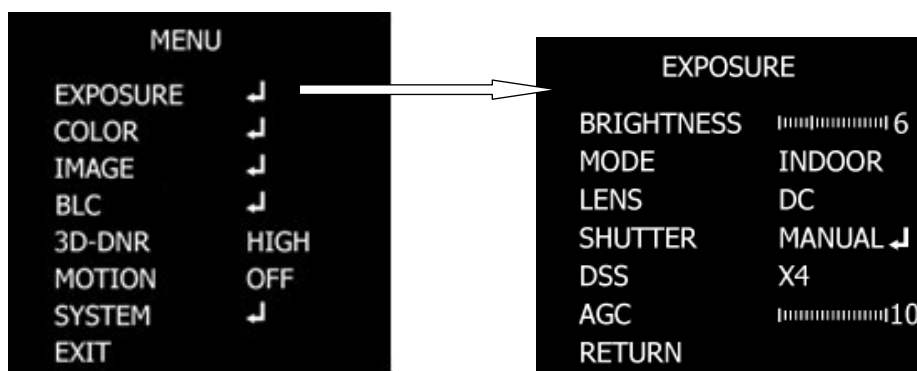
4.1 OSD Menu

Press the **Enter / Confirm** button on the Joystick. The Setup Menu in the OSD appears.



4.1.1 Exposure

Press the **Enter / Confirm** button to enter the submenu.



BRIGHTNESS

Use the ◀ and ▶ buttons to increase or decrease the screen brightness from 0 to 20.

MODE

Indoor

Select this mode when the color temperature of the video image is similar to that found in indoor environments (around 5100 to 5300°K).

Outdoor

Select this mode when the color temperature of the video image is similar to that found in outdoor environments (around 3,000°K to 3,200°K)

LENS

You can select the type of the lens. Two types are available: Manual and DC. By default, the Manual type lens is selected.

Shutter

Use the ◀ and ▶ buttons to adjust the shutter speed. The options include: 1/25 ~ 1/60000, FLK, and AUTO. Any selection other than AUTO and 1/25 will disable the DSS function.

DSS (Digital Slow Shutter)

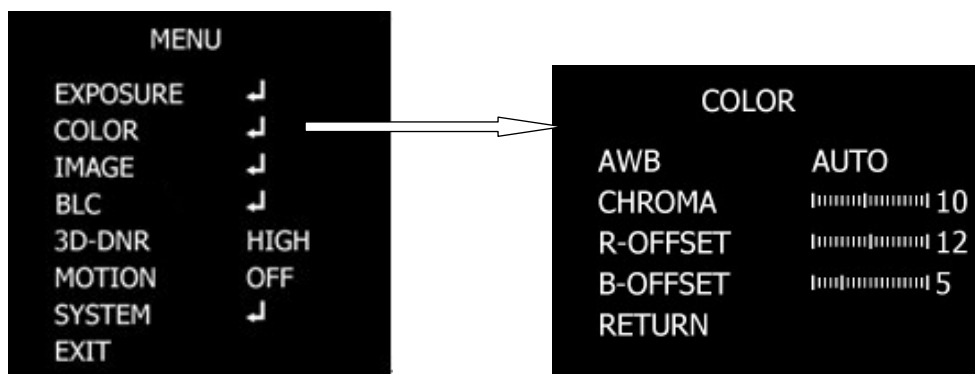
DSS is used to maintain a vivid screen image by automatically boosting low light levels. The value is between x2 ~ x4 and OFF.

AGC (Auto Gain Control)

The higher the AGC value, the brighter the screen, but the level of noise will also be increased. The options include: 0~10.

4.1.2 Color

Press the **Enter / Confirm** button to enter the submenu.



AWB (Auto White Balance)

This mode can be used to view areas with a color temperature range. Use the ◀ and ▶ buttons to select the AWB options. The options include: AUTO, AUTO EXTN, PRESET, MANUAL COLOR TEMP, R-GAIN and B-GAIN.

- AUTO – Around 2500 to 9500°K
- AUTO EXTN (Extension) – Around 2300 to 10800°K
- PRESET – Use a pure white background to preset the white balance value.
- MANUAL COLOR TEMP – Use the ◀ and ▶ buttons to adjust the speed. The options include: LOW, MIDDLE and HIGH
- R-GAIN and B-GAIN –The options include: 0~20.

CHROMA

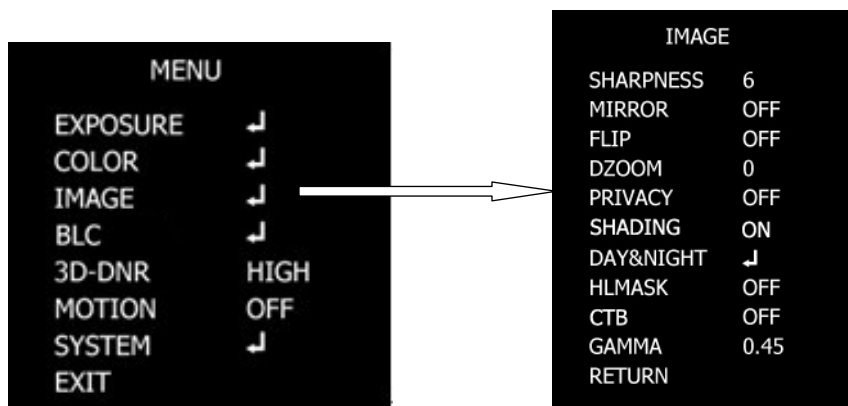
Use the ◀ and ▶ buttons to increase or decrease the CHROMA from 0 to 20.

R-OFFSET/B-OFFSET

Use the ◀ and ▶ buttons to increase or decrease the Red and Blue offset from 0 to 20.

4.1.3 Image

Press the **Enter / Confirm** button to enter the submenu.



SHARPNESS

Use the ◀ and ▶ buttons to increase or decrease the SHARPNESS from 0 to 10.

MIRROR / FLIP

Turn it on to reverse / flip the image.

DZOOM

Turn it on to set up the zoom level

PRIVACY

Enter the submenu to set up the privacy masks; up to 31 zones can be created:

ON ZONE NO: Use the ◀ and ▶ buttons to select the zone from 0 to 31.

X, Y-POS, SIZ: Enter the submenu to set up the position or size of the privacy mask zone.

COLOR: Press to select a color for the selected privacy mask zone.

TRANS: Press to select the transparency of mask zone.

SHADING

Turn it on to offset diminished light transmission through lens periphery for uniform image illumination.

DAY&NIGHT

The options include MODE, AGC THRS, DELAY. A submenu can be entered if you select MODE.

- **MODE** – Use the ◀ and ▶ buttons to select AUTO, COLOR and B&W. Switches to a B&W feed in low light conditions and then switches back to a Color feed in the daytime.
- **AGC THRS** – Use the ◀ and ▶ buttons to select the AGC Threshold from 0 to 20.
- **DELAY** – Set up the delay time in 0,5,10 and 30 seconds for the camera to switch between Day and Night.

HLMASK

Turn it on to select the level and color of the masking effect. You can adjust the level to control the mask range. The higher the level, the brighter the camera will detect to apply the mask.

CTB (Contrast Boost)

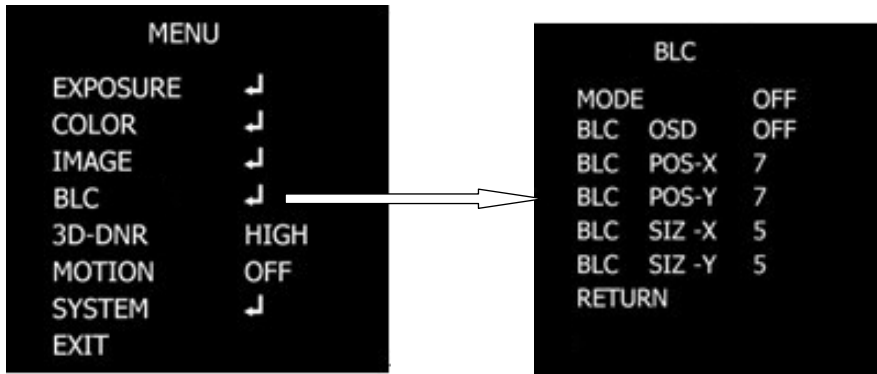
Turn it on to deliver properly exposed images despite bright light sources, deep shadows and / or unbalanced lighting in the same scene.

GAMMA

Use the ◀ and ▶ buttons to increase or decrease the GAMMA from 0.45 to 0.75.

4.1.4 BLC

Press the **Enter / Confirm** button to enter the submenu.



MODE

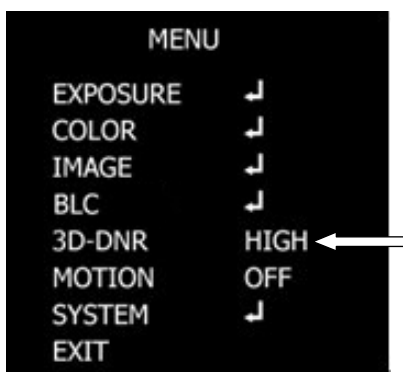
Use the ◀ and ▶ buttons to select OFF and BLC.

BLC OSD, POS and SIZ

Select OFF to disable the BLC function, or select ON to enable the BLC function and for further setup. After selecting an area block, enter the BLC POS / SIZ and X / Y setup page, a "POSITION" sign displayed on the screen. Use the direction buttons to move the area to the desired position. Press the **Enter / Confirm** button to confirm the position, a "SIZE" sign displayed on the screen. Use the direction buttons to adjust the size for the area.

4.1.5 3D-DNR

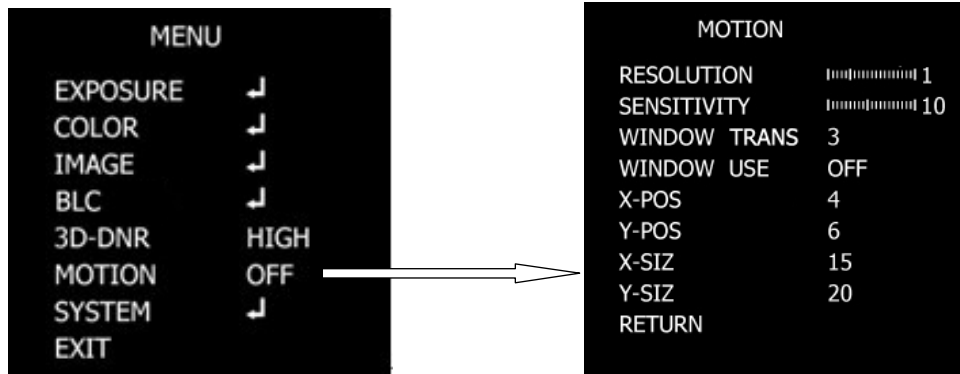
Press the **Enter / Confirm** button to enter the submenu.



Switch to HIGH, MIDDLE, LOW and OFF to enable or disable noise reduction on dynamic recordings.

4.1.6 Motion

Press the **Enter / Confirm** button to enter the submenu.



RESOLUTION

Use the ◀ and ▶ buttons to increase or decrease the RESOLUTION level from 0 to 4.

SENSITIVITY

Press to set up the sensitivity for the motion detection function.

WINDOW TRANS

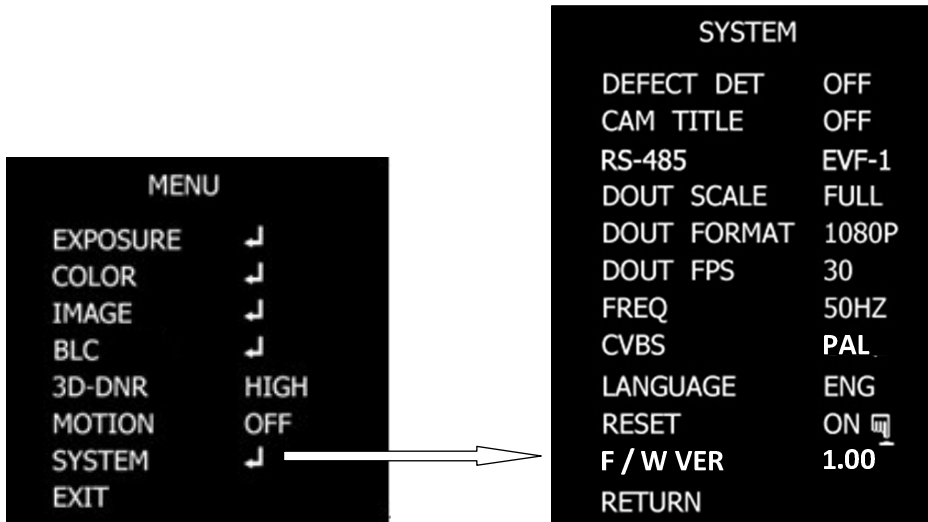
Press to select the transparency of motion detect zone.

WINDOW USE, POS and SIZ

Select OFF to disable this function, or select ON to enable and for further setup. After selecting an area block, enter the BLC POS / SIZ and X / Y setup page, a "POSITION" sign displayed on the screen. Use the direction buttons to move the area to the desired position. Press the **Enter / Confirm** button to confirm the position, a "SIZE" sign displayed on the screen. Use the direction buttons to adjust the size for the area.

4.1.7 System

Press the **Enter / Confirm** button to enter the submenu.



DEFECT DET

Press to select the DPC (Defective Pixel Correction) level of defect detector. Please notice; do not use this function without cover the lens. The camera will automatically correct pixel defects. Misoperation will cause the abnormal image.

CAM TITLE

Switch to On and then enter the submenu to set up a camera name displayed on the screen.

RS-485

Use the ◀ and ▶ buttons to select ID, BAUDRATE, PROTOCOL and ID DISPLAY. The default of protocol is EVF-1 (EverFocus).

DOUT SCALE: Digital Output Scale

Use the ◀ and ▶ buttons to select FULL or COMP. This function is used to select the value range of auto brightness control. The value range of FULL and COMP is as below:

FULL: 0-255

COMP: 16-255

DOUT FORMAT : Digital Output Format

DOUT FPS: Frames per Second

FREQ: Frequency

CVBS

There are 4 options including 1080p 30FPS NTSC, 1080p 25FPS PAL, 720p 60FPS NTSC and 720p 50FPS PAL. If you want to change the format and FPS, you should change the FREQ first. Select

50HZ frequency, the CVBS will automatically change to PAL; select 60HZ frequency, the CVBS will turn to NTSC. Then, you can select the 720P or 1080P in the format options, and the FPS will also change accordingly.

LANGUAGE

Select a language for the OSD text. Options include English, French, German, Simplified Chinese, Korean and Japanese.

RESET

Turn it on to reset the settings.

F / W VERSION: Firmware Version

Press to display the firmware version of the camera.

5. Specifications

Pickup Device	1/3" Panasonic 2.1 megapixel Color Progressive CMOS sensor
Image Pixels	1920(H) x 1080(V)
Resolution	Digital: 1080p (30 / 25), 720p (60 / 50)
Scanning System	NTSC / PAL
Sensitivity	Color: 0.4 lux, BW: 0.1 lux, Color DSS: 0.1 lux, BW DSS: 0.025 lux
Video Output	Digital (HDcctv Output): BT.1120, HDcctv / HD-SDI: BNC connector
	Analog (Test Out): NTSC / PAL : BNC connector
S/N Ratio	More than 50 dB (AGC OFF)
Lens	Manual
AGC	0-20 steps
Shutter Speed	AUTO / MANUAL(1/25(30)~1/60,000sec)
Digital Slow Shutter(DSS)	On / Off(x4)
Brightness	0-20
BLC	On / Off
Contrast Boost(CTB)	On / Off
Day&Night	Auto / Color / B&W
Auto White Balance	Auto / Auto extn / Preset / Manual
Digital Noise Reduction(DNR)	Off / Low / Middle / High
Mirror	On / Off
Flip	On / Off
Sharpness	0 - 10 steps
Lens Shading Compensation	On / Off
Digital Zoom	0 - 96 steps
Privacy Mask	32 Zones, Programmable
Motion Detection	On / Off
RS - 485	2400~115200> baud, ID 1~255, Protocols: Pelco-D/P, EverFocus EVF-1;
Language	English / French / German / Simplified Chinese / Japanese
Power Source	12VDC
Power Consumption	12VDC: 2W max.
Operating Environment	-10°C~45°C / 14°F~113°F (20%~80% Humidity)
Dimensions(Φ x H)	95 x 72mm / 3.7" x 2.8"
Weight	0.190kg / 0.430lbs
Certifications	FCC / CE

6. Appendix

6.1 OSD Menu Structure

The default value is marked with a star “*”.

No.	Main	Sub Menu	Sub Menu / Function	
1	EXPOSURE	BRIGHTNESS	1~20 (default=6)	
		MODE	INDOOR*, OUTDOOR	
		LENS	MANUAL*, DC	
		SHUTTER	AUTO*	
			MANUAL	1/25~1/60000
			FLK	
		DSS	OFF, X2, X3, X4*	
AGC	0~10 (default=10)			
2	COLOR	AWB	AUTO*	
			AUTO extn	
			PRESET	
			MANUAL COLOR TEMP	LOW, MIDDLE, HIGH
			R-GAIN	0~20
			B-GAIN	0~20
		CHROMA	0~20 (default=7)	
		R-OFFSET	0~20 (default=12)	
		B-OFFSET	0~20 (default=5)	
3	IMAGE	SHARPNESS	0~10 (default=6)	
		MIRROR	ON, OFF*	
		FLIP	ON, OFF*	
		D-ZOOM	0~96 (default=0)	
		PRIVACY	OFF*	
			ON ZONE NO	0~31
			ZONE UP	ON, OFF
			X-POS	0~60
			Y-POS	0~40
			X-SIZ	0~60
			Y-SIZ	0~40
			COLOR	
TRANS	0~4			

		SHADING	ON*, OFF			
		DAY&NIGHT	MODE	AUTO*		
				COLOR		
				B&W		
			AGC THRS	0~20 (default=10)		
			MARGIN	0~20 (default=)		
		DELAY	0, 5*, 10, 30 SEC			
		HLMASK	OFF*			
			ON	LEVEL	0~20 (default=10)	
		COLOR		BLK*/WHT/YEL/CYN/GRN/MAG/RED/BLU		
CTB	ON, OFF*					
GAMMA	0.45*, 0.5, 0.55, 0.65, 0.75					
4	BLC	MODE	OFF*, BLC			
		BLC OSD	ON, OFF*			
		BLC POS-X	0~20 (default=7)			
		BLC POS-Y	0~20 (default=7)			
		BLC SIZ-X	0~20 (default=5)			
		BLC SIZ-Y	0~20 (default=5)			
5	3D-DNR	HIGH, MIDDLE*, LOW, OFF				
6	MOTION	OFF*				
		ON	RESOLUTION	0~4 (default=1)		
			SENSITIVITY	0~20 (default=10)		
			WINDOW TRANS	0~6 (default=3)		
			WINDOW USE	ON, OFF*		
			X-POS	0~60 (default=4)		
			Y-POS	0~40 (default=6)		
			X-SIZ	0~60 (default=15)		
Y-SIZ	0~40 (default=20)					
7	SYSTEM	DEFECT DET	DPC LEVEL	000~255 (default=26)		
		CAM TITLE	OFF*			
			ON	STRING SET		
		POSITION				
		RS-485	ID	1~255 (default=1)		
			BAUDRATE	2400, 4800, 9600*, 19200, 38400, 57600, 115200		
			PROTOCOL	PELCO-D, PELCO-P, EVF-1*		
ID DISPLAY	ON, OFF					
DOUT SCALE	FULL*, COMP					

		DOUT FORMAT	720P, 1080P*
		DOUT FPS	50, 60 ,25* , 30
		FREQ	50* , 60 HZ
		CVBS	PAL* , NTSC
		LANGUAGE	English, Simplified Chinese, Japanese, Korean, French, German
		RESET	PUSH, PUSHING

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