Analog Camera User's Manual

CD-960H

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC or 24V AC in the IEC60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.
If this product is installed in the ceiling, please make sure the installation position can sustain the min 50N.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series analog camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.

The working temperature ranges from -10℃ to +60℃. Please keep it away from the electromagnetic radiation object and environment.
Please make sure the CCD component is out of the radiation of the laser beam device. Otherwise it may result in CCD optical component damage.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.
Do not touch the CCD optic component. You can use the blower to clean the dust on the lens surface.
Always use the dry soft cloth to clean the device. If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.
Please put the dustproof cap to protect the CCD component when you do not use the camera.

1 General Introduction

This series analog camera adopts the high sensitivity CCD and advanced circuit design. It is featuring the high quality video, the lowest distortion, low noise and etc. This series product is suitable to be used in surveillance system and video process system.

1.1 Features

- High-performance SONY CCD, high resolution, 700 TVL, vivid and impressive video
- Support ICR (IR Cut Removal) auto switch, auto day/nigh mode switch or external activation to realize the surveillance both in the daytime and at night. (**Note: For F481EP, F581EP, and F781EP series product only**.)
- Support WDR 500X, suitable for backlight environments.
- Support ATW (auto trace white balance), ANTI CR (anti-color roll), MANUAL PUSH, PUSH LOCK and etc. Restore high definition and more reliable video
- Support privacy mask function. Set zone color, transparent, mosaic and etc.
- Support motion detect function. Set zone sensitivity and block display.
- Support video mirror, hue and color gain setup.
- Support backlight compensation, high light compensation, close and etc according to the actual environments.
- Support ATR, ATR-EX functions.
- Support 2D and 3D de-noise. High signal to noise ratio (SNR), clear and impressive video. (**Note: The F480EP, F480CP series product does not support 3D de-noise function.**)
- Support auto electronic gain control, self-adaptive brightness.
- Support auto aperture function (DC or video drive)
- Support flange-back adjustment, suitable for multiple models from various brands
- Auto exposure function
- Support OSD (on-screen display), suitable for user self-defined setup.
- Support RS485 remote control.
- Support various languages such as English.

1.2 Functions

Motion detect

An alarm can be generated once there is moving object in the surveillance area. You can select the various sensitivity levels according to your actual requirements.

Privacy mask

Support privacy mask area setup. Privacy masking area is a user-defined, four-sided area that can not be viewed by you during the surveillance to protect the privacy information (such as the keyboard zone of the ATM).

Day/night mode switch (Color and black/white switch)

This function allows the camera to display the color video in the day while the black and white video at the night. It is to enhance camera sensitivity and definition.

Auto gain function

To output the standard video signal in the different illumination environments, the amplifier needs to adjust in a wide range. The system can enhance the camera sensitivity in low illumination and enhance the video signal output to get the clear and high definition video.

SNR

It is the ratio value between the signal voltage and the noise voltage. The higher the SNR value, the lower the adverse effect. It is to guarantee the clear video.

OSD

User-friendly on-screen display for you to select the different functions.

INT and LL

There are two synchronization modes: INT/LL. INT is to use the oscillator of the camera to generate the synchronization signal to complete the scan and synchronization. The LL is to provide the AC current to the camera to realize the scan and synchronization.

White Balance

The white balance refers to the camera to restore the white object color. It allows the camera to adjust the color temperature in indoor and outdoor environment, just like our human eyes does.

ICR

The IR cut removal is to filter the IR light in the daytime and then auto switch to the general fitter at night. This function allows the camera to output the high sensitivity and clear video.

Auto exposure

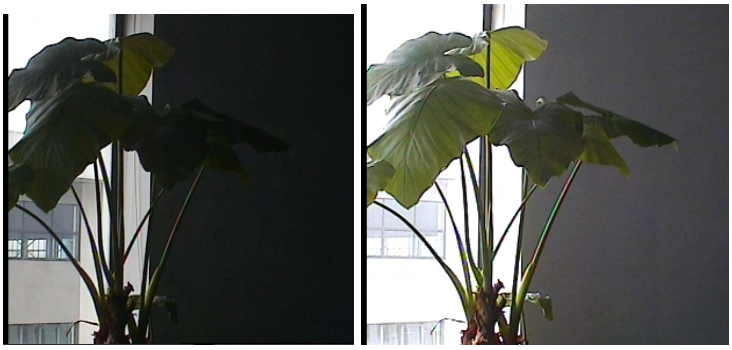
System can automatically set shutter speed and iris value according to the snapshot video exposure condition.

Low illumination

The system can output the proper video even in dark environment.

BLC

Once there is strong light at the back of the object, the main object video may become dark. Backlight compensation technology is to automatically compensate the light to get vivid video. You can refer to the following two figures to see the result of the backlight compensation technology function.

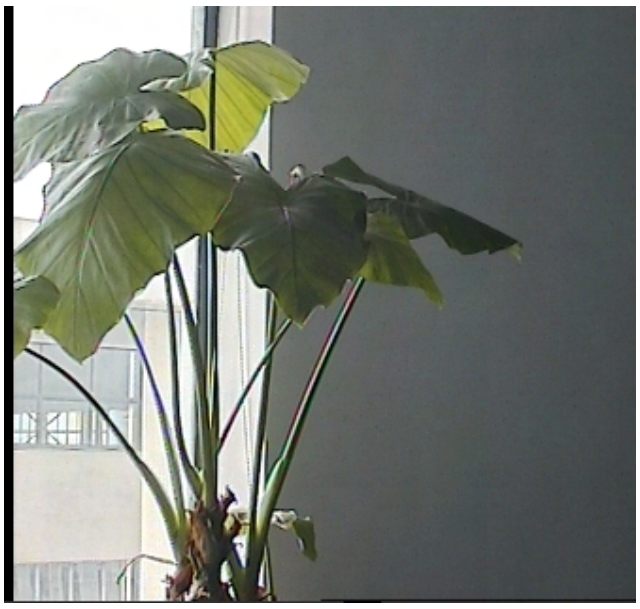


Before After

WDR

When there is strong light, shadow and backlight all in one surveillance environment, the camera output video may become white owning to the extra exposure while some sections become black owning to the insufficient exposure. All of these will adversely affect the video quality. WDR is to balance the light between these two sections.

You can compare the follow figure with the above figure on the left.



ATR and ATR-EX

ATR (Adaptive Tone-curve Reproduction) function allows the camera to digitally calculate the video color again and then adjust the brightness to enhance the video quality. This function can effectively enhance the color and black zone of the video when there is sharp light contrast in the environments.

HLC

HLC (High Light Compensation) function can effectively remove the risk of over exposure and guarantee the proper monitor video when there are strong lights.

De-noise (Noise reduction)

There may be too much noise when you are monitor in the low illumination environments. You can digitally calculate to reduce the noise to get the clear video.

Digital image stabilization

When the installation position is of much vibration, you can enable this function to guarantee clear and stable video.

Digital zoom

This function can allow you to clearly monitor the remote object. The camera can zoom in the remote object and then output.

1.3 Specifications

Please refer to the following sheet for specification.

CD-960H		
Video Processor	1/3" SONY EX view HAD CCD	
Video Format	PAL/NTSC	
Effective Pixel	PAL	976（H）×582（V）570K pixels
	NTSC	976（H）×494（V）480K pixels
Resolution (PAL)	960x576TVL	
Min Illumination	Color：0.02Lux/F1.2	
	Black and white：0.005Lux/F1.2	
Electronic Shutter	PAL	Auto: 1/50s~1/100,000s Manual: 1/50s,1/120s,1/250s,1/500,1/1000s,1/2000s, 1/4000s,1/10,000s
	NTSC	Auto: 1/60s~1/100,000s Manual: 1/60s,1/100s,1/250s,1/500,1/1000s,1/2000s, 1/4000s,1/10,000s
Iris Control Mode	Auto/manual	
Lens Connection Type	C/CS mount	
Day/Night Switch	ICR auto switch	
Synchronization Mode	INT/LL	

Video Output		1Vp-p Composite Output（75Ohm/BNC）
SNR		Above 60dB
Menu	LENS	Manual/Video/DC
	SHUTTER/AGC	Auto/Manual
	BACKLIGHT (BLC)	Off/BLC/HLC(High light compensation)
	WHITE BALANCE	ATW/ ANTI CR /manual/push lock/push/user 1/user 2
	DAY/NIGHT MODE	Auto/external trigger/black and white/color
	PICTURE ADJUST	Mirror/brightness/contrast/sharpness/hue/gain
	ATR	Off/luminance/contrast
	MOTION DETECT	Detect sensitivity/block display/area selection
	PRIVACY MASK	Area selection/color/transparent/mosaic
	NR	Level/Y level/C level
	Camera ID	Character/position
	Language	English/Japanese and etc
Communication Port		RS485
Working Temperature		-10ºC ~ +60ºC
Power		AC24V±10% / DC12V±10%
Power Consumption		6W Max
Dimension (mm)		131.3（L）×64.6（W）×61.2（H）
Weight		500g

2 Framework

2.1 Dimension

Please refer to the following figures for dimension information. See Figure 2-1 and Figure 2-2.

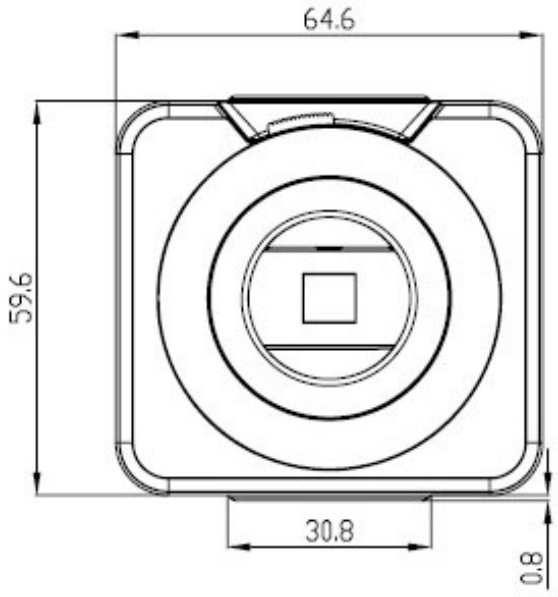


Figure 2-1

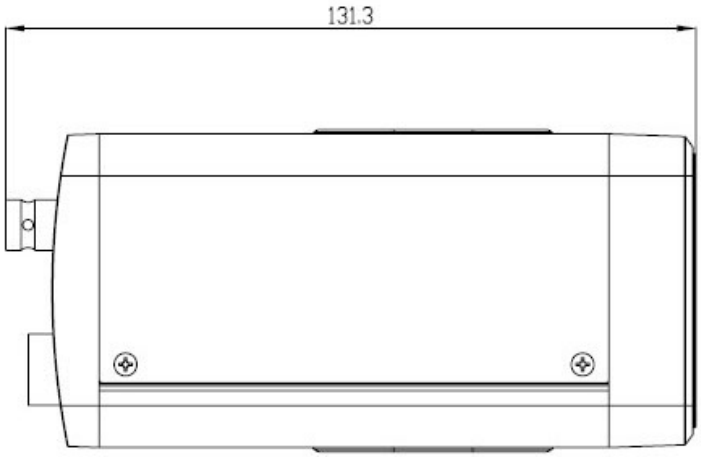


Figure 2-2

2.2 Side Panel

This series analog camera side panel structure is shown as below. See Figure 2-3.

1: Flange-back. 2. Auto aperture port 3.Pedestal to secure the bracket

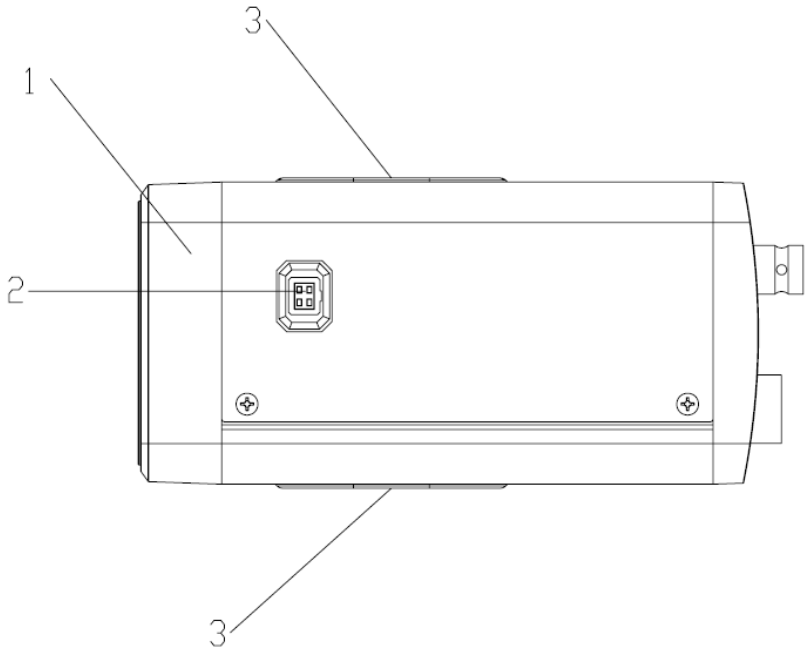


Figure 2-3

1 Flange-back

Usually the flange-back has been set to the proper position before it is shipped out of the factory. But sometimes, you may still need to adjust a little bit to let it be suitable for different lens. Please follow the steps listed below:

- Secure the lens.
- Loosen the screw to unlock the flange-back
- Turn the lens until you see the clear video.
- Fix the screw again.

2. Auto aperture port

The auto aperture port interface is shown as below. See Figure 2-4.

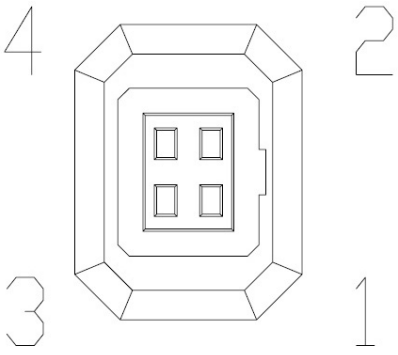


Figure 2-4

Please refer to the following sheet for detailed information.
The video driver auto aperture uses the three pins: Power, Video and GND. The DC driver auto aperture uses the four pins: Damp+, Damp-, driver +, Driver -.

	Video	DC
1	Power	Damp-
2	NC	Damp+
3	Video	Driver+
4	GND	Driver-

3. The pedestal to secure the bracket
It is to install the bracket.

Important
Please contact our local retailer if you want to use the video drive lens.

2.3 Rear Panel

2.3.1 CD-960H

This series product rear panel is shown as in Figure 2-5.

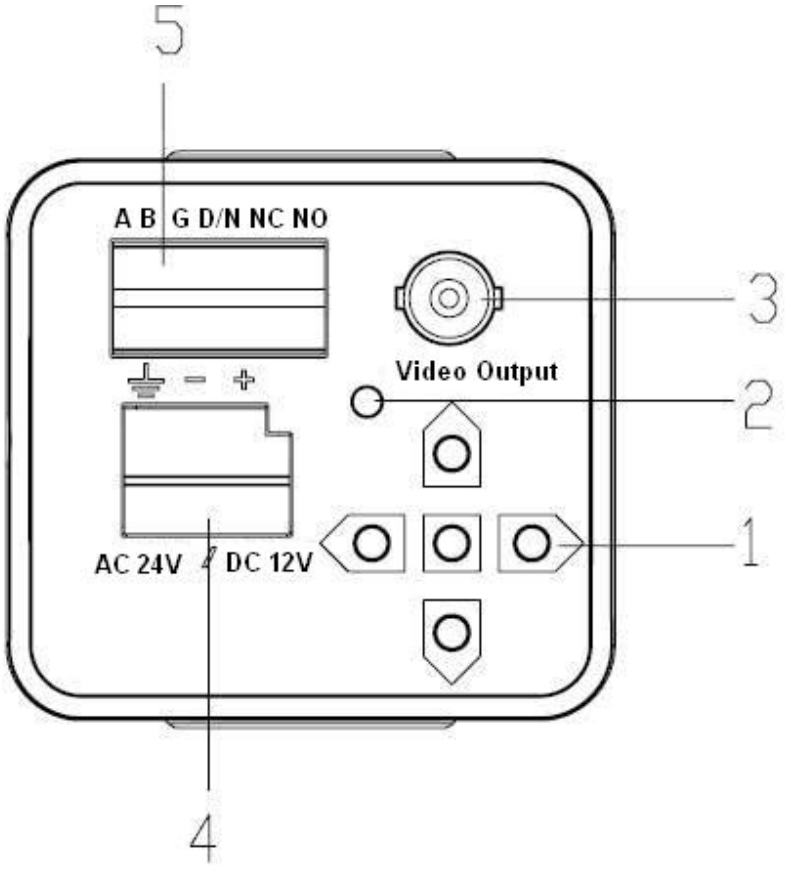


Figure 2-5

Please refer to the following sheet for detailed information.

1	Menu button	Press it for two seconds to call the menu. Use the up/down button to move the function and use the left/right button to select the item.
2	Power indication light	It is the power indication light. The LED light is on when the power supply is proper.
3	Video output	It is to output analog video signal.
4	Power	"+" is to connect to the positive end. "-" is to connect to the negative end. "⏚" is the ground end.
5	A,B	Support RS485 control. Can connect to the DVR, keyboard and etc to realize remote control.
	G,D/N	It is the input port for the device (such as the IR light) to confirm the day/night environment so that the device can realize the day/night switch.
	NC, NO	Connect to the external alarm device.

Important

Please refer to the specifications sheet for power voltage and working environment information.

Installation

Important

- Please make sure all the accessories are included.
- Please make sure the lens is the CS model and it is less than 1Kg.
- The jut after the installation section shall be less than 5mm.
- Please use the C/CS mount adapter when you are using C model lens.

2.4 Installation

This series camera support two installation modes: wall mount and in-ceiling mount.

All the steps listed below are based on the in-ceiling mount. The wall mount installation is the same.

Step 1

Please select the corresponding installation bracket before your installation.

If it is the cement wall, please install the expansion bolt first. Please make sure the expansion bolt installation position shall be identical with the bracket. Then you can install the bracket. See Figure 2-6.

If it is the wood wall, you can use the self-tapping bolt to install the bracket directly.

Important

Please make sure the installation surface can min support the 3X weight of the camera and the bracket.

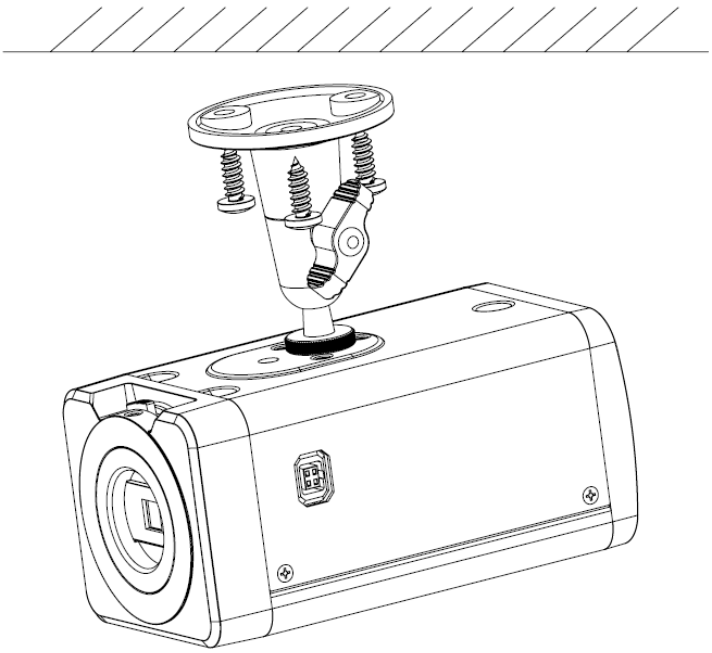


Figure 2-6

Step 2

Install the camera. Please use the installation pedestal at the top of the camera to turn the camera into the bracket.

Step 3

After adjust the camera to proper surveillance position, secure the knob of the bracket to fix the camera.

Step 4

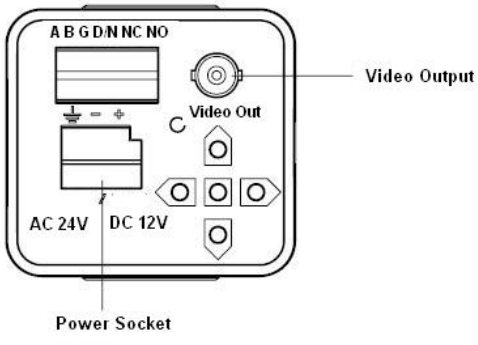
Install the lens to the camera head. Adjust the focus and then secure the lens. See

2.5 Hardware Installation

Please refer to the following figure for rear panel connection. See **Error! Reference source not found.**.

Important

Before you boot up the camera, please make sure the provided power voltage is conform to the camera specifications. Usually the analog camera voltage is DC 12V or AC 24V.



3 Menu

3.1 Main Menu

Please refer to the following sheet for menu information.

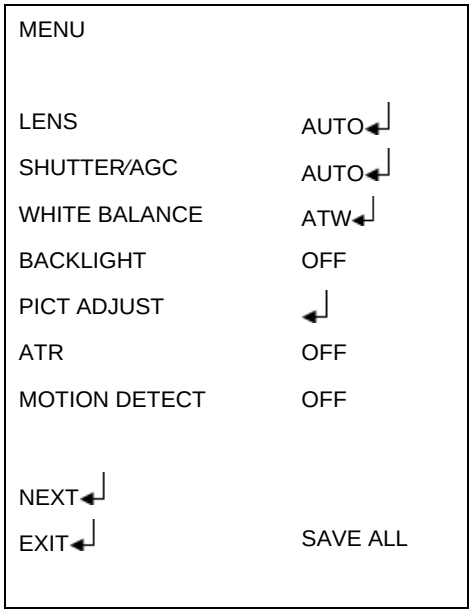
THE 1st MENU		THE 2ND MENU			THE 1st MENU		THE 2ND MENU	
LENS	AUTO ↵	TYPE	DC,VIDEO		ATR	ON↵	LUMINANCE	LOW MIDDLE HIGH
		MODE	AUTO. ON, OFF				CONTRAST	LOW MIDLOW MID MIDHIGH HIGH
		SPEED						
	MANUAL					OFF		
SHUTTER AGC	AUTO ↵	HIGH LUMINANCE			MOTION DETECT	ON↵	DETECT SENSE	000-127
		MODE	SHUTTER+AUTO IRIS AUTO IRIS SHUTTER				BLOCK DISPLAY	ON/OFF/SET↵
		BRIGHTNESS	0-255				MONITOR AREA	ON OFF
		LOW LUMINANCE					AREA SEL	1/4-1/4
		MODE	AUTO GAIN OFF				TOP	000-288
		BRIGHTNESS	×0.25~×1.00				BOTTOM	000-288
	MANUAL ↵	MODE	SHUTTER+AGC				LEFT	000-288
		SHUTTER	1/50~1/10,000				RIGHT	000-288
		AGC	6.00~44.80			OFF		
WHITE BALANCE	USER1 ↵	B-GAIN	0-255		PRIVACY MASK	ON ↵	AREA SEL	1/4~4/4
		R-GAIN	0-255				TOP	000~288
	USER2 ↵	B-GAIN	0-255				BOTTOM	000~288
		R-GAIN	0-255				LEFT	000~468
	ANTI CR						RIGHT	000~468
	PUSH LOCK						COLOR	1~8
	MANUAL ↵	LEVEL	018-040				TRANSPARENT	0.00~1.00
	PUSH						MOSAIC	ON OFF
	ATW↵	SPEED	0-255			OFF		
		DELAY CNT	0-255					
		ATW FRAME	×0.50~×2.00		DAY/NIGHT	AUTO ↵	BURST	ON OFF
		ENVIRONMENT	INDOOR OUTDOOR				DELAY CNT	000-255
BACKLIGHT	OFF						DAY→NIGHT	000-255
	BLC						NIGHT →DAY	000-255
	HLC					B/W↵	BURST	ON OFF
PICT		BRIGHTNESS	0-255			COLOR		

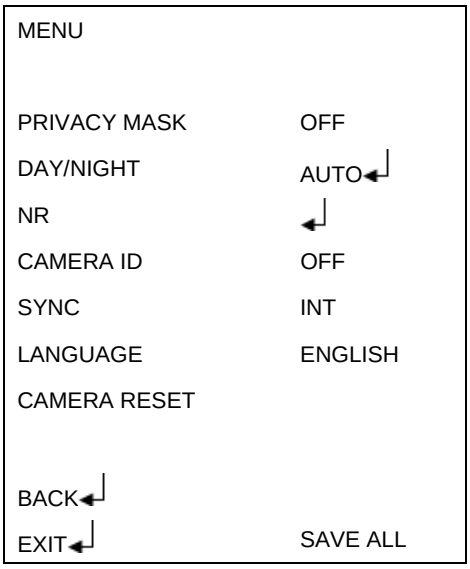
ADJUST		CONTRAST	0-255		NR	↵	NR MODE	OFF，Y/C， Y, C
		SHARPNESS	0-255				Y LEVEL	000-015
		HUE	0-255				C LEVEL	000-015
		GAIN	0-255		CAMERA ID	ON↵		
SYNC	INT					OFF		
	LL							
LANGUAGE	ENGLISH							
CAMERA RESET								

3.2 Main Interface

Press the menu button for 2 seconds; you can see the OSD menu appear in the monitor.

3.2.1 F481EP and F480CP

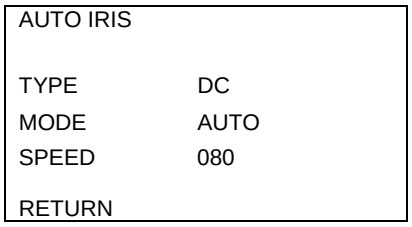




3.3 Detailed Operation

Use the up/down button to move the cursor to the 1ST MENU, Use the left/right button to set the corresponding parameter. You can click the confirm button to go to the sub-menu if current parameter checked with↵. Select the BACK ↵ to go back to previous menu.

3.3.1 LENS



Auto ↵

- Mode: The parameter includes DC/VIDEO.
  - ✧ The DC is the DC auto iris and the VIDEO is video drive lens.
  - ✧ Please connect to the auto iris port when you select the auto iris lens.
- Mode: It includes auto/on/off.
- Speed: Click the left/right button to set the value. The value ranges from 0 to 255.

Manual

It is the manual iris lens.

3.3.2 SHUTTER GAIN

The parameter includes: auto↵, manual↵.

AUTO ↵

AUTO SETUP	
HIGH LUMINANCE	
MODE	SHUTTER+AUTO IRIS
BRIGHTNESS	028
LOW LUMINANCE	
MODE	AGC
BRIGHTNESS	×1.00
RETURN	

- High luminance/low luminance: It is the high brightness/low brightness.
- Mode: The high luminance parameter includes shutter+auto iris, auto iris, and shutter. The low luminance parameter includes auto gain control (AGC), off.
- Brightness: The high luminance parameter ranges from 0 to 255. Please use the left/right button to set. The low luminance parameter includes ×0.25,×0.50,×0.75,×1.00.

Manual ↵

MANUAL SETUP	
MODE	SHUTTER+AGC
SHUTTER	1/50
AGC	6.00
RETURN	

- Mode: Right now the system supports shutter, slow shutter, and WDR shutter.
- Shutter: The parameter includes 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10,000.
- Auto gain: The parameter includes 6.00, 12.00, 18.00, 24.00, 30.00, 36.00, 42.00, and 44.80.

3.3.3 WHITE BALANCE (WB)

The parameter includes: manual↵, anti cr, push lock, user1↵, user2↵, ATW↵.

Manual ↵

MANUAL WB	
LEVEL UP	↵
LEVEL DOWN	↵
PRESET	
RETURN	

User1

USER1 WB	
B-GAIN	030
R-GAIN	033

- B-gain: It is to adjust the blue gain. Please use the left/right button to set. The value ranges from 0 to 255.
- R-gain: It is to adjust the red gain. Please use the left/right button to set. The value ranges from 0 to 255.

Note:

The user2 setup is the same with the user1.

ATW

ATW	
SPEED	239
DELAY CNT	003
ATW FRAME	×1.00
ENVIRONMENT	INDOOR
RETURN	

- ATW: It is the auto trace white balance. The camera can adjust the color temperature according to the actual color hue environments.
- Speed: The value ranges from 0 to 255. Please use the left/right button to set.
- Delay control: The value ranges from 0 to 255.Please use the left/right button to set.
- ATW frame: The parameter includes ×0.50、×1.00、×1.50、×2.00.
- Environment: The parameter includes: indoor, outdoor. Please use the left/right button to set.

Push lock

It is to click the OK button to lock the white balance.

Anti-color roll (ANTI CR)

Click it to enable the color roll control function.

3.3.4 HLC/BLC

The backlight compensation parameter includes: OFF, BLC, HLC.

- BLC: This function allows you to see the vivid video in the backlight environment.
- HLC: This function allows you to see the vivid video in the highlight environment.

3.3.5 PICTURE ADJUST

Click the confirm button to go to the sub-menu.

PICT ADJUST	
MIRROR	OFF
BRIGHTNESS	000
CONTRAST	128
SHARPNESS	128
HUE	128
GAIN	128
RETURN	

- Mirror: It is to set the horizontal mirror. The parameter includes on, off.
- Brightness: The value ranges from 0 to 255. Please use the left/right button to setContrast: The value ranges from 0 to 255. Please use the left/right button to set. Sharpness: The value ranges from 0 to 255. Please use the left/right button to set. Hue: The value ranges from 0 to 255. Please use the left/right button to set.
- Gain: The value ranges from 0 to 255. Please use the left/right button to set. (**Note: it is the color gain**)

3.3.6 ATR/ATR-EX

The parameter includes on, off↵.

Select the on button and then click the confirm button to go to the sub-menu.

ATR	
LUMINANCE	MID
CONTRAST	MID
RETURN	

- Luminance: The parameter includes: low, middle, high.
- Contrast: The parameter includes: low, middle low, middle, middle high, high.

3.3.7 MOTION DETECT

The parameter includes: on/off↵.

Select the on button and then click the confirm button, you can go to the sub-menu.

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

- Detect sensitivity: The value ranges from 000 to 127. Please use the left/right button to set.
- Block: display: The parameter includes on, off, set↵. Click the set button; you can use the direction buttons to set the area to display the block.
- Monitor area: The parameter includes on, off.
- Area selection: The value ranges from 1/4 to 4/4. Please use the left/right button to set. System max supports 4 areas. You can use the up/down/left/right button to set.
- Top: The value ranges from 000 to 288. Please use the left/right button to set. Button: The value ranges from 000 to 288. Please use the left/right button to set. Left: The value ranges from 000 to 288. Please use the left/right button to set. Right: The value ranges from 000 to 288. Please use the left/right button to set. (Note: This function is invalid when the digital image stabilization (DIS) function is on.

3.3.8 PRIVACY MASK

The parameter includes on, off↵.

Select the on button and then click the confirm button, you can go to the sub-menu.

PRIVACY	
AREA SEL	1/4
MODE	ON
POSITION	↵
COLOR	RED
TRANP	0.05
MOSAIC	OFF
RETURN	

- Area selection: The value ranges from 1/4 to 4/4. Please use the left/right button to set. System max supports 4 areas. You can use the up/down/left/right button to set.
- Top: The value ranges from 000 to 288. Please use the left/right button to set.
- Bottom: The value ranges from 000 to 288. Please use the left/right button to set.
- Left: The value ranges from 000 to 468. Please use the left/right button to set.
- Right: The value ranges from 000 to 468. Please use the left/right button to set.
- Color: The value ranges from 1 to 8. Please use the left/right button to set.
  BLACK,RED,GREEN,BLUE,
- Transparent: The parameter includes: 0.00, 0.50, 0.75, and 1.00.
- Mosaic: The parameter includes on, off.

3.3.9 DAY/NIGHT

The function can become valid from the external activation. This function is enabled when the IR light on if the D/N port in the rear panel can output the 5V high-level IR light. In this way, the device realizes the day/night mode switch.

The parameter includes: auto↵, color, black and white↵, and external-trigger.

Auto ↵

DAY/NIGHT MODE	
BURST	ON
DEALY CNT	003
DAY→NIGHT	001
NIGHT→DAY	007
RETURN	

- Burst: The parameter includes on, off.
- Delay control: The value ranges from 000 to 255. Please use the left/right button to set.
- Day-night: It is to set the minimum parameter to switch from the day mode to the night mode. The value ranges from 000 to 255. Please use the left/right button to set.
- Night-day: It is to set the maximum parameter to switch from the night mode to the day mode. The value ranges from 000 to 255. Please use the left/right button to set.

Note:

In day-night mode, the smaller the value, and the hard for the camera to switch to the black and white mode. In night-day mode, the larger the value, and the hard for the camera to switch to the color. Here we recommend the default value. If the system switches back and forth when you are using, please set the value in night-day mode larger and the value in the day-night mode smaller.

Black and white

B/W	
BURST	OFF
RETURN	

- Burst: The parameter includes on, off.

External-trigger

MODE	MODE1 MODE2
RETURN	

Note:

- You can use this function when you are using the external IR light. The output level is +5V or 0V when the compatible IR light is on.
- The F481EP series product only supports the high level output IR light. The IR light becomes valid once it connected to the device. You do not need to set in the OSD.
- The F480CP and F780CP series product does not support this function.

3.3.10 NR (NOISE REDUCE/DE-NOISE)

Click the confirm button to go to the sub-menu.

Select the on button and then click the confirm button, you can go to the sub-menu.

NR	
NR MODE	Y/C
Y LEVEL	004
C LEVEL	004
RETURN	

- NR mode: The parameter includes off, Y/C, Y, C,
- Y level: The value ranges from 000 to 015. Please use the left/right button to set.
- C level: The value ranges from 000 to 015. Please use the left/right button to set.

3.3.11 DIGITAL ZOOM

MAG	000-255
PAN	000-1023
TILT	000-511
RETURN	

Note

This function is null when the digital image stabilization function is on.

3.3.12 CAMERA ID

The parameter includes on, off.

Select the on button and then click the confirm button, you can go to the sub-menu. Please use the direction buttons to select the character or the function and then click the confirm button to select.

CAMERA ID
0001

A B C D E F G H I J K L M N O P Q R S T U V
W X Y Z 0 1 2 3 4 5 6 7 8 9 — ! ”# $ % & ’
( ) _ , ¥ : ; < = >?@\^*. × +/
CHR1 CHR2
←→↑↓ CLR POS ↵
RETURN

In the above figure, 0001 is the camera RS485 address. System default setup is 0001. You need to set the initial character as 1 if you want to modify current setup. Then you can set the following three characters. After you completed all the setup, you can set the initial character as 0.

Use the up/down button to move the cursor to the mark position and then click the confirm button to set the mark position. Please use the left/right button to select the characters and then click the confirm button to select.

CHR1: Library 1.

CHR2: Library 2.

←→↑↓: Select the character you want to modify.

CLR: Clear current character.

POS ↵: Select it to go to the camera mask position interface.

Mark setup

After you go to the camera ID setup interface, use the direction buttons “←→↑↓” to select the initial character of the mark code “0”. Use the direction buttons to select the CHR1 and then use the direction buttons to select character “1”. Click the confirm button to change the initial character “0” as “1” You can repeat the above steps to modify the following three-digit code. Select the character and then click the ‘CLR’, click the confirm button to remove the specified character. Please change the initial mark code “1” as “0”. Now you have completed the camera ID mark code. Use the direction buttons to select “POS ↵” and then click the confirm button, you can go to the position setup interface. Please click the direction buttons to set the camera ID overlay position on the screen. Click the confirm button to exit.

3.3.13 RS485

RS485 addr: (1-255): For F481EP series product, please refer to the camera ID setup information for the RS485 setup.

RS485 baud rate: 9600bps.

RS485 protocol: Auto-adaptive PELCOD, PELCOP, DH-SD.

Note:

This function is for F481EP, F581EP and F781EP series product only.

3.3.14 SYNC MODE

The system supports INT and LL setup.

Important

The F480CP and F780CP series product do not support the LL synchronization mode.

3.3.15 LANGUAGE

The parameter includes: English, Japanese and etc. The default setup is English.

3.3.16 CAMERA RESET

Please select the reset item and then click the confirm button to restore the factory default setup.

3.3.17 OTHERS

Next: Click it to go to the sub-menu.

Back: click it to return to the previous menu.

Return: click it to exit the menu setup interface.

SAVE ALL: Click it to save current setup.

Important

After you completed the setup, please click the “SAVE ALL” button to save current setup and then exit the menu. It is to guarantee the camera setup after the power failure.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Construction Material	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is **below** the relevant threshold of the **SJ/T11363-2006** standard.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**