





# **INTEGRATED VARI-FOCAL CAMERA**

**PIH-402X/404X Series**

**INSTRUCTION MANUAL**

# IMPORTANT SAFEGUARDS

	<p><b>CAUTION</b></p> <p><b>RISK OF ELECTRIC SHOCK DO NOT OPEN</b></p>	
<p><b>CAUTION :</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

## GRAPHIC SYMBOL EXPLANATION

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the unit.



## CAUTION

- ⊗ **Do not drop or strike this equipment.**

Sensitive electronics inside are vulnerable to excessive shock.

- ⊗ **Do not install the equipment near any naked flames or heat sources.**

Excessive heat could damage this unit.

- ⊗ **Do not expose this unit to rain or excessive moisture, avoid smoke and dust.**

Please the camera in an environmental housing for protection. If the camera gets wet, unplug it and have it checked by qualified service personnel.

- ⊗ **Do not cover cloth or to install this unit in poorly ventilated places.**

This may lead to overheating.

- ⊗ **Do not continue to operate if there appears to be fault.**

If the unit ceases to function, contact qualified service personnel for help.

- ⊗ **Do not touch the power connection with wet hands.**

Risk of short circuit or electric shock.

- ⊗ **Do not damage the power cord or leave it under pressure.**

Risk of fire or shock circuit.

## CONGRATULATIONS

Thank you for purchasing this high quality color camera. You now own one of the many fine CCTV products we manufactured. This product has been carefully inspected under rigid quality control and should reach you in perfect condition. With reasonable care, it will provide years of reliable performance.

We recommend that you read this installation and operation manual thoroughly before installing and operation your new system.

Here you will find all the information you need to set up and use the system. If any questions are not answered in the manual, please contact your dealer.

Before proceeding, please read and observe all instructions and warnings contained in this manual. Retain this manual with the original bill of sale for future reference and, if necessary, warranty service.

When unpacking your new camera, check for missing or damaged items. If any item is missing, or if damage is evident, **DO NOT INSTALL OR OPERATE THIS PRODUCT**. Contact your dealer for assistance.

## WARRANTY INFORMATION

Please complete the following product purchase information. The factory will request this information when contacted for technical support, or warranty repair. It is also valuable in case of loss or theft.

Purchase Date : \_\_\_\_\_  
Serial Number : \_\_\_\_\_  
Model Number : \_\_\_\_\_

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# FEATURES

The 1/3" vari-focal color camera has a CCD image sensor and all solid state circuitry, which will provide extremely long life with high reliability.

The PIH-402 & 404 series camera offers excellent picture reproducibility with low lag and high burn resistance. It is resistant to distortion from magnetic fields, shock and vibration and will operate reliably in a wide range of temperatures.

- **BUILT-IN VARI-FOCAL LENS**

Built-in high performance 3~9mm vari-focal lens makes installation and adjustments a simple task. This saves the time for proper lens selection. Hi-speed F1.3 iris offers superior imagery quality and is suitable for low light condition.

- **DIGITAL SIGNAL PROCESSOR**

DSP cameras can produce high color contrast images, enhance picture sharpness and enable the camera to work in wide range of lighting conditions.

- **SENSITIVITY**

This is a highly sensitive camera with a minimum scene illumination 0.1lux (PIH-402) and 0.18lux(PIH-404) at F1.4, ensuring good quality images in low light environments.

- **AUTOMATIC GAIN CONTROL**

Low light image are enhanced by increasing the AGC from 10dB, under normal light conditions, to 26dB under low light conditions.

- **BACK LIGHT COMPENSATION**

Subjects lit from behind can be automatically enhanced through DSP control of the iris and shutter speeds, compensating for poorly illuminated scenes.

- **AUTO WHITE BALANCE**

Automatic adjustment of the light source color temperature in order to maintain perfect picture color.

- **APERTURE CORRECTION**

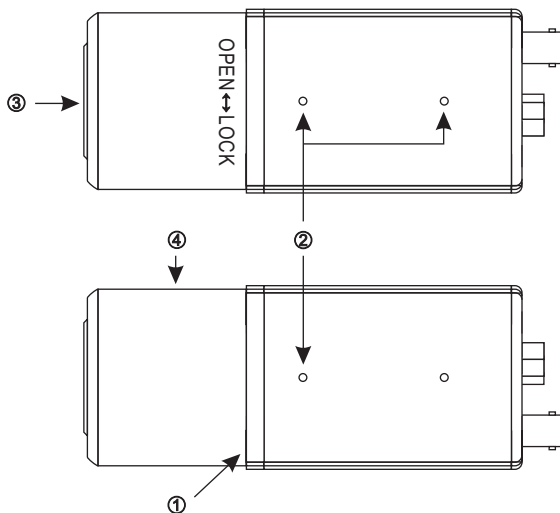
Refining capture image outlines for a sharper video image.

- **AUDIO OUTPUT**

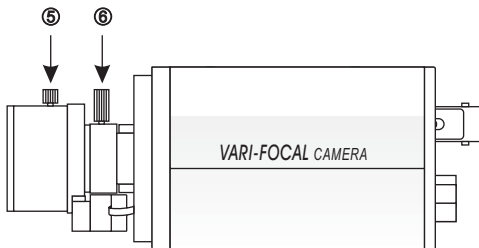
Built-in highly sensitive capacitive microphone allows setting up of audio monitoring system.

## PART DESCRIPTION

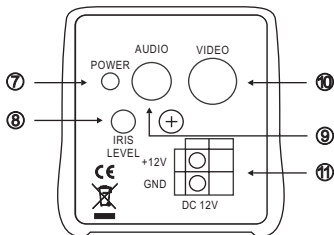
- **TOP/BOTTOM VIEW**



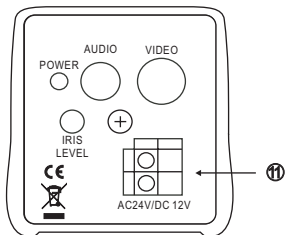
● SIDE VIEW



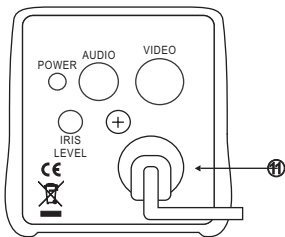
● REAR PANEL



PIH-4022/4042



PIH-4026/4046



PIH-4028/4048

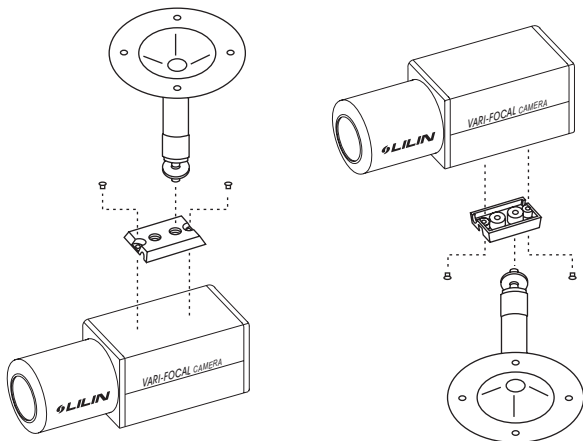
- ① Microphone
- ② Fixing for mounting base
- ③ Lens cover
- ④ Lens hood
- ⑤ Focus adjustment lever
- ⑥ Zoom (View angle) adjustment lever
- ⑦ Power LED
- ⑧ DC Iris level adjustment VR
- ⑨ Connector for audio output
- ⑩ Connector for video output
- ⑪ Power input



# INSTALLATION

## ● FITTING THE CAMERA

1. The mounting base can be attached to either the top or bottom of the camera.
2. Tighten the screw to attach the mounting base. Please refer to the following drawing.

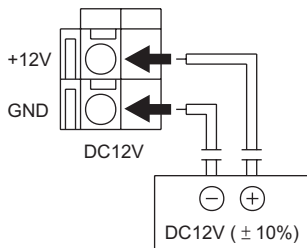


## ● CONNECTION OF POWER SUPPLY CABLE (DC12V)

Connect to the power supply.  
Please refer to the right drawing.

### NOTE

When using DC power, check for proper polarity before connecting to power supply.

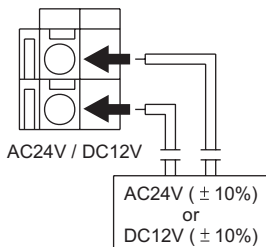


● **CONNECTION OF POWER SUPPLY CABLE (AC24V or DC12V)**

Connect to the power supply.  
Please refer to the right drawing.

**NOTE**

Make sure to use AC24V or DC12V  
(Non-Polarity input) power supply.

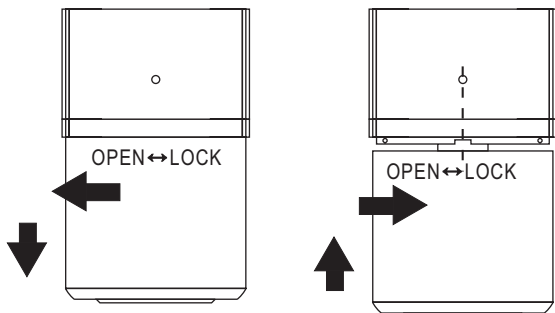


● **ADJUSTMENT OF ZOOM (VIEW ANGLE) AND FOCUS**

Take the lens hood off by turning it counter-clockwise.

Adjust view angel and focus by turning the levers.

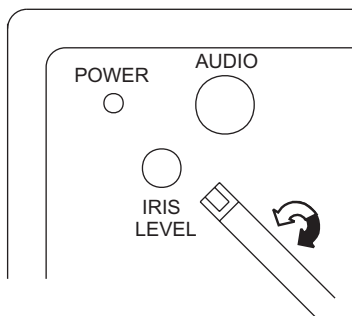
Then tighten the lock screws. Align the arrow on the lens hood and mounting hole of camera body (Please refer to the above drawing). Then turn the hood clockwise to lock.



- **DC IRIS LEVEL ADJUSTMENT**

Adjust DC iris level manually.

Please refer to the above drawing.



**ATTENTION**

Adjust this VR with care so as not to cause damage to the unit.

# SPECIFICATIONS

VARI-FOCAL COLOR CAMERA				
Model No.		PIH-4022 N/P	PIH-4026 N/P	PIH-4028 N/P
Lens	Focal Length		3 ~ 9mm	
	Iris		F1.4	
	Angle of View	H	90.2° ~ 31.8°	
		V	66.3° ~ 23.9°	
D		115.3° ~ 39.7°		
Power Input Voltage		DC12V (±10%)	AC24V (±10%) or DC12V (±10%)	AC90 ~ 260V
System		NTSC or PAL		
Sync. Mode		Internal		
Pick Up Element		1/3" Super HAD CCD Sensor		
Effective Pixels		510(H) x 492(V) [NTSC] 500(H) x 582(V) [PAL]		
Chip Size		5.59mm (H) x 4.68mm (V)		
Horizontal & Vertical Sync. Frequency		15.734KHz / 59.94Hz [NTSC] 15.625KHz / 50Hz [PAL]		
Scanning System		2 : 1 Interlace		
Resolution		380TV Lines		
Minimum Illumination		0.1Lux (F1.4)		
S/N Ratio		More than 50dB (AGC OFF)		
Auto Gain Control		36dB Variable Gain		
White Balance		ATW		
Aperture Correction		Horizontal , Vertical		
Power Consumption		2.2W	3.0W(DC12V) 2.5W(AC24V)	4.3W
Back Light Compensation		Auto		
Video Output		CVBS 1.0Vp-p , 75ohm		
Audio Output		Yes		
Operating Temperature		-10°C ~ +50°C (14°F ~ 122°F)		
Gamma Characteristic		$\gamma = 0.45$		
Dimension		52mm(W) x 55mm(H) x 124mm(D)		
Weight		400g		

Design and specifications are subject to change without notice.

## HIGH RESOLUTION VARI-FOCAL COLOR CAMERA

Model No.		PIH-4042 N/P	PIH-4046 N/P	PIH-4048 N/P
Lens	Focal Length	3 ~ 9mm		
	Iris	F1.4		
	Angle of View	H	90.2° ~ 31.8°	
		V	66.3° ~ 23.9°	
D		115.3° ~ 39.7°		
Power Input Voltage		DC12V (±10%)	AC24V (±10%) or DC12V (±10%)	AC90 ~ 260V
System		NTSC or PAL		
Sync. Mode		Internal		
Pick Up Element		1/3" Super HAD CCD Sensor		
Effective Pixels		768(H) x 494(V) [NTSC] 752(H) x 582(V) [PAL]		
Chip Size		5.59mm (H) x 4.68mm (V)		
Horizontal & Vertical Sync. Frequency		15.734KHz / 59.94Hz [NTSC] 15.625KHz / 50Hz [PAL]		
Scanning System		2 : 1 Interlace		
Resolution		480TV Lines		
Minimum Illumination		0.18Lux (F1.4)		
S/N Ratio		More than 50dB (AGC OFF)		
Auto Gain Control		36dB Variable Gain		
White Balance		ATW		
Aperture Correction		Horizontal , Vertical		
Power Consumption		2.2W	3.0W(DC12V) 2.5W(AC24V)	4.3W
Back Light Compensation		Auto		
Video Output		CVBS 1.0Vp-p , 75ohm		
Audio Output		Yes		
Operating Temperature		-10°C ~ +50°C (14°F ~ 122°F)		
Gamma Characteristic		$\gamma = 0.45$		
Dimension		52mm(W) x 55mm(H) x 124mm(D)		
Weight		400g		

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