





# **DAY&NIGHT CAMERA**

**PIH-802/804/808 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 : \_\_\_\_\_

## TABLE OF CONTENTS

FEATURES .....	1
PART DESCRIPTION .....	2
INSTALLATION .....	8
SPECIFICATIONS .....	13

# FEATURES

The PIH-802/804/808 series Day&Night Camera introduces a new level of high quality picture. The compact full performance, general purpose color DSP camera, which use high sensitive 1/3" interline transfer CCD. It delivers high resolution superior color images in day condition, and clear sharp monochrome pictures in night condition. The evolution 2-in-1 intelligent video camera brings your security surveillance system to a new digital era.

- **DAY&NIGHT**

The camera provides automatic mode changeover by sensing day or night conditions.

It can change color mode in the day condition for optimal color and mono mode in night condition for clear identification.

- **SENSITIVITY**

This is a highly sensitive camera with minimum scene illumination, ensuring good quality images in low light environments.

- **ELECTRONIC SHUTTER**

When using manual or fixed iris lenses, the electronic shutter function controls the amount of light captured by the CCD by altering the shutter speed between 1/50(1/60) ~ 100,000 of a second.

- **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.

- **WHITE BALANCE**

Automatic adjustment of the light source color temperature in order to maintain perfect picture color. This camera provides 7 "White Balance" control mode. You can select the most suitable one.

- **APERTURE CORRECTION**

Refining captured image outlines for sharper video image.

- **LINE-LOCK / INTERNAL**

With AC camera the Line Lock facility enables roll free picture switching. The Internal Sync. Function uses a crystal to control the camera frequency independently of the AC supply.

(DC cameras have only Internal Sync, AC cameras have Line Lock.)

- **ACCEPT VIDEO OR DC DRIVE AUTO IRIS LENS**

Both types of Auto Iris lens can be used; video and direct (DC) drive.

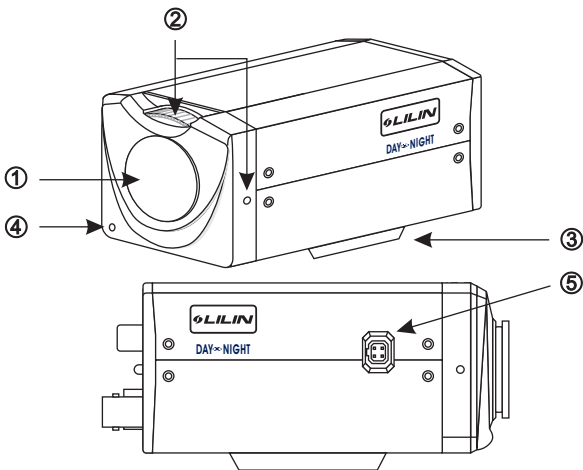
- **AUDIO OUTPUT**

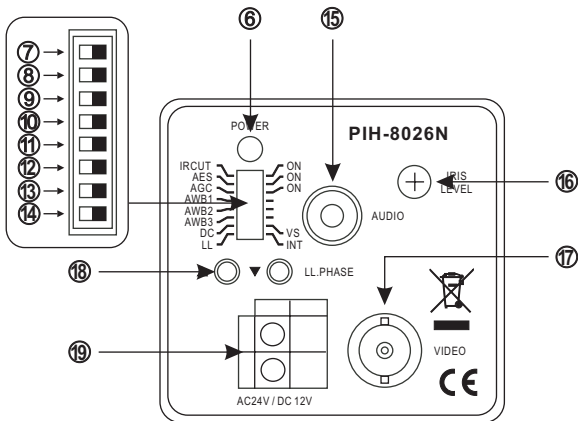
Built-in highly sensitive capacitive microphone allows setting up of audio monitoring system.

- **FOCAL LENGTH ADJUSTMENT RING**

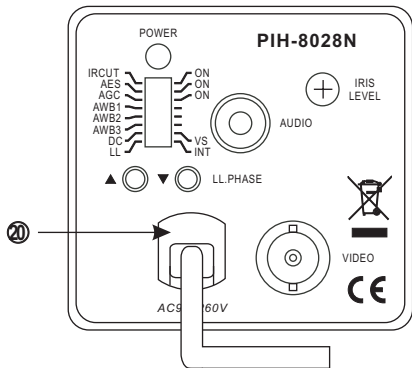
Use this ring to adjust the back focal distance or picture focus.

## PART DESCRIPTION





**PIH-8026/8046/8086**



**PIH-8028/8048/8088**



### ① LENS MOUNT CAP

Prevent damages to the image sensor and to keep dust away.

### ② FOCAL LENGTH ADJUSTMENT RING AND LOCKING SCREW

Use this ring to adjust the back-focal distance or picture focus. Rotate this ring clockwise or counterclockwise for a CS-mount lens.

Use the locking screw to lock the focal length.

### ③ CAMERA MOUNTING BRACKET

The mounting bracket can be attached to either the top or bottom of the camera using the two attached screws(M2.6x5.0). The camera mounting bracket is attached underneath the main body.

### ④ MICROPHONE HOLE

Built-in highly sensitive capacitive microphone.

### ⑤ AUTO IRIS CONNECTOR (4PIN SOCKET)

Supplies power and control signals to an auto iris lens (not supplied).

### ⑥ POWER LED

Power ON/OFF Indicator.

### ⑦ IR CUT FILTER ON/AUTO SWITCH

ON : Color mode is kept up.

AUTO : Automatic switch from Color mode to Monochrome.

It changes to Color mode in day conditions for optimal color and to Monochrome mode in night conditions.

#### NOTE

The object may be more out of focus when using a source of infrared light than using the visible light.

## ⑧ AES (AUTOMATIC ELECTRONIC SHUTTER) ON/OFF SWITCH

When using a manual iris lens or fixed iris lens, set this switch to ON. Switching the switch to the OFF while the auto iris lens in use.

## ⑨ AGC (AUTOMATIC GAIN CONTROL) ON/OFF SWITCH

The AGC function automatically adjusts picture gain in accordance with the brightness of the subject.






















ON : Gain is increased or decreased from Min. to Max. automatically.

OFF : Deactivation.

### NOTE

When AGC set to OFF, Color/Monochrome do not change over automatically, Color mode is kept up.

## ⑩ ⑪ ⑫ AWB1、AWB2、AWB3 SWITCH

AWB1、AWB2、AWB3 Setting	Mode	Set Color Temperature (K)
AWB1   	ATW	Approximately 2500 ~ 9500
AWB1   	Push	Approximately 2500 ~ 9500
AWB1   	Hold	Approximately 2500 ~ 9500
AWB1   	Indoor Fixed Value	Approximately 3200
AWB1   	Fluorescent Light Fixed Value	Approximately 4200
AWB1   	User	Approximately 4700
AWB1   	Outdoor Fixed Value	Approximately 6300

- ATW** : ATW is the Auto Trace White Balance mode that automatically aligns the white balance, as the color temperature is 2500K~9500K.
- PUSH** : Push mode is performed at a faster operating speed than ATW without and operation frame, as the color temperature is 2500K~9500K.
- HOLD** : Convergence Operation is stopped when shifting to Hold mode, as the color temperature is 2500K~9500K.
- Indoor Fixed Value** : Indoor Fixed Value mode should be set as color temperature 3200K.
- Fluorescent Light Fixed Value** : Fluorescent Light Fixed Value mode should be set as color temperature 4200K.
- User** : User mode should be set as color temperature 4700K.
- Outdoor Fixed Value** : Outdoor Fixed Value mode should be set as color temperature 6300K.

#### **18 AUTO IRIS LENS SELECTION SWITCH (DC/VS)**

Switch for selecting the control signal for auto iris lens.

**DC** : For auto iris lenses controlled by DC (Direct drive) signals.

**VS** : For auto iris lenses controlled by Video signals.

#### **NOTE**

When you use auto iris lens, do not set the level on the lens to too low, Color/Mono may not change over automatically.

#### **19 LL (LINE-LOCK) / INT (INTERNAL SYNC.) SELECTION SWITCH**

Selects the camera synchronization mode from internal sync. mode(INT) or line-lock mode (LL).

**LL** : Set to line-lock mode. Make the vertical phase of the camera video signal matched to the phase of AC power.

**INT** : Sets to internal 2:1 interlace.

#### **NOTE**

Sync. mode is fixed to "INT" in DC12V input power.

## 15 AUDIO OUT CONNECTOR

Audio signal output.

## 16 IRIS LEVEL ADJUSTMENT VOLUME

Adjusts the signal level when DC control type auto iris lens is in use.

## 17 VIDEO OUTPUT CONNECTOR

Composite video signal output.

## 18 LL (LINE-LOCK) PHASE ADJUSTMENT PUSH BUTTON

Adjusts the line-lock delay phase. Press ▲ or ▼ to match the vertical phase for both video output signals as closely as possible.

## 19 AC24V/DC12V COMPATIBLE INPUT TERMINAL

AC24V(AC24V  $\pm 10\%$ ) or DC12V(DC12V  $\pm 10\%$ , Non-Polarity) power input.

## 20 AC INPUT

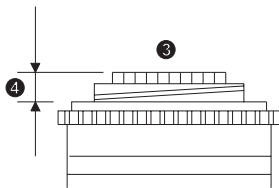
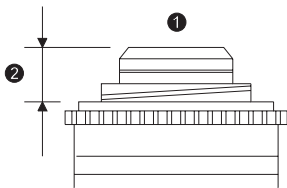
AC90~260V maximum power input.

# INSTALLATION

### ● SUITABLE LENSES

The lens must be either a C or CS mount type. The protrusion behind the mounting surface must be within the following limits:

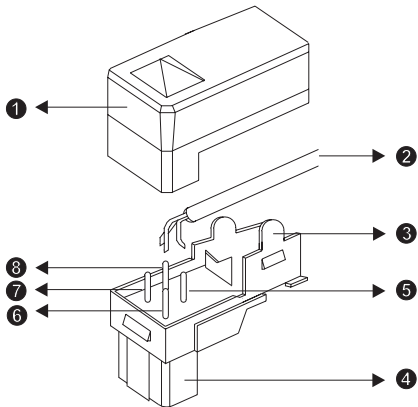
1	C - mount lens	3	CS - mount lens
2	9mm or less	4	4mm or less



## ● CHANGING THE PLUG ON AN AUTO IRIS LENS CABLE

The camera is supplied with a plug to fit the AUTO IRIS connector. To connect an auto iris lens, first replace the plug on the lens cable with the supplied plug.

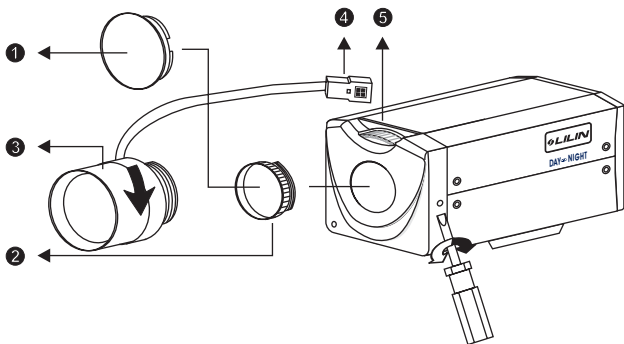
Solder the lens cable to the pins of the supplied plug (For cable pin assignment, refer to the instruction manual for the lens.).



①	Cover		
②	Lens cable		
③	Rib (If the cable is thick, cut this off.)		
④	Plug (Unit accessory)		
⑤	Pin 4	Video signal control	Ground
		DC control	Drive -
⑥	Pin 2	Video signal control	Vcc
		DC control	Control +
⑦	Pin 1	Video signal control	Not used
		DC control	Control -
⑧	Pin 3	Video signal control	Video signal
		DC control	Drive +

## ● FITTING THE LENS

- ① Remove the lens mount cap.
- ② Screw in the C mount ring(not supplied), unit it is secured. When using a CS mount lens skip step2.
- ③ Screw in the lens, unit it is secured.
- ④ Insert the lens plug in the AUTO IRIS connector, when fitting a manual-iris lens, skip step4.
- ⑤ Adjust the focal length by turning the focal length adjustment ring.  
(Using hexagon screw driver, loose and tighten the screw on side of the camera)

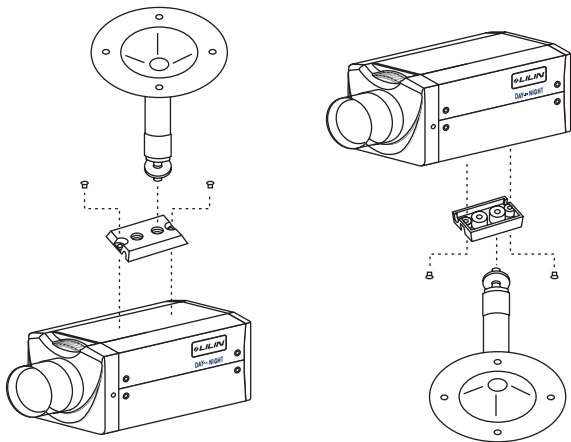


## CAUTION

Keep the lens mount cap on the camera when not attaching a lens.

## ● 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.

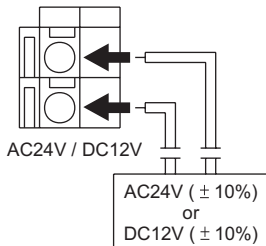


## ● CONNECTION OF POWER SUPPLY CABLE (AC24V or DC12V)

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

### NOTE

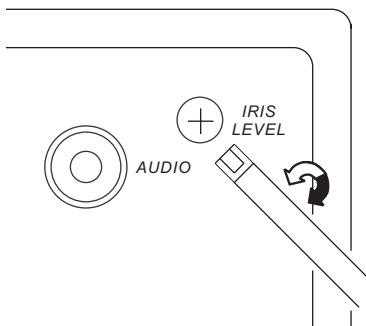
Make sure to use AC24V or DC12V  
(Non-Polarity input) power supply.



- **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

DAY & NIGHT CAMERA			
Model No.	PIH-8026 N/P	PIH-8028 N	PIH-8028 P
System	NTSC or PAL	NTSC	PAL
Power Input Voltage	DC12V/AC24V	AC90V ~ 260V	
Sync. Mode	Line-Lock/Internal Selectable DC12V : Sync. Mode is fixed to 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		
Infrared Cut Filter	On/Auto Selectable , On: Color Mode ; Auto: Automatic Switch From Color Mode To Monochrome		
Resolution	Color : 380TV Lines , Mono : 450TV Lines		
Minimum Illumination	Color : 0.08Lux at F1.2 ; 0Lux with IR Mono : 0.01Lux at F1.2		
S/N Ratio	More than 50dB (AGC OFF)		
Auto Gain Control	On/Off Selectable		
White Balance	ATW / PUSH / HOLD / 3200K / 4200K / 4700K / 6300K		
Aperture Correction	Horizontal , Vertical		
Power Consumption	5.0W(DC12V) 4.0W(AC24V)	5.3W	
Shutter	1/60(1/50)S ~ 1/100,000S (Auto or Off)		
Back Light Compensation	Auto		
Video Output	CVBS 1.0Vp-p , 75ohm		
Audio Output	Yes		
Lens Mount	C or CS Mount		
Auto Iris Drive	Direct Drive(DC) or Video Drive		
Operating Temperature	-10℃ ~ +50℃ (14℉ ~ 122℉)		
Gamma Characteristic	$\gamma = 0.45$		
Dimension	56mm(W) x 54mm(H) x 112mm(D)		
Weight	510g		

Design and specifications are subject to change without notice.

<b>HIGH RESOLUTION DAY &amp; NIGHT CAMERA</b>			
Model No.	PIH-8046 N/P	PIH-8048 N	PIH-8048 P
System	NTSC or PAL	NTSC	PAL
Power Input Voltage	DC12V/AC24V	AC90V ~ 260V	
Sync. Mode	Line-Lock/Internal Selectable DC12V : Sync. Mode is fixed to 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		
Infrared Cut Filter	On/Auto Selectable , On: Color Mode ; Auto: Automatic Switch From Color Mode To Monochrome		
Resolution	Color : 480TV Lines , Mono : 550TV Lines		
Minimum Illumination	Color : 0.1Lux at F1.2 ; 0Lux with IR Mono : 0.02Lux at F1.2		
S/N Ratio	More than 50dB (AGC OFF)		
Auto Gain Control	On/Off Selectable		
White Balance	ATW / PUSH / HOLD / 3200K / 4200K / 4700K / 6300K		
Aperture Correction	Horizontal , Vertical		
Power Consumption	5.0W(DC12V) 4.0W(AC24V)	5.3W	
Shutter	1/60(1/50)S ~ 1/100,000S (Auto or Off)		
Back Light Compensation	Auto		
Video Output	CVBS 1.0Vp-p , 75ohm		
Audio Output	Yes		
Lens Mount	C or CS Mount		
Auto Iris Drive	Direct Drive(DC) or Video Drive		
Operating Temperature	-10℃ ~ +50℃ (14℉ ~ 122℉)		
Gamma Characteristic	$\gamma = 0.45$		
Dimension	56mm(W) x 54mm(H) x 112mm(D)		
Weight	510g		

Design and specifications are subject to change without notice.

### SUPER EYE HIGH RESOLUTION DAY & NIGHT CAMERA

Model No.	PIH-8086 N/P	PIH-8088 N	PIH-8088 P
System	NTSC or PAL	NTSC	PAL
Power Input Voltage	DC12V/AC24V	AC90V ~ 260V	
Sync. Mode	Line-Lock/Internal Selectable DC12V : Sync. Mode is fixed to Internal		
Pick Up Element	1/3" Exview HAD CCD Sensor		
Effective Pixels	768(H) x 494(V) [NTSC] 752(H) x 582(V) [PAL]		
Chip Size	6.00mm (H) x 4.96mm (V)		
Horizontal & Vertical Sync. Frequency	15.734KHz / 59.94Hz [NTSC] 15.625KHz / 50Hz [PAL]		
Scanning System	2 : 1 Interlace		
Infrared Cut Filter	On/Auto Selectable , On: Color Mode ; Auto: Automatic Switch From Color Mode To Monochrome		
Resolution	Color : 480TV Lines , Mono : 550TV Lines		
Minimum Illumination	Color : 0.05Lux at F1.2 ; 0Lux with IR Mono : 0.01Lux at F1.2		
S/N Ratio	More than 50dB (AGC OFF)		
Auto Gain Control	On/Off Selectable		
White Balance	ATW / PUSH / HOLD / 3200K / 4200K / 4700K / 6300K		
Aperture Correction	Horizontal , Vertical		
Power Consumption	5.0W(DC12V) 4.0W(AC24V)	5.3W	
Shutter	1/60(1/50)S ~ 1/100,000S (Auto or Off)		
Back Light Compensation	Auto		
Video Output	CVBS 1.0Vp-p , 75ohm		
Audio Output	Yes		
Lens Mount	C or CS Mount		
Auto Iris Drive	Direct Drive(DC) or Video Drive		
Operating Temperature	-10℃ ~ +50℃ (14℉ ~ 122℉)		
Gamma Characteristic	$\gamma = 0.45$		
Dimension	56mm(W) x 54mm(H) x 112mm(D)		
Weight	510g		

Design and specifications are subject to change without notice.

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