





SUPER HI-RESOLUTION DAY&NIGHT CAMERA

PIH-815/819 Series

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

	<p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p>	
<p>CAUTION : 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.



<p>CAUTION</p> <p>RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.</p> <p>DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS</p>
--



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 WDR Day/Night 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 requests 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 PIH-8156/8158/8196/8198 series Super Hi-Resolution Day&Night camera introduces supremacy in video quality. This compact yet full functional color DSP camera use Sony high sensitive 1/3" interline transfer CCD.

It delivers 540TVL of high resolution, superior color images in well-lit condition and clear sharp monochrome video in dark condition. The evolution 2-in-1 intelligent video camera helps to improve your security surveillance system to a new digital era.

- **SUPER HIGH RESOLUTION MODE**

Using an aperture compensation generation block to provide high resolution within brightness signal processing.

More than 540 horizontal TVL resolution.

- **PRIVACY ZONE**

Privacy Zones prevent objects and areas such as windows and doors which are within the camera's viewing range but not in the scope of surveillance, 8 masking areas per screen simultaneously.

- **ON SCREEN DISPLAY CONTROL (OSD)**

This camera provides an on-screen display (OSD) setup menu where all advanced functions can be selected and setup via OSD Setup Menu.

- **DAY & NIGHT (ICR removable)**

The camera provides automatic mode changeover from color to B/W or B/W to color by sensing different light conditions.

It remains at true color mode in the day condition for optimal color and switched to B/W mode in night condition for clear viewing by removing the Infrared Cut Filter.

- **SENSITIVITY**

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

- **ELECTRONIC SHUTTER**

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

- **BACK LIGHT COMPENSATION**

Lights from the behind of the objects can be enhanced automatically to compensate for poorly illuminated scenes through DSP control such as iris and shutter speeds.

- **WHITE BALANCE**

Color-temperature is adjusted automatically to produce clean, natural and rich color images. Auto Correction, Auto, Tracking and Fix(Indoor/Outdoor) modes are available to obtain most suitable selection.

- **APERTURE CORRECTION**

Refining captured image outlines for a sharper video image.

- **LINE-LOCK / INTERNAL**

With AC type camera, the Line Lock facility enables color-rolling free video images.

The Internal Sync. Function utilized a crystal to generate the camera frequency. (DC camera comes only with Internal Sync. and AC cameras has Line lock.)

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

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

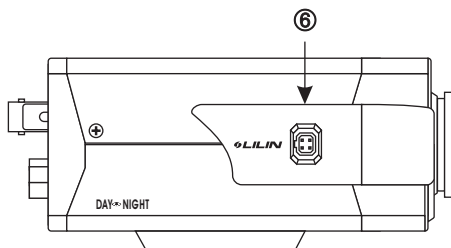
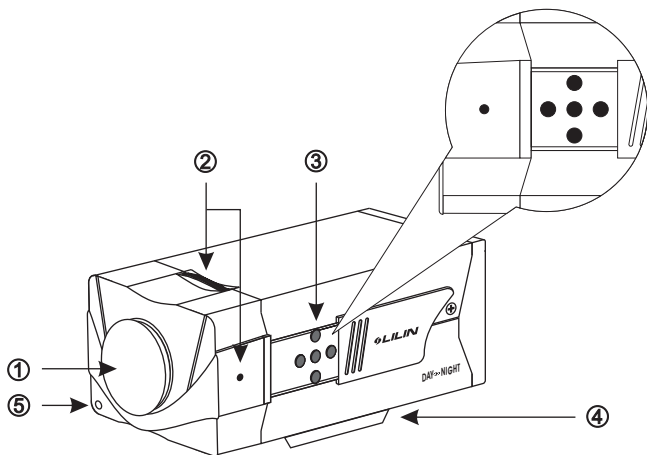
- **AUDIO OUTPUT**

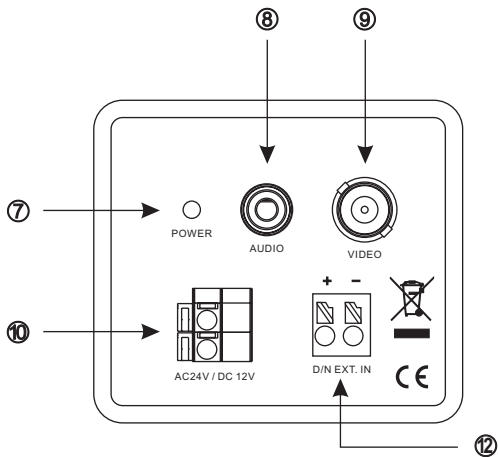
Built-in highly sensitive capacitive microphone allows setting up of audio monitoring system.

- **FOCAL LENGTH ADJUSTMENT RING**

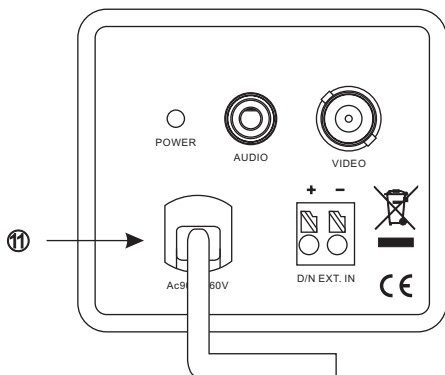
Use attached metal ring to adjust the back-focus distances or picture focus.

PART DESCRIPTION





PIH-8156/8196



PIH-8158/8198

① LENS MOUNT CAP

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

② FOCAL LENGTH ADJUSTMENT RING AND LOCKING SCREW

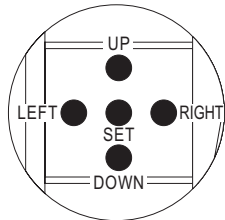
Use this ring to adjust the back-focal distance or picture focus. Rotate this ring clockwise or counterclockwise for a CS-mount lens.

Use the locking screw to lock the focal length.

③ USER OSD SETTING

Setting switches and Functions.

1. UP : Press to move the cursor upward or to select items.
2. LEFT : Press to move the cursor to the left and to select or adjust the parameters of the selected item.
3. RIGHT : Press to move the cursor to the right and to select or adjust the parameters of the selection item.
4. DOWN : Press to move the cursor downwards or to select items.
5. SET : Press to display the SETUP MENU, if the selected item has SUB-MENU, press again to enter SUB-MENU.



④ CAMERA MOUNTING BRACKET

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

⑤ MICROPHONE

Highly sensitive microphone built-in.

⑥ AUTO IRIS CONNECTOR (4PIN SOCKET)

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

⑦ POWER LED

Power ON/OFF indicator.

⑧ AUDIO OUTPUT RCA CONNECTOR

Audio signal output.

⑨ VIDEO OUTPUT CONNECTOR

Composite video signal output.

⑩ AC24V/DC12V COMPATIBLE INPUT TERMINAL

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

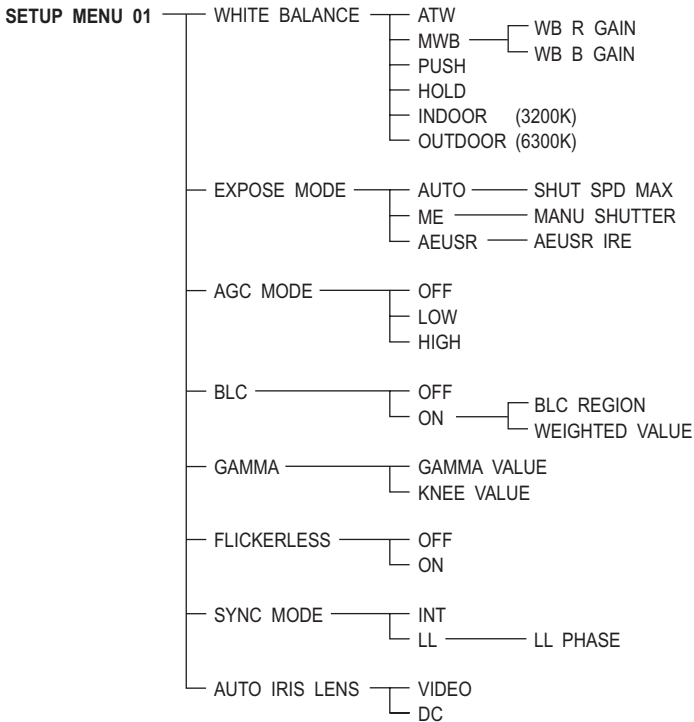
⑪ AC INPUT

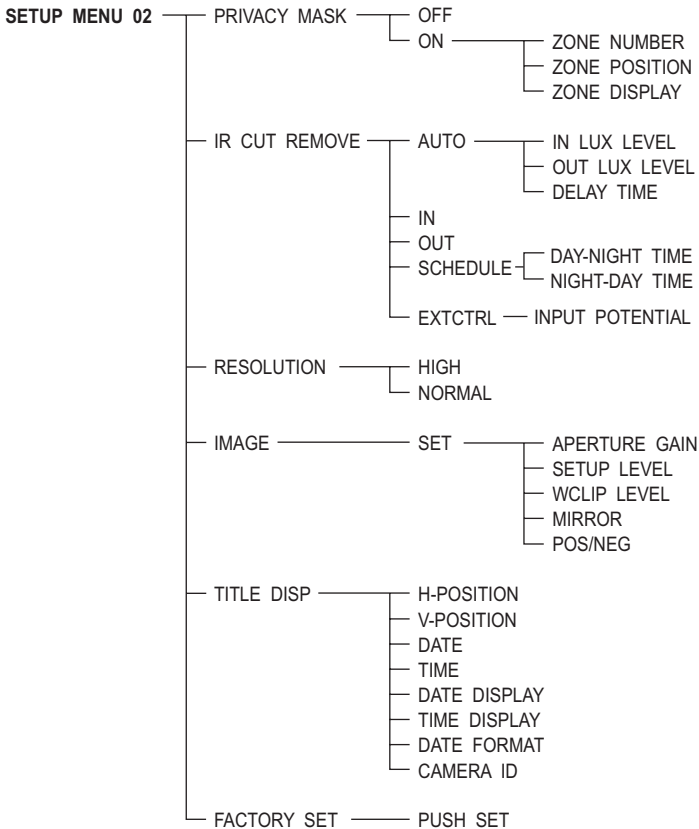
AC90~260V maximum power input.

⑫ DAY & NIGHT EXTERNAL CONTROL TRIGGER (TTL type)

The camera will be triggered to switch between Day(color) or Night(B/W) mode by external TTL device [LOW(0V) / HIGH(+3V ~ +5V)]. To define Low or High potential to trigger IR-Cut Filter move out to product B/W video image is selected from EXTCTRL menu.

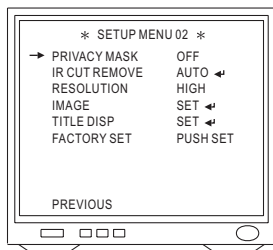
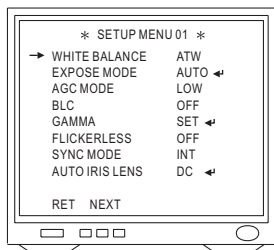
SETUP MENU TREE





SETTING MENU AND FUNCTIONS

1. Press [SET] key to enter SETUP MENU.
2. Press [UP/DOWN] key to select desired item.
3. Press [LEFT/RIGHT] key to select or adjust the parameters.
4. Press [SET] key to enter the SUB-MENU of selected item.
5. Position the cursor beside [RET] and press [SET] key to exit SETUP MENU.
6. Position the cursor beside [NEXT] and press [SET] key to enter SETUP MENU 02.
7. Position the cursor beside [PREVIOUS] and press [SET] key and return to SETUP MENU 01.



RET : Exit Menu
NEXT : Next Page
PREVIOUS : Previous Page

WHITE BALANCE

① Auto-Tracing White Balance Mode (ATW)

- Position the cursor beside WHITE BALANCE and select ATW by using [LEFT/RIGHT] key.

ATW is a feed forward system that automatically aligns the white balance by detecting the R, G and B before WB amplifier. The color temperature range for ATW is approximately 2500K~9500K.

② Manual White Balance (MWB)

1. Position the cursor beside WHITE BALANCE and select MWB by using [LEFT/RIGHT] key.
2. Press [SET] key to display MWB SETTING menu.
3. Position the cursor beside WB R GAIN or WB B GAIN and press [SET] key to confirm.
4. The screen will display the monitored area immediately.
5. Press [RIGHT] key to shift to lower color temperature or press [LEFT] key to shift to higher color temperature.
6. Press [SET] key and return to MWB SETTING menu.
7. Position the cursor beside [RET] and press [SET] key and return to Setup Menu 01.

* * MWB SETTING * *	
→ WB R GAIN	60
WB B GAIN	89
RET	

NOTE

The color temperature range for MWB is from approx. 2500K~9500K.

③ Push Mode (PUSH)

- Position the cursor beside WHITE BALANCE and select PUSH by using [LEFT/RIGHT] key.

White Balance is performed at a faster operating speed than ATW without an operation frame or other limitation. The color temperature range for PUSH mode is approximately 2300K~10,000K.

④ HOLD

- Position the cursor beside WHITE BALANCE and select HOLD by using [LEFT/RIGHT] key.

White Balance convergence operation is stopped when shifted to HOLD mode. The color temperature range for HOLD mode is approximately 2500K~9500K.

⑤ INDOOR Mode

- Position the cursor beside WHITE BALANCE and select INDOOR by using [LEFT/RIGHT] key.

The color temperature is fixed at 3200K for Indoor mode.

⑥ OUTDOOR Mode

- Position the cursor beside WHITE BALANCE and select OUTDOOR by using [LEFT/RIGHT] key.

The color temperature is fixed at 6300K for Outdoor mode.

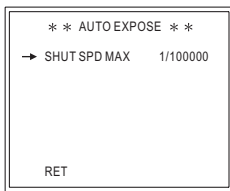
EXPOSE MODE AE SHUTTER (EXPOSE MODE)

① Auto Electronic Shutter (AUTO)

1. Position the cursor beside EXPOSE MODE and select AUTO by using [LEFT/RIGHT] key.
2. Press [SET] key to display the AUTO EXPOSE menu.
3. Select shutter speed maximum using [LEFT/RIGHT] key.

Shutter Speed Maximum Mode changes as follows:

┌ 1/250 → 1/500 → 1/1000 → 1/2000 ┐
└ 1/100000 ← 1/10000 ← 1/4000 ← ┘



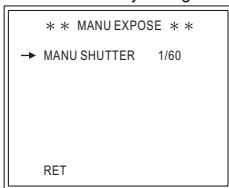
NOTE

Under AUTO mode, electric shutter controls the speed of the shutter automatically according to brightness of light received by CCD.

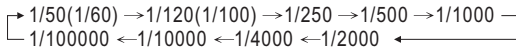
4. Position the cursor beside [RET] and press [SET] key and return to Setup Menu 01.

② Manual Shutter (ME)

1. Position the cursor beside EXPOSE MODE and select ME by using [LEFT/RIGHT] key.
2. Press [SET] key to display the MENU EXPOSE menu.
3. Select shutter speed using [LEFT/RIGHT] key.



Shutter Speed Mode changes as follows:



NOTE

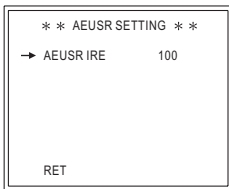
When auto iris lens used, 1/50(1/60) speed mode is recommended.

4. Position the cursor beside [RET] and press [SET] key and return to Setup Menu 01.

③ AEUSR

1. Position the cursor beside EXPOSE MODE and select AEUSR by using [LEFT/RIGHT] key.
2. Press [SET] key to display the AEUSR SETTING menu.

IRE: 60, 65, 70, 75, 80, 85, 90, 95, 100,
105, 110, 115, 120



NOTE

When IRE value is set too low, video image will become darker.

3. Position the cursor beside [RET] and press [SET] key and return to Setup Menu 01.

AUTOMATIC GAIN CONTROL MODE (AGC MODE)

- Position the cursor beside AGC MODE and select OFF, LOW or HIGH by using [LEFT/RIGHT] key.
OFF: When AGC is set to OFF mode, this camera will remain at color mode only.
LOW: AGC LOW mode operation range is from 0dB to approx. 22dB.
HIGH: AGC High mode operation range is from 0dB to approx. 36dB.

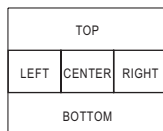
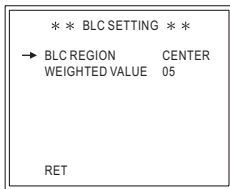
BACK LIGHT COMPENSATION (BLC)

① OFF

- Position the cursor beside BLC and select OFF by using [LEFT/RIGHT] key.

② ON

1. Position the cursor beside BLC and select ON by using [LEFT/RIGHT] key.
2. Press [SET] key to display the BLC SETTING menu.
3. Position the cursor beside BLC REGION and select the back light compensation converging region by using [LEFT/RIGHT] key.



BLC REGION

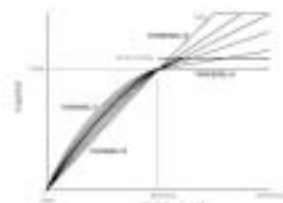
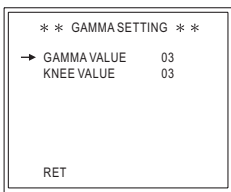
Region changes as follows:

→ TOP → BOTTOM → LEFT → RIGHT → CENTER →

4. Position the cursor beside WEIGHTED VALUE and select the back light compensation weighted value by using [LEFT/RIGHT] key.
Increase the value to enhance the compensation effect.
5. Position the cursor beside [RET] and press [SET] key and return to Setup Menu 01.

GAMMA

1. Position the cursor beside GAMMA SETTING and press [SET] key to display GAMMA SETTING menu.
2. Position the cursor beside GAMMA VALUE, adjust GAMMA curve by using [LEFT/RIGHT] key.
 - GAMMA VALUE curve 00~07.
3. Position the cursor beside KNEE VALUE, adjust KNEE curve by using [LEFT/RIGHT] key.
 - KNEE VALUE curve 00~07.



GAMMA and KNEE curve

NOTE

When GAMMA is set to 04 and KNEE is set to 03, the gamma value is set close to 0.45 (inverse of standard CRT gamma value of 2.2), and the Y output is 100%.

4. Position the cursor beside RET and press [SET] key and return to Setup Menu 01.

FLICKERLESS MODE

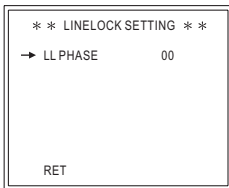
- Position the cursor beside FLICKERLESS and select OFF/ON by using [LEFT/RIGHT] key.
Used only when the power source frequency is different from camera signal system.

SYNC SETTING MODE

① Internal Synchronization (INT)

- Position the cursor beside SYNC MODE and select INT by using [LEFT/RIGHT] key.

Sync mode is fixed to INT in DC12V power input.



② Line-Lock Synchronization (LL)

1. Position the cursor beside SYNC MODE and select LL by using [LEFT/RIGHT] key.
2. Press [SET] key to display the LINE LOCK SETTING menu.
3. Adjust LL PHASE value by using [LEFT/RIGHT] key.

NOTE

LL PHASE adjustment range 00~100 (each step is about 3.5° and the range is from 0 to 350°).

4. Position the cursor beside RET and press [SET] key and return to Setup Menu 01.

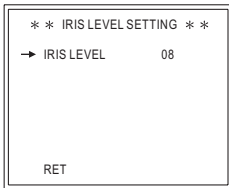
AUTO IRIS LENS

① Video Mode (VIDEO)

- Position the cursor beside AUTO IRIS LENS and select VIDEO by using [LEFT/RIGHT] key.

② DC Mode (DC)

1. Position the cursor beside AUTO IRIS LENS and select DC by using [LEFT/RIGHT] key.
2. Press [SET] key to display the IRIS LEVEL SETTING menu.



3. Adjust IRIS LEVEL value by using [LEFT/RIGHT] key.

NOTE

IRIS LEVEL adjustment range 01~48.

4. Position the cursor beside RET and press [SET] key and return to Setup Menu 01.

PRIVACY MASK

① **OFF**

➤ Position the cursor beside PRIVACY MASK and select OFF by using [LEFT/RIGHT] key.

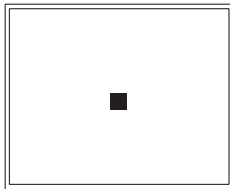
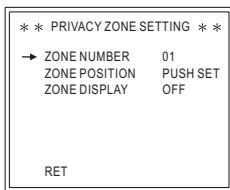
② **ON**

1. Position the cursor beside PRIVACY MASK and select ON by using [LEFT/RIGHT] key.
2. Press [SET] key to display the PRIVACY ZONE SETTING menu.

3. Up to 8 mask zones can be set up.

A. Position the cursor beside ZONE NUMBER 01 and use [LEFT/RIGHT] key to select a zone.

B. Position the cursor beside ZONE POSITION and press [SET] key to display the mask zone block, use [LEFT/RIGHT/UP/DOWN] key to move the masked zone to desired location, then press [SET] key switch to ZONE SCALE and use [LEFT/RIGHT] key to increase/decrease the H-direction zone size or [UP/DOWN] key to increase/decrease the V-direction zone size, then press [SET] key to save.



- C. Position the cursor beside ZONE DISPLAY, select ON/OFF by using [LEFT/RIGHT] key.
 ON: masked zones are displayed.
 OFF: masked zones are disabled.
- D. Position the cursor beside RET and press [SET] key and return to Setup Menu 02.

IR CUT REMOVE CONTROL

① AUTO

- Position the cursor beside IR CUT REMOVE and select AUTO by using [LEFT/RIGHT] key.
- Press [SET] key to display the ICR AUTO SETTING menu.
 IN LUX LEVEL: 0~20
 (about 20lux ~ 35lux)
 OUT LUX LEVEL: 0~20
 (about 3lux ~ 15lux)

* * ICR AUTO SETTING * *	
→ IN LUX LEVEL	10
OUT LUX LEVEL	14
DELAY TIME	02 sec
RET	

NOTE

When light level is higher than IN LUX LEVEL, IR Cut Filter switches ON automatically to produce color image.
 When light level drops below OUT LUX LEVEL, IR Cut Filter switches OFF automatically to produce B/W image.
 Under B/W mode, sensitivity is increased to 0.01LUX and is sensitive to IR illuminator.

REMARK

Setting Expose mode, AGC gain, BLC, Flickerless functions and iris level of Auto Iris Lens all will affect the reaction of the ICR auto switch so the IN or OUT LUX LEVEL have to be re-set.

- Position the cursor beside DELAY TIME, select delay time by using [LEFT/RIGHT] key.
 DELAY TIME: 02 ~ 10 sec.

NOTE

The color and B/W mode switch delay time prevents the image turning from color to B/W or B/W to color too quickly under unstable light condition.

4. Position the cursor beside RET and press [SET] key and return to Setup Menu 02.

② IN

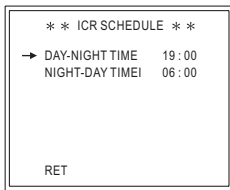
- Position the cursor beside IR CUT REMOVE and select IN by using [LEFT/RIGHT] key.
IR Cut Filter is ON to produce clear color image.

③ OUT

- Position the cursor beside IR CUT REMOVE and select OUT by using [LEFT/RIGHT] key.
IR Cut Filter is OFF to produce constant B/W image.

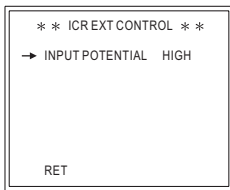
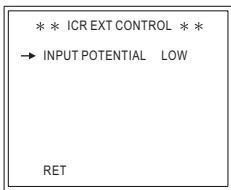
④ SCHEDULE

1. Position the cursor beside IR CUT REMOVE and select SCHEDULE by using [LEFT/RIGHT] key.
2. Press [SET] key to display the ICR SCHEDULE menu.
3. Position the cursor beside DAY-NIGHT and press [SET] key.
Select required time to switch from DAY (color mode) to NIGHT(B/W mode) by using [LEFT/RIGHT] key.
4. Position the cursor beside NIGHT-DAY and press [SET] key.
Select required time to switch from NIGHT(B/W mode) to DAY (color mode) by using [LEFT/RIGHT] key.
5. Position the cursor beside RET and press [SET] key and return to Setup Menu 02.



⑤ EXCTRL

1. Position the cursor beside IR CUT REMOVE and select EXTCTRL by using [LEFT/RIGHT] key.
2. Press [SET] key to display the ICR EXT CONTROL menu.



NOTE

This function allows the usage of external (TTL) device to control camera switching from DAY to NIGHT mode or NIGHT to DAY mode triggered by HIGH (+3V ~ +5V) potential or LOW (0V) potential.

3. Position the cursor beside RET and press [SET] key and return to Setup Menu 02.

RESOLUTION MODE

① HIGH

- Position the cursor beside RESOLUTION and select HIGH(540TVL) by using [LEFT/RIGHT] key.

② NORMAL

- Position the cursor beside RESOLUTION and select NORMAL(480TVL) by using [LEFT/RIGHT] key.

IMAGE

- ▶ Position the cursor beside IMAGE SETTING and press [SET] key to display IMAGE SETTING menu.

① Aperture Level Setting (APERTURE GAIN)

- ▶ Position the cursor beside APERTURE GAIN, adjust the aperture level by using [LEFT/RIGHT] key.

· APERTURE GAIN: 00 ~ 15

* * IMAGE SETTING * *	
→ APERTURE GAIN	08
SETUP LEVEL	12
WCLIP LEVEL	04
MIRROR	OFF
POS/NEG	OFF
RET	

NOTE

The higher Aperture Gain Level, the better sharpness of picture.
But the noise will be obvious in the low illumination environment.

② Pedestal Level Setting (SETUP LEVEL)

- ▶ Position the cursor beside SETUP LEVEL, adjust the pedestal level (black level) by using [LEFT/RIGHT] key.

· SETUP LEVEL: 00 ~ 63

③ White Clip Level Setting (WCLIP LEVEL)

- ▶ Position the cursor beside WCLIP LEVEL, adjust the high luminance level by using [LEFT/RIGHT] key.

· WCLIP LEVEL: 00 ~ 07

NOTE

The higher luminance level can be clipped in the final output of the Y signal.
This function can be used as maximum output limiter.

④ MIRROR Function

- ▶ Position the cursor beside MIRROR and select ON/OFF by using [LEFT/RIGHT] key.

This mode reverses the left and right sides of the linear.

⑤ Y Negative Function (POS/NEG)

➡ Position the cursor beside POS/NEG and select ON/OFF by using [LEFT/RIGHT] key.

This function inverse the Y signal.

▶ Position the cursor beside RET and press [SET] key and return to Setup Menu 02.

TITLE DISPLAY

▶ Position the cursor beside TITLE DISP SETTING and press [SET] key to display TITLE SETTING menu.

1. Position the cursor beside H-POSITION and select horizontal position of the title by using [LEFT/RIGHT] key.

H-POSITION: 01 ~ 15

2. Position the cursor beside V-POSITION and select vertical position of the title by using [LEFT/RIGHT] key.

V-POSITION: 01 ~ 15

* * TITLE SETTING * *	
→ H-POSITION	02
V-POSITION	14
DATE	2003/01/01
TIME	01 : 07 : 53
DATE DISPLAY	OFF
TIME DISPLAY	ON
DATE FORMAT	YYYY/MM/DD
CAMERA ID	ON
RET	

NOTE

When H-POSITION and V-POSITION is 01, camera ID will be displayed on the top left hand corner.

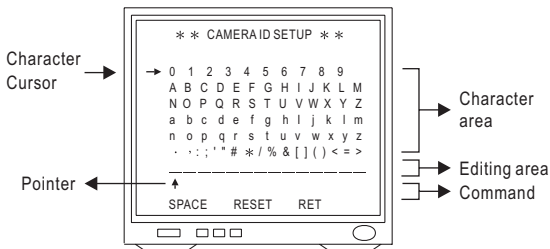
When H-POSITION and V-POSITION is 15, camera ID will be displayed on the bottom right hand corner.

3. Position the cursor beside DATE DISPLAY and select ON/OFF by using [LEFT/RIGHT] key.

4. Position the cursor beside TIME DISPLAY and select ON/OFF by using [LEFT/RIGHT] key.

5. Position the cursor beside DATE FORMAT and select YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY by using [LEFT/RIGHT] key

6. Position the cursor beside CAMERA ID and select ON/OFF by using [LEFT/RIGHT] key.
- When ON is selected for CAMERA ID, press [SET] key to display the alphanumeric character selection table.



- New Camera ID Setup
 - A. Position the cursor beside desired character, and press [SET] key to confirm. The selected character is displayed in editing area (the pointer in the editing area moves one space to the right automatically).
To enter a blank, select SPACE.
 - B. Repeat the above procedure until all characters are entered.

NOTE

Maximum 16 characters for camera ID.

FACTORY INITIALIZATION

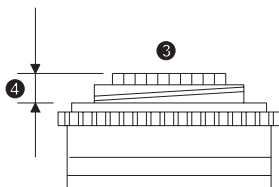
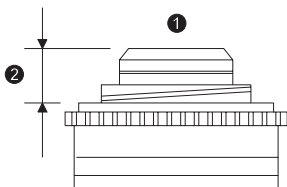
- Position the cursor beside FACTORY SET and press [SET] key. The camera is reset to the factory default parameters.

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:

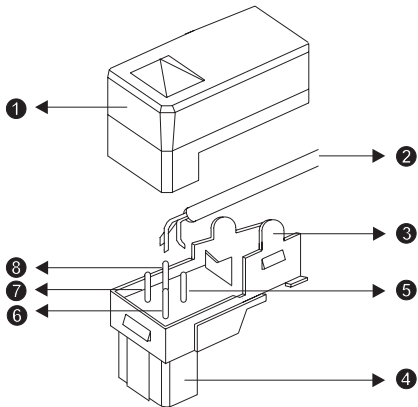
①	C - mount lens	③	CS - mount lens
②	9mm or less	④	4mm or less



● 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.

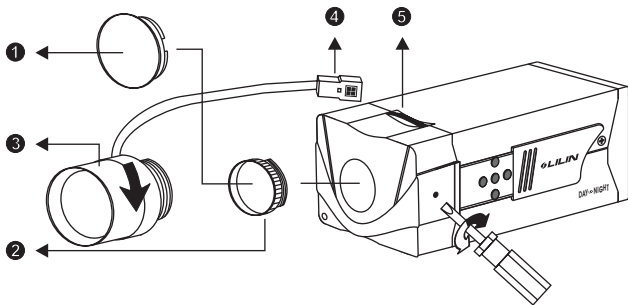
Solder the lens cable to the pins of the supplied plug (For cable pin assignment, refer to the instruction manual for the lens.).



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 "-" screw driver, loose and tighten the screw on side of the camera)

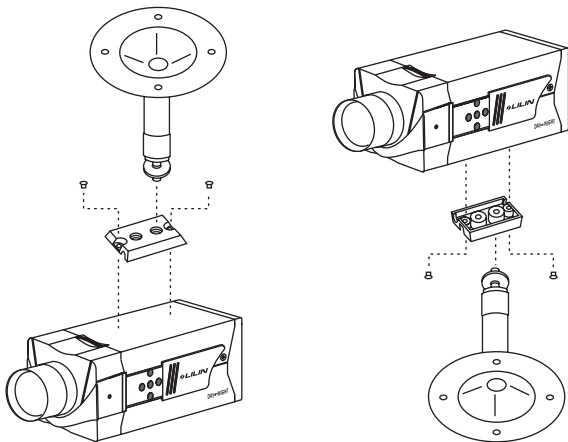


CAUTION

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.

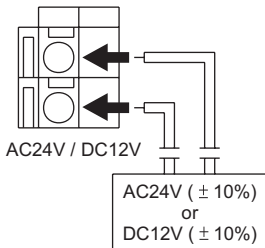


● CONNECTION OF POWER SUPPLY CABLE (AC24V or DC12V)

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

NOTE

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



SPECIFICATIONS

Super Hi-Resolution Day & Night Camera								
Model	PIH-8156N	PIH-8158N	PIH-8156P	PIH-8158P	PIH-8196N	PIH-8198N	PIH-8196P	PIH-8198P
Power Input Voltage	DC12V ±10% AC24V ±10%	AC90-260V MAX.	DC12V ±10% AC24V ±10%	AC90-260V MAX.	DC12V ±10% AC24V ±10%	AC90-260V MAX.	DC12V ±10% AC24V ±10%	AC90-260V MAX.
Pick Up Element	Sony 1/3" Super HAD CCD Sensor				Sony 1/3" ExView HAD CCD Sensor			
Effective Pixels	768 (H) x 494 (V)		752 (H) x 582 (V)		768 (H) x 494 (V)		752 (H) x 582 (V)	
Chip Size	5.59mm (H) x 4.68mm (V)				6.00mm (H) x 4.96mm (V)			
H/V Sync. Frequency	15.734KHz / 59.94Hz		15.625KHz / 50Hz		15.734KHz / 59.94Hz		15.625KHz / 50Hz	
Scanning System	2 : 1 Interlace							
Menu Control	OSD Control							
Sync. Mode	Line-Lock / Internal ; DC12V: Sync. Mode is fixed to Internal							
IR Cut Filter	Auto / Day / Night / Schedule / Ext-Ctrl							
Resolution	Color: 540TV Lines , Mono: 600TV Lines							
Min. Illumination	Color: 0.1Lux / F1.2				Color: 0.05Lux / F1.2			
	Mono: 0.02Lux / F1.2				Mono: 0.01Lux / F1.2			
S/N Ratio	More than 50dB (AGC OFF)							
Auto Gain Control	Off / Low (22dB) / High (36dB)							
White Balance	ATW / MWB / PUSH / HOLD / INDOOR / OUTDOOR							
Aperture Gain Correction	16 Steps							
Electric Shutter	1/60(1/50)S ~ 100,000S (Auto, Manual, AEUSR)							
Back Light Compensation	On / Off							
Privacy Masking Zone	8 Zones							
Flickerless	On / Off							
Image Control	Step / Wclip / Mirror / Negative							
Video Output	CVBS 1.0Vp-p, 75Ω							
Audio Output	Yes							
Lens Mount	C or CS							
Auto Iris Drive	Direct Drive(DC) or Video Drive							
Gamma Characteristic	8 Steps							
Power Consumption	DC12V/5.0W	4.8W	DC12V/5.0W	4.8W	DC12V/5.0W	4.8W	DC12V/5.0W	4.8W
	AC24V/4.5W		AC24V/4.5W		AC24V/4.5W		AC24V/4.5W	
Operating Temperature	-10°C ~ +50°C (14°F ~ 122°F)							
Dimension	64mm(W) x 56mm(H) x 126mm(D)							
Weight	650 g							

Design and specifications are subject to change without notice.



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