I-Sniper
Indoor Box Camera

INSTRUCTION MANUAL

I-Sniper

Powered by
PIXIM®

· **EL-411**

Please read this manual carefully before installation and operation of the product.
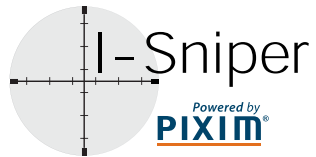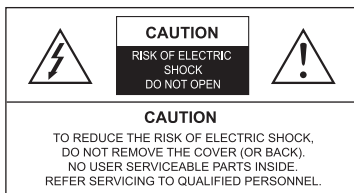
Dear Customers!

By selecting this product, you have decided to use a professional device that guarantees highest quality and reliability. We would like to thank you very much for your confidence and kindly ask you to read the following instructions carefully before Installation and operation in order to take full advantage of all quality features regarding this product.

```
          ⚡                CAUTION              ⚠
                     RISK OF ELECTRIC
                          SHOCK
                       DO NOT OPEN

                        CAUTION
              TO REDUCE THE RISK OF ELECTRIC SHOCK,
              DO NOT REMOVE THE COVER (OR BACK).
                NO USER SERVICEABLE PARTS INSIDE.
             REFER SERVICING TO QUALIFIED PERSONNEL.
```

⚡ The lighting flash with an 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 appliance.

INFORMATION

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION – To prevent electric shock and risk of the fire hazards

• Do NOT use power source other than that specified.
• Do NOT expose this appliance to rain or moisture.

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This installation should be made by a qualified service person and should conform to
all local codes.
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1. Precautions

- Please read the manual carefully before the installation in order to make use the camera to be set up correctly and to have the best picture quality.

- Please keep the manual in good condition for your future reference and service application.

- Installation and services should only be carried out by an authorized personnel according to local safety regulations.

- If any liquid or solid matter gets into the housing, immediately disconnect the camera from power supply and have it checked by your authorized dealer before reusing.

- Avoid installing the camera at extremely hot or cold places.

- If you are not a certified person, never try to dismantle the camera. To avoid electric shock, never remove the screws or covers. There are no parts inside that need maintenance by the user. All maintenance should be carried by qualified personnel.

- Avoid installing the camera at a place of high humidity.

- Avoid installing the camera at the place exposed to gas or oil.

- Keep the top glass of the lens always clean in order to obtain the best picture quality all the time. Be careful not to be stained by fingerprint.

- Please give a special attention to keep the unit from dangerous drop or external shock during the process of transportation or handling.

- Never try to touch the camera in wet hand. It may cause an electric shock.

- Do not expose the camera to radioactivity. It causes a serious damage on the sensor.

2. Limitation of liability

This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or noninfringement of the third party's right. This publication could include technical inaccuracies or typographical errors. Changes are added to the information herein, at any time, for the improvements of this publication and/or the corresponding product(s).

3. Disclaimer of warranty

In no event shall seller be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to below :
(1) Any damage and loss, including without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product;
(2) Personal injury or any damage caused by inappropriate use or negligent operation of the user;
(3) unauthorized disassemble, repair or modification of the product by the user;
(4) Inconvenience or any loss arising when images are not displayed, due to any reason or cause including any failure or problem of the product;
(5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined by the devices of third party.
(6) Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the result of that surveillance-camera's picture, including saved data, for some reason, becomes public or is used for the purpose other than surveillance.
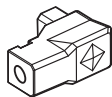
4. Package

I-Sniper
Indoor Box Camera 1EA
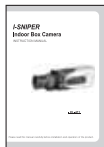
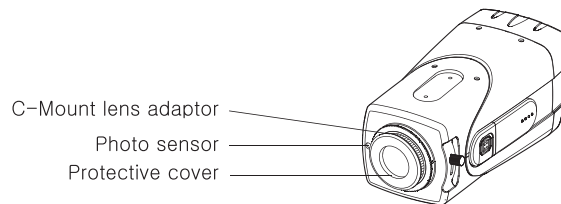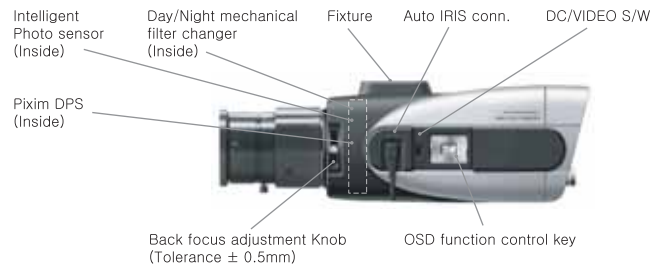Instruction manual
1EA

C Mount Adaptor
1EA

Iris Jack
1EA

RS-485 Lead wire
1EA

5. Name and function of each part

### 5-1. Front

C-Mount lens adaptor
Photo sensor
Protective cover

5-2. Right side

Intelligent
Photo sensor
(Inside)

Day/Night mechanical
filter changer
(Inside)

Fixture

Auto IRIS conn.

DC/VIDEO S/W

Pixim DPS
(Inside)

Back focus adjustment Knob
(Tolerance ± 0.5mm)

OSD function control key

* Back focus adjustment Knob : Fine tune the Back Focal Length
* DC / VIDEO Select S/W : UP (VIDEO IRIS), DOWN (DC IRIS)
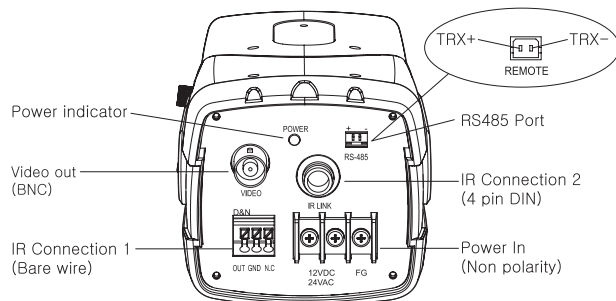
5-3. Bottom

MOUNTING BRACKET
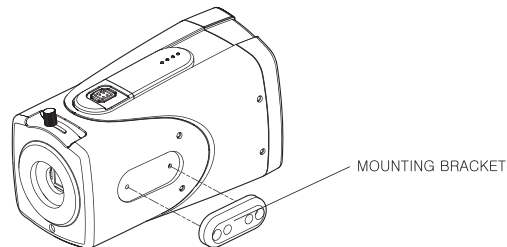
5. Name and function of each part

Fixture can be separated and attached on the top side as well.
Please use the supplied clamp screws only to change the position of the bracket. Using screws more than 5mm depth can do a serious damage to the inside of this camera.
* Use an international standard 1/4"-20 mounting screw to install the camera.

5-4. Rear side

- Power indicator
- Video out (BNC)
- IR Connection 1 (Bare wire)
- TRX+ / TRX− REMOTE
- RS485 Port
- IR Connection 2 (4 pin DIN)
- Power In (Non polarity)

- Power indicator : Red LED ON when camera's working.
- VIDEO OUTPUT : BNC-Fe.
- External IR LINK(IR Connection 1) : Working with any IR Illuminators
- RS-485 Teminal : PELCO-D(TRX+ , TRX-)
- External IR LINK(IR connection 2) : Working with VL60 IR Illuminator
- POWER INPUT : Power input terminal.

6. Installation

6-1. Lens

Lens is not supplied with the unit. C-Mount or CS-Mount type of lens is useable.
Please select a lens that has a good F-Stop number in order to get the best picture quality. Use of Auto DC iris lens is recommended to achieve the best results for operating this product effectively.

☞ Caution
Please make sure the surface of the lens be always clear. Clean dirt or water drops with soft cloth in order to avoid the picture blooming or reflection.

6-2. When using an Auto Iris Lens (DC-drive or Video-drive)

1. Please take off the sleeve outer cable of the lens by 10mm.
2. Please take off the sleeve inner cable of the lens by 2mm.
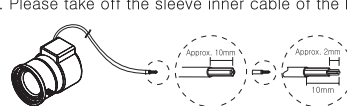
Pin No.	Lens	
	DC	VIDEO
No.1 Pin	Damping -	Red (Power)
No.2 Pin	Damping +	NC
No.3 Pin	Drive +	White (Video)
No.4 Pin	Drive -	Black (GND)
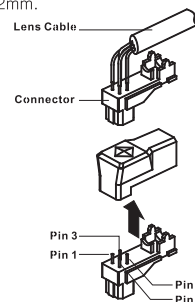
3. Solder the wires on the pin-connector (iris-jack) supplied with the lens according to the pin configuration as shown in the drawing.
4. Assemble the lens.
5. Connect the Auto Iris jack.
6. Adjust the DIP S/W to DC or Video according to the type of lens.
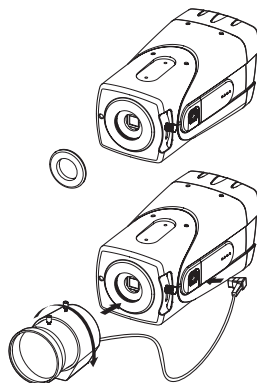
6-3. When using a C-mount Lens

• Please assemble C-Mount adaptor.
• C-Mount adaptor is included in the package.
• Fix the lens by turning it clockwise.
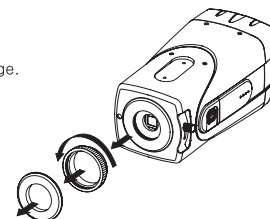
6-4. When using a CS-mount Lens

- Take off the Protection cover.
- Take off the C-MOUNT adaptor.
- Assemble the CS-MOUNT lens by turning it clockwise.

- When used with an Auto Iris lens, please insert the iris jack into the Iris socket which is located on the right side of the camera.

- Please set the lens selection switch, located on the side of the camera to DC or VIDEO depending on the type of the Auto Iris lens selected.
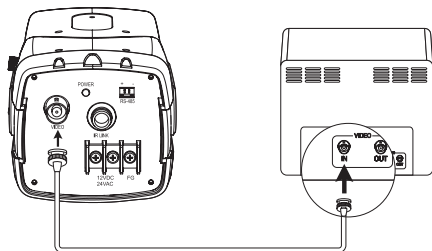
Caution

- Use the lens as shown in the picture here.
- When the lens is out of the spec, it could damage the camera inside or may not be correctly fitted with the camera.
- Use the lens less than 450g. Heavier lens can damage the camera.

C-MOUNT Lens : Less than 11mm
CS-MOUNT Lens : Less than 6mm
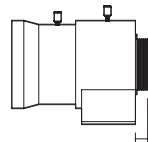
6-5.Video Monitor

Connect Video cable with BNC-male connector to the monitor

6-6. Impedance alliance in the system connection.

Make sure to connect the cable with the power off. Please locate the impedance switch of each equipment as instructed. Locate the switch to Hi-z position for the interim equipment. Locate the switch to 75Ω for the last equipment.

INTERIM EQUIPMENT OR MONITOR

LAST MONITOR
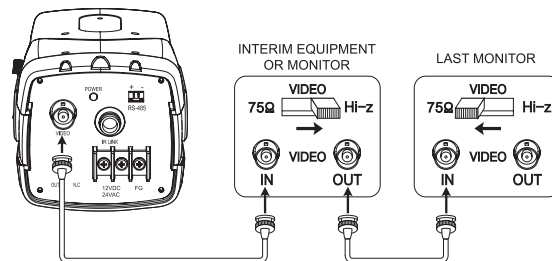
6-7. Power

Please check if the model is 12VDC only or 12VDC/24VAC dual power or 230VAC before the installation. Please refer to the voltage description on the rear panel to choose the right power source.
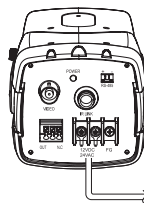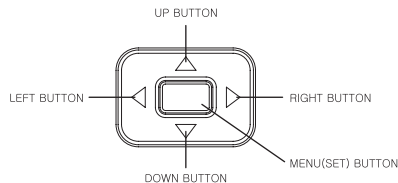
- **12VDC camera**
  Please make sure to use a UL/CE approved and 12VDC/500mA regulated power supply.

- **12VDC/24VAC Dual power camera**
  You can use either 12VDC Power or 24VAC Power source with non-polarity connection.

7. OSD Key

Setting up the Menu

UP BUTTON

LEFT BUTTON — RIGHT BUTTON

MENU(SET) BUTTON

DOWN BUTTON

8. Functions and operation

8-1. OSD Menu Tree

| I-SNIPER				
LENS SELECT	DC	MANUAL	VIDEO	
WDR CONTROL	LOW	NORMAL	MIDDLE	HIGH
BLC	OFF	ON		
AGC	LOW	NORMAL	HIGH	
WHITE BALANCE	ATW	AWB..		
FLUORESCENT	OFF	CRR	CRR2	
ICR DVR TOOL	OFF	EDGE SERIES	MAX SERIES	FLEX SERIES	ELITE SERIES
RS-485..	CAMERA #	PROTOCOL	BAUD RATE	RETURN.
FLIP	OFF	BOTH	VERT	HORIZ
SAVE&EXIT	DEFAULT	CANCEL		

8-2. Setting up the menu

1.LENS SELECT

Please set the iris Mode(DC/VIDEO/MANUAL) according to
The type of the lens.

DC : DC iris lens.
MANUAL : Manual iris lens.
VIDOE : Video iris lens.
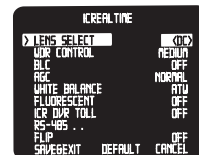
2.WDR(Wide Dynamic Range) CONTROL

Light level is controllable with provided easy-to-use OSD menu that enables the
camera to be ideally Set up for the most of different levels of backlit or contrast
lighting situations.

LOW : Dynamic range level similar to that of CCD cameras.
NORMAL : Suitable for most indoor scenes without
               windows or difficult lighting.
MIDDLE : Suitable for normal outdoor scenes and indoor
                scenes that include windows.
HIGH : Maximum setting for harsh outdoor scenes.
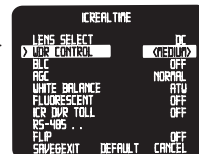
8. Functions and operation

3.BLC(Back Light Compensation)

OFF : Highlights in image are prioritized.
ON : Shadows in image are prioritized.

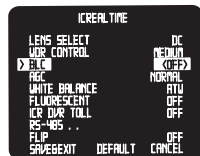## 4.AGC(Auto Gain Control)

LOW : Low gain limit.
NORMAL : Normal gain limit.
HIGH : High gain limit.

5.White Balance

The Automatic White Balance provides an extensive Range
color temperature control that covers form 2,000°K to
11,000°K generating natural color image without Being
red or blue in varying light conditions.

ATW : Auto-tracking white balance mode.
AWB : Set white balance now and lock it.

6.Fluorescent

Color Rolling Reduction.

OFF : Not used CRR.
CRR : This color roll reduction mode will work with manual
and auto-iris lenses. However, using it with
auto-iris lenses typically results in noticeable levels
of noise in shadows or dark areas in the image.
CRR2 : This color roll reduction mode works with
auto-iris lenses only.
Noise levels are reduced in shadows or dark areas
in the image compared to the noise levels present
when using the CRR mode,but dynamic range is
also reduced further.

8. Functions and operation

7.ICR DVR TOOL

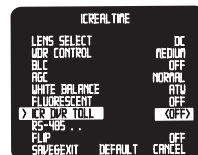Ideal setting with IC Realtime DVR series.
OFF : Default Setting.
EDGE SERIES : EDGE series.
MAX SERIES : MAX series.
FLEX SERIES : FLEX series.
ELITE SERIES : ELITE series.

8.RS-485..

CAMERA# : Available to set up from 1 to 255.
PROTOCOL : Supports PELCO-D.
BAUD RATE : Select a baud rate.(2400, 4800, 9600, 19200)
RETURN. : Move to MAIN MENU.

*How to control OSD menu over RS485 :
1) Set communication speed on the camera to 9600bps.
2) Accord the ID of the camera with the of the
DVR or PTZ controller.
The factory default ID of the camera is CAM1.
3) On the DVR or PTZ controller, press 95 then
press PRESET or IRIS OPEN.(95+PRESET : Set Preset)
4) When the MAIN MENU pops up on the screen,
move the cursor Using a joystick to the desired menu to
control. When entering a Sub menu, press IRIS OPEN
momentarily.

9.FLIP

Adjustable to OFF, HORIZ, VERT, BOTH.
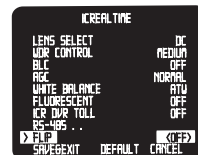
* OFF : Normal image   * HORIZ : Mirror image
* VERT : Vertical Reversal image   * BOTH : Flip over image
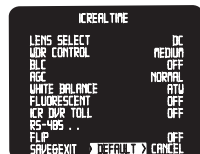
8. Functions and operation

10.SAVE&EXIT

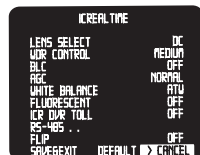Saves the current settings and exits the menu.

```
            CREAL TIME
LENS SELECT            DC
WDR CONTROL        MEDIUM
BLC                   OFF
AGC                NORMAL
WHITE BALANCE         ATW
FLUORESCENT           OFF
ICR DVR TOLL          OFF
RS-485 . .
FLIP                  OFF
 SAVE&EXIT   DEFAULT  CANCEL
```

11.DEFAULT

All the settings will be restored to the factory default.
RS-485.. settings are not initialized.

```
            CREAL TIME
LENS SELECT            DC
WDR CONTROL        MEDIUM
BLC                   OFF
AGC                NORMAL
WHITE BALANCE         ATW
FLUORESCENT           OFF
ICR DVR TOLL          OFF
RS-485 . .
FLIP                  OFF
SAVE&EXIT    DEFAULT  CANCEL
```

12.CANCEL

Not saves the current settings and exits the menu.

```
            CREAL TIME
LENS SELECT            DC
WDR CONTROL        MEDIUM
BLC                   OFF
AGC                NORMAL
WHITE BALANCE         ATW
FLUORESCENT           OFF
ICR DVR TOLL          OFF
RS-485 . .
FLIP                  OFF
SAVE&EXIT    DEFAULT  CANCEL
```

9. Troubleshooting

If there are problems in operating, please refer to the checklist below. If the problem persists, please contact the agent where this product is purchased.

Problems	Troubleshooting
Nothing appears on the screen.	• Please check that the power cord and line connection between the camera and monitor are fixed properly. • Please check that you have properly connected VIDEO cable to the camera VIDEO output jack.
The image on the screen is dim.	• Is lens stained with dirt? Clean your lens with soft, clean cloth. • Set the monitor to proper condition. • If the camera is exposed to too strong light, change the camera position.
The image on the screen is dark.	• Adjust the contrast feature of the monitor. • If you have an intermediate device, set the 75Ω / Hi-Z properly (Please check the impedance)
The camera is not working properly, and the surface of the camera is hot.	• Please check that you have properly connected the camera to an appropriate power source.
Color is not correct.	• Please check the setting of WHITE BALANCE SETUP menu .

9. Troubleshooting

Problems	Troubleshooting
RS−485 communication fails.	• Please check the polarity between RS−485 Control Port and RS−485 cable.

485 Control Board Connection Port	RS−485 Control Port
(+)CONNECTION TERMINAL(TRX+)	485+
(−)CONNECTION TERMINAL(TRX−)	485−

• Please check if the initial value of the RS−485 Communication setup matches between camera and OSD Controller or DVR.

∗ RS−485 Communication establishment initial value

Item	Camera ID	BAUD RATE	UART MODE	RET PKT
Initial value	1	9600	8−NONE−1	ENABLE

• We recommend that you make ground connection between camera and controller for safe communication control.
• When RS−485 cable is not properly connected, Please reconnect and Reboot' is displayed.Then please turn off the power and connect the cable again.

10. Dimension (mm)
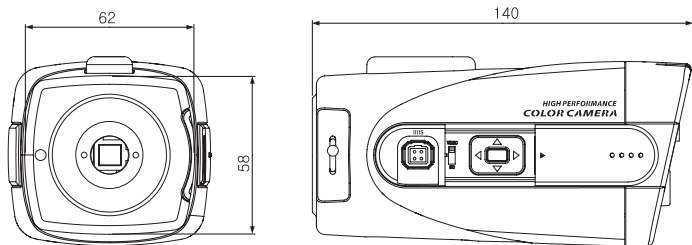
11. Specification

Model	EL-411 (I-Sniper)
Image sensor	1/3" Pixim WDR digital imaging device
Effective Pixels	410,000 pixels 758(H)X540(V)
H.Resolution	690HTVL effective.
Synchronization	Internal
Video output	1.0Vp-p Composite 75 Ohms
S/N Ratio	50dB(AGC OFF, Weight ON)
Min.Illumination	0.1Lux at F1.2
Shutter speed	1/25s ~ 1/30,720s(Global Shutter)
Gamma control	Standard γ=0.45
White Balance	2000°K ~ 11,000°K Auto. ATW/AWB selectable by OSD
Power source	DC12V, DC12V/AC24V
Operating current	DC12V : 200mA / DC12V, 110mA / AC24V
	DC12V/AC24V : 300mA / DC12V, 150mA / AC24V
LENS	MANUAL/DC/VIDEO (C/CS Mount)
Iris control	DC/VIDEO by side switch
Operation Temperature	-10℃ to +50℃
Humidity	0% to 90% RH
Measurement(mm)	62(W)x58(V)x140(L)
Weight(Approx.g)	680
Function	
WDR	Low / Normal / Middle / High
AGC	Low / Normal / High
BLC	On/Off
Fluorescent	Off / CRR / CRR2
ICR DVR Tool	Off / EDGE / MAX / FLEX / ELITE
RS485	Pelco-D
Flip	Off / Horiz / Vert / Both

∗ Specifications are subject to change without prior notice for improvement.

MEMO

MEMO

MEMO