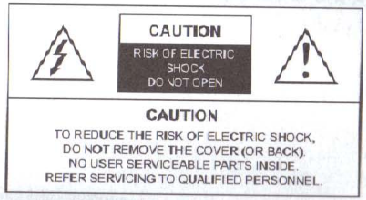
Super Wide Dynamic
Vandal Resistant Dome Camera

INSTRUCTION MANUAL

·XL7

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.



The lighting flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of 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.

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 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.
- Don't face the camera directly toward sunlight or sunlight reflecting area. CCD may go defective at this condition.
- 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 CCD.
- Install away from electric or magnetic fields.

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.

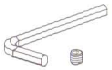
4. Package

Super Wide Dynamic Vandal Resistant Dome Camera 1EA

Instruction manual
1EA

Fuse
1EA

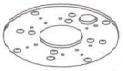
Sponge plate
1EA



L-Wrench 1.5mm
& Socket Set Screw 1EA

Mounting Screws
4EA

Extra Video output
1EA



Adaptor plate
1EA

Tapping Screw
4EA

Star Wrench
1EA

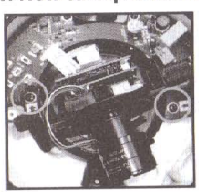
Sticker
1EA

Plastic anchor
4EA

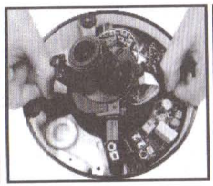
DC Male Cable 300mm
1EA

5. Installation

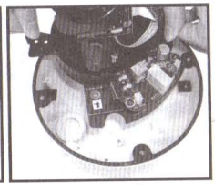
5-1. How to separate the camera-set from the base.



<DRW 1-1>



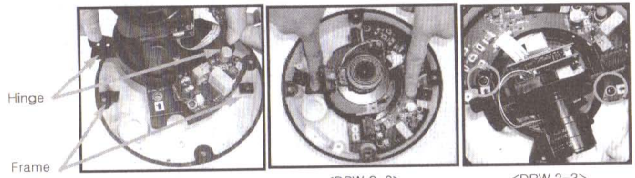
<DRW 1-2>



<DRW 1-3>

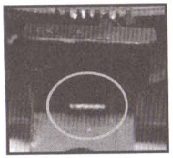
① Take off 4*8 Screws (2 pcs) as in Drawing 1-1.
② Grab the two hinges at both ends with both hands.
Push the hinges inward to lock off the camera-set from the base as in Drawing 1-2.
③ Lift up the camera-set from the base as in Drawing 1-3.

5-2. How to reposition the camera-set onto the base.

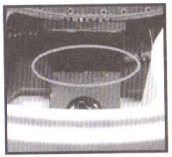


<DRW 2-1> <DRW 2-2> <DRW 2-3>

① Locate the camera-set with the hinges right onto the frame Grabber and gently push down the camera-set onto the base as in the DRW 2-1.
② Push the camera-set down onto the base with enough strength until it sounds 'click' as in the DRW 2-2. The hinges clip the camera-set onto the base with its tension. When no sound heard, please push the camera-set down again as in the pictures below.



(Unfinished)



(Finished)

③ Fix the camera with 4*8 Screws into the base as in the DRW 2-3.

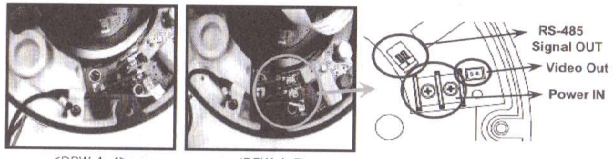
5-3. How to reposition the cable from the back to the side of base.

<DRW 3-1> <DRW 3-2> <DRW 3-3>

① DRW 3-1 is factory set up. The cable comes out to the back of base.
② Screw off the 2P power lead wire and Plug out the 2P video wafer. (DRW 3-2)
③ Screw off the cable tie and the wire (Hanger) as in the DRW 3-3.

<DRW 4-1> <DRW 4-2> <DRW 4-3>

④ Pull out the Cable, O-Ring and Hanger from the base as in DRW 4-1.
⑤ Take off the Conduit cap with a coin as in DRW 4-2. Please reuse the concuit cap to cover the conduit hole at the bottom of the base.
⑥ Put the cable into the base through the side conduit hole as in DRW 4-3.

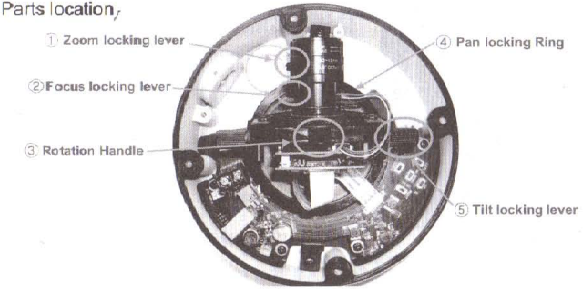


<DRW 4-4> <DRW 4-5>

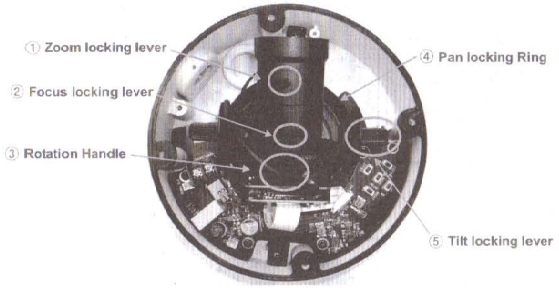
⑦ Fix the cable and the safety wire (Hanger) with cable tie and screw as in DRW 4-4.
⑧ Connect 2P cable & 2P wafer to PCB Board as in DRW 4-5.

5-4. How to adjust the Zoom/Focus.

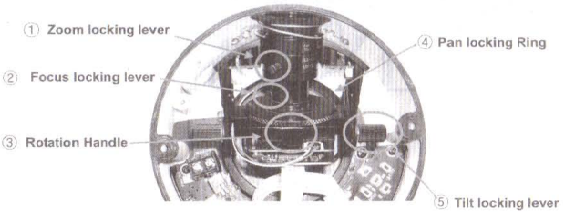
a. Parts location



< a-1. 3.3~12mm DN >

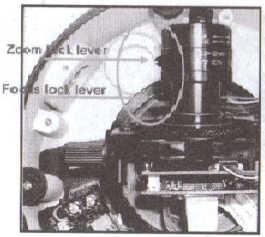


< a-2. 7.5~50mm DN >



< a-3. 3.3~12mm IR >

b. Zoom/Focus adjustment

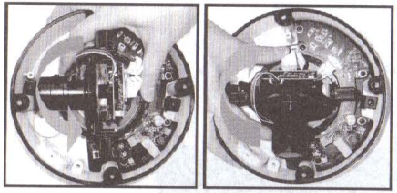


Zoom and Focus locking levers are screwed up and positioned at top side so that they can be accessed by hand at factory.

1. Please loosen the zoom/focus levers a little bit by turning them counter-clockwise with finger.
2. Move the lever left or right to adjust the zoom and focus.
3. Please lock them lightly after the adjustment by turning them clockwise with finger.

5-5. How to adjust the camera angle.

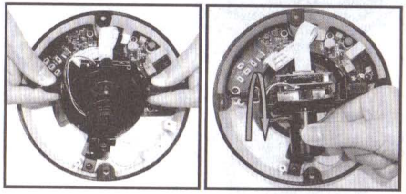
a. Panning 180°



- Angle adjustment either to the left direction or right direction within 180° is possible.

1. Hold the Pan locking ring with hand and loosen it by turning it counterclockwise as in the picture left.
2. Adjust the panning angle and lock the Pan locking ring by turning it clockwise as in the picture.

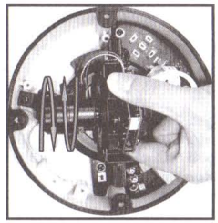
b. Tilt 90°



- Angle adjustment of up to maximum 90° downward is possible.

1. Hold the Tilt locking levers on both sides with hand and loosen it by turning it counterclockwise as in the picture left.
2. Adjust the Tilt angle with hand and lock the Tilt locking lever by turning it clockwise as in the picture.

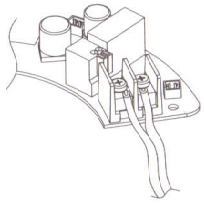
c. Rotation 360°



- Grab the both ends of the Rotation handle as in the picture and adjust the angle to the direction you want.

– Angle adjustment either to the left direction or right direction within 360° is possible.

5-6. How to connect the power



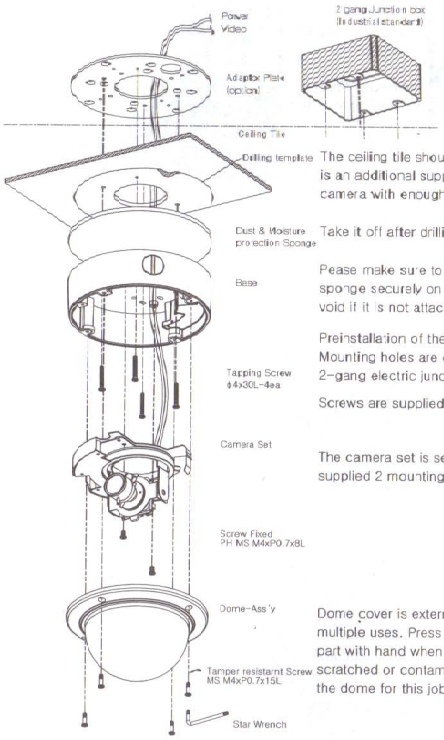
① 12VDC / 24VAC (Dual power)
② 12VDC (DC Type)

※ Non-polarity

Connect the copper wire of the power cable to the screw terminal provided at the end of the camera cable.
Required power supply
For 24VAC : 24VAC/500mA
For 12VDC : 12VDC/1000mA regulated.

5. Installation

5-7. Installation overview



The ceiling tile should be applied for only when there is an additional support available for it to hold the camera with enough strength after the installation.

Take it off after drilling the mounting hole on the guide.

Pease make sure to attach the Moisture protection sponge securely on the back of the base. Warranty is void if it is not attached properly.

Preinstallation of the base is possible.
Mounting holes are compatible to the industry standard 2-gang electric junction box.

Screws are supplied in the package.

The camera set is separated from the base with the supplied 2 mounting screws.

Dome cover is externally revolved with hand for multiple uses. Press the dome and turn it to a clear part with hand when the existing part of the window is scratched or contaminated. No need to disassemble the dome for this job.

6. Features

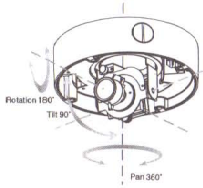
6-1. Advantageous ways of installation

A. Tool-free 3-Axis mounting mechanism

One-stop quick & easy installation to any location and to any application you want!

Perfect Tri-axis!
- Panning axis up to 360° degree
- Tilting axis up to 90° degree
- Rotation axis up to 180° degree

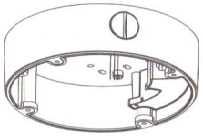
No need to use a tool for adjustment!
All adjustments are done quick and easy with hand!



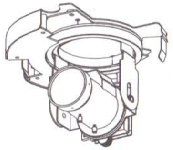
Note : Angle adjustment from each of 3 different axis can be positioned to its maximum angle of view so that the camera gets the full central picture at any location.

B. Separatable camera set

Pre-installation of the Dome base!
Dome base can be installed in advance where Construction is not completed or for customized system integration.



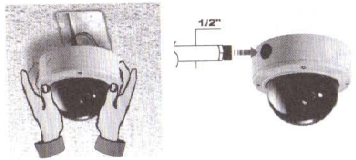
Interchangeable camera set for the change!
If it is necessary to change or renew the camera after the installation, there is no need to take off the whole product and cabling. Just change the camera set with two locking screws on and off within a minute.



C. Save cost and time for the maintenance of dome

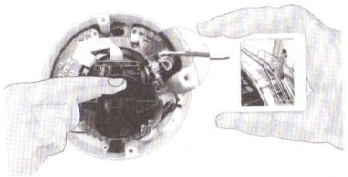
The dome cover is rotated by hand!
When the dome clear part in front of the lens has a scratch or contamination, the whole part of the dome cover set has to be disassembled for a renewal of the clear part in conventional dome cameras. This dome cover is rotated by hand to eliminate the complicated procedures. Just turn the cover to a clear position when the window part is damaged. No professional workmanship is required. IP66 weatherproof is valid after rotation!

D. Industrial standard mounting arrangement



Compatible to the industrial standard 2-gangs junction box
The mounting hole is compatible to the standard electric junction box for a quick and easy installation.

1/2" standard conduit hole
Pipe insertion from the side or from the back of the dome is provided.



Additional Video Output terminal is provided so that the installer can adjust the zoom/focus and functioning control on the spot.

6-2. Perfect protection from all kinds of conceivable dangers

A. Vandal-proof

The body is made of 4.0mm thick die-cast and the dome made of 2.2mm thick polycarbonate to be protective from a high impact of vandalism on the dome.

B. Tamper resistant

The dome is secured with a tailor-made stainless steel safety screws. (Option)

C. Free from Shock and Vibration

The tool-free internal 3-axis mounting mechanism is strong enough to hold the camera set against severe vibration or shock on the dome.

D. Rust free against salty environment

This unit is fully protected from a salt mist environment with hard salty-water resistant coating.

E. Dust and Moisture free (IP66 Weatherproof)

The unit is duly passed IP66 international weatherproof standard, allowing the camera free from moisture and dust.

F. Fire resistant

Hard die-cast body and fully metallic internal camera mount mechanism is designed to be totally protective from fire breaks or fire interception.
1/2" Conduit-holes are provided for fire resistant cable management.

G. Perfect Surge voltage protection

Extra fuse for surge protection
This unit builds-in a highly reliable surge absorptive circuit so as to protect the camera from an excessive voltage input. Moreover, it has an extra interchangeable fuse at the entrance of the power circuit to cut off any voltage shock before the power gets into the camera's power circuit.

H. Protection from extreme temperature range of 40° F~122° (-40° C~ + 50° C)

Plug and Play Heater option
This unit provides a highly reliable heater option for an application of area where the temperature comes down to -40° C cold.

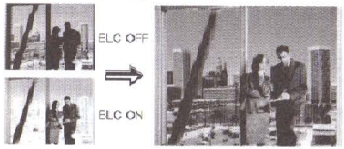
6-3. State-of-the-art image enhance technologies

A. True Day & Night image conversion for 24 hours clear view

True Day/Night switching
The image is converted to B/W mode from Color and the IR responsive filter is automatically removed in at an appointed Lux level by OSD.

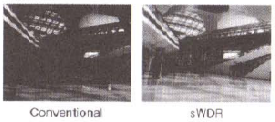
True Color with a Blue filter/Precise focus with IR filter
This dual filter mechanism is uniquely designed to have a blue filter in daytime for a precise color reproduction and to have an IR focus corrective filter at nighttime so that there is no focus shift when the IR lights are activated.

B. Super Wide Dynamic (sWDR)



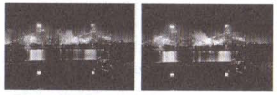
Light level is controllable with provided easy-to-use OSD menu that enables the camera to be set up for the most of different levels of backlit or contrast lighting situations.

C. The Maximum sensitivity with the best sensor and the latest techology



Used with the latest Sony Double scan CCD sensor, this unit provides the highest light sensitivity of 0.2 Lux/F1.2. In addition, the built-in Day/Night function completely removes the color signal noises for an ultra clear nighttime image quality.

D. Wide range of Automatic White Balance (1,800° K~ 10,500°K)



Automatic White Balance of this unit provides an extensive range of color temperature control that covers from 1,800°K to 10,500°K, generating a natural color image without being red or blue in varying light conditions.

E. Digital Slow Shutter (DSS)

The DSS function allows the camera can display the bright image even in extreme darkness.

Important Tips : IR Distance can be extended twice longer when <DSS> is set 2x~160x.
Caution : When DSS is adjusted for more than 8 times(8x), the picture becomes brighter but the frame rate is relatively slower resulting in the picture becomes slow motioned.

F. Day/Night signal link out put (IR Link)

Does IR responded image clear?

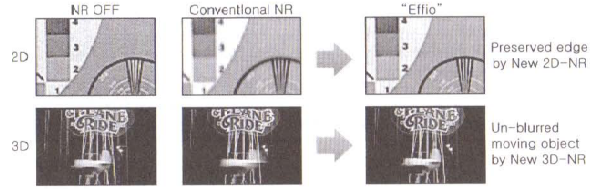
When IR illumination is combined, the IR responded image becomes defocused. This unit incorporates a clear solution for this conventional problem. The image quality of this unit is absolutely sharp and clear under IR lights in operation.

G. 960H Sensor

960H sensor realizes horizontal resolution of 650TVL during the day and 700TVL at night.

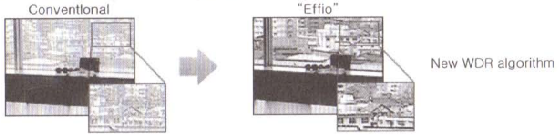
H. 2DNR / 3DNR (2D Noise Reduction / 3D Noise Reduction)

This unit reproduces an extremely clear image removed from a noise and a ghost effect under low light condition with 2D/3DNR technology simultaneously.



I. New Super Wide Dynamic (sWDR)

New Generation Wide Dynamic (sWDR) realizes clearer images and better color reproduction than the existing WDR.



6-4. Other features

A. Camera ID setting

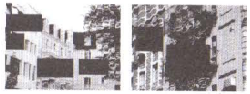
Users can use the camera identification (Camera ID) to assign a name of the camera. The camera ID consists of up to 15 alphanumeric characters.

B. Digital Zoom (1.5x, 2x, 3x)

The screen can be digitally zoomed with provided OSD control. (Digital Pan/Tilt)

6. Features

C. Privacy zone masking

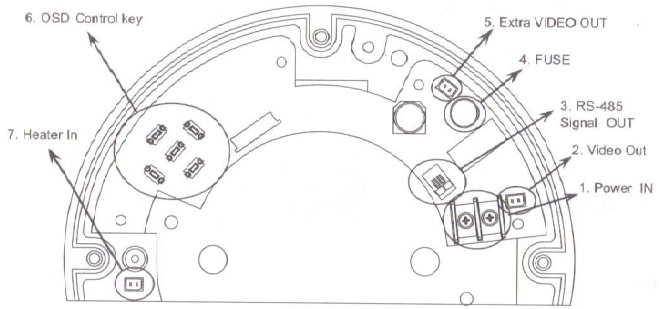


When the unit is observing a wide area, the captured image can be masked for privacy purposes.
Users can easily configure the size and position of the required privacy zones.

D. Dual switching power - Dual Power version

The unit builds in highly efficient switching power control that self configures 12VDC or 24VAC input and 24VAC line pulse automatically. Double insulated power design guarantees no ground loop when used with multiple cameras and system equipment together through one power source.

7. Name and function of each part



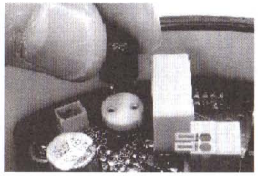
① Power input
To provide power to the camera

② Video out
To connect the Video from the CCD board.

③ RS485 Signal OUT
To control camera functions remotely via RS485 communication. <Pelco-D> protocol built-in. Cable connection should be made in correct polarity of plus (+) and minus (-).

7. Name and function of each part

④ FUSE
The camera incorporates highly reliable surge absorptive circuit so as to protect the camera from an excessive voltage input. In addition, it has an extra interchangeable fuse at the entrance of the power circuit to cut off any voltage shock before the power gets into the camera's power circuit.



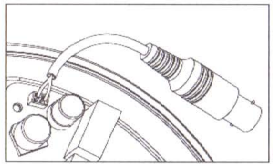
- Extra Fuse is included in the package.
- Please check the fuse first when there is no power/video from the camera.
- When the fuse is cut off, check if power and ground of the cable or terminal be shorted out.
- Replace the fuse.
- Replace the power supply within the specification, when the fuse goes out repeatedly.

☞ How to check the Fuse
1. Check the fuse with Multi meter.
2. Fuse is OK when '0Ω' is detected.
3. Fuse is N.G when 'MΩ' is detected.

☞ Fuse specification and vendor : 250V/1A, Bussmann

☞ Fuse length of life
1. The fuse works forever when the power input is correctly supplied.
2. Fuse will be cut off only when there is a short or over voltage input during the installation.
   But when the image goes dead after the installation, it means that the fuse is OK but the camera is defected. Replace the camera in this case.
3. How to purchase the fuse : It is a standard and widely available in general electronic shopping center. Please refer the defected fuse to the electronic shop for the same specification.

⑤ Extra video output



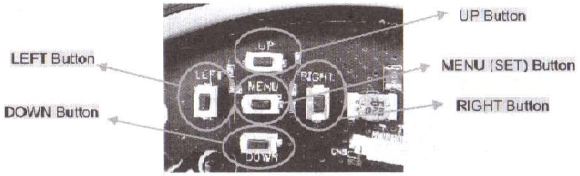
This is aimed for the installer to check camera angle and function adjustments on the spot via service monitor.

☞ Extra BNC cable is included in the package.

⑥ OSD Function key
MENU Button - It is used to display menu on the screen.
It is used to confirm a selected function or condition after adjustment.
UP/DOWN Button - It is used to move the cursor on the menu.
LEFT/RIGHT Button - It is used to change the value of the selected item on the menu.

7. Name and function of each part

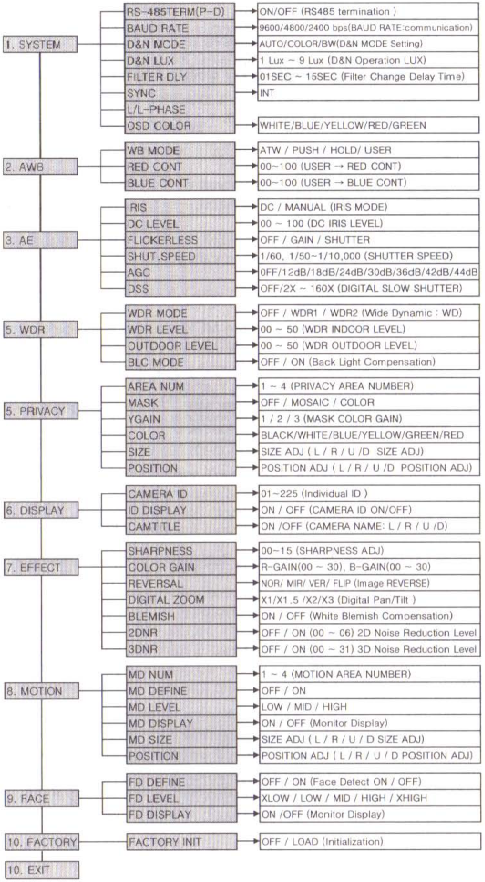
How to set up functions
Use 5 tact switches on the SUB Board.



⑦ HEATER INPUT
To connect the heater unit. (Heater is option)
Refer to 6-H og page 14.

8. How to operate key functions

8-1. MENU TREE



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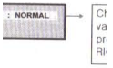

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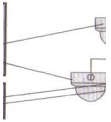

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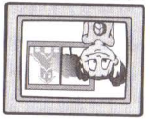
7-3. REVERSAL : NOR/ MIR/ VER/ FLIP

* NOR : Normal image
* MIR : Mirror image

* VER : Vertical Reversal image
* FLIP over image



EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: NOR
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: OFF
6. 2DNR	: (02)
7. 3DNR	: (08)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

☞ NOTE
- When the camera should be tilted on to the reverse direction (to backward) in consideration of the position of the CDS sensor, this can be solved by using the <FLIP> function.
  → 2. REVERSAL : FLIP

- When the camera should be installed in upright direction like in the picture here, the image is converted to normal position by using the <VER> function.
  → 2. REVERSAL : VER

☞ CAUTION
- When WDR is ON, <DIGITAL ZOOM : ON> is not activated.
- Please set the <WDR> as OFF when to use <DIGITAL ZOOM>.

7-4. DIGITAL ZOOM : OFF / X1.5 / X2 / X3

Set up the magnitude rate of DIGITAL ZOOM.
- 4 different set up is available. OFF(1 times), X1.5, X2, X3.

Digital Pan/Tilt is available only in this mode.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: NOR
4. DIGITAL ZOOM	: OFF

7-5. BLEMISH : ON / OFF

WHITE BLEMISH compensation function.
- This is to set up a special function to trace and cure White Dead Cells (called "WHITE DEFECT") automatically.

☞ RECOMMENDATION!
Please set up <BLEMISH : ON> after the installation. When BLEMISH function ON right after the POWER in, the picture may not be seen for a short period of time.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

7-6. 2DNR & 3DNR

This mode is to reduce following two different levels of noise.

* Reduce fine (weak) noise (adjustable between 00~06 [default is 2])
* 3DNR : Reduce rough (strong) noise (adjustable between 00~31 (default is 6))

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

7-7. EFFECT RESET : OFF / LOAD

EFFECT RESET : Reset is operated by
- Changing the mode from OFF to LOAD
- Pressing the MENU button of camera or IRIS OPEN key of Controller.

* Only EFFECT menu is returned to the factory default.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

7-8. SAVE / RETURN

a. Leave the EFFECT RESET to OFF condition.
b. Place the WHITE BAR on SAVE/RETURN position.
c. Press the MENU Button. Adjusted data and functions are automatically saved.

EFFECT MENU	
1. SHARPNESS	: 8
2. COLOR GAIN	: (ON)
3. REVERSAL	: OFF
4. DIGITAL ZOOM	: OFF
5. BLEMISH	: ON
6. 2DNR	: (02)
7. 3DNR	: (06)
8. EFFECT RESET	: OFF
9. SAVE/RETURN	

(8) MOTION MENU

8-1. MD NUM : 1~4

Motion Zone - Can be Masked on the picture.
MD NUM : Up to 4 numbers of areas can be masked.

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

8-2. MD DEFINE : ON / OFF

When < MD DEFINE > is ON, designated AREA NUM is activated.

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

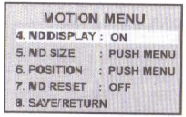
8-3. MD LEVEL

MD LEVEL is adjustable to LOW / MID / HIGH.

MOTION MENU	
1. MD NUM	: 1
2. MD DEFINE	: OFF
3. MD LEVEL	: MID

8-4. MD DISPLAY

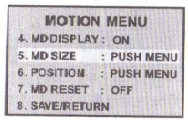
MOTION DETECTION DISPLAY can be On/Off.



8-5. MD SIZE : PUSH MENU

This is to adjust the size of the motion area.

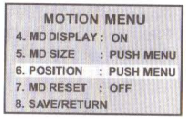
a. Set the < MD DEFINE > as ON.
b. Move the white background on to the < MD SIZE > category.
c. Press MENU button. Then, this catagory becomes < 5. MD SIZE : L/R/U/D >.
d. Now you can adjust the size of the wanted area by using Left/Right/Up/Down OSD buttons.
e. In order to exit, press the OSD MENU button. Thereafter, you can continue to move onto a different function.



8-6. POSITION : PUSH MENU

This is to adjust the position of the MASK area.

a. MD DEFINE
b. Move the white bar to < 6. Position : PUSH MENU >.
c. Press MENU button. Then, this catarory becomes < 6. POSITION : PUSE MENU >.
d. Now you can adjust the position of the wanted area by using Left/Right/Up/Down OSD buttons.
e. In order to exit, press the MENU button. (OSD Key) Thereafter, you can continue to move onto a different function.

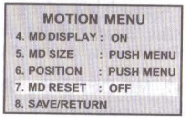


8-7. MD RESET : OFF / LOAD

MD RESET : Reset is operated by

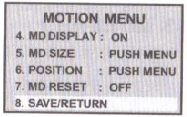
- Changing the mode from OFF to LOAD.
- Pressing the MENU button of camera or IRIS open key of controller.

* Only motion menu returned to the factory default.

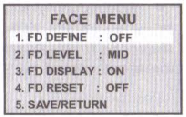


8-8. SAVE / RETURN

a. Leave the MOTION RESET to OFF condition.
b. Place the WHITE BAR on SAVE/RETURN position.
c. Press the MENU Button. Adjusted data and functions are automatically saved.



(9) FACE MENU

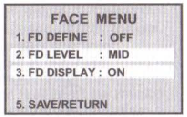


9-1. FACE DEFINE : OFF / ON

If FACE DEFINE is On, user can detect the faces up to 4 people.
More than 2/3 of face including eyes, nose and mouth should be disclosed and the size of the face on the monitor should be more than 3cm at least. And, the face on outside edges of the moup, down can't be detected.

9-2. FD LEVEL : XLOW / LOW / MID / HIGH / XHIGH

Sensitivity of FACE DETECTION can be adjustable.



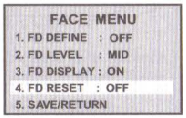
9-3. FD DISPLAY : ON / OFF

FACE DETECTION DISPLAY can be On/Off.

9-4. FD RESET : OFF / LOAD

FD RESET : Reset is operated by

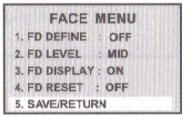
- Changing the mode from OFF to LOAD
- Pressing the MENU button of camera or IRIS OPEN key of Controller.



* Only FACE DETECT menu is returned to the factory default.

9-5. SAVE / RETURN

a. Leave the FACE RESET to OFF condition.
b. Place the WHITE BAR on SAVE/RETURN position.
c. Press the MENU Button. Adjusted data and functions are automatically saved.



(10) FACTORY INIT

10-1. FACTORY INIT : OFF / LOAD

This is for the whole function in all Menus to return to the default condition. (to factory default)

* Change the <FACTORY INIT : OFF> to <FACTORY INIT : LOAD> and press the MENU button or Iris Open Key of controller.

☞ CAUTION
Please note that the adjusted settings are changed to the factory default when the <FACTORY INIT>menu is ON.

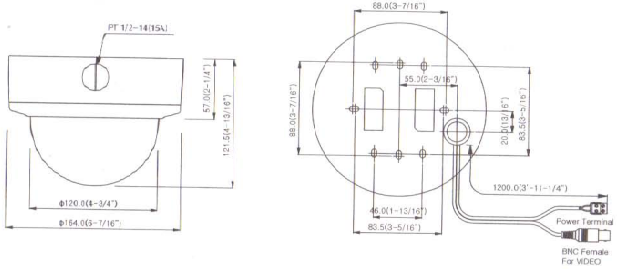
8. How to operate key functions

10-2. SAVE / RETURN

a. Place the WHITE BAR on SAVE/RETURN position.
b. Press the MENU Button. Adjusted data and functions are automatically saved.

(11) EXIT

9. Dimension (mm)



10. Troubleshooting

Before sending the camera out for repair, check the items below. If the problem persists after checking these items, contact your service center.

Problems	Trouble shooting
Nothing appears on the screen.	● Please check the power connection. ● Please check the video signal line connection
The video image is not clear.	● Please check if the lens or the outer glasss clean. – Dirt or finger prints on the lens can affect the image blooming or reflection. Gently wipe any dirt or fingerprints off the lens or the glass with a soft cloth. ● Please check and adjust contrast feature of the monitor. ● Please check if the camera is exposed directly toward a bright light, sunlight,or sun light reflecting area. Please move the camera's position in this case.
The screen is dark.	● Please check and adjust contrast feature of the monitor ● If there is anyinterim equipment, set the Hi-z position properly and check the terminals. ● Please check if the power supply is within the specification. – When the cable connection requires a long distance, there may need a higher power supply or an additional power/video amplification.
The camera's surface is too hot and black stripes appear on the screen.	● Please check if the power supply is regulated and is within the standard requirement of the product.
The screen is flickering.	● Please check if the camera is facing directly toward sunlight orfluorescent light.

11. Specification

MODEL		XL7	
Imager	Image sensor	1/3" Sony Double Scan CCD	
	Effective Pixels	976(H) x 494(V) - NTSC, 976(H) x 582(V) - PAL	
	H.Resolution	650TV Lines (Day) / over 700TV Lines (Night)	
Electrical	Sync system	Internal	
	Scanning system	NTSC 525 lines PAL 625 lines 2:1 Interlaced	
	Video output	1.0 Vp-p composite, 75 Ohms	
	S/N ratio	More than 50 dB (AGC Off)	
	Min. Illumination	Normal : 0.2Lux (F1.5) DSS Max : 0.005Lux (F1.5)	Normal : 0.1Lux (F1.3) DSS Max : 0.0001Lux (F1.3)
Function Control (OSD)	WDR	OFF / WDR1 / WDR2	
	2DNR / 3DNR	2DNR : OFF / 0~6, 3DNR : OFF / 0~31	
	White balance	ATW / Push Lock / Hold / User selectable (Push : 1,800°K~10,500°K)	
	Gain Control	OFF / 12dB / 18dB / 24dB / 30dB / 36dB / 42dB / 44dB Selectable	
	Shutter speed	1/60~1/10,000 sec (NTSC), 1/50~1/10,000 sec (PAL)	
	Digital Slow Shutter	OFF / 2~160x (DSS)	
	Privacy Masking	OFF / Mosaic / Color (4 programmable zons)	
	Digital zoom	OFF / 1.5x / 2x / 3x (Digital Pan / Telt)	
	Motion Detection	OFF / On (4 programmable zons)	
	Face Detection	OFF / On (4 face detections)	
Power	Power source	12VDC	12VDC/24VAC Dual power
	Operation current	At 12VDC : Max 330mA At 24VAC : Max 170mA	
Mechanical	Lens	3.3~12mm Varifocal DC iris	7.5~50mm Varifocal DC iris (CS)
	True Day/Night	With mechanical Filter change (a Blue filter built-in)	
Environmental	Operating Temp	14° F~122° F (-10° C~ + 50° C) 40° F~122° F (-40° C~ + 50° C) – with heater option	
	Humidity	Within 90% RH	
Physical	Output Terminal	4 Ft DIY cable w/BNC-Fe for Video, terminal block for Power	
	Measurement (mm)	164(D) x 121.5(L)	
	Weight (Approx.g)	1710	

Specifications are subject to change without prior notice for improvement.

MEMO