True Day/Night Vandal Resistant IR Dome Camera

· **VRD163M**

Genie C C T V

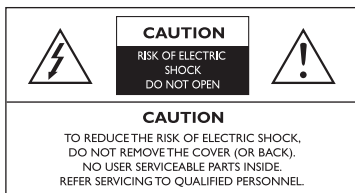**Genie** C C T V

110309-2

Dear Customer

By selecting this product, you have chosen to use a professional camera that guarantees high quality and reliability. We would like to thank you very much for your confidence and request that you read the following instructions carefully before installation and operation. You can then take full advantage of all the advanced features of 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 the risk of fire hazards

· Do NOT use a power source other than that specified.

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

Table of Contents

1. Precautions

- Please read the manual carefully before installing this camera, in order to make sure the set up is correctly and to obtain the best picture quality.

- Please keep the manual safe and in good condition for future reference and servicing.

- Installation and servicing should only be carried out by authorised personnel, in line with local safety regulations.

- If any liquid leaks into the housing, immediately disconnect the camera from power supply and have it checked by an authorized dealer before re-connecting it.

- Avoid installing the camera in places that are extremely hot or cold.

- If you are not a qualified 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 out by qualified personnel.

- Avoid installing the camera in places with high humidity.

- Avoid installing the camera in places that are exposed to gas or oil.

- Keep the polycarbonate dome, and the lens, clean to obtain the best picture quality. Be especially careful not to leave fingerprints on the lens or dome cover.

- Make sure the camera is not dropped and is protected from external shocks during the process of transportation, handling and installation.

- Never try to touch the camera with wet hands. It could cause an electric shock.

- Do not expose the camera to radioactivity. It causes serious damage to 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 the 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) Unauthorised disassembly, 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 with the product.
(5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined with the devices of third parties.
(6) Any claim or action for damages, brought by any person or organisation 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.
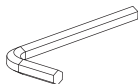
True Day/Night Vandal Resistant
IR Dome Camera 1EA
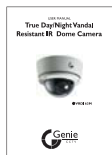
Instruction manual
1EA

L-Wrench (3.0mm)
1EA

Fixed Screws
4EA

Plastic anchor
4EA
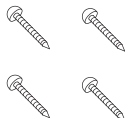
Tapping screws
4EA

<Surface>   <Flush>

Drilling template
1EA
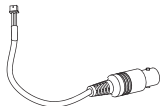
Extra Video output cable
1EA
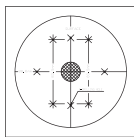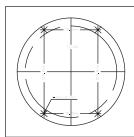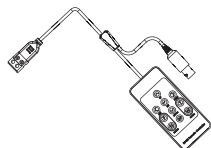
RS-485 Wired Remote Control
(Supplied separately. Product code VRD163M/RC)
1EA

5-1. Installation overview

☞ **NOTE**
Be careful not to drop a Camera ball in installation.

A. Surface Mount

RS-485 / OSD   BNC Female / Video
                      Terminal block / Power

Ceiling Tile

Drilling template

Surface Mount BASE

Tapping Screw
Ø4x30L-4EA

Flush Mount Base

Camera Set

Screw Fixed-3EA
PH MS M4xP0.7x8L

Dome-Ass'y

Socket Head Screw
M4xP0.7x10L-3EA

L-Wrench 3.0mm
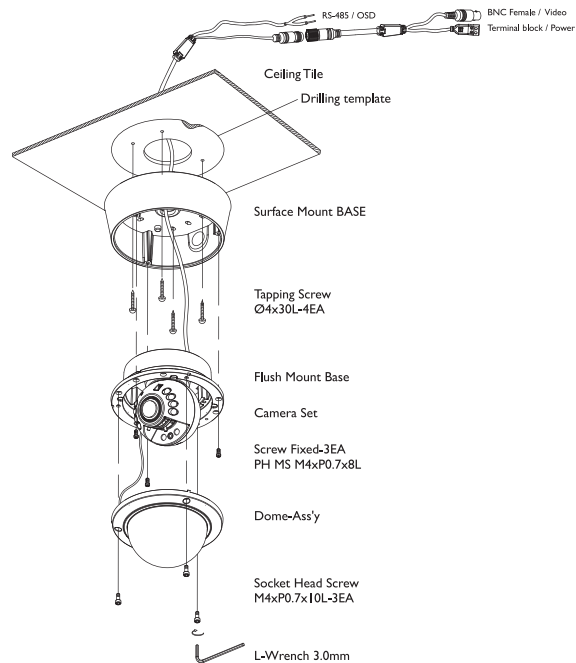
① Paste a Drilling Template on the ceiling or wall and drill screw points which will be done for installation.
② Fix a Surface Mounting Base by using Tapping Screws with Ø4 provided.
③ Fix a Flush Mounting Base to the Surface Mounting Base by using Fixed Screws with M4 provided.
④ Point a Camera Ball to a desired direction and assemble a dome cover to the Flush Mounting Base with Socket Screws by using L-Wrench provided.

B. Flush Mount

RS-485 / OSD

BNC Female / Video
Terminal block / Power

Ceiling Tile

Drilling template

Flush Mount Base

Camera Set

Tapping Screw
Ø4x30L-4EA

Dome-Ass'y

Socket Head Screw
M4xP0.7x10L-3EA

L-Wrench 3.0mm
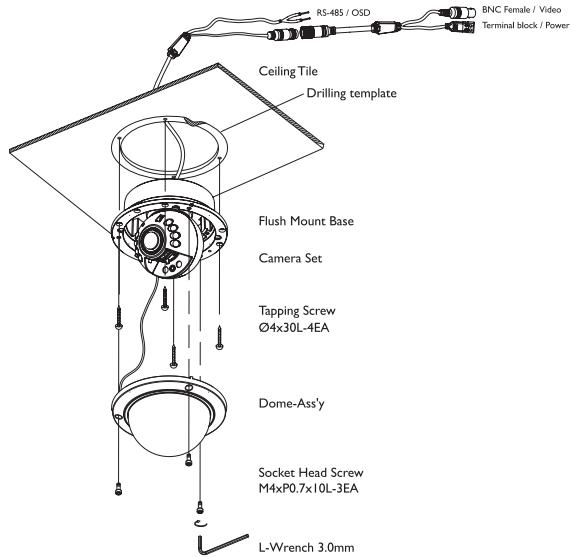
① Paste a Drilling Template on the ceiling and drill screw points which will be done for installation.
② Fix a Flush Mounting Base on the ceiling by using Tapping Screws with Ø4 provided.
③ Point a Camera Ball to a desired direction and assemble a dome cover to the Flush Mounting Base with Socket Screws by using L-Wrench provided.

5-2. Junction Boxes

2 gang Junction box
(Industrial standard)

Surface Mount BASE

Flush Mount Base

Fixed Screw-4EA
PH MS M4*P0.7*20L
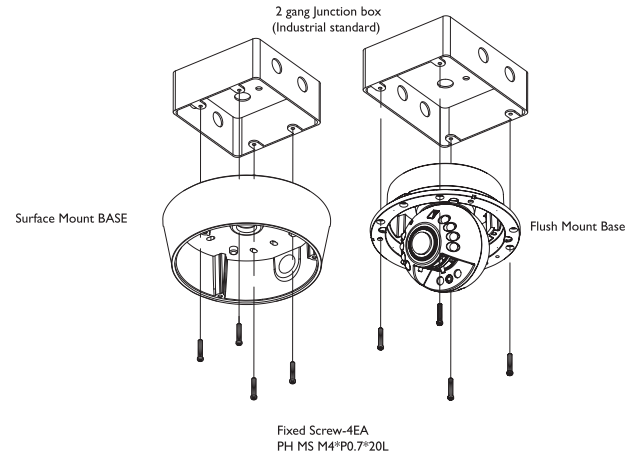
① Fix a Surface Mounting Base or a Flush Mounting Base to 2 Gang Junction Box by using Fixed Screws with M4 provided.

5-3. Waterproof processing of cable end connection

Make sure to use a butyl tape. (Do not use a sealing material on those parts)
① It is useful to connect the cable ends from camera to the extension cable for waterproof.
② Connect and tape the power cables (Power-Power/Ground-Ground).
③ Bind the power cables together with the type.
   When DC-Jack is used, tape the DC-DC joint.
④ Tape the BNC-BNC joint.

a. Power cable

(Red)

(Black)
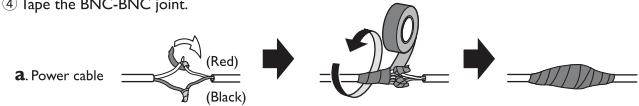
b. RS-485 : Same as above

c. Video output cable

6-1. Key Features

· 1/3 " Sony Super HAD CCD
· Ultra High Resolution (600TVL)
· Mechanical IR Cut-Filter
· Intelligent IR Control
·WideLux sWDR
· 2D / 3D Digital Noise Reduction
· 10 Pc IR LEDs
· 3-Axis Magnetic Ball Gimbal
· Dual Mount (Surface/Flush)
· RS-485
·Weatherproof (IP66)
· DC 12V / AC 24V
·Wall Bracket Available (Optional)

6-2. Advantageous ways of installation

A. Tool - Free all-Axis mounting mechanism

☞ **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. Dome Inside View

Auto Iris Vari-focal Lens
EXTRA VIDEO
Ø8.0-IR LED
Focus Knob
Zoom Knob
CDS Sensor
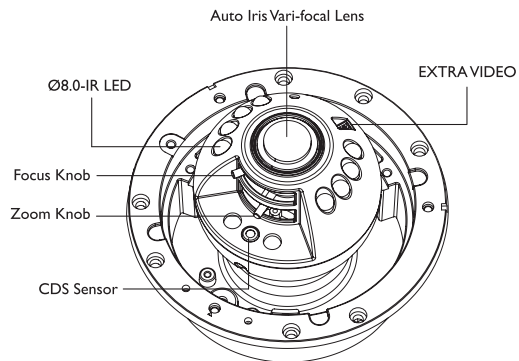
· Focus Knob

LEFT : ∞ ⟵
RIGHT : Near ⟶

· Zoom Knob
LEFT : Tele ⟵
RIGHT : Wide ⟶

· Extra video output
To enable an installer use the provided <Extra video output cable>
To check and adjust the camera set up via service monitor on the spot.

6. Features

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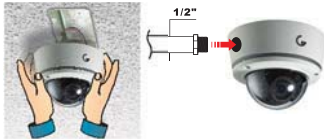
Compatible to the industrial standard
2-gangs junction box
The mounting hole is compatible to the
standard electric junction box for a quick
and easy installation.

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

D. Additional service monitoring output

Additional Video Output terminal is provided so that
the installer can adjust the zoom/focus and direction of
camera on the spot.

6-3. Perfect protection from all kinds of conceivable dangers

A. Vandal-Resistant
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 All-axis mounting mechanism is strong enough to hold the camera set against
severe vibration or shock on the dome.

D. Dust and Moisture free (IP66 Weatherproof)
The unit is duly passed IP66 international weatherproof standard, allowing the camera free from
moisture and dust.

7. Functions and operation

7-1. On screen Menu (OSD)

| MAIN MENU					
LENS	MANUAL	DC			
EXPOSURE	AGC	SHUTTER	SENS-UP	INITIAL	PREVIOUS
DAY/NIGHT	AUTO1	AUTO2	DAY	NIGHT	
WDR/BLC/ECLPS	OFF	WDR	BLC	ECLPSE	
WHITEBAL	ATW	COL-ROLL	PUSH	MANUAL	
2D-DNR	DISABLED	OFF	LOW	MIDDLE	HIGH
3D-DNR	ON	OFF			
EFFECTS	DZOOM MODE	IMAGE FREEZE	D-EFFECT	CONTRAST	SHARPNESS
	COLOUR ADJUST	TARGET CROSS	BAD PIXEL	INITIAL SET	SAVE
SPECIAL	CAM NAME	MOTION DET	PRIVACY MASK	LANGUAGE	STABILIZER
	MONITOR TYPE	FACE REC	COMM SET	FACTORY RESET	SAVE
EXIT					

7-2. Setting up the menu

· Settings can be made using the 5 way button RS-485 wired remote control
· Supplied separately (product code VRD163M/RC)

MAIN menu   SUB menu

1. Press the button to access the SETUP mode.
The SETUP menu is displayed on the monitor.

2. Please select any function you wish to activate
by using the UP/DOWN selections.
The arrow can be moved up or down by using
the UP/DOWN selections.
Position the arrow to point to the function you
wish to operate.

<MAIN MENU>
▶ 1. LENS   DC IRIS⏎
  2. EXPOSURE ⏎
  3. DAY/NIGHT   AUTO1
  4. WDR/BLC/ECLPS WDR ⏎
  5. WHITE BAL   ATW
  6. 2D-DNR   LOW
  7. 3D-DNR   ON ⏎
  8. EFFECTS ⏎
  9. SPECIAL ⏎
  10. EXIT   RET ⏎
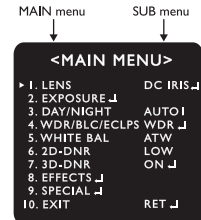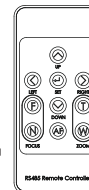
* Focus /AF /Zoom buttons on RS485 Remote Controller do not function-use
Focus/ Zoom control on Dome Camera.

MAIN menu   SUB menu

<MAIN MENU>
▶1. LENS   DC IRIS ↵
 2. EXPOSURE ↵
 3. DAY/NIGHT   AUTO1
 4. WDR/BLC/ECLPS   WDR ↵
 5. WHITE BAL   ATW
 6. 2D-DNR   DISABLED
 7. 3D-DNR   ON ↵
 8. EFFECTS ↵
 9. SPECIAL ↵
 10. EXIT   RET ↵

＊ MAIN-menu : Use UP/ DOWN selections. / SUB-menu : Use LEFT/ RIGHT selections.

3. Change the status of the selected feature using the LEFT/RIGHT selections.
   When the LEFT or RIGHT selection is pressed, available values and modes are
   displayed in order. Please keep the selection until you get to the mode you
   wish to operate.

4. When completed, move the arrow indicator to 'EXIT' and press the Button to
   finish the setting.

☞ **NOTE**

• If ↵ indication appears on a selected sub-menu, press the SET key to get into a following menu.
• If --- indication appears on any sub-menu, it means the function with this mark is deactivated.
  (EX : When SENS-UP is OFF, 3-DNR becomes deactivated ---)

7-3. LENS (Selection)

Select the lens and adjust the SETUP suitable to the type of lens.

◆ **When DC lens is used.** (＊ Default)

1. Please select the lens mode to DC IRIS.
2. Press the SET key to enter the <DC IRIS MENU>.

  - BRIGHTNESS: adjust the brightness of screen when the
               environment is extremely bright or dark.

  - REACTION: Reaction speed of the shutter is adjustable.
              It is useful when the light condition of the
              environment keeps changing quickly.
3. Save
   Press SAVE to finish all settings and return to <MAIN MENU>

<MAIN MENU>
▶1. LENS   DC IRIS ↵
 2. EXPOSURE ↵
 3. DAY/NIGHT   AUTO1
 4. WDR/BLC/ECLPS   WDR ↵
 5. WHITE BAL   ATW
 6. 2D-DNR   DISABLED
 7. 3D-DNR   ON ↵
 8. EFFECTS ↵
 9. SPECIAL ↵
 10. EXIT   RET ↵

<DC IRIS MENU>
▶BRIGHTNESS   50···········
 PREVIOUS SPEED 8 ············
 SAVE

◆ **When MANUAL lens is used.**

1. Please select the lens mode to MANUAL.
2. Press the SET key to enter the <MANUAL IRIS MENU>.

  - BRIGHTNESS : same as above
  - REACTION : same as above

<MAIN MENU>
▶1. LENS   MANUAL
 2. EXPOSURE ↵
 3. DAY/NIGHT   AUTO1
 4. WDR/BLC/ECLPS   WDR ↵
 5. WHITE BAL   ATW
 6. 2D-DNR   DISABLED
 7. 3D-DNR   ON ↵
 8. EFFECTS ↵
 9. SPECIAL ↵
 10. EXIT   RET ↵

<MANUAL IRIS MENU>
▶BRIGHTNESS   50···········
 PREVIOUS SPEED 8 ············
 SAVE
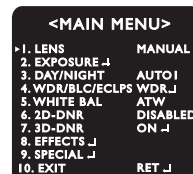
7-4. EXPOSURE (Condition and Shutter speed control)

(1) AGC (AUTO GAIN CONTROL)

  - OFF : Deactivates the AGC function.
  - LOW : Allows automatic gain control from 0 to 20dB. (＊ Default)
  - MIDDLE : Allows automatic gain control from 0 to 30dB.
  - HIGH : Allows automatic gain control from 0 to 42dB.

<EXPOSURE MENU>
▶1. AGC   LOW
 2. SHUTTER   AUTO
 3. SENS-UP   X8
 4. INITIAL SET   ↵
 5. SAVE   ↵
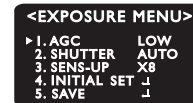
※ The higher the gain level, the brighter the screen becomes while the higher the noise as well.

(2) SHUTTER

A. AUTO : The shutter speed is controlled automatically. (＊ Default)
B. FLK   : Please select FLK mode when flickering occurs on the
           screen, due to an imbalance between illumination and
           frequency.
C. FIXED : The shutter speed is controlled manually.

<EXPOSURE MENU>
 1. AGC   LOW
▶2. SHUTTER   AUTO
 3. SENS-UP   X8
 4. INITIAL SET   ↵
 5. SAVE   ↵
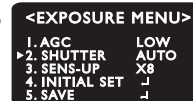
      - You can select speed from '1/60' to '1/90,000 sec. (NTSC), '1/50' to '1/90,000 sec. (PAL).
      - You can select Digital Slow Shutter between x2 ~ x512. (DSS)

※ Please use FIXED mode only when the light level of the surveillance area is fixed all the time.

(3) SENS-UP

- Low light sensitivity is greatly improved with the use of this function.
- Low light sensitivity level is adjustable from 2 to 512 times.
- When SEN-UP level is higher, the picture becomes brighter while
  noise is increased at the same rate of SENS-UP.

ON : Adjustable SENS-UP level between x2 ~ x512.
OFF: SENS-UP is disabled.
※ Default setting is <x8>

```
<EXPOSURE MENU>
1. AGC          LOW
2. SHUTTER      AUTO
▶3. SENS-UP     X8
 4. INITIAL SET  ↵
 5. SAVE         ↵
```

☞ **Note**
  • When the SHUTTER is set to FIXED mode, SENS-UP does not operate   .

(4) INITIAL SET

Initialize all setting of EXPOSURE menu..

(5) SAVE

7-5. DAY NIGHT

It is used to improve the sensitivity and clarity of picture quality
at low light.

- DAY   : The image is always displayed in colour.
- NIGHT : The image is always displayed in black and white.
- AUTO1 : The image is automatically converted to B/W from Colour
          at 3 lux.

 • IR WDR LEVEL : Select Anti- IR saturation level
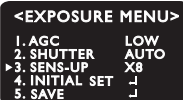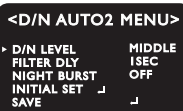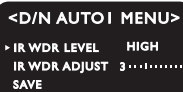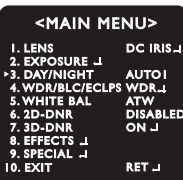   - OFF/ LOW/ MIDDLE/ HIGH
 • IR WDR ADJUST : Adjust the value in each of selected
                   level - 0 ~ 6

- AUTO2: The image is automatically converted to B/W from Colour at 3 lux.

 • D/N LEVEL : LOW/ MIDDLE/ HIGH
 • FILTER DLY : Select the duration time about changing the Day/Night mode.
               (1 SEC, 3 SEC, 5 SEC, 10 SEC, 15 SEC, 30 SEC, 60 SEC)
 • NIGHT BURST : Burst ON/OFF selectable.
 • INITIAL SET : Initialise all settings of AUTO2 menu.

※ Default setting
  - Infrared camera: AUTO1

```
<MAIN MENU>
1. LENS          DC IRIS ↵
2. EXPOSURE  ↵
▶3. DAY/NIGHT    AUTO1
4. WDR/BLC/ECLPS WDR ↵
5. WHITE BAL     ATW
6. 2D-DNR        DISABLED
7. 3D-DNR        ON ↵
8. EFFECTS  ↵
9. SPECIAL  ↵
10. EXIT         RET ↵
```

```
<D/N AUTO1 MENU>
▶ IR WDR LEVEL   HIGH
 IR WDR ADJUST  3 ·········
 SAVE
```

```
<D/N AUTO2 MENU>
▶ D/N LEVEL      MIDDLE
 FILTER DLY      1SEC
 NIGHT BURST     OFF
 INITIAL SET  ↵
 SAVE           ↵
```

7-6. WDR/BLC/ECLPS

The image quality is greatly improved with the use of this mode when there is a strong backlight
behind the object.

- OFF : Deactivates the WDR function.
- WDR: Camera scans both of bright lit background and shaded area
         distinctively under an extremely contrasted light situation.
         (LOW/MIDDEL/HIGH)
- BLC : Enables a user to directly select a desired area from a picture
         and to view the area more clearly.(LOW/MIDDEL/HIGH)

```
<MAIN MENU>
1. LENS          DC IRIS ↵
2. EXPOSURE  ↵
3. DAY/NIGHT     AUTO1
▶4. WDR/BLC/ECLPS WDR ↵
5. WHITE BAL     ATW
6. 2D-DNR        DISABLED
7. 3D-DNR        ON ↵
8. EFFECTS  ↵
9. SPECIAL  ↵
10. EXIT         RET ↵
```


BLC OFF

BLC ON

WDR

```
<WDR MENU>
▶ WDR LEVEL      HIGH
 SAVE            ↵
```

```
<BLC MENU>
▶ BLC LEVEL      MIDDLE
 SAVE            ↵
```
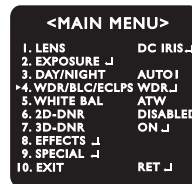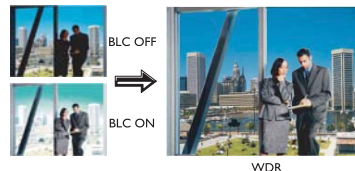
- ECLIPSE : • Can mask the head lights to view car license number plate more clearly.
            • Can select masking colour.
            • Adjust the ECLIPS level at the GAIN CONTROL as OFF mode.

ECLIPSE MASKING AREA

ECLIPSE ON   ECLIPSE OFF

```
<MAIN MENU>
1. LENS          DC IRIS ↵
2. EXPOSURE  ↵
3. DAY/NIGHT     AUTO1
▶4. WDR/BLC/ECLPS ECLPS ↵
5. WHITE BAL     ATW
6. 2D-DNR        DISABLED
7. 3D-DNR        ON ↵
8. EFFECTS  ↵
9. SPECIAL  ↵
10. EXIT         RET ↵
```

```
<ECLIPSE MENU>
▶ AREA SETTING
 ALL AREA SET    OFF
 MASK COLOUR     GRAY
 ECLPS LEVEL     ┼·········
 GAIN CONTORL    OFF
 SAVE            ↵
```
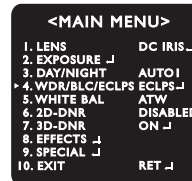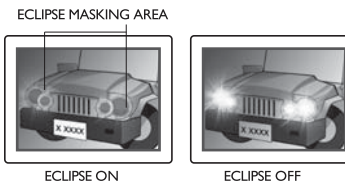
7-7. White Balance (WHITE BAL)

This is useful to optimise the white balalnce control under a certain artificial lighting area where a standard white balance condition is not suitable.

- ATW (Auto Tracking White Balance)
 This mode can be used within the color temperature range of
 1,500°K~11,000°K. (※ Default)
- COL-ROLL
 Anti color rolling mode.
 Use it only when the rolling is severely shown.
- MANUAL
 Recommanded to use it when the light temperature is fixed all the time Select INDOOR or OUTDOOR mode.
- PUSH (Push lock)
 Use this when the White Balance is deviated.
 Face the camera toward the white wall or white paper and press the Set button.

```
<MAIN MENU>
1. LENS              DC IRIS⏎
2. EXPOSURE ⏎
3. DAY/NIGHT         AUTO1
4. WDR/BLC/ECLPS     ECLPS ⏎
▶5. WHITE BAL        ATW
6. 2D-DNR            DISABLED
7. 3D-DNR            ON ⏎
8. EFFECTS ⏎
9. SPECIAL ⏎
10. EXIT             RET⏎
```

```
<WB MANUAL MENU>
▶ COLOUR TEMP        INDOOR
RED                  0 ⋯⋯
BLUE                 0 ⋯⋯
INITIAL SET ⏎
SAVE                 ⏎
```

☞ **Note**
White Balance may not work properly under the following condition.
- When the colour temperature of the environment surrounding the subject is out of the control range. (e.g. clear sky or sunset)
- When the ambient illumination of the subject is dim.
- If the camera is directed towards a fluorescent light or is installed in a place where illumination change dramatically, the White Balance operation may become unstable.
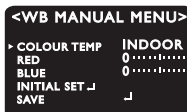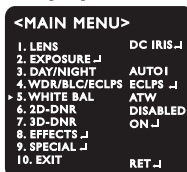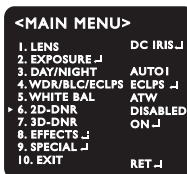
7-8. 2D-DNR (2D Noise Reduction)

- LOW
- MIDDLE
- HIGH
- DISABLED: Deactivates 2DNR. Noise is not reduced.
- OFF : Activates 2DNR(Level : 0). Noise is not reduced.

```
<MAIN MENU>
1. LENS              DC IRIS⏎
2. EXPOSURE ⏎
3. DAY/NIGHT         AUTO1
4. WDR/BLC/ECLPS     ECLPS ⏎
5. WHITE BAL         ATW
▶ 6. 2D-DNR          DISABLED
7. 3D-DNR            ON ⏎
8. EFFECTS ⏎
9. SPECIAL ⏎
10. EXIT             RET⏎
```

☞ **Note**
<Bad pixel detection> function is operated only when
<2D-DNR DISABLED> is selected.

7-9. 3D-DNR (3D Noise Reduction)

The background noise in the low light level decreases automatically as the level of gain changes.
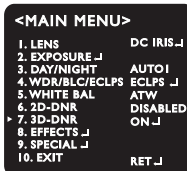
- DNR LEVEL
 Adjust the noise reduction level.
- DESTINATION
 Adjust the 3DNR gain.
- GLOBAL MOVEMENT
 Control ghost phenomenon

```
<MAIN MENU>
1. LENS              DC IRIS⏎
2. EXPOSURE ⏎
3. DAY/NIGHT         AUTO1
4. WDR/BLC/ECLPS     ECLPS ⏎
5. WHITE BAL         ATW
6. 2D-DNR            DISABLED
▶ 7. 3D-DNR          ON ⏎
8. EFFECTS ⏎
9. SPECIAL ⏎
10. EXIT             RET⏎
```

```
<3D-DNR MENU>
▶DNR LEVEL        24 ⋯⋯
 DESTINATION      47 ⋯⋯
 GLOBAL MOVEMENT OFF
 SAVE              ⏎
```

7-10. EFFECTS

- D-ZOOM : You can use a digital zoom.
 • ZOOM : x1 ~ x8.10
 • DZOOM PAN : -100 ~ 100
 • DZOOM TILT : -100 ~ 100

- IMAGE FREEZE : You can view still or live image.
- D-EFFECT
 • V-FLIP : You can flip the picture vertically on the screen.
 • MIRROR : You can flip the picture horizontally on the screen.
 • ROTATE : You can flip the picture rotatively on the screen.
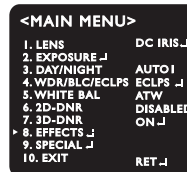
- CONTRAST : 0 ~ 100
- SHARPNESS : 0 ~ 100
- COLOUR ADJUST
 • COLOUR : ON/OFF
 • COLOUR LEVEL : 0 ~ 200
 • COLOUR HUE : -180 ~ 180
 • RED GAIN : -100 ~ 100
 • BLUE GAIN : -100 ~ 100

- TARGET CROSS : Display '✛' on the screen
 • COLOUR : BALCK, GRAY, WHITE, RED, GREEN, BLUE, YELLOW
 • MOVE X : -100 ~ 100
 • MOVE Y : -100 ~ 100
 • INITIAL SET
 • SAVE

```
<MAIN MENU>
1. LENS              DC IRIS⏎
2. EXPOSURE ⏎
3. DAY/NIGHT         AUTO1
4. WDR/BLC/ECLPS     ECLPS ⏎
5. WHITE BAL         ATW
6. 2D-DNR            DISABLED
7. 3D-DNR            ON ⏎
▶ 8. EFFECTS ⏎
9. SPECIAL ⏎
10. EXIT             RET⏎
```

```
<EFFECTS MENU>
▶DZOOM MODE         OFF
 IMAGE FREEZE       OFF
 D-EFFECT           OFF
 CONTRAST          50 ⋯⋯
 SHARPNESS         50 ⋯⋯
 COLOUR ADJUST ⏎
 TARGET CROSS
 BAD PIXEL ⏎
 INITIAL SET ⏎
 SAVE
```

```
<COLOUR ADJUST MENU>
▶COLOUR             ON
 COLOUR LEVEL 100 ⋯⋯
 COLOUR HUE        0 ⋯⋯
 RED GAIN          0 ⋯⋯
 BLUE GAIN         0 ⋯⋯
 SAVE              ⏎
```

```
<TARGET CROSS MENU>
▶ COLOUR            BLACK
 MOVE  X           0 ⋯⋯
 MOVE  Y           0 ⋯⋯
 INITIAL SET
 SAVE
```

☞ **Note**
At TARGET CROSS function is in operation, '✛' display shall disappear if MOTION DET function is 'ON'

- BAD PIXEL : BAD PIXEL compensation
 • BP DETECTION : Make the screen completely black by covering the camera.
 • SEARCH AREA : X START/ Y START/ WIDTH/ HEIGHT
 • THRESHOLD : 40 ~ 1024
 • SAVE

```
<BAD PIXEL DETECTION>
▶ BP DETECTION
 SEARCH AREA
 THRESHOLD        90 ⋯⋯
 SAVE
```
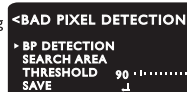
(※ Users may simply activate BP DETECTION and go directly to SAVE. Then Bad pixels in full screen are compensated automatically)

- INITIAL SET : Initialise all settings of EFFECTS menu.
(※ TARGET CROSS and BAD PIXEL modes are not initialised)

- SAVE

7-10. SPECIAL MENU

CAM NAME

- Please position the arrow to point to 'CAM NAME' by using the
  UP or DOWN selection.
  - Please select 'ON' by using the LEFT and RIGHT selection.
    Please press the button to complete 'ON'

☞ Note
If 'OFF' is selected, the CAM NAME does not appear on the monitor
even if it has been input.

- Up to 15 letters are offered for the CAM NAME.
① Please move the cursor to the letter to choose by using the
   UP and DOWN selections.
② Set an ID from A~Z /a~z /0~9 by using the UP, DOWN, LEFT and
   RIGHT Selections.
③ Lock in the letters by using the button.
 • When the letter is locked in, the cursor moves to the next space.
④ Please repeat the above to input CAM NAME.

☞ **Note**
 • For a wrong name has been input,
  - If you press the button after moving the cursor to CLR, all letters
    will be erased.
  - If you want to correct a letter, please move the cursor to the arrow
    at the bottom left of the screen and press the button.
  - Please position the cursor on the letter you wish to correct, and then move the cursor onto
    the letter you wish to choose and press the button.
  - When a name has been chosen, please select a position for the name to display.

① Please move the cursor onto 'POS' and then press the button.
② The name will appear at the top left hand corner.
③ Please find the position you wish to display the name by using the 4 directional
   selections, and then press the Button.

 -Please select 'END' and then press the Button to complete CAM NAME input.

```
<SPECIAL MENU>
▶ CAM NAME        OFF
  MOTION DET      OFF
  PRIVACY MASK    OFF
  LANGUAGE        ENG
  STABILIZER      OFF
  MONITOR TYPE    CRT
  FACE REC        OFF
  COMM SET ⏎
  FACTORY RESET ⏎
  SAVE       ⏎
```

```
<CAMERA NAME>

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
-.  0123456789

←→ CLR POS END
▮_____
```

```
▯→
BACK YARD
_____
```

```
<CAMERA NAME>

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklm
nopqrstuvwxyz
-.  123456789

←→ CLR POS END
▮_____
```

FRONT DOOR ←↑↓→ to Locate then SET

MOTION (Motion Detection: MD)

- ZONE NUMBER : You can select up to 8 MD areas.
- ZONE STATE : Determines whether to use the MD area selected
              in ZONE NUMBER.
- WIDTH : Determines the coordinate of the horizontal size.
- HEIGHT : Determines the coordinate of the vertical size.
- MOVE X : Determines the coordinate of the horizontal axis.
- MOVE Y : Determines the coordinate of the vertical axis.
- SENSITIVITY : Determines the coordinate of the sensitivity.
- INITIAL SET : Initialise all setting of MOTION DET menu.
- SAVE : Select this to save the MOTION menu setting and
         return to the SPECIAL menu.

PRIVACY (Privacy Masking)

- MASK NUMBER : You can select up to 8 PRIVACY areas.
- MASK STATE : Determines whether to use the selected in
              AREA SELECT.
- MASK COLOUR : Determines area colour. You can select GRAY,
                WHITE, RED, GREEN, BLUE, YELLOW, BLACK.
- WIDTH : Determines the coordinate of the horizontal size.
- HEIGHT : Determines the coordinate of the vertical size.
- MOVE X : Determines the coordinate of the horizontal axis.
- MOVE Y : Determines the coordinate of the vertical axis.
- INITIAL SET : Initialise all setting of PRIVACY menu.
- SAVE : Select this to save the PRIVACY menu setting and return
         to the SPECIAL menu.

LANGUAGE
You can select the menu language according to your requirements.
- English, Korean, Russian, Spanish, French

```
<SPECIAL MENU>
  CAM NAME        OFF
▶ MOTION DET      OFF
  PRIVACY MASK    OFF
  LANGUAGE        ENG
  STABILIZER      OFF
  MONITOR TYPE    CRT
  FACE REC        OFF
  COMM SET ⏎
  FACTORY RESET ⏎
  SAVE       ⏎
```

```
<MOTION DET MENU>
▶ZONE NUMBER    ZONE1
 ZONE STATE      OFF
 WIDTH          20···|········
 HEIGHT         30···|········
 MOVE X         15·|··········
 MOVE Y         25··|·········
 SENSITIVITY    50······|·····
 INITIAL SET⏎
 SAVE           ⏎
```

```
<SPECIAL MENU>
  CAM NAME        OFF
  MOTION DET      OFF
▶ PRIVACY MASK    OFF
  LANGUAGE        ENG
  STABILIZER      OFF
  MONITOR TYPE    CRT
  FACE REC        OFF
  COMM SET ⏎
  FACTORY RESET ⏎
  SAVE       ⏎
```

```
<PRIVACY MASK MENU>
▶MASK NUMBER    MASK1
 MASK STATE      OFF
 MASK COLOUR    GRAY
 WIDTH          30···|········
 HEIGHT         30···|········
 MOVE X         30···|········
 MOVE Y         25··|·········
 INITIAL SET⏎
 SAVE           ⏎
```

```
<SPECIAL MENU>
  CAM NAME        OFF
  MOTION DET      OFF
  PRIVACY MASK    OFF
▶ LANGUAGE        ENG
  STABILIZER      OFF
  MONITOR TYPE    CRT
  FACE REC        OFF
  COMM SET ⏎
  FACTORY RESET ⏎
  SAVE       ⏎
```

STABILIZER (DIS)

This function mitigates any picture movement due to external factors such as wind.

```
<SPECIAL MENU>
CAM NAME          OFF
MOTION DET        OFF
PRIVACY MASK      OFF
LANGUAGE          ENG
▶STABILIZER       OFF
MONITOR TYPE      CRT
FACE REC          OFF
COMM SET ⏎
FACTORY RESET ⏎
SAVE         ⏎
```

☞ **Note**
• The chance of resolution decrease is existed because STABILIZER function uses the digital zoom.
• STABILIZER doesn't operate when background illumination is too low.
• STABILIZER doesn't operate when object pattern is monotonic like sky or white wall.

MONITOR TYPE

- CRT : GAMMA 0.45
- LCD : GAMMA 1.0

```
<SPECIAL MENU>
CAM NAME          OFF
MOTION DET        OFF
PRIVACY MASK      OFF
LANGUAGE          ENG
STABILIZER        OFF
▶MONITOR TYPE     CRT
FACE REC          OFF
COMM SET ⏎
FACTORY RESET ⏎
SAVE         ⏎
```

FACE REC (Face Recognition)

A special area where the internal illumination is dark while strong back light exists behind the object, normally human face becomes unrecognizable. This mode is suited for this particular situation.

- FR BRIGHTNESS : 0 ~ 40
- FR CONTRAST : 0 ~ 40
- COLOUR SAT : 0 ~ 200
- CONTRAST : 0 ~ 100
- OUTPUT LEVEL : -64 ~ 64
- SHARPNESS : 0 ~ 100

```
<SPECIAL MENU>
CAM NAME          OFF
MOTION DET        OFF
PRIVACY MASK      OFF
LANGUAGE          ENG
STABILIZER        OFF
MONITOR TYPE      CRT
▶FACE REC         OFF
COMM SET ⏎
FACTORY RESET ⏎
SAVE         ⏎
```

COMM SET (Communication seting)

This function sets up the camera communication status when controlling the camera through an external control device.

```
<COMM SETTING MENU>
▶PROTOCOL        PELCO D
CAMERA ID ⏎
BAUD RATE         9600
SAVE/REBOOT ⏎
PREVIOUS          ⏎
```

- CAMERA ID

• CAMERA ID : Determines the camera's identification number (between 0 and 255).
• ID POSITION: Displays camera title on top left & right side of the screen.
• BAUD RATE : You can select 4800/9600/19200/38400/57600 bps .
• SAVE/REBOOT: Select this to save the COMM SET menu setting and return to the main screen.
• PREVIOUS: Return to COMM SET menu.

```
<SET CAMERA ID>
▶CAMERA ID       001
DISPLAY ID        OFF
ID POSITION
SAVE              ⏎
```

☞ **Note**
- RS-485 cable : Please connect (-) firstly and then (+).
- IF there happens RS-485 cable conection error or any other problems, a message 'ERROR RS-485 Connection. Please Reconnect and Reboot' is displayed.
  Please reset the power or OSD.

FACTORY RESET

Resets the camera setting to the factory defaults.
But <COMM SET> menu is not initialised.

7-12. EXIT

Save all setting menus by pressing the SET key and then exit by pressing EXIT menu.
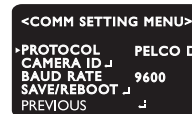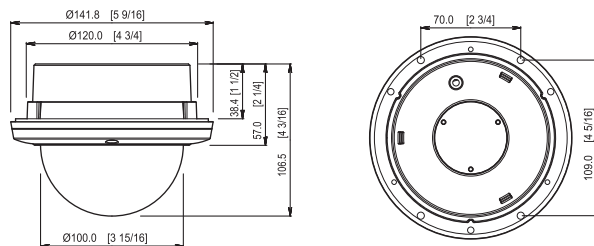
8. Trouble shooting guide

Before sending the camera back for repair, check the items below. If the problem persists after checking these items, contact your distributor.
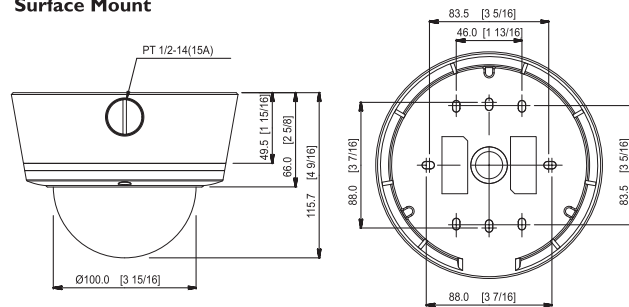
Problems	Troubleshooting
Nothing appears on the screen.	• Check the power connections. • Check the video signal line connection.
The video image is not clear.	• Make sure the lens and dome cover are clean. - Dirt or fingerprints affect the image and can cause blooming or reflection. Gently wipe any dirt or fingerprints from the lens and dome using a soft cloth. • Check and adjust the monitor contrast.
The screen is dark.	• Check and adjust the monitor contrast. • If there is any intermediate equipment, check and set the Hi-z terminations correctly. • Check that the power supply is within specification. - If the power cable is too long, it may require a higher rated power supply or additional power or video amplification.
The camera's surface is too hot and black stripes appear on the screen.	• Check if the power supply is regulated and is within the standard requirement of the product.
Colours are not quite right.	• Check the <white balance> setting.
IR beam is weak.	• Check if the distance of the cable installation is too long or if the cable is not UL standard. Using a lower grade cable or long distance cable installation can cause a serious voltage drop. Please check the voltage output level of the cable and change the power source in this case. Make a special care not to supply too much power over the camera as well.

9. Dimension (mm)

Flush Mount

Ø141.8 [5 9/16]
Ø120.0 [4 3/4]
70.0 [2 3/4]
38.4 [1 1/2]
[2 1/4]
57.0 [4 3/16]
106.5
Ø100.0 [3 15/16]
109.0 [4 5/16]

Surface Mount

PT 1/2-14(15A)
83.5 [3 5/16]
46.0 [1 13/16]
49.5 [1 15/16]
[2 5/8]
66.0 [4 9/16]
88.0 [3 7/16]
115.7
Ø100.0 [3 15/16]
83.5 [3 5/16]
88.0 [3 7/16]

10. Specification

Specification	True Day / Night Vandal Resistant IR Dome Camera
Image sensor	1/3" Sony Super HAD CCD
Effective Pixels	NTSC : 768(H) X 494(V) PAL : 752(H) X 582(V)
H.Resolution	600TV Lines(Colour) , 650 TV Lines (Mono)
Synchronisation	Internal
Scanning system	NTSC : 525 Lines PAL : 625 Lines 2:1 Interlaced
Video output	1.0Vp-p Composite. 75 Ohms
S/N ratio	More than 52dB(AGC off)
Min. Illumination	0.1 Lux (Colour), 0.0001 Lux (Sens-up, x512), 0 Lux (With IR ON)
Shutter Speed	NTSC : 1/60 ~1/90,000 sec, PAL : 1/50~1/90,000 sec.
Gamma Correction	Standard r=0.45
White Balance	1800°K ~ 11,000°K Auto , ATW / Push Lock /Manual selectable by OSD
Gain Control	Standard : -6dB ~ 34dB Auto /Maximum by OSD
Smear Effect	0.005%
Power source	12V DC / 24V AC
Operating current	200mA/12VDC(IR Off),400mA/12VDC(IR On)
	90mA/24VAC(IR Off), 190mA/24VAC (IR On)
Lens	3.3~12mm Varifocal Lens F1.2
LED Spectrum	Ø8 - 40° X 10EA
Viewable Distance	Up to 20m based om optimal conditions
MTBT of IR	20,000 hours
Iris Control	DC IRIS
Operating temp./Humidity	-10°C ~ 50°C (Humidity : 0%RH ~ 90%RH)
Measurement(mm)	150(Ø) x 115.7(H)
Weight(Approx.g)	1,900
Wall Bracket	240mm X 191mm

OSD Control	
WideLux WDR	Off / On
2D / 3DNR	Off / On
Sens-up	Off / x2 ~ x512
Motion Detection	Off / On (8 Zone)
Digital Zoom	Off, x1 ~ x8.10
White Balance	ATW / COL-ROLL / PUSH / MANUAL
Privacy Mask	Off / On (8 Zone)
RS-485 Interface	Yes (Pelco D)
Weatherproof	IP66 Rating

MEMO

MEMO

MEMO