

x39 PTZ Outdoor Wall(Ceiling) Mount Camera

User's Manual

Safety Information



CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN.



CAUTION:

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



Warning

This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.



Precaution

This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

WARNING

2. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
3. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
4. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.
5. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
6. When installing the camera, fasten it securely and firmly. A falling camera may cause personal injury.
7. Do not place conductive objects (e.g. screw drivers, coins, metal things, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
8. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
9. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
10. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way.
11. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

Precautions

Operating

- Before using, make sure power supply and others are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then
- contact your Special dealer.

Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Care must be taken when you clean the clear dome cover. Especially, scratch and dust will ruin your quality of camera.

Installation and Storage

- Do not install the camera in areas of extreme temperature, which exceed the allowable range.
- Avoid installing in humid or dusty places.
- Avoid installing in places where radiation is present.
- Avoid installing in places where there are strong magnetic fields and electric signals.
- Avoid installing in places where the camera would be subject to strong vibrations.
- Never expose the camera to rain and water.

Important Safety Instructions

1. **Read these instructions.** - All these safety and operating instructions should be read before the product is operated.
2. **Keep these instructions.** - The safety, operating and use instructions should be retained for future reference.
3. **Heed all warnings.** - All warnings on the product and in the operating instructions should be adhered to.
4. **Follow all instructions.** - All operating and use instructions should be followed.
5. **Do not use this apparatus near water.** - For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement; near a swimming pool; etc.
6. **Clean only with dry cloth.** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.
7. **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.** - Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product, and to protect it from over-heating. The openings should never be blocked by placing the product on bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's unstructions have been adhere to.
8. **Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.**
9. **Do not defeat the safety purpose of the polarized or grounding-type plug.** A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. **Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.**
11. **Only use attachments/accessories specified by the manufacturer.**
12. **Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.**
13. **Unplug this apparatus during lightning storms or when unused for long periods of time.**
14. **Refer all servicing to qualified service personnel.** Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.





Disposal of Your Old Appliance

1. When this crossed-out wheel bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.



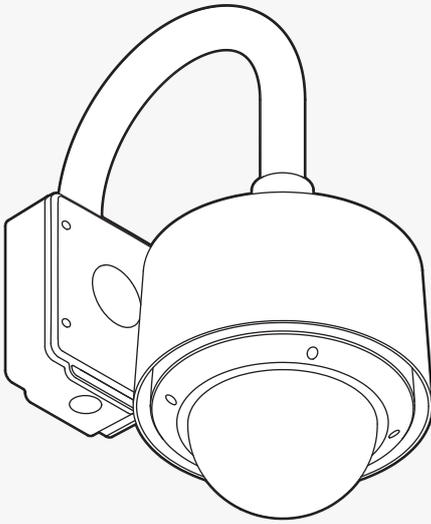
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, 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.

Contents

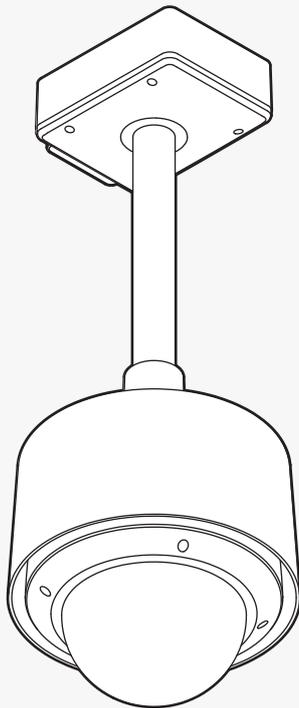
| | |
|--------------------------|--|
| 1. Introduction | 6 Product & Accessories 7 Part Name & Functions |
| 2. Installation | 8 DIP Switch Setup 10 Installation Using Wall Mount Bracket 15 Cabling |
| 3. OSD | 17 Check Points before Operation 18 Aux Functions 19 OSD Information 20 General Rules of Menu Operation 21 ROOT MENU & SYSTEM INFORMATION 22 DISPLAY SETUP 23 MOTION SETUP 25 FUNCTION SETUP > PRESET SETUP 27 FUNCTION SETUP > SCAN SETUP 28 FUNCTION SETUP > PATTERN SETUP 29 FUNCTION SETUP > GROUP SETUP 31 FUNCTION SETUP > SCHEDULE SETUP 33 CAMERA SETUP > WB SETUP 35 CAMERA SETUP > AE SETUP 37 CAMERA SETUP > SPECIAL 38 SYSTEM SETUP 40 SYSTEM INITIALIZE |
| 4. Specifications | 41 Dimension 42 Specification |

1 Introduction - Product & Accessories

Product

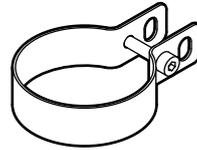


Wall Mount Type

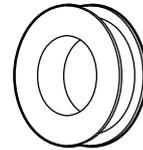


Ceiling Mount Type

Accessories



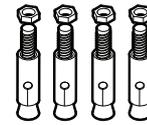
Housing Safety Cable Hanger



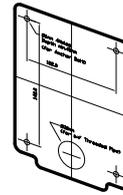
Water Proof Tape



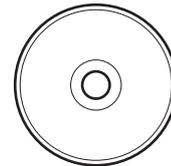
Hexagonal Wrench



Anchor Bolt(4pcs)



Hole Template



Manual CD



Safety Wire

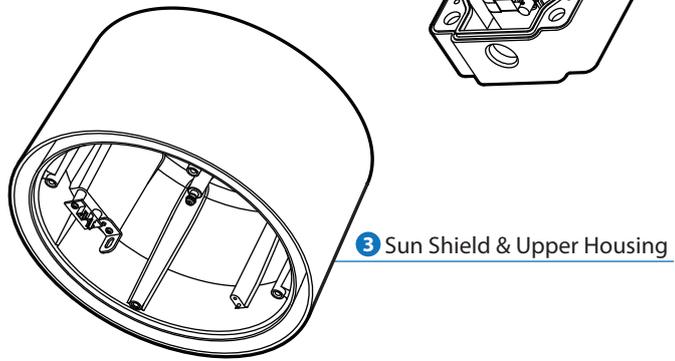
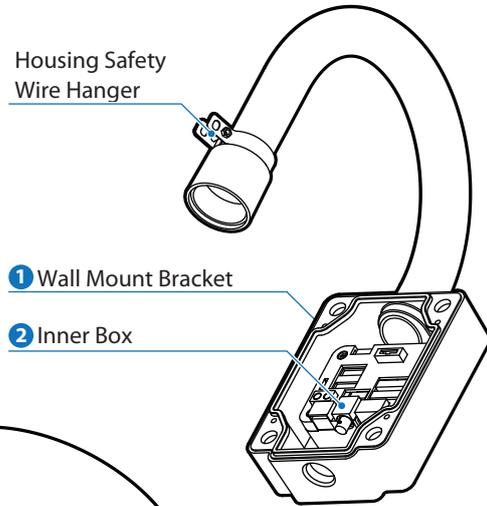
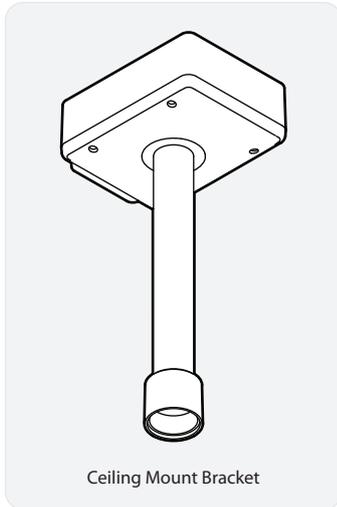


Quick Manual

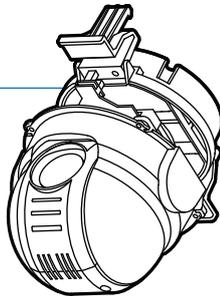
1 Introduction - Part Name & Functions

1 Wall/Ceiling Mount Bracket

These are used to install the camera on the wall or ceiling and have junction box. The junction box of the bracket accommodate inner box.



4 PTZ Mechanism



2 Inner Box

The inner has many important roles of connection box between camera and outside. Top of the box, there are dip switches and terminal locks for power supply, video, communication, alarm input/output.

3 Sunshield & Upper Housing

Sunshield protect bubble dome cover from the sun rays and rain fall. In the sunshield, there is the upper housing which will contain accommodate PTZ mechanism. In the upper housing, there are fan and heater to remove moisture on the bubble dome. Also, the upper housing will be connected to both mounting brackets and dome cover.

4 PTZ Mechanism

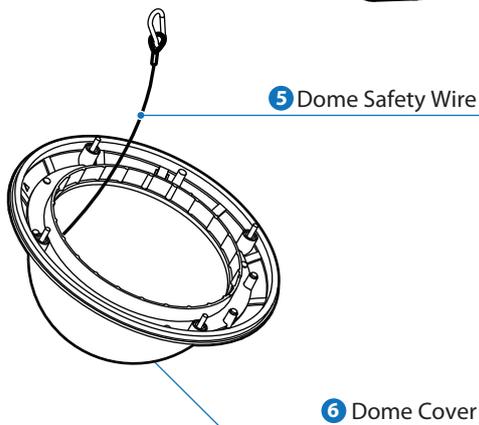
Control the PTZ operations of the camera.

5 Dome Safety Wire

Prevents the dome cover from falling.

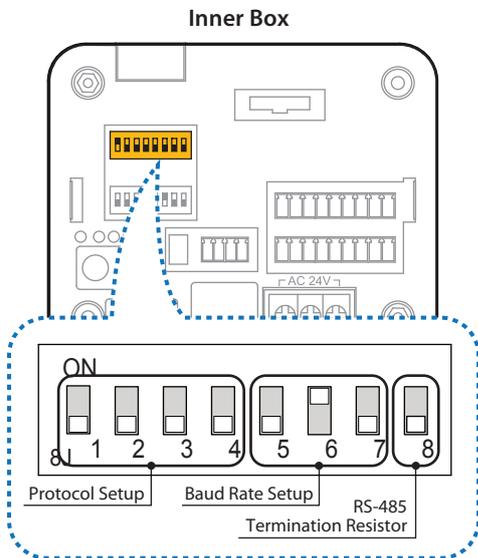
6 Dome Cover

Do not detach protection film from dome cover before finishing all installation process to protect dome cover from scratches or dust.

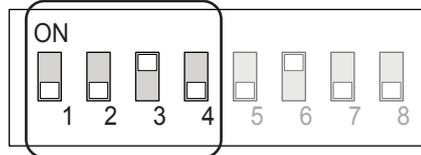


2 Installation - DIP Switch Setup

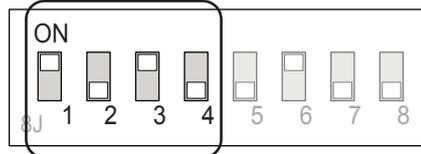
⚠ Before installing the camera, you should set the DIP switch to configure the camera ID, communication protocol.



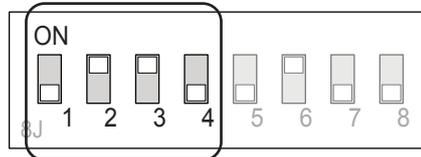
5 Panasonic



6 GE(Kalatel)



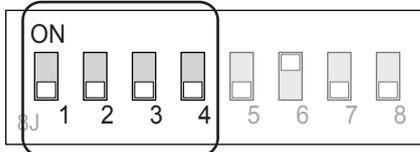
7 AD(American Dynamics)



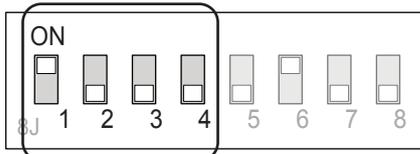
1. Communication Protocol Setup

Select the appropriate protocol with DIP switch combination.

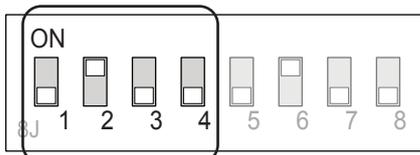
1 Auto - Factory Default



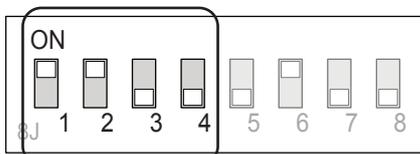
2 PELCO-D



3 PELCO-P



4 SAMSUNG



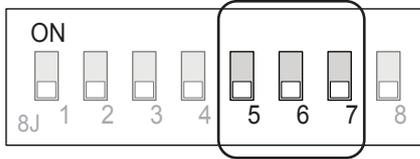
- If you set the protocol as 'Auto' protocol, camera will automatically recognize PELCO-D, PELCO-P or SAMSUNG protocol.
- If you want to control using DVR or system keyboard, their protocol must be identical to camera. Otherwise, you can not control the camera.
- If you change camera protocol by changing DIP switch, the change will be effective after you reboot the camera.

2 Installation - DIP Switch Setup

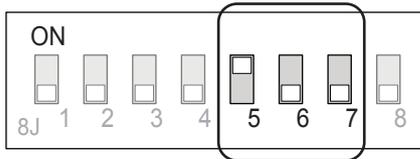
2. Communication Baud Rate Setup

Select the appropriate baud rate with DIP switch combination.

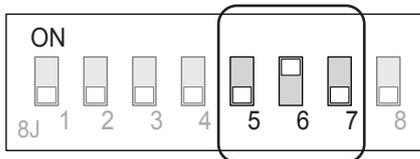
1 2400 BPS - Factory Default



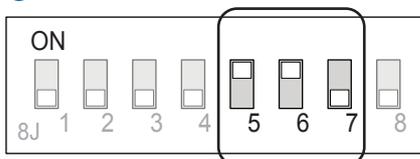
2 4800 BPS



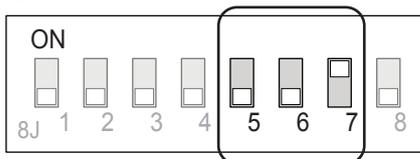
3 9600 BPS



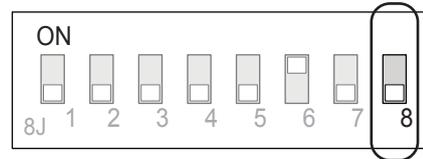
4 19200 BPS



5 38400 BPS



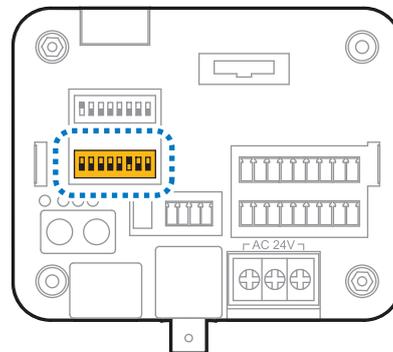
3. RS-485 Termination Resistor



- Pin 8 is used for on/off of RS-485 termination.
- Normally, it must be off state.
- Especially, when you have trouble with long daisy chain style connection, turn on this termination switch of the last camera.

4. Camera ID Setup

Inner Box

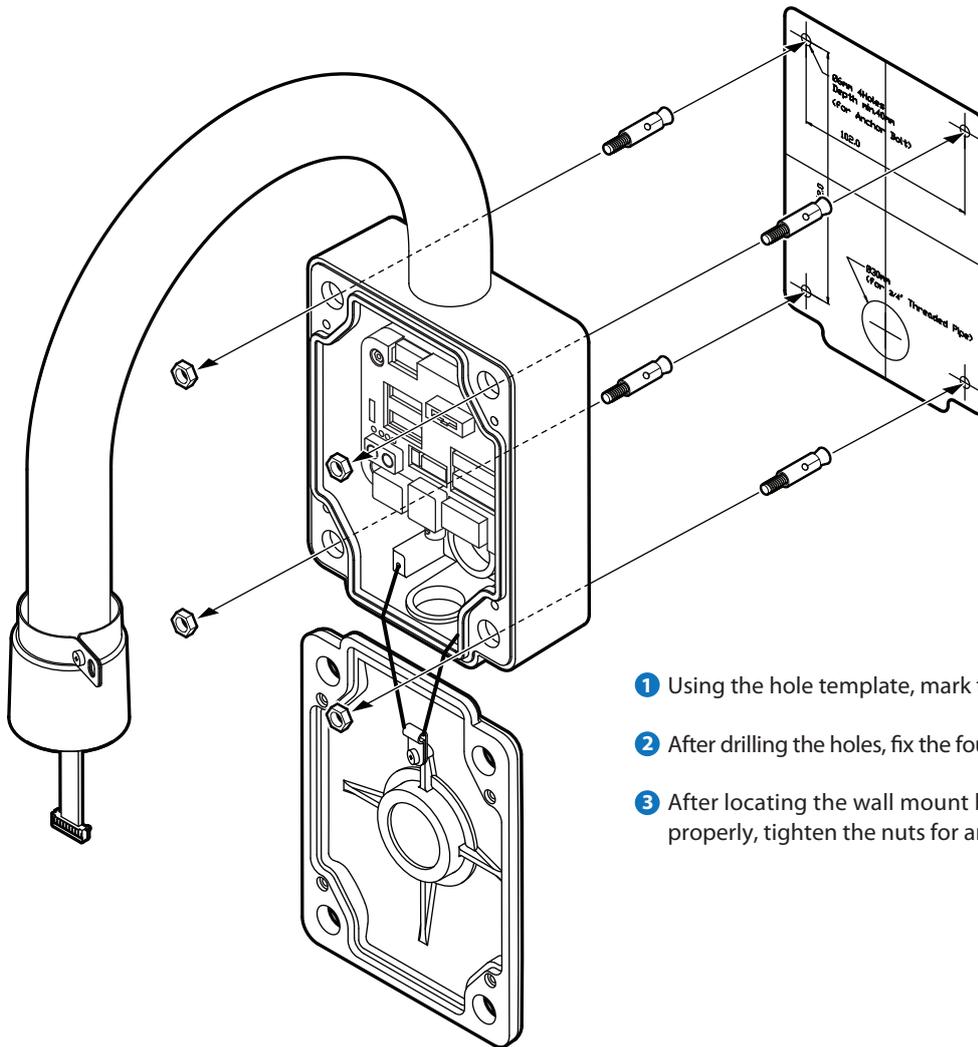


ID number of camera is set using binary number. The example is shown below.

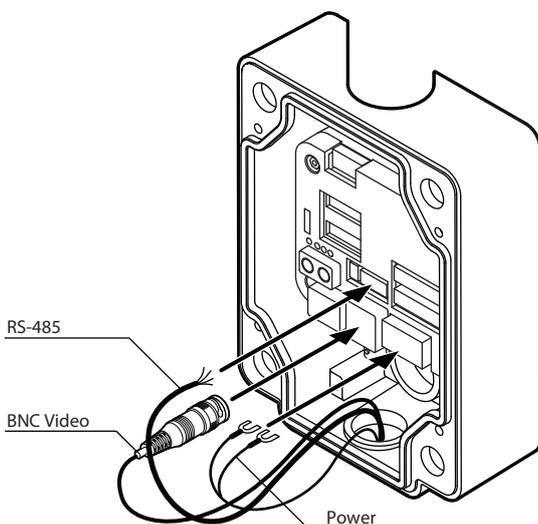
| Pin | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|
| ID Value | 1 | 2 | 4 | 8 | 16 | 32 | 64 | 128 |
| ex) ID=5 | on | off | on | off | off | off | off | off |
| ex) ID=10 | off | on | off | on | off | off | off | off |

- If you want to control a certain camera, you must match the camera ID with 'CAM ID', setting of DVR or keyboard controller.
- ID number of the camera is set using binary number.
- The range of ID is 0~255.
- Factory default of camera ID is 1.
- Camera ID will be effective without rebooting the camera.

2 Installation - Installation Using Wall Mount Bracket

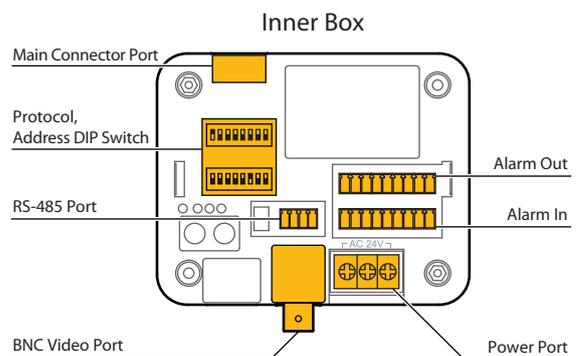


- 1 Using the hole template, mark the holes on the wall.
- 2 After drilling the holes, fix the four anchor bolts into the holes.
- 3 After locating the wall mount bracket on the anchor bolts properly, tighten the nuts for anchor bolts.



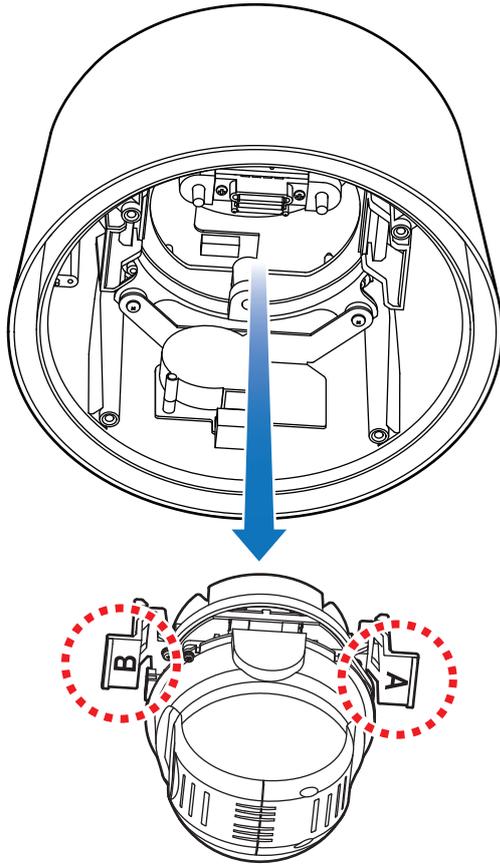
- 4 Connect cables to terminal blocks and BNC in the inner box of junction box.

⚡ See the cabling in the next section.

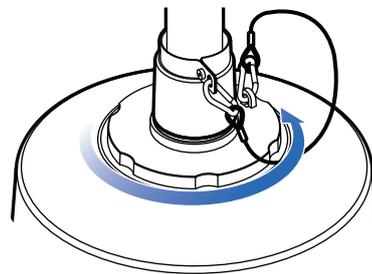
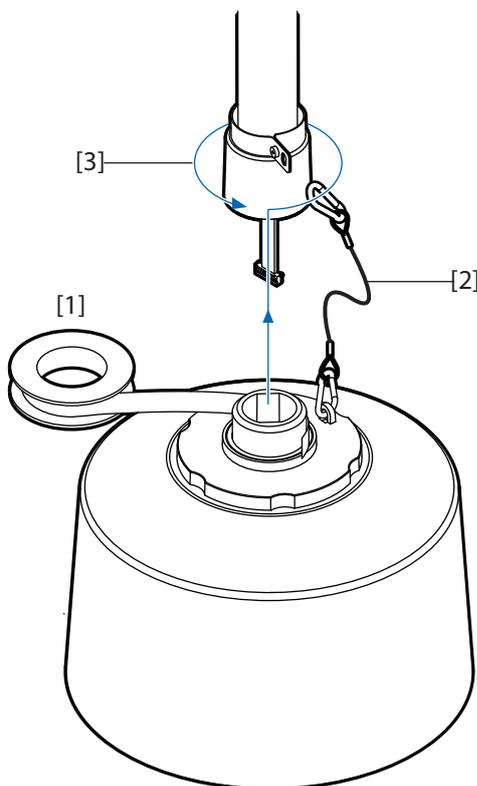


2 Installation - Installation Using Wall Mount Bracket

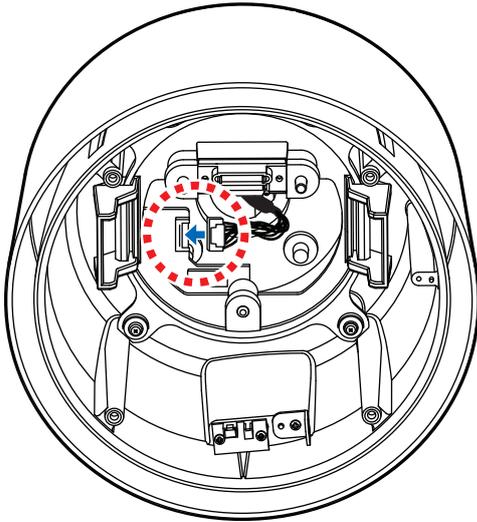
- 5 You have to detach the PTZ mechanism from the upper housing to plug the connector of cable. When detach PTZ mechanism, pressing down and holding up the black handles in both sides of PTZ mechanism.



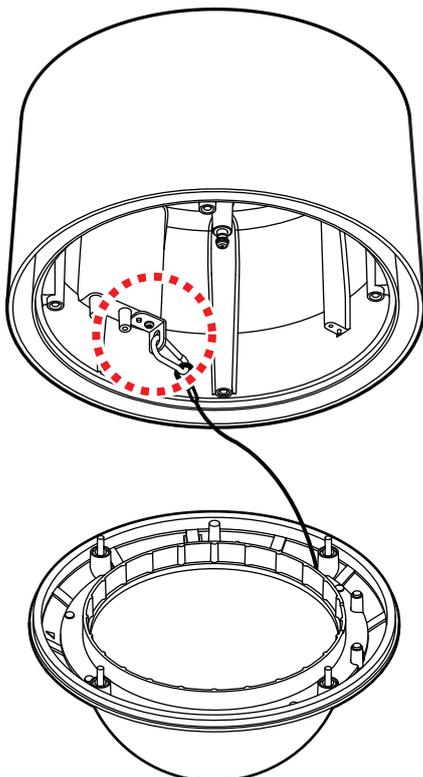
- 6 [1] Wind the water proof tape on the pipe of upper housing.
[2] Hooking the safety wire on the hole of pipe.
[3] Attach the upper housing to wall mount bracket by turning it at least seven turns.
- ※ To fix the upper body orientation, turn the handle of double nuts to clockwise tightly.



2 Installation - Installation Using Wall Mount Bracket



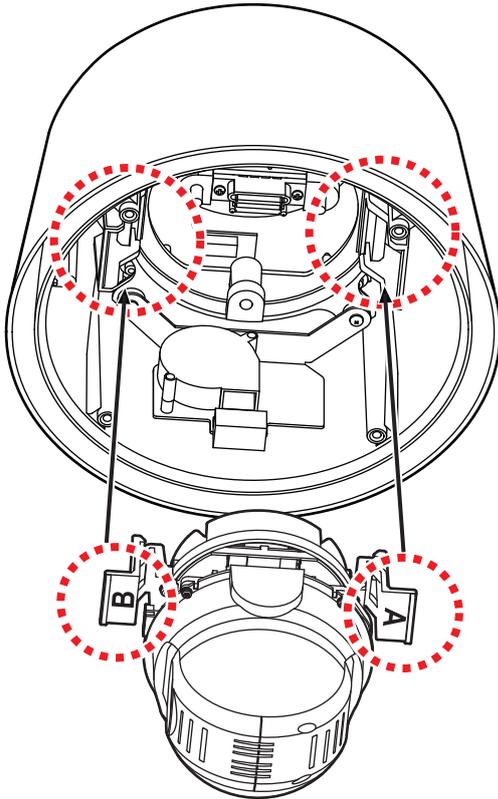
- 7 Plug the main cable into the main connector in the upper housing and press the main cable till it sounds snap to lock.



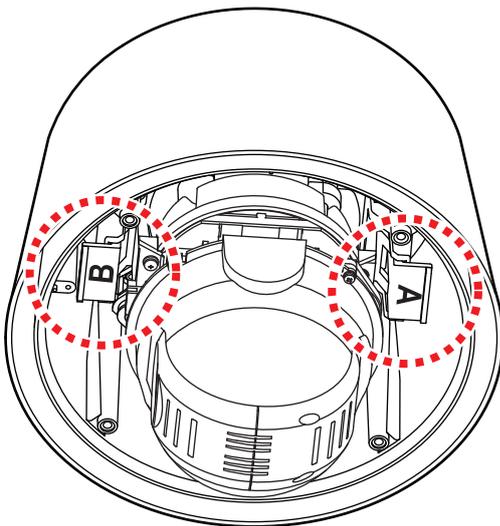
- 8 Connect the dome safety wire into the connectors in the upper housing.

2 Installation - Installation Using Wall Mount Bracket

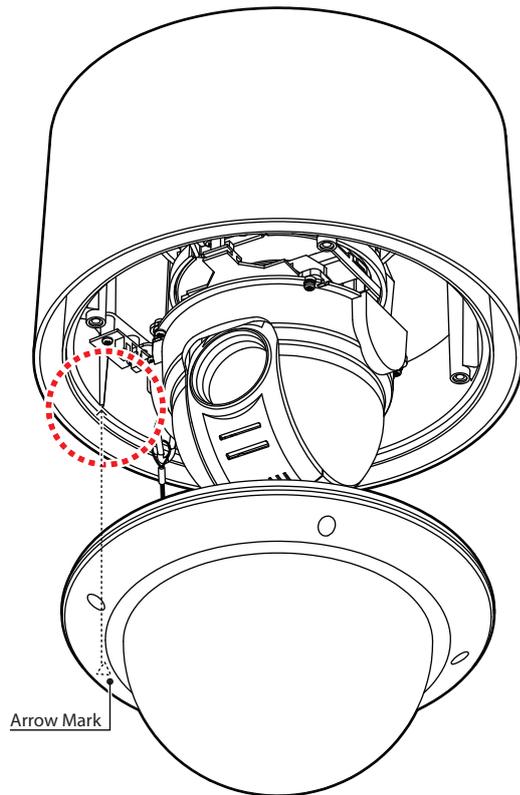
- 7 Plug the connector of cable from junction box into properly. After checking the orientation of one touch connector in the upper housing, press the PTZ mechanism into hook in the upper housing.



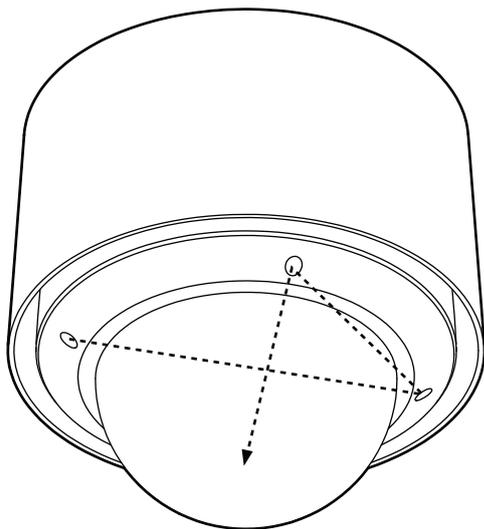
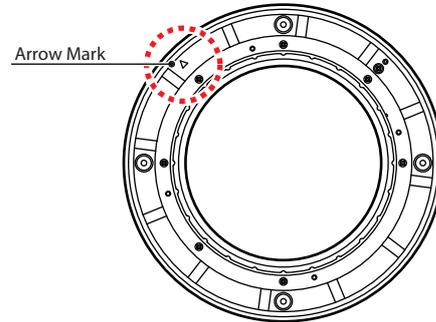
- 8 To lock the PTZ mechanism to the upper housing, press the two black handles till it sounds snap.



2 Installation - Installation Using Wall Mount Bracket



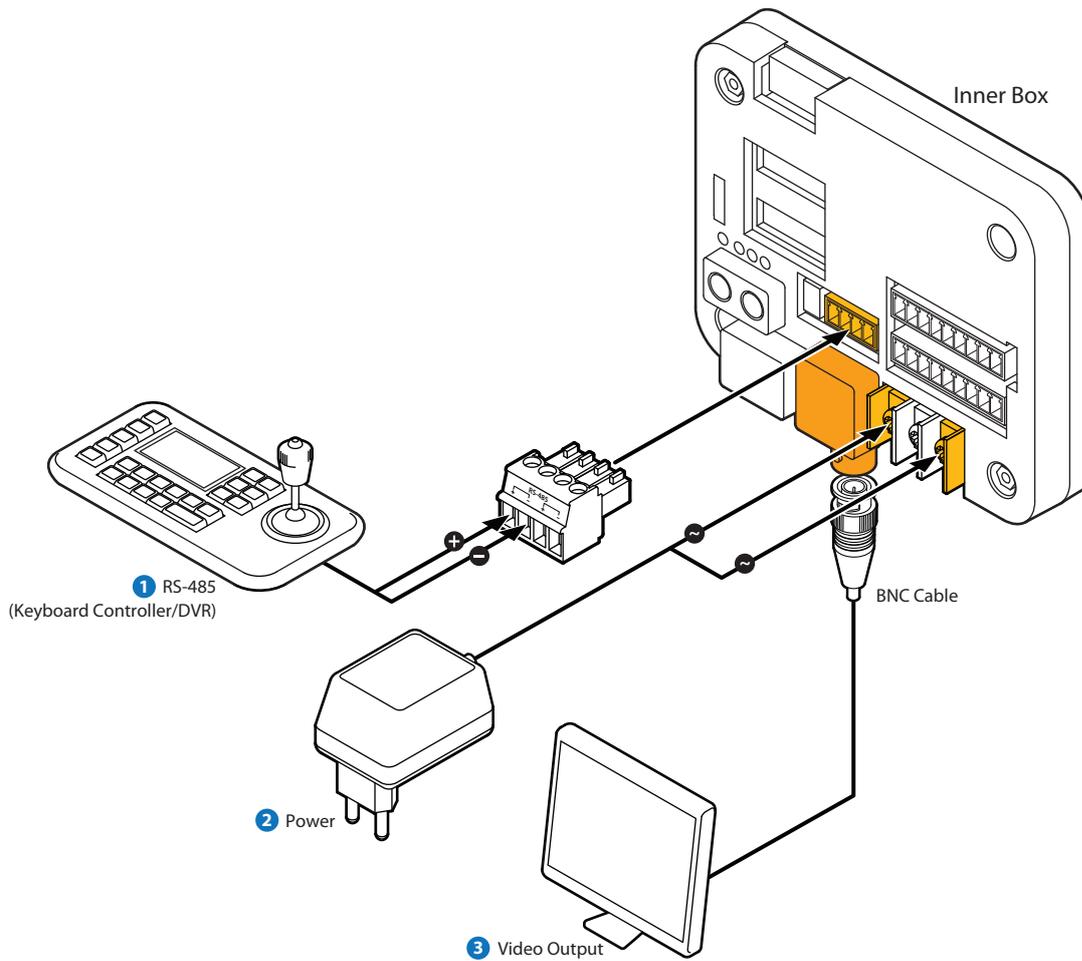
- 9 Close the dome cover. Care must be taken to locate dome cover by matching the 'Arrow Mark'.



- 10 Tighten four screws on the dome cover in sequence as shown in the picture.

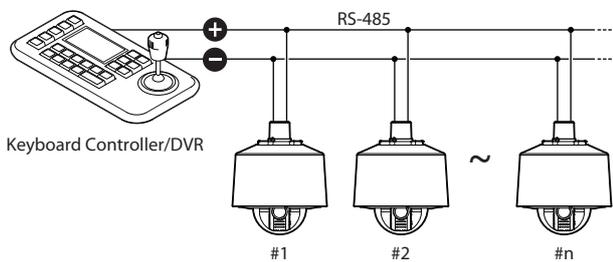
- ※ To maintain the best sealing, the torque of each screw must be in the range between 0.5 ~ 1.0 N·m (0.3 ~ 0.73 lbf·ft).

2 Installation - Cabling



1 RS-485 Communication (DVR/Keyboard)

For PTZ control, connect this line to keyboard and DVR. To control multiple cameras at the same time, RS-485 communication lines of them are connected in parallel as shown below.



2 Power Connection

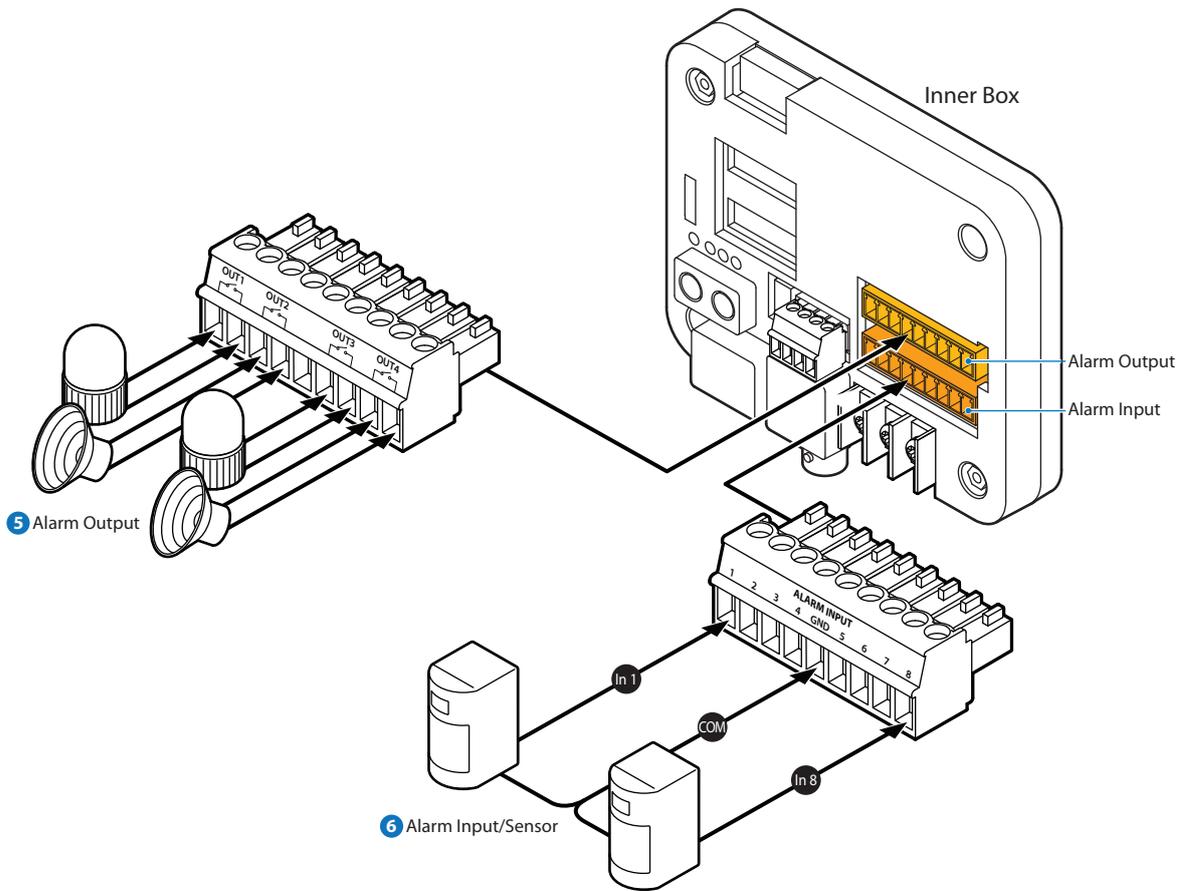
Please, check the voltage and current capacity of rated power carefully.

| Rate Power | Current Consumption |
|------------|----------------------------------|
| AC 24V | Heater Off: 24W • Heater On: 55W |

3 Video Output

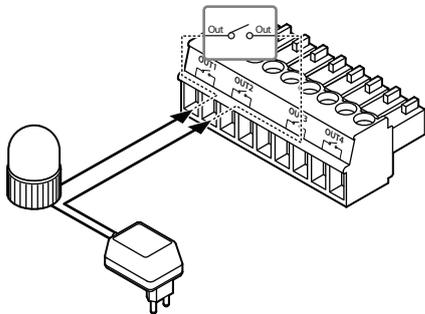
Connect with BNC coaxial cable.

2 Installation - Cabling



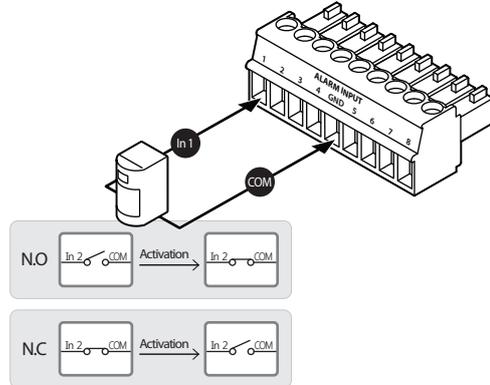
5 Alarm Output

There are 4 alarm outputs and all of them are relay contact type. Therefore, you do not have to care about polarity, AC/DC, and isolations between channels. Care must be taken for the power capacity of relay contact written above.



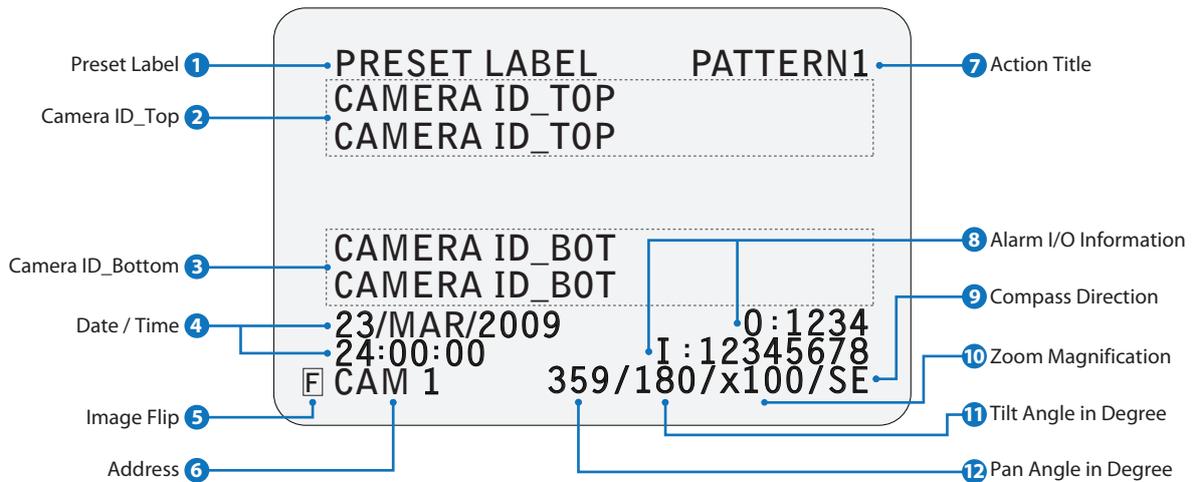
6 Sensor Input

If you want to use alarm input, the types of sensor must be selected in OSD menu. The sensor types are 'Normal Open' and 'Normal Close'. If sensor type is not selected properly, the alarm can be activated reversely.



⚡ It is noted that short circuit between GND and Input pin means alarm activation.

3 OSD - OSD Information



1 Preset Label

- The label stored for specific preset.
- See the section 'ROOT MENU>FUNCTION SETUP>PRESET SETUP>LABEL'.

2 Camera ID_Top

- If 'CAMERA ID' sets 'TOP', camera ID displayed in this area.
- See the section 'ROOT MENU>DISPLAY SETUP>CAMERA ID'.

3 Camera ID_Bottom

- If 'CAMERA ID' sets 'BOT', camera ID displayed in this area.
- See the section 'ROOT MENU>DISPLAY SETUP>CAMERA ID'.

4 Date / Time

- Shows the current date/time.
- See the section 'ROOT MENU>SYSTEM SETUP>DATE/TIME SETUP'.

5 Image Flip

- Shows that images are currently reversed by auto flip function.
- See the section 'ROOM MENU>CAMERA SETUP>IMAGE FLIP'.

6 Address

- The current RS-485 address information.
- See the section 'ROOT MENU>SYSTEM INFORMATION'.

7 Action Title

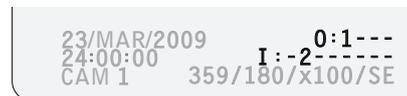
Followings are possible action titles and their meaning.

| Action Title | Means |
|------------------|--|
| SET PRESET 123 | Means to store preset 123. |
| PRESET 123 | Means it reached preset 123. |
| PATTERN 1 | Means the camera is running pattern 1. |
| SCN 1/PRESET 123 | Means the camera is running scan 1. |
| RANGE OVER | Means the action received is not within the range supported. |
| UNDEFINED | Means the action received is not defined. |

8 Alarm I/O Information

- This information shows current state of alarm input and output.
- The 'I' means input and 'O' means output.
- If an input is on state it will show the number of input. If an input is off state, '-' will be displayed. In the same way 'O:1 - - -' means output 1 is on and other output is off.

Ex) When point 2 of inputs are on, and output 1 is on, OSD will show as below.



9 Compass Direction

- Shows the current compass direction of the camera.
- The direction is shown as N(North), S(South), E(East), W(West), NE(Northeast), NW(Northwest), SE(Southeast), SW(Southwest).
- See the section 'ROOT MENU>SYSTEM SETUP>SET NORTH DIRECTION'.

10 Zoom Magnification

Shows the current zoom magnification.

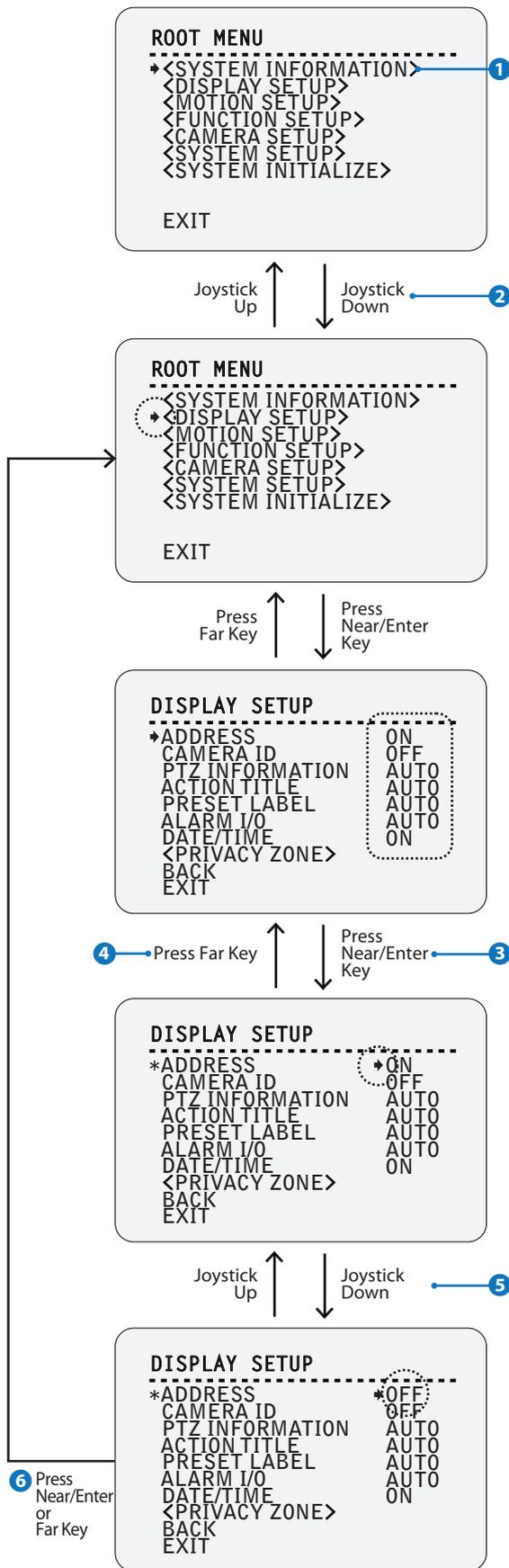
11 Tilt Angle in Degree

Shows the current tilt(0 ~ 180) angle.

12 Pan Angle in Degree

Shows the current pan(0 ~ 359) angle.

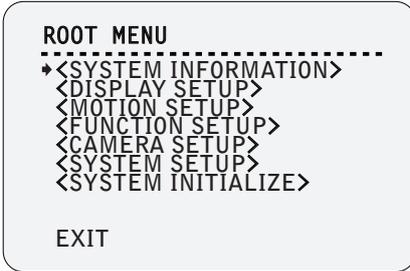
3 OSD - General Rules of Menu Operation



- 1 The menu items surrounded with < > always has its sub menu.
- 2 To move from items to item in the menu, use joystick in the up/down or left/right.
- 3 For all menu level, to go into sub menu, press near or enter key.
- 4 To go to up-one-level menu, press far key.
- 5 To change a value of an item, use up/down of the joystick in the controller.
- 6 Press near or enter key to save values and press far key to cancel values.

3 OSD - ROOT MENU & SYSTEM INFORMATION

1



1 ROOT MENU

<SYSTEM INFORMATION>

Shows information and current configuration.

<DISPLAY SETUP>

Enable/Disable of OSD display on main screen.

<MOTION SETUP>

Setup for motion related settings.

<FUNCTION SETUP>

Setup for various functions such as preset, scan, pattern, group and schedule.

<CAMERA SETUP>

Configure camera related functions and data.

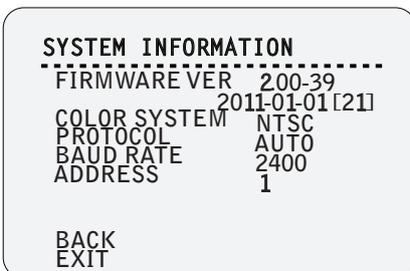
<SYSTEM SETUP>

Configure for basic system setup.

<SYSTEM INITIALIZE>

Initializes system configuration and sets all data to factory default configuration.

1



1 SYSTEM INFORMATION

FIRMWARE VER

Shows the current firmware version and date of upgrade.

COLOR SYSTEM

Shows the current analog video system.

PROTOCOL

Shows the current PTZ control protocol.

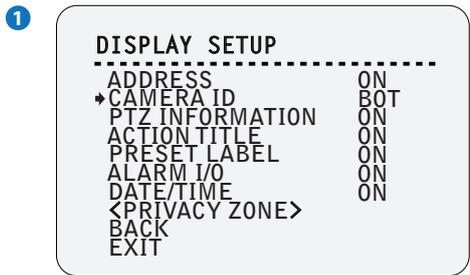
BAUD RATE

Shows the current baud rate of the PTZ control.

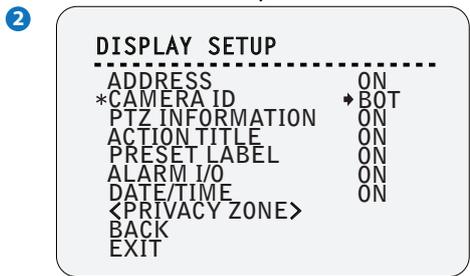
ADDRESS

Shows the current camera ID of the PTZ control.

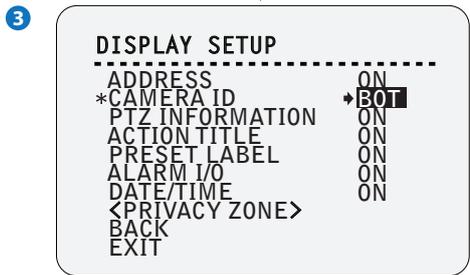
3 OSD - DISPLAY SETUP > CAMERA ID



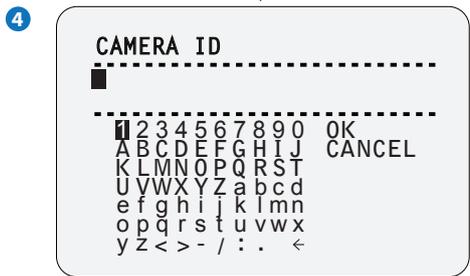
Press Near/Enter Key



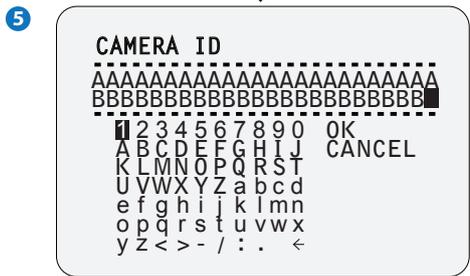
Joystick Right



Press Near/Enter Key



Press Near/Enter Key



1 DISPLAY SETUP

This menu defines enable/disable of OSD display on main screen. If an item is set to be 'AUTO', the item is displayed only when the value of it is changed.

ADDRESS ON / OFF

CAMERA ID BOT / TOP / OFF

Select the camera ID location. Refer to 'OSD Display of Main Screen'.

PTZ INFORMATION ON / OFF / AUTO

ACTION TITLE ON / OFF / AUTO

PRESET LABEL ON / OFF / AUTO

ALARM I/O ON / OFF / AUTO

DATE/TIME ON / OFF

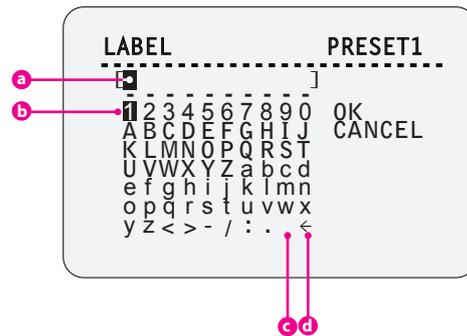
<PRIVACY ZONE>

Start Privacy Zone Mask setup Menu.

3 CAMERA ID - Alphabet Input

- Edits the camera ID to show on monitor when camera ID sets 'TOP(Top)' or 'BOT(Bottom)'.

- Max. 48 alphabets are allowed(Including space).



a Current Cursor Position: In edit label menu, a reverse rectangular is cursor. As soon as finishing selecting alphabet, cursor moves to the next digit.

b Selecting Alphabet: Using left/right/up/down of joystick, move to an appropriate character from the character set. To choose the character, press the near or enter key.

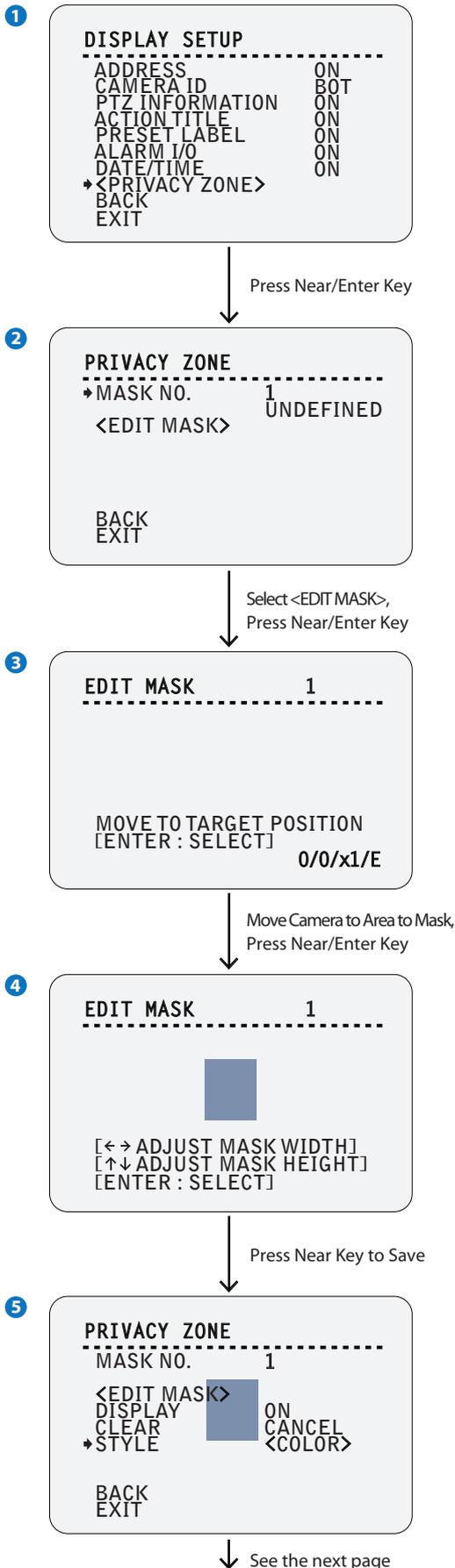
c Space: If you want to use blank, choose space character (' ').

d Back-Space: If you want to delete a character in front, use back space character ('<').

4 CAMERA ID - Complete Editing

If you complete the camera ID editing, move the cursor to 'OK' and press near key to save the completed camera ID. To abort the current change, move the cursor to 'CANCEL' and press the near key.

3 OSD - DISPLAY SETUP > PRIVACY ZONE



1 DISPLAY SETUP

See the previous page.

3 EDIT MASK - Move to Target Position

Move camera to area to mask. Then the menu to adjust mask size will be displayed.

⊗ If the tilt angle is located in the range between 90° to 90°, you can not set up privacy zone mask.

⊗ If tilt angle over 90° (image flipped region) is designated, camera will automatically move to identical position by changing tilt angle less than 90° and moving pan angle 180° relatively.

4 EDIT MASK - Adjust Mask Size

Adjust mask size. Use joystick or arrow buttons to adjust mask size.

- Move Joystick Left/Right(◀▶): Adjust Mask Width.

- Move Joystick Up/Down(▲▼): Adjust Mask Height.

⊗ To hide a certain zone completely regardless of high speed pan/tilt motions, it is recommended that the size of mask must be 20% bigger than original target size.

⊗ It is noted that during pan/tilt control like jog action, the object behind the privacy mask can be disclosed in a short period of time.

5 PRIVACY ZONE

Selects area in image to mask.

MASK NO. 1 ~ 8

Select mask number. If the selected mask has data already, camera moves as it was set. Otherwise, 'UNDEFINED' will be displayed under 'MASK NO.'.

DISPLAY ON / OFF

Sets if the camera makes mask shows or not on images.

CLEAR MASK CANCEL / OK

Deletes data in the selected mask no.

STYLE <COLOR> / MOSAIC 1 ~ 4

Set the style of the mask. See the next page.

3 OSD - DISPLAY SETUP > PRIVACY ZONE

6

PRIVACY ZONE

MASK NO. 1

<EDIT MASK>
DISPLAY
CLEAR ON
*STYLE CANCEL
 -><COLOR>

BACK
EXIT

Press Near/Enter Key

7

PRIVACY ZONE

STYLE COLOR
->Y-LEVEL 0
RED ADJUST 0
BLUE ADJUST 0

BACK
EXIT

Press Near Key to Save

8

PRIVACY ZONE

STYLE COLOR
*Y-LEVEL 0
RED ADJUST 0
BLUE ADJUST 0

BACK
EXIT

7 PRIVACY ZONE - STYLE>COLOR

Set the color of the mask.

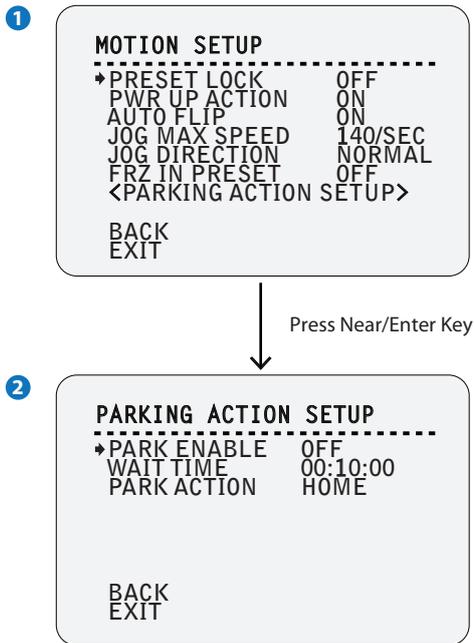
Y-LEVEL 0 ~ 100

Set the color 'Y-LEVEL' of the mask.

RED ADJUST 0 ~ 100

BLUE ADJUST 0 ~ 100

3 OSD - MOTION SETUP



1 MOTION SETUP

Setup the general functions of pan/tilt motions.

PRESET LOCK ON / OFF

If motion lock is set to on, it is impossible to set up and delete preset, scan, pattern and group. It is possible only to run those functions. To set up and delete those functions, enter into OSD menu.

PWR UP ACTION ON / OFF / <PWR P>

This function enables to resume the last action executed before power down. Most of actions such as preset, pattern, scan and group are available for this function but jog actions are not available to resume.

⊠ If 'AUTO CAL.' is set to be On, 'PWR UP ACTION' should be 'ON' among possible options such 'ON', 'OFF' and 'PWR. P'. If 'AUTO CAL.' is set to 'On' and 'PWR. P' is set, it is likely to cause malfunction.

⊠ If 'PWR. P' needs to be set for 'PWR UP ACTION', 'FOCUS MODE' should be 'AUTO'. If 'FOCUS MODE' is set to 'SEMI-AUTO' and 'PWR. P' is set, it is likely to cause malfunction

AUTO FLIP ON / OFF

In case that tilt angle arrives at the top of tilt orbit (90°), zoom module camera keep moving to opposite tilt direction (180°) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction(90°), images should be reversed automatically and [F] appears in screen. If this function is set to 'OFF', tilt movement range is 0° ~ 90°.

JOG MAX SPEED 2/SEC ~ 200/SEC

Sets maximum jog speed. Jog speed is inversely proportional to zoom magnification. As zoom magnification goes up, pan/tilt speed goes down.

JOG DIRECTION INVERSE / NORMAL

If you set this to 'NORMAL', the view in the screen is moving same direction with jog tilting. If 'INVERSE' is selected, the view in the screen is moving reversely.

FRZ IN PRESET ON / OFF

At start point of preset movement, camera starts freezing the image of start point. Camera keeps displaying the image of start point during preset movement and does not display the images which camera gets during preset movement. As soon as camera stops at preset end point, camera starts displaying live images which it gets at preset end point. This function availability should be different by models.

<PARKING ACTION SETUP>

Moves to 'PARKING ACTION SETUP' screen.

2 PARKING ACTION SETUP

If 'PARK ENABLE' is set to 'ON', camera runs assigned function automatically if there is no PTZ command during assigned 'WAIT TIME'.

PARK ENABLE ON / OFF

WAIT TIME 00:00:05 ~ 04:00:00

The time is displayed with "hh:mm:ss" format and you can change this by 1 sec. unit.

1. To place the cursor on the time marked as below, press near key.

00:10:00

2. Move joystick Left/Right to adjust hours, minutes and seconds.

3. Move joystick Up/Down to select the digit.

4. By pressing near key, save current setting.

PARKING ACTION HOME / PRESET 1~128 / SCAN 1~8 / PATTERN 1~4 / GROUP 1~8

Ex) If 'HOME' is selected for park action, camera will move to home position when there is no PTZ command during the assigned 'WAIT TIME.'

3 OSD - MOTION SETUP

1

```

MOTION SETUP
-----
PRESET LOCK      OFF
PWR UP ACTION   ON
AUTO FLIP       ON
JOG MAX SPEED   140/SEC
JOG DIRECTION   NORMAL
FRZ IN PRESET   OFF
<PARKING ACTION SETUP>
* <ALARM INPUT SETUP>
BACK
EXIT
    
```

Press
Near/Enter
Key

2

```

ALARM INPUT SETUP
-----
*ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Press
Near/Enter
Key

3

```

ALARM INPUT SETUP
-----
*ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Joystick
Right

4

```

ALARM INPUT SETUP
-----
*ALARM 1 N.O NOT USED
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

Joystick
Down

5

```

ALARM INPUT SETUP
-----
*ALARM 1 N.O PRESET 1
ALARM 2 N.O NOT USED
ALARM 3 N.O NOT USED
ALARM 4 N.O NOT USED
ALARM 5 N.O NOT USED
ALARM 6 N.O NOT USED
ALARM 7 N.O NOT USED
ALARM 8 N.O NOT USED
BACK
EXIT
    
```

2 ALARM INPUT SETUP

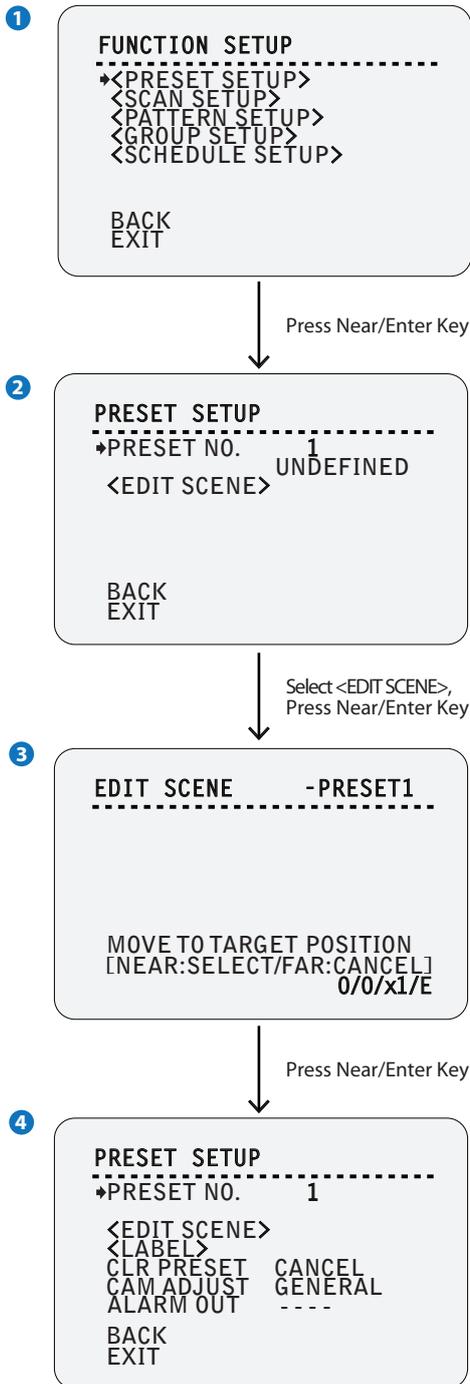
If an external sensor is activated, camera will move to the corresponding action.

Alarm Type: N.O(Normal Open) / N.C(Normal Close)
Sets the sensor input type.

Alarm Action NOT USED / HOME / PRESET 1~128 / SCAN 1~8 / PATTERN 1~4 / GROUP 1~8

For each alarm input, you can assign the counteraction functions (Preset, Scan, Pattern, Group).

3 OSD - FUNCTION SETUP > PRESET SETUP



1 FUNCTION SETUP

Configure 5 special functions with this menu.

2 PRESET SETUP - Undefined

127 presets from the number 1 to 128 can be assigned excluding preset 95 reserved for menu.

PRESET NO. 1 ~ 128 (Excluding 95)

If a selected preset is already defined, camera moves to pre-defined position and preset characteristics such as label and relay outputs show on monitor. (Refer screen 4) If a selected preset is not defined, 'UNDEFINED' shows on monitor.

<EDIT SCENE>

Redefine the current preset scene position(i.e. PTZ).

3 EDIT SCENE

1. Using joystick, move camera to the desired position.
2. By pressing near key, save the current PTZ data.
3. Press far key to cancel.

☒ PRESET configuration should be used only for Optical Zoom, if optical zoom and digital zoom are used together and PRESET is set, it is likely to cause malfunction.

4 PRESET SETUP

If the preset is defined, the information will be shown on the OSD menu with the setting, and the alarm device (if defined) will be activated.

PRESET NO. 1 ~ 128 (Excluding 95)

<EDIT SCENE>

<LABEL>

Edits Label to show on monitor when preset runs. Max. 10 alphabets are allowed.

CAM ADJUST GENERAL / SPECIAL

- WB(White Balance) and AE(Auto Exposure) can be set up independently for each preset.

- **GENERAL:** WB or AE can be set up totally and simultaneously for all presets in 'ROOT MENU>CAMERA SETUP' menu.

- **SPECIAL:** WB or AE can be set up independently or separately for each preset in each preset setup menu.

- Each special WB/AE value should be activated correspondingly when camera arrives at each preset location. During jog operation, general WB/AE value should be applied.

- All special WB/AE value should not be changed although general WB/AE value is changed. If 'SPECIAL' is selected, the menu to set WB/AE is shown on monitor.

ALARM OUT ----- ~ 1 2 3 4

State of four alarm outputs can be freely controlled in conjunction with preset run. The character '-' means off state and the number representing each bit means on.

Ex) If it is set to be '- 2 3 -', output relay 2, 3 will be on and 1, 4 will be off, when you run this preset.

3 OSD - FUNCTION SETUP > PRESET SETUP

1

```

PRESET SETUP
-----
PRESET NO.    1
<EDIT SCENE>
*<LABEL>
CLR PRESET   CANCEL
CAM ADJUST   GENERAL
ALARM OUT    -----
BACK
EXIT
    
```

Press Near/Enter Key

2

```

LABEL          PRESET1
-----
[ ]
1 2 3 4 5 6 7 8 9 0 OK CANCEL
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z a b c d
e f g h i j k l m n
o p q r s t u v w x
y z < > - / : . <
    
```

Press Near/Enter Key

3

```

LABEL          PRESET1
-----
[SKY]
1 2 3 4 5 6 7 8 9 0 *OK CANCEL
A B C D E F G H I J
K L M N O P Q R S T
U V W X Y Z a b c d
e f g h i j k l m n
o p q r s t u v w x
y z < > - / : . <
    
```

- 2 LABEL**
- Edits label to show on monitor when camera arrives at preset.

- a Current Cursor Position:** In edit label menu, a reverse rectangular is cursor. As soon as finishing selecting alphabet, cursor moves to the next digit.
- b Selecting Alphabet:** Using left/right/up/down of joystick, move to an appropriate character from the character set. To choose the character, press the near or enter key.
- c Space:** If you want to use blank, choose space character (' ').
- d Back-Space:** If you want to delete a character in front, use back space character ('←').

- 3 LABEL – Complete Editing**
If you complete the label editing, move cursor to 'OK' and press near key to save completed label. To abort current change, move cursor to 'CANCEL' and press near key.

1

```

PRESET SETUP
-----
PRESET NO.    1
<EDIT SCENE>
<LABEL>
CLR PRESET   CANCEL
*<CAM ADJUST> *<SPECIAL>
ALARM OUT    -----
BACK
EXIT
    
```

Press Near/Enter Key

2

```

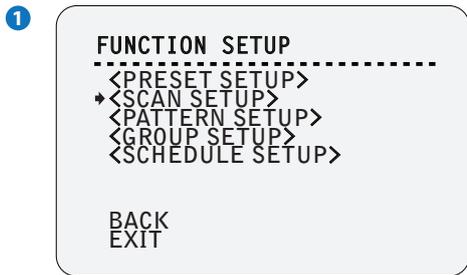
CAM ADJUST    -PRESET1
-----
*<WHITE BALANCE SETUP>
<AUTO EXPOSURE SETUP>
BACK
EXIT
    
```

- 2 CAM ADJUST**
Edits label to show on monitor when the camera arrives at presets.

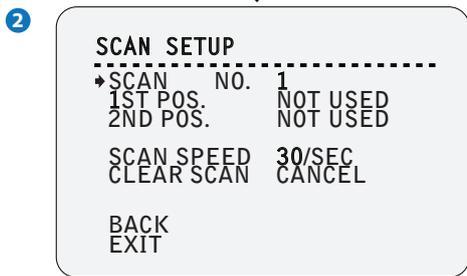
<WHITE BALANCE SETUP>
See the section 'ROOT MENU>CAMERA SETUP>WB SETUP'.

<AUTO EXPOSURE SETUP>
See the section 'ROOT MENU>CAMERA SETUP>AE SETUP'.

3 OSD - FUNCTION SETUP > SCAN SETUP



Press Near/Enter Key

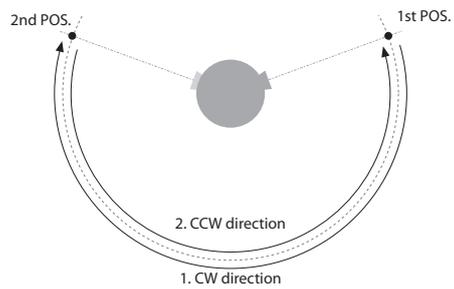


2 SCAN SETUP

By using the scan function, you can make the camera to move between 2 preset positions repeatedly.

When the scan function runs, the camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW(Clockwise) direction. Then the camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise) direction.

In case that the preset assigned as the 1st point is same as the preset assigned as the 2nd point, the camera turns on its axis by 360° in CW direction and then it turns on its axis by 360° in CCW direction.

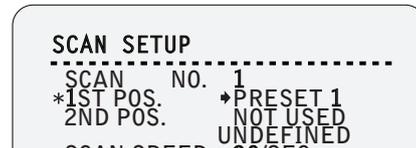


SCAN NO. 1 ~ 8

Selects the scan number to edit. If a selected scan has not defined, 'NOT USED' is displayed in 1st position and 2nd position.

1ST POS. / 2ND POS. PRESET 1 ~ 128 / NOT USED

Set up the 2 position for scan function. If a selected preset is not defined, 'UNDEFINED' will be displayed as shown below.



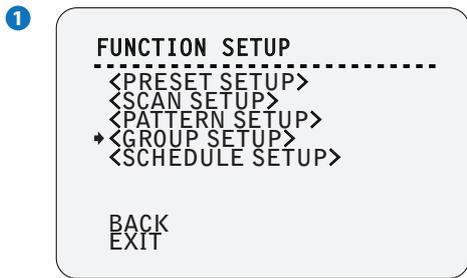
SCAN SPEED 1/SEC ~ 180/SEC

Sets the scan speed.

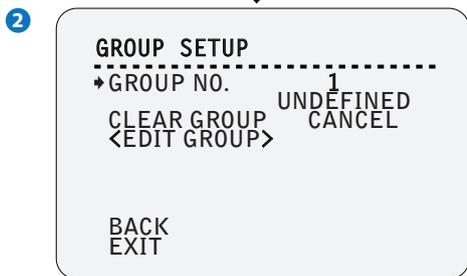
CLEAR SCAN CANCEL / OK

Deletes the current scan data.

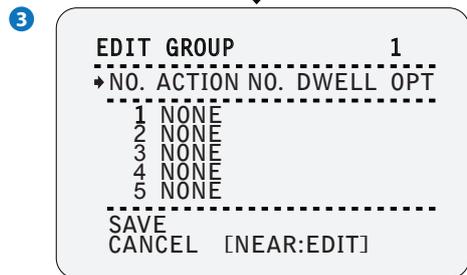
3 OSD - FUNCTION SETUP > GROUP SETUP



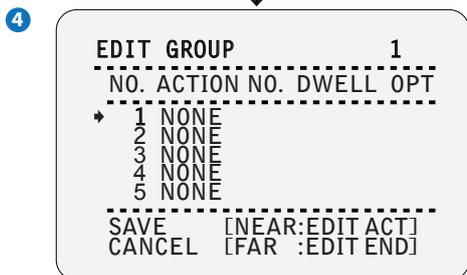
Press Near/Enter Key



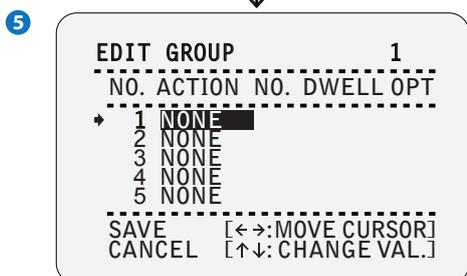
Select <EDIT GROUP>, Press Near/Enter Key



Press Near/Enter Key



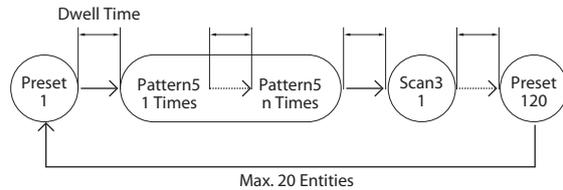
Press Near/Enter Key



2 GROUP SETUP SCREEN

The group function allows running sequence of presets, pattern and/or scans. Max. 8 group can be stored. Each group can have max. 20 action entities which can be preset, pattern or scan.

Preset speed can be set up and the repeat number of pattern & scan can be set up in group setup. Dwell time between actions can be set up also.



GROUP NO. 1 ~ 8

Selects group number to edit. If a selected group number is not defined, 'UNDEFINED' will be displayed under the selected group number.

CLEAR GROUP CANCEL / OK

Deletes data in the current group.

<EDIT GROUP>

Starts editing group.

3 EDIT GROUP - Initial Screen

Press near or enter key in 'NO' list to start group setup.

ACTION NO. NONE / PRESET 1~128(Excluding 95) / PATTERN 1~4 / SCAN 1~4

DWELL TIME 00:03 ~ 04:00 (min:sec)

Sets dwell time between function by moving joystick up/down.

OPT PRESET: 1~360 / PATTERN & SCAN: 1~255

It represents preset speed (1~360) when preset is selected. It should be the number of repetition (1~255) when pattern or scan is selected for 'ACTION'.

4 EDIT GROUP - Select Function Sequence

Note that max. 20 functions are allowed in a group.

Move cursor up/down and press near or enter key to set up.

5 6 EDIT GROUP - Assign Function

Set up 'ACTION', 'DWELL' and 'OPT'. Note that selected item is displayed in reverse. Move cursor left/right to select items and move cursor up/down to change each value.

3 OSD - FUNCTION SETUP > GROUP SETUP

6

```

EDIT GROUP                1
-----
NO. ACTION NO. DWELL OPT
→ 1 PATTERN 1  00:03  1
   2 NONE
   3 NONE
   4 NONE
   5 NONE
-----
SAVE   [← →: MOVE CURSOR]
CANCEL [↑ ↓: CHANGE VAL.]
    
```

↓ Press Near/Enter Key

7

```

EDIT GROUP                1
-----
NO. ACTION NO. DWELL OPT
→ 1 PATTERN 1  00:03  1
   2 NONE
   3 NONE
   4 NONE
   5 NONE
-----
SAVE   [NEAR: EDIT ACT]
CANCEL [FAR  : EDIT END]
    
```

↓ Press Far Key

8

```

EDIT GROUP                1
-----
NO. ACTION NO. DWELL OPT
  1 PATTERN 1  00:03  1
  2 NONE
  3 NONE
  4 NONE
  5 NONE
-----
→ SAVE
  CANCEL
    
```

7

EDIT GROUP - Selects Function Sequence

After finishing setting up an 'ACTION', press near or enter key to one-upper-level menu. Move cursor up/down to select 'ACTION NO.' and repeat to step 4 ~ step 6 to edit the selected group.

8

EDIT GROUP - Saves the Setting

After finishing setting up all actions, press far key to exit. Then cursor should be moved to 'SAVE'. Press near or enter key to save the data.

3 OSD - FUNCTION SETUP > SCHEDULE SETUP

```

1  FUNCTION SETUP
-----
<PRESET SETUP>
<SCAN SETUP>
<PATTERN SETUP>
<GROUP SETUP>
<SCHEDULE SETUP>

BACK
EXIT
    
```

Press Near/Enter Key

```

2  SCHEDULE SETUP
-----
▶ MASTER ENABLE      OFF
  DAY TIME  ACT NO ON
1  UNDEFINED
2  UNDEFINED
3  UNDEFINED
4  UNDEFINED
5  UNDEFINED
6  UNDEFINED
7  UNDEFINED
BACK
    
```

Joystick Down,
Press Near Key

```

3  SCHEDULE SETUP
-----
MASTER ENABLE      OFF
  DAY TIME  ACT NO ON
1  UNDEFINED
2  UNDEFINED
3  UNDEFINED
4  UNDEFINED
5  UNDEFINED
6  UNDEFINED
7  UNDEFINED
BACK
    
```

Joystick Down

```

4  SCHEDULE SETUP
-----
MASTER ENABLE      OFF
  DAY TIME  ACT NO ON
1  ALL 00:00 HOM  OFF
2  UNDEFINED
3  UNDEFINED
4  UNDEFINED
5  UNDEFINED
6  UNDEFINED
7  UNDEFINED
BACK
    
```

Assign Value

```

5  SCHEDULE SETUP
-----
MASTER ENABLE      OFF
  DAY TIME  ACT NO ON
1  ALL 12:00 PRS 128 ON
2  UNDEFINED
3  UNDEFINED
4  UNDEFINED
5  UNDEFINED
6  UNDEFINED
7  UNDEFINED
BACK
    
```

2 SCHEDULE SETUP SCREEN

The schedule function allows running an appropriate function like preset, scan, pattern, group, home move at designated day and time.

EX) If you setup a rule 'Tuesday at 9:00AM' and 'Preset 1(say main gate)', the camera will move to main gate every Tuesday at 9:00 AM. If you choose weekday, camera will move to main gate everyday except weekend.

It is noted that due to the real time clock(ROOT MENU> SYSTEM SETUP>DATA/TIME SETUP), the time data will be kept regardless of blackout. The initial time and day setup is essential to proper schedule function.

| | |
|---|---|
| MASTER ENABLE | ON / OFF |
| Decide whether schedule function is active or not. | |
| DAY | UNDEFINED / ALL / WKD / SUN ~ MON |
| Set the day for scheduling. | |
| - Undefined: Inactivate | |
| - All: Applies to every day | |
| - WKD: Applies to every day except Saturday and Sunday | |
| - SUN-MON: Applies to designated day only | |
| TIME | 00:00 ~ 23:59 (hour:min) |
| Set the time. | |
| ACT NO | HOM(HOME) / PRS(Preset) 1~128(Excluding 95) / SCN(Scan) 1~8 / PTN(Pattern) 1~4 / GRO(Group) 1~8 |
| Set the function and no. | |
| ON | ON / OFF |
| Decide to make this rule effective or not. | |

4 5 SCHEDULE SETUP - Assign Value

Each field (DAY, TIME, ACT, NO., ON) can be selected by Left/Right keys and the values in the field are changed using Up/Down keys.

3 OSD - FUNCTION SETUP > SCHEDULE SETUP

6

SCHEDULE SETUP

```
-----  
MASTER ENABLE          ON  
DAY TIME  ACT  NO  ON  
1  MON 01:20  HOM  12  ON  
2  WED 07:00  PRS  12  ON  
3  THU 11:40  SCN  3  ON  
4  ALL 12:00  SCN  1  ON  
5  UNDEFINED  
6  UNDEFINED  
7  UNDEFINED  
BACK
```

EX)

The second rule means camera will move to preset 12 position at 7:00 on every wednesday.

- ☒ If there are rules conflicts to each other, the higher number is the higher priority has.
- ☒ If you assign undefined function, there will be no action.

3 OSD - CAMERA SETUP > WB SETUP

1

```

ZOOM CAMERA SETUP
-----
FOCUS MODE          SEMIAUTO
DIGITAL ZOOM        ON
IMAGE FLIP          OFF
FLICKERLESS         OFF
DIS MODE            OFF
* <WHITE BALANCE SETUP>
<AUTO EXPOSURE SETUP>
<SPECIAL>
BACK
EXIT
    
```

Press Near/Enter Key

2

```

WB SETUP
-----
* DAY/NIGHT          DAY
- WB MODE            ATW2
- RED ADJUST         0
- BLUE ADJUST        0

BACK
EXIT
    
```

Joystick Down,
Press Near Key

3

```

WB SETUP
-----
DAY/NIGHT            DAY
*- WB MODE            ATW2
- RED ADJUST         0
- BLUE ADJUST        0

BACK
EXIT
    
```

Joystick Down

4

```

WB SETUP
-----
DAY/NIGHT            DAY
*- WB MODE            ATW2
- RED ADJUST         0
- BLUE ADJUST        0
- R-GAIN              0
- B-GAIN              0

BACK
EXIT
    
```

Joystick Right

5

```

WB SETUP
-----
DAY/NIGHT            DAY
*- WB MODE            AWC
- RED ADJUST         0
- BLUE ADJUST        0
- R-GAIN              74
- B-GAIN              52

BACK
EXIT
    
```

1 ZOOM CAMERA SETUP

Setup the general functions of zoom camera module.

FOCUS MODE AUTO / MANUAL / SEMIAUTO

Sets the camera focus mode.

- **SEMIAUTO**: This mode exchanges the focus mode automatically between manual focus mode and auto focus mode. Manual focus mode activates in preset operation and auto focus mode activates when jog operation starts.

- **MANUAL**: With manual mode at presets, focus data is memorized in each preset in advance and camera calls focus data in correspondence with presets as soon as camera arrives at a preset.

DIGITAL ZOOM ON / OFF

Sets digital zoom function to 'ON' or 'OFF'. If this is set to 'OFF', optical zoom function runs but zoom function stops at the end of optical zoom magnification.

☒ If 'DIGITAL ZOOM' is set to 'ON', 'DIS' will be off automatically.

IMAGE FLIP ON / OFF

Sets if the image should be reversed or not.

FLICKERLESS ON / OFF

Turns on or off the flickerless function. In this function, AE mode becomes shutter priority mode and shutter speed value will be fixed to 1/100 sec.

DIS MODE ON / OFF

Sets the digital image stabilization mode.

☒ If 'DIS' is set to 'ON', 'DIGITAL ZOOM' will be off automatically.

<WHITE BALANCE SETUP>

Starts 'WHITE BALANCE SETUP' setup screen.

<AUTO EXPOSURE SETUP>

Starts 'AUTO EXPOSURE SETUP' setup screen.

<SPECIAL>

Starts to 'SPECIAL SETUP' screen.

2 WB SETUP - DAY

DAY/NIGHT DAY / NIGHT

The day/night mode can be set independently.

☒ Only, night mode will be deactivated if 'AGC' in 'CAMERA SETUP' is set to 'OFF' or 'FIX'.

WB MODE ATW1 / ATW2 / AWC / 3200K / 5600K / OFF

- **ATW1**: The color temperature is adjusted automatically between 2500K and 9300K.

- **ATW2**: The color temperature is adjusted automatically between 2000K and 10000K.

- **AWC**: The color temperature is adjusted automatically once, then adjusted value of 'R-GAIN, B-GAIN' are maintained. Gain value can be adjusted manually by the user. It can be fixed as 3200K or 5600K.

- **OFF**: Only activated when 'NIGHT' is selected. At night, the setting will be same as day's setting.

RED/BLUE ADJUST -32 ~ +32

In every mode except 'OFF', users can adjust the red/blue adjust value to have the image they want.

R/B - GAIN 0 ~ 1000

If 'AWC' is on, the adjusted value will be marked. Also, the user can adjust the values after it was adjusted automatically.

3 OSD - CAMERA SETUP > WB SETUP

6

```
WB SETUP
-----
DAY/NIGHT      NIGHT
*- WB MODE     → AWC>
- BRIGHTNESS  MIDDLE
- RED ADJUST   0
- BLUE ADJUST  0
- R-GAIN       74
- B-GAIN       52

BACK
EXIT
```

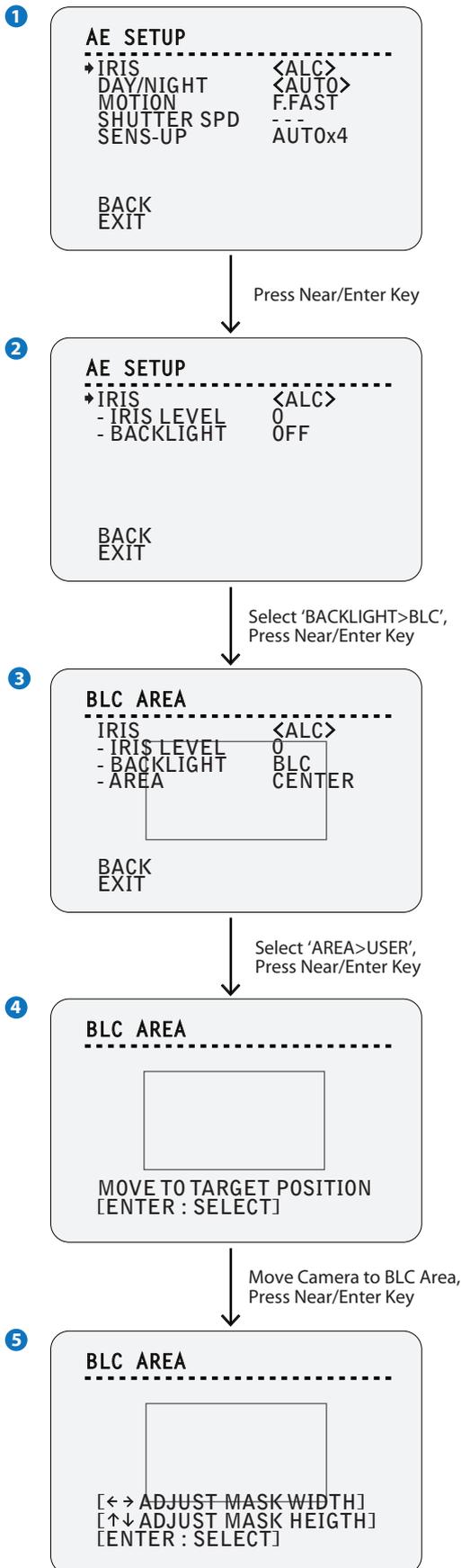
6 WB SETUP - NIGHT

BRIGHTNESS LOW / MIDDLE / HIGH

When 'NIGHT' is selected, it sets the criterion of the automatic day/night selection.

If set to 'LOW', the image has to be very dark to be recognized as night among 3 settings. If set to 'HIGH', the image will be recognized as night even though it is a little dark.

3 OSD - CAMERA SETUP > AE SETUP



1 AE SETUP

IRIS ALC / MANUAL
See the below **2** 'AE SETUP - IRIS>ALC'

DAY/NIGHT DAY / NIGHT / AUTO
Color filter or B/W filter can be selected. If DAY/NIGHT is set to 'AUTO', starts 'DAY/NIGHT' editing. See the next page **2** 'DAY/NIGHT'.

⊠ This is changed to 'AGC' or 'MOTION' according to the 'SENS-UP' setting.

AGC VERY LOW / LOW / MIDDLE / HIGH / VERY HIGH / USER 1~16 / FIX 1~16

Enhances the brightness of the image by amplifying gain when the illumination is low.

MOTION S.SLOW / SLOW / NORMAL / FAST / F.FAST
If 'MOTION' is set towards 'S.SLOW', the gain will be used less. However, so as compensate it, the shutter speed will be slower to obtain more light. Thus, there will be less noise but this can cause the ghost effect of the moving object. If 'MOTION' is set towards 'F.FAST', there will be more noise but this will reduce the ghost effect of the moving object.

SHUTTER SPD OFF / 1/100 ~ 1/10K
If this speed is faster, the moving object can be photographed without the ghost effect. However, picture can be dark if there is no sufficient lighting.

⊠ If 'SENS-UP' is set to 'AUTO', 'SHUTTER SPD' is deactivated.

SENS-UP OFF / AUTO x2 ~ AUTO x256 / FIX x2 ~ FIX x256
It activates the slow shutter function when luminance of image is too dark so that CCD can accumulate the light as much as it is multiplied by the number which is set.

2 AE SETUP - IRIS>ALC

If 'ALC' is selected, iris will be controlled automatically.

IRIS LEVEL -32 ~ +32

BACKLIGHT OFF / BLC / WDR
Using this function, the backlight effect, which the object displays dark on the monitor when there is intensive backlight, can be improved.
- **BLC**: You can set the desired area, then the area will be bright. If it is set on the bright area, note that the area will be even more brighter.
- **WDR**: See the next page 'AE SETUP-IRIS>ALC>BACKLIGHT>WDR'.

3 BLC AREA

AREA TOP / BOTTOM / LEFT / RIGHT / USER
If set to 'USER', the user can set the area by him/herself.
See the screen **4** **5** on this page.

3 OSD - CAMERA SETUP > AE SETUP

1

```

AE SETUP
-----
IRIS                <ALC>
*DAY/NIGHT          → <AUTO>
MOTION              F.FAST
SHUTTER SPD        ---
SENS-UP             AUTOx4

BACK
EXIT
    
```

Press Near/Enter Key

2

```

DAY/NIGHT
-----
→ BURST             OFF
[DAY→NIGHT]
-BRIGHTNESS        MIDDLE
-DWELL TIME         5 SEC
[NIGHT→DAY]
-BRIGHTNESS        MIDDLE
-DWELL TIME         5 SEC
-MASK AREA          1 2
BACK
EXIT
    
```

2 DAY/NIGHT

It is automatically changed by sensing the brightness of the scene.

BURST ON / OFF

If 'BURST' is set to 'ON', the burst signal is outputted although it is changed to B/W filter

BRIGHTNESS LOW / MIDDLE / HIGH

When switched from color to B/W filter, it has to be darker if 'BRIGHTNESS' is the 'LOW' side. When switched from B/W to color, it has to be brighter if 'BRIGHTNESS' is the 'HIGH' side.

DWELL TIME 2 SEC / 3 SEC / 5 SEC / 10 SEC / 15 SEC / 20 SEC / 25 SEC / 30 SEC

When the switching criterions are satisfied, the filter is changed after the status is maintained during the dwell time.

MASK AREA 1 / 2

If the streetlights or traffic lights are present, the mode might not be changed to B/W. In this occasion, if you set 'MASK AREA' on those kind of the spot light, this can reduce the effect of the interference on criterion.

☒ If 'BACKLIGHT' is set to 'BLC', 'MASK AREA' function is deactivated.

1

```

AE SETUP
-----
IRIS                <ALC>
- IRIS LEVEL        0
*- BACKLIGHT        → OFF

BACK
EXIT
    
```

Joystick Down

2

```

AE SETUP
-----
IRIS                <ALC>
- IRIS LEVEL        0
→ BACKLIGHT         WDR
- WEIGHT             MIDDLE
- WDR LEVEL          0
- WHITE BAL          INDOOR

BACK
EXIT
    
```

2 AE SETUP - IRIS>ALC>BACKLIGHT>WDR

In 'WDR' mode, the brightness is adjusted in all area of the picture by combining high speed shutter and low speed shutter.

WEIGHT LOW / MIDDLE / HIGH

If 'WEIGHT' goes to 'HIGH', the area applying high speed shutter is expanded.

WDR LEVEL -9 ~ +9

If 'WDR LEVEL' goes up, the speed of the high speed shutter becomes faster.

WHITE BAL INDOOR / OUTDOOR

If 'WHITE BAL' is set to 'INDOOR', the color temperature is adjusted based on the dark area, if set to 'OUTDOOR', it is adjusted based on the bright area.

☒ When 'WDR' is used, the internally operating 'VPS' function is stopped.

3 OSD - CAMERA SETUP > SPECIAL

1

| ZOOM CAMERA SETUP | |
|-----------------------|----------|
| FOCUS MODE | SEMIAUTO |
| DIGITAL ZOOM | ON |
| IMAGE FLIP | OFF |
| FLICKERLESS | OFF |
| DIS MODE | OFF |
| <WHITE BALANCE SETUP> | |
| <AUTO EXPOSURE SETUP> | |
| ▶<SPECIAL> | |
| BACK | |
| EXIT | |

Press Near/Enter Key

2

| SPECIAL | |
|------------|--------|
| ▶DNR | MIDDLE |
| ZOOM SPEED | 4 |
| DETAIL | 2 |
| PIP | OFF |
| POSI/NEGA | + |
| | |
| BACK | |
| EXIT | |

2 SPECIAL

Sets the special function related to the image.

DNR OFF / LOW / MIDDLE / HIGH / USER 1~16
 If reduces the noise caused by 'AGC' action. If set towards 'HIGH', the noise will be reduced but the ghost effect on moving objects will be increased.

ZOOM SPEED 1 ~ 4
 Zoom speed while zoom in/out action can be adjusted. 1 is the slowest, and 4 is the fastest.

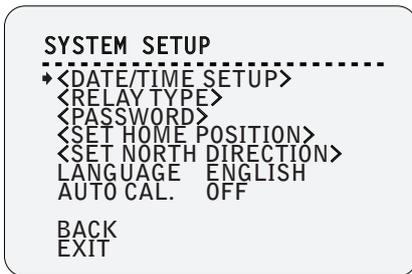
DETAIL 0 ~ 3
 The distinction can be set as 4 levels.
 If the level is high, the outline is clear but the noise is increased.

PIP ON / OFF
 Selects if the sub screen will be displayed.
 Sub screen will be displayed on the bottom of the right side.
 Even though the main image enables the digital zoom, the sub screen will only display with maximum optical zoom.

POSI/NEGA + / -
 If set to '+', the normal image will be outputted. However, if set to '-', the brightness signal and color signal will be outputted as reverse.

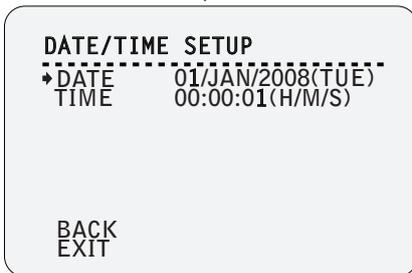
3 OSD - SYSTEM SETUP

1

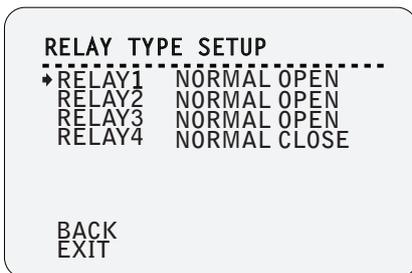


Press
Near/Enter
Key

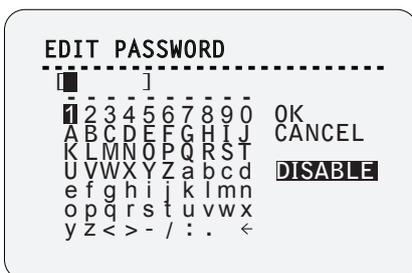
2



3



4



1 SYSTEM SETUP

<DATE/TIME SETUP>

Starts 'DATE/TIME SETUP'.

<RELAY TYPE>

Start 'RELAY TYPE' setup.

<PASSWORD>

Start 'PASSWORD' setup.

<SET HOME POSITION>

Starts 'SET HOME POSITION' setup.

<SET NORTH DIRECTION>

Starts 'SET NORTH DIRECTION' setup.

LANGUAGE ENGLISH / ESPAÑOL / FRANÇAIS / DEUTSCH / ITALIANO / РУССКИЙ / PORTUGUÊS

You can select a preferred Language of OSD display from 7 choices. After selecting a language, press near or enter key.

AUTO CAL. ON / OFF

Auto Calibration. If the camera is continuously subjected to very high temperature (over 50°C or 122°F) environment for a long time, it is possible for the camera to lose focus. As a result, you will get blurry image. In this case, it is recommended to turn on auto calibration.

If auto calibration is set to On, it will be conducted for 10 seconds every 24 hours.

- During auto calibration, unexpected images can show up due to unordinary PTZ movement.
- During auto calibration, 'A.C' mark will be shown on the left bottom of the screen
- During auto calibration, some functions including PTZ cannot be executed.

2 RELAY TYPE SETUP

RELAY1, 2, 3, 4 NORMAL OPEN(N.O) / NORMAL CLOSE(N.C)
Contacts type of of 4ch. Relay out are defined.

3 EDIT PASSWORD

Sets the 4 characters long password. If this function is set to 'ENABLE', the password is required whenever you enter OSD menu.

⊠ The default password is '4321' and the master password is '- - > g'.

3 OSD - SYSTEM SETUP

5

SET HOME POSITION

MOVE TO TARGET POSITION
[NEAR:SELECT/FAR:CANCEL]
0/0/x1/E

6

SET NORTH DIRECTION

MOVE TO TARGET POSITION
[NEAR:SELECT/FAR:CANCEL]
0/0/x1/N

5 SET HOME POSITION

Home position means the origin of pan angle calculation. The value of pan angle displayed on the screen is based on this home position.

By using joystick, move the camera to the desired position and press near key.

Home is not effective to tilt angle.

If you change the location of the home position, all horizontal location of functions such as preset, scan, pattern, group and privacy zone mask will be shifted based on the changed home position.

If there are no setup for those functions like preset, pattern, scan, group camera will automatically move to home position after rebooting.

If power up action is set to be on, camera will continue the function which is executed lastly after rebooting.

⊠ Set Home Position?

When you replace the camera block or the orientation of camera is changed due to maintenance operations, it is very difficult to maintain the same pan orientation. Therefore, all function data maintain on pan orientation such as preset, scan, pattern, group and privacy zone mask are not useful any more accordingly.

However, even in this case, you can reuse the data if you redefine set home position on the previous home position.

6 SET NORTH DIRECTION

By using joystick, move the camera to the desired north position and press enter (near/save).

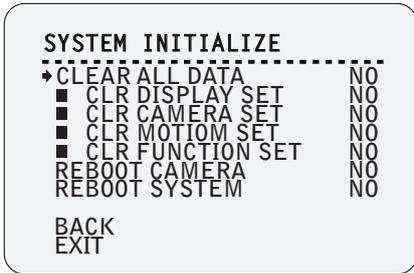
The direction will be displayed in the screen



Direction will be displayed from:

N(North) / S(South) / E(East) / W(West) / NE(Northeast) /
NW(Northwest) / SE(Southeast) / SW(Southwest).

3 OSD - SYSTEM INITIALIZE



SYSTEM INITIALIZE

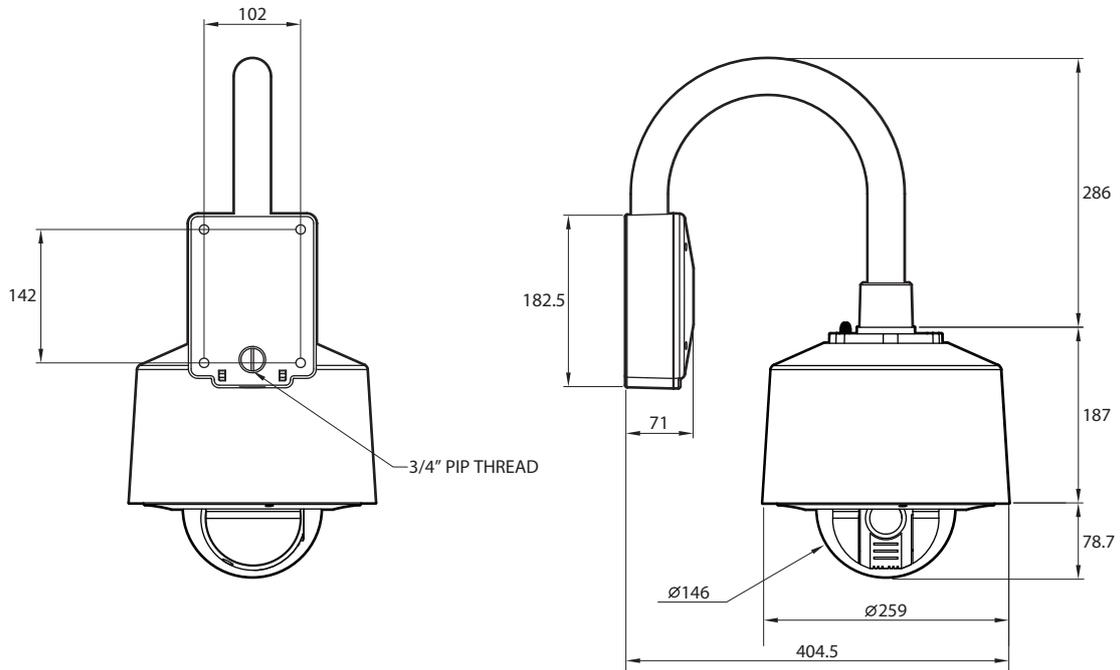
| | | |
|-------------------------|----------|---|
| CLEAR ALL DATA | YES / NO | Deletes all configuration data such as display, camera, motion setup and so on. |
| CLR DISPLAY SET | YES / NO | Initializes display configuration. |
| CLR CAMERA SET | YES / NO | Initializes camera configuration. |
| CLR MOTION SET | YES / NO | Initializes motion configuration. |
| CLR FUNCTION SET | YES / NO | Deletes preset data, scan data, pattern data, group data and schedule data. |
| REBOOT CAMERA | YES / NO | Reboots zoom camera module. |
| REBOOT SYSTEM | YES / NO | Reboots speed dome camera. |

Initial Configuration Table

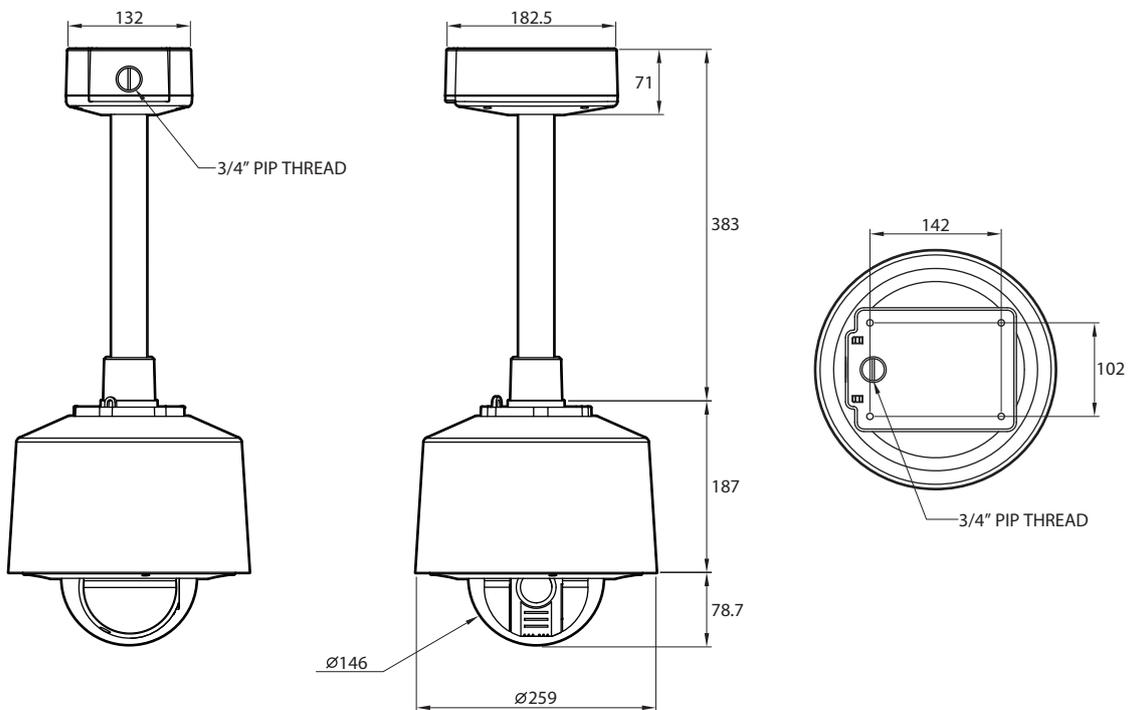
| | | |
|-------------------------|-----------|----------|
| Address | ON | |
| Camera ID | OFF | |
| PTZ Information | AUTO | |
| Action Title | AUTO | Display |
| Preset Label | AUTO | |
| Alarm I/O | AUTO | |
| Date/Time | ON | |
| Privacy Zone | Undefined | |
| Preset Lock | OFF | |
| Power Up Action | ON | |
| Auto Flip | ON | |
| Jog Max Speed | 140°/sec | Motion |
| Jog Direction | NORMAL | |
| Freeze In Preset | OFF | |
| Park Action | OFF | |
| Preset 1~255 | Undefined | |
| Auto Pan 1~8 | Undefined | |
| Pattern 1~4 | Undefined | Function |
| Scan 1~8 | Undefined | |
| Schedule 1~7 | Undefined | |
| Focus Mode | AUTO | |
| Digital Zoom | OFF | |
| Image Flip | OFF | |
| Flickerless | OFF | |
| DIS Mode | OFF | |
| ----- | | |
| Day/Night | DAY | |
| WB Mode | ATW2 | |
| Red Adjust | 0 | |
| Blue Adjust | 0 | |
| Day/Night | NIGHT | |
| WB Mode | OFF | |
| ----- | | |
| Iris | ALC | Camera |
| Iris Level | 0 | |
| Backlight | OFF | |
| Day/Night | AUTO | |
| Burst | OFF | |
| Brightness | MIDDLE | |
| Dwell Time | 5 SEC | |
| Mask Area | Undefined | |
| Motion | F.FAST | |
| Sens-up | AUTOx4 | |
| DNR | MIDDLE | |
| Zoom Speed | 4 | |
| Detail | 2 | |
| PIP | OFF | |
| Posi/Nega | + | |
| LANGUAGE | ENGLISH | SYSTEM |
| AUTO CAL. | ON | |

4 Specifications - Dimension

Unit: mm



Wall Mount Bracket



Ceiling Mount Bracket

4 Specifications - Specification

Camera

| | |
|------------------|--|
| Image Device | 1/4" Sony Ex-View HAD Progressive Scan CCD |
| Total Pixel | NTSC : 811 (H) × 508 (V) 410K Pixels • PAL : 795 (H) × 596 (V) 470K Pixels |
| Effective Pixel | NTSC : 768 (H) × 494 (V) 380K Pixels • PAL : 752 (H) × 582 (V) 440K Pixels |
| H. Resolution | Color: 560 TV Lines • B/W: 600 TV Lines |
| S/N Ratio | 52 dB (AGC Off) |
| Zoom | x39 Optical Zoom & x12 Digital Zoom (Total x468) |
| Focal Length | f = 3.4 (W) ~ 132.6 (T) mm, F1.6 (W) ~ 3.7 (T) |
| Angle of View | H: 57.54° (W) ~ 1.56° (T) • V: 44.44° (W) ~ 1.16° (T) |
| Min. Illuminance | Color: 1.2 Lux (Sens up Off), 0.004 Lux (Sens up x256) @ 50 IRE B/W: 0.12 Lux (Sens up Off), 0.0004 Lux (Sens up x256) @ 50 IRE |
| Shutter Speed | NTSC : x256 ~ x2, 1/60 ~ 1/120,000 sec. • PAL : x256 ~ x2, 1/50 ~ 1/120,000 sec. |
| Day & Night | Auto / Day / Night (ICR) |
| Focus | Auto / Manual / Semi-Auto |
| Iris | Auto / Manual |
| White Balance | ATW1 / ATW2 / AWC / 3200K / 5600K / Indoor / Outdoor |
| AGC | Off / Very Low / Low / Middle / High / Very High / User 1~16 |
| DNR | Adaptive 3D + 2D filter: Low / Middle / High / Off |
| DIS | On / Off |
| BLC | Low / Middle / High / Off |
| WDR | On / Off |
| Other Functions | Frame Freeze Function, System Image Flip by Installation Type |

Pan/Tilt

| | |
|-----------------|---|
| Pan Range | 360° (Endless) |
| Tilt Range | 0° ~ 180° (Auto-Flip On) • 0° ~ 90° (Auto-Flip Off) |
| Pan/Tilt Speed | Preset: 360° Scan: 1° ~ 180°/sec. Manual: 0.05° ~ 200°/sec. (Zoom Proportional) |
| Preset | 127 Presets with Labels / Independent Camera Setup |
| Pattern | 4 Patterns |
| Scan | 8 Scans |
| Group | 8 Groups (Max. 20 Entities per Group) |
| Schedule | 7 Rules (Condition: Day, Time → Action: Preset, Scan, Group, Pattern) |
| Other Functions | Image Auto Flip, Auto Parking, Power-up Action & etc. |

General

| | |
|-----------------|--|
| Video Out | CVBS: 1.0 V p-p / 75Ω |
| Communication | RS-485 |
| Protocol | Auto, Pelco-D/P, Samsung, Panasonic, GE(Kalatel), AD Selectable |
| Privacy Zone | 8 Zones |
| Sensor In/Out | Built-in 8 Input / 4 Relay Output |
| OSD | Menu, PTZ Information, etc., Support 7 Languages: ENGLISH / ESPAÑOL / FRANÇAIS / DEUTSCH / ITALIANO / РУССКИЙ / PORTUGUÊS |
| Power | AC 24 V, 24 W (Heater Off) / 55 W (Heater On) |
| Approvals | FCC, CE, IP66, RoHS |
| Outdoor Housing | Weather Proof, Vandal Proof Structure, White Pearl Color |
| Material | Body: Aluminum Die-casting • Clear Bubble: Polycarbonate |
| Weight | Net: 6 Kg • Package: 11 Kg |
| Operating Temp. | -45° ~ 50° C (-49° ~ 122° F) |