INSTRUCTION MANUAL Ver 1.0

Night Scout TVI

XIRAT216JUN22

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT OPEN THE COVERS.
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONAL

This lightning flash with arrowhead symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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.

FC Tested To Comply with FCC Standards
FOR HOME OR OFFICE USE

CE

This Device compiles with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interface, and

(2) This device must accept any interference received, including interference that may cause undesired operations.

Important Safety Guide

1. Read, heed and follow all the Instructions
   Read all the safety and operating instructions before using the product.

2. Keep this manual
   Keep this manual for reference in future.

3. Attachments / Accessories
   Use only the attachments or accessories specified by the manufacturer.

4. Installation
   - Do not install near any heat resources such as radiators, heat registers, stoves, or othe appratus including amplifiers that product heat. Improperly installed product may fal cause serious injury to a child or adult and damage the product.
   - Do not block any ventilation holes or openings. Install in accordance with the manufacturer's instructions.
   - Use only with the cart, stand, tripod, bracket, mounting devices, or table specified by the manufacturer.
   - Installation should be done only by qualified personnel and conform to all the instructions by the manufacturer.
   - Refer all servicing to qualified service personnel.
   - Unless the product is specifically marked as IP67, more than IP67 or confirmed by the manufacturer, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
   - Do not load on the product.
   - Use stainless steel hardware to fasten the mount.
   - To prevent damage from water leakage when installing a mount outdoors on a roof o wall, apply sealant properly around holes.
   - These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other that contained in the operationg instructions unless you are qualified to do so.
   - Use only replacement parts specified by the manufacturer.

5. **Power source**
   This product should be operated only from the type of the power source indicated on the marking label. **It is mandatorily recommended to use a UPS in order to be prepared fo a power failure**.

Caution

❑ Operating

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

❑ Handling

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

❑ Installation and Storage

- Do not install the product 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 product would be subject to strong vibrations.

Model Code

Night Scout TVI

Features

❑ Powerful Zoom Camera & Setup Options

- Image Sensor : 1/3" Panasonic CMOS Sensor, 2 Mega pixels
- Zoom : ×30 Optical Zoom, ×12 Digital Zoom
- Day & Night, Privacy Mask
- BLC, WDR, HLC function
- NR (Noise Reduction) Function
- Defog Function
- Image Stabilization Function
- Various Focus Mode : Auto-Focus, Manual Focus, Semi-Auto Focus
- Various Setup Options in OSD Menu.

❑ HD-TVI and Composite Video Output

- 1080p resolution HD-AHD/TVI Video Transmission over Coaxial Cable.
- Simultaneous HD Video and Analog(Composite) Video Output.

❑ Intelligent IR LED COntrol

- The brightness of IR LED can be adjusted automatically according to its zoom ratio.
- IR LED for near area or far area can be adjusted separately.

❑ Powerful Pan/Tilt Functions

- MAX. 240°/sec High Speed Pan/Tilt Motion
- With the Vector Drive Technology, Pan/Tilt motions are accomplished along the shortest path. As a result, the time to target view is remarkably short and the video on the monitor is very natural in monitoring.
- With the Micro-Stepping Control Technology, the video looks very natural at high zoom magnification during a jog operation on a controller since the camera can be controlled by 0.05°/sec. Hence it is very easy to make the camera focus on desired target views at high zoom magnification. Additionally it is easy to make the camera focus on desired positions with zoom-proportional pan/tilt movement.

❑ RTC(Real Time Clock) Function

- Date and Time can be configured for Schedule Function.
- With Backup Battery Function, Date and Time configuration should be kept up for a while even though power is off.

❑ Preset, Pattern, Swing, Group, Schedule, Privacy Mask and More…

- MAX. 209 Presets are programmable and each preset can have its own paramete values independently from the other presets.

  For an example, refer to the below table.

Preset No.	White Balance	Auto Exposure	•••	Label	Remarks
Preset 1	Case A	Case 3		"ENTRANCE"	
Preset 2	Case C	Case 5		"WAREHOUSE"	
•••					
Preset 95	–	–	–	–	Reserved for OSD Menu
•••					
Preset 255	Case K	Case 9		"TERRACE"	

- MAX. 10 sets of Swing are programmable. This function is that a camera move repetitively between two preset positions at programmed speeds.
- MAX. 8 Patterns are programmable. This function is that a camera memorizes the patl (mostly curve path) by the joystick of the controller and revives the trajectory operated by the joystick as closely as possible.
- MAX. 8 sets of Group are programmable. This function is that a camera memorizes the combination of Presets, Pattern and/or Swings sequently and runs Presets, Patter and/or Swings repetitively. A Group can be combined upto 40 functions with any o Preset/Pattern/Swing.
- MAX. 8 Privacy Masks are programmable, not to intrude on any other's privacy.
- MAX. 8 sets of Schedule are programmable. This function is that a camera runs a functio such as Preset, Pattern, Swing or Group at an assigned time. Also this function can be ru periodically by pre-defined schedules.

❑ PTZ(Pan/Tilt/Zoom) Control

- With the RS-485 communication connection, MAX. 255 units of cameras can be connected to a single controller.
- Pelco-D or Pelco-P protocols can be selected as a control protocol in the curren firmware version.
- It provides Coaxitron function which is available to control the PTZ Dome camera vi video coaxial cable. (supports Hikvision-C protocol)

❑ OSD(On Screen Display) Menu

- OSD menu is provided to display the status of camera and to configure the function interactively. A Password can be configured in OSD menu and OSD menu can be protected.
- The information such as Camera ID, Pan/Tilt Angle, Time/Date, Direction, Alarm I/O and Preset is displayed on screen.

❑ **Alarm In/Out Function**

- 3 alarm sensor inputs and 2 alarm sensor outputs are available.
- Alarm sensor input is decoupled with photo-couplers to avoid external electric noise and shock perfectly.
- Both of N.O.(Normal Open) sensors and N.C.(Normal Close) sensors can be used and the signal range of the sensor input is from DC 5.0V to 12.0V for various applications.
- The camera can be set to move to a Preset position or to run functions such as Pattern Swing and Group when there are external sensor activations. Also "Post Alarm function is possible, which is supposed to activate after user-defined time period and sequentially in succession to the action by external sensor activations.

❑ **Wiper Function (Option)**

- Water drops on camera window can be cleaned up with wiper.

❑ **Reserved Presets(Hot Keys)**

- Most camera setup options can be set up easily and directly with the reserved presets (Hot Keys), without entering into OSD menu. For more information, refer to "Reserved Presets(Hot Keys)" in this manual.

❑ **Power Input**

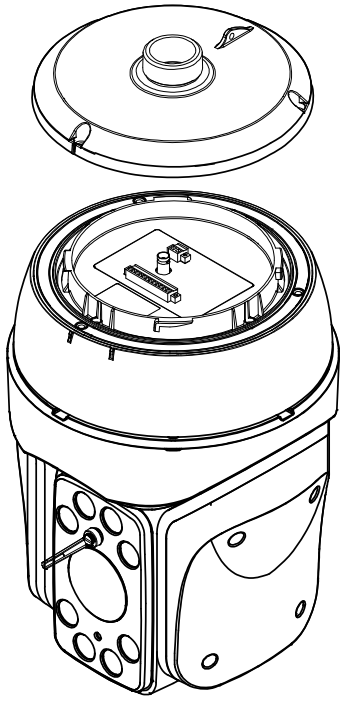
- The input power source is AC 24 V.

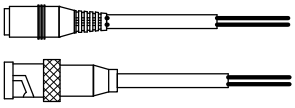
❑ **Perfect Outdoor Environment Compatibility and Easy Installation**

- The fans and heater are built-in in the camera for cold and hot temperature environment. Also idealistic mechanical design protects the camera from water and dust. (IP66 grade)
- It is easy to install and repair the camera.

Package Component

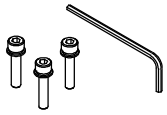
❑ Product & Accessories



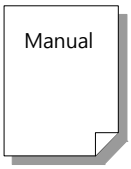


Power Cable

BNC Cable



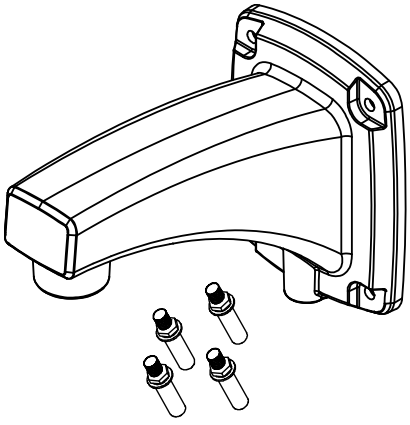
Wrench / Screw



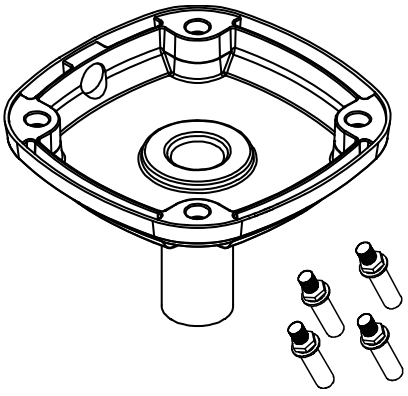
Manual

● Main Body & Accessories

❑ Brackets (Optional)

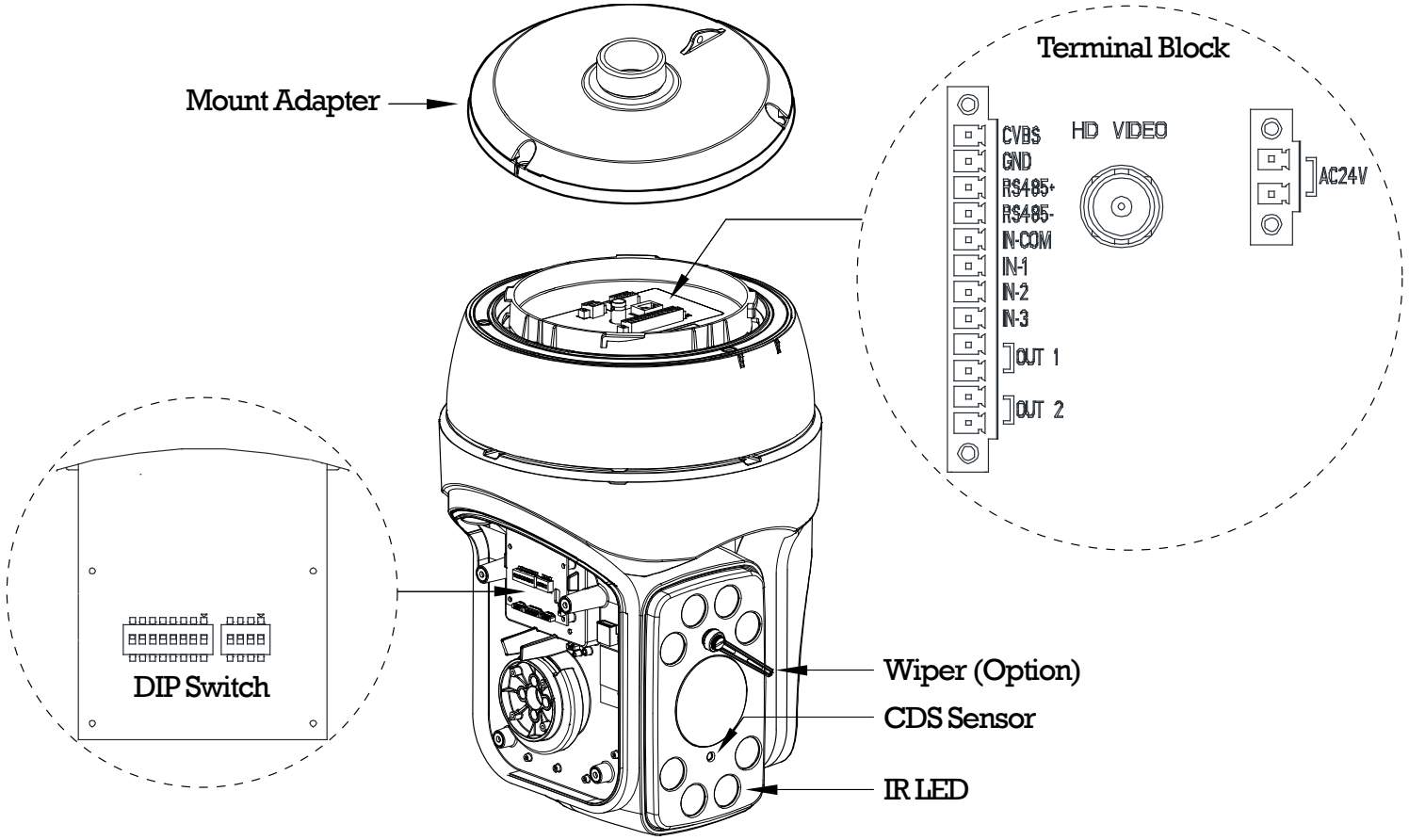


● Wall Mount Bracket & Screws



● Ceiling Mount Bracket & Screws

Main Part Description

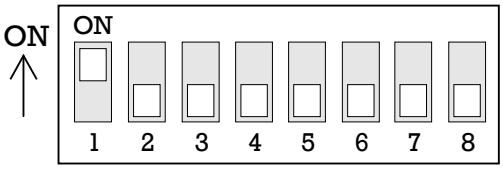


- DIP Switch — Used to set up camera IDs and protocols.
- Mount Adapter — Used to assemble the camera body and bracket.
- Wiper — Wipe out water drops on front glass. (Option)
- CDS Sensor — Day or night mode will be changed according to the illumination by this sensor
- IR LED — Infra-Red LED for night mode. It can adjust brightness automatically according to the zoom ratio
- Terminal Block — Used for the cable connection. AC 24V power input, HD video(TVI), Analog video, RS-485 communication and Sensor inputs/outputs signals can be connected.

DIP Switch Setup

Before installing the camera, set up the DIP switch to configure the camera ID and the communication protocol.

❑ Camera ID Setup

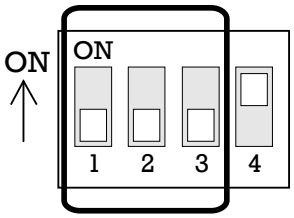


- ID numbers of cameras are set up with binary numbers. See the examples shown below.

Pin	1	2	3	4	5	6	7	8
Binary 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

- The camera ID range is "1~255". **Camera ID must not be "0"!**
- The factory default of the camera ID is "1".
- Match the camera ID with the Cam ID setting of your DVR or Controller to control the camera.
- If you are connecting a single camera to a controller, terminate the camera. When connecting more than one camera to a single controller, terminate the last camera on the communication line. The last camera means the camera farthest in cable length from the controller.
- Note that the total length of the communication cable between a controller and the camera(s) on the same communication line must be less than 1.2Km.

❑ Communication Protocol Setup



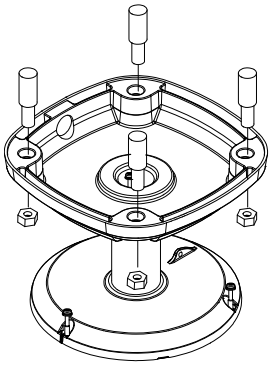
- Select an appropriate Protocol with the DIP switch combination.

Switch Mode			Protocol
P0 (Pin 1)	P1 (Pin 2)	P2 (Pin 3)	
OFF	OFF	OFF	PELCO-D, 2400 bps
ON	OFF	OFF	PELCO-D, 9600 bps
OFF	ON	OFF	PELCO-P, 4800 bps
ON	ON	OFF	PELCO-P, 9600 bps
OFF	ON	ON	HIKVISION-C Coaxitron (TVI model only)
Others			Reserved

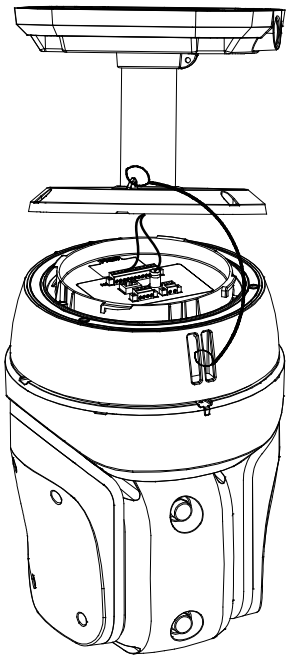
- Match the camera protocol with the camera protocol in the setting of your DVR or controller to control the camera.
- Adjust the DIP switch after turning off the camera. If you changed the camera protocol by changing the DIP S/W, the change will be effective after you reboot the camera.
- The factory default protocol is "Pelco-D, 2400 bps".
- Before use Hikvision-C protocol, check the DVR whether it supports the protocol or not.

Installation with Ceiling Mount Bracket

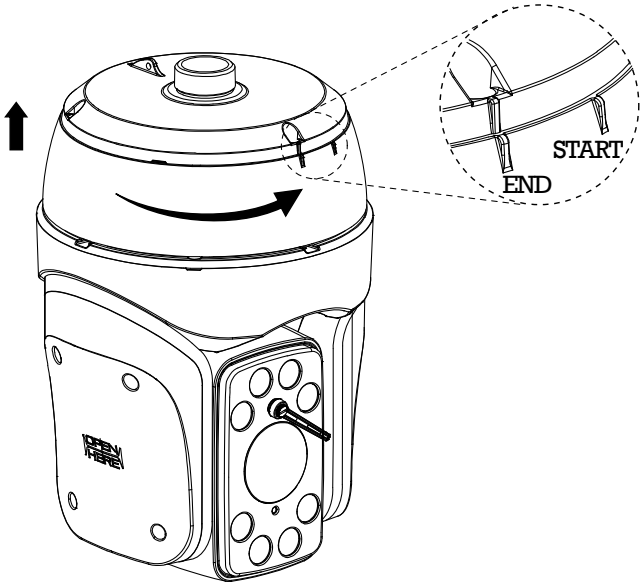
① Prepare the ceiling mount bracket, and assemble the bracket and mount adapter as below. (Anchor Bolt 3/8"×70)



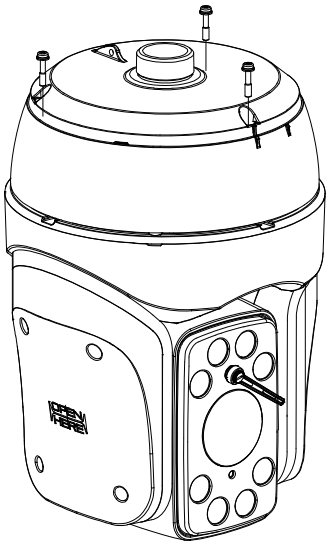
② Hook up "Drop Prevention Spring" on main body to prevent camera from unexpected drop and connect the wires as below.



③ Line up the mold lines and assemble main body to mount adaptor and turn it..



④ Assemble the main both with the camera mount adaptor with the 3 screws. (Hexagon wrench screw M5×25).

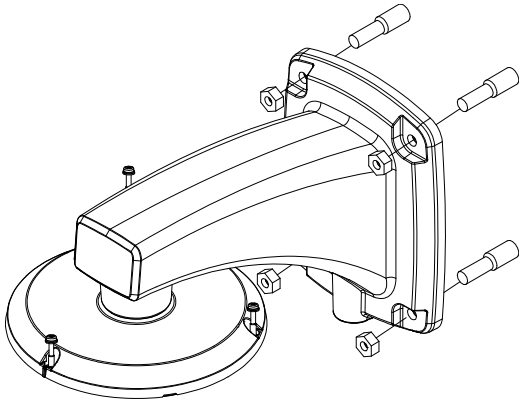


Important Notice

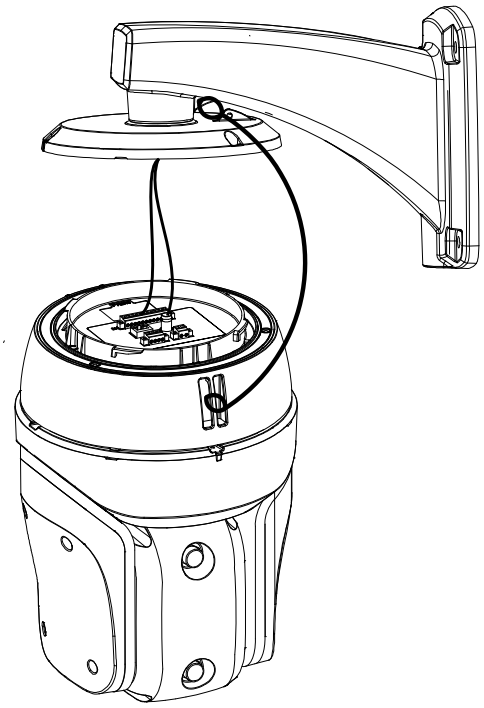
- Before starting the installation, make sure that the Camera ID and Protocol are set up properly.

Installation with Wall Mount Bracket

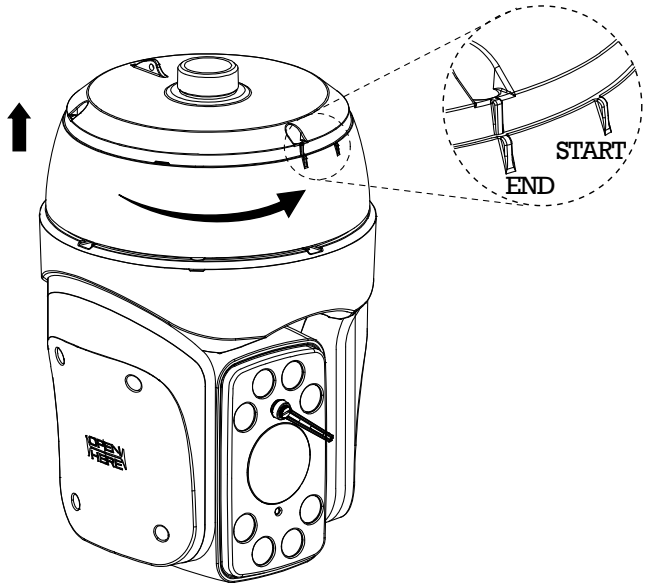
① Prepare the wall mount bracket, and assemble the bracket and mount adapter as below. (Anchor Bolt 3/8"×70)



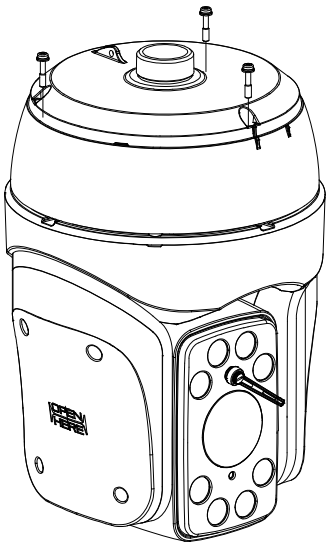
② Hook up "Drop Prevention Spring" on main body to prevent camera from unexpected drop and connect the wires as below.



③ Line up the mold lines and assemble main body to mount adaptor and turn it..



⑤ Assemble the main both with the camera mount adaptor with the 3 screws. (Hexagon wrench screw M5×25).



Important Notice

- Before starting the installation, make sure that the Camera ID and Protocol are set up properly.

Wiring and Cabling

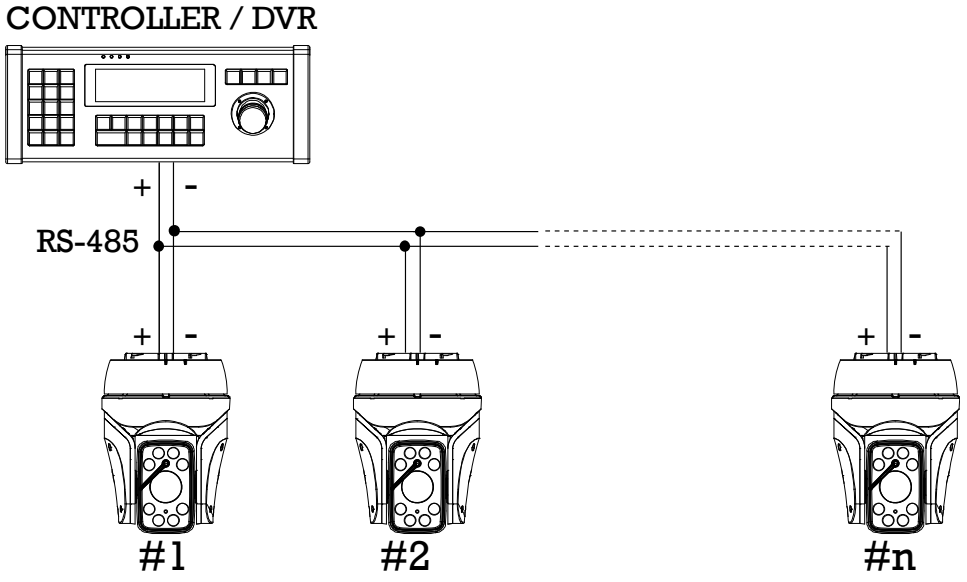
❑ Power Input

- Carefully check the voltage and current capacity of the rated power.

Input Voltage Range	Current Consumption
AC 17V ~ 29V	3.0 A

❑ RS-485 Communication

- For PTZ control, connect the cable(s) to your keyboard or DVR. To connect multiple cameras to a single controller, RS-485 communication should be connected in parallel as shown below. If you are connecting a single camera to a controller, terminate the camera. When connecting more than one camera to a single controller, terminate the last camera on the communication line. The last camera means the camera farthest in cable length from the controller. Note that the total length of the communication cable between a controller and the camera(s) on the same communication line must be less than 1.2Km.

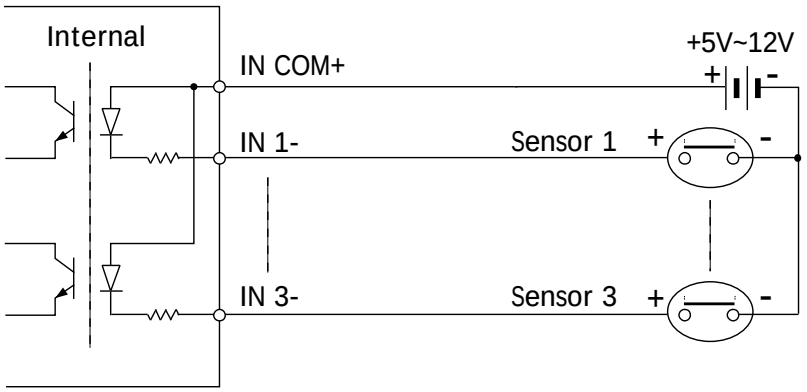


❑ HD Video (TVI) Output

- Connect with DVR which has TVI video signal. In case of Full HD (1080P) AHD camera should be connected with AHD 2.0 version DVR.
- If camera connected by 5C-HFBT cable, its maximum video transmission distance would be 500 meters. However, it would be affeted by "kind of DVR" or "kind of coaxial cable". Due to that reason, its video ransmission distance could different.

  Furthermore long distance video transmission could affect video image quality

❑ Alarm Input



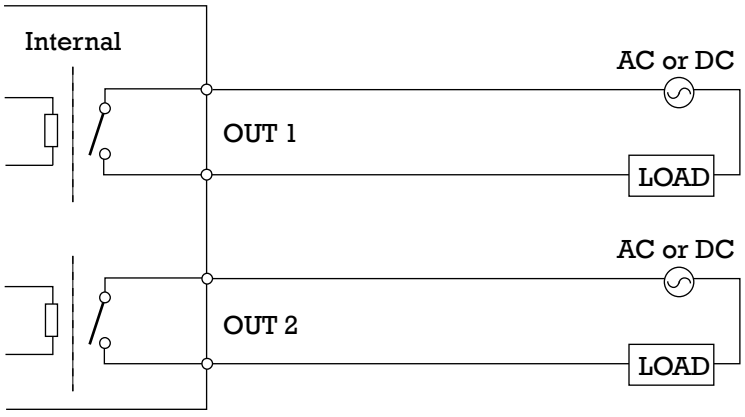
Before connecting sensors, check driving voltages and output signal types of the sensor Since output signal types of the sensors are divided into Open Collector type and Voltage Output type in general, the wiring must be done properly after considering those types.

Signal	Description
IN COM+	The electric power source to drive input circuit. Connect the (+) wire of electric power source to drive the Sensors to this port as shown in the above circuit.
IN1 -, IN2 -, IN3 -	Connect the outputs of sensors to each port as shown in the above circuit.

If you want to use Alarm Input, the types of sensors must be selected in OSD menu. The sensor types are divided into Normal Open and Normal Close. If wrong sensor types are selected, alarms should be activated reversely to sensor inputs.

⊙ Normal Open	Output Voltage is high state when sensor is activated
⊙ Normal Close	Output Voltage is high state when sensor is not activated

❑ Relay Output



The maximum loads are as follows.

Power Type	DC Power	AC Power
Maximum Load	MAX. DC 24V, 1A	MAX. AC 125V, 0.5A

Check Points before Operation

- Before turning on the system, check if the wire(s) and cable(s) are connected properly.
- Check if the camera ID on the controller is properly selected. The camera ID must be identical to that of the target camera. The camera ID can be checked by reading the DIP switch of the camera or on OSD.
- If your controller supports multi-protocols, the protocol must be changed to match to that of the camera.
- Adjust the DIP switch after turning off the camera. If you changed the camera protocol by changing the DIP S/W, the change will be effective after you reboot the camera.
- Since the operation method can be different by controllers, refer to your controller manual if the camera can not be controlled properly. The operation of this manual is based on the standard Pelco® Controller.

Check Points for Preset and Pattern Function before Operation

- Check fully how to operate preset function and pattern function with your controller or DVR in advance to operate the camera functions when using a controller or a DVR.
- Refer to the following table when using standard Pelco® protocol controllers.

< Go Preset >	Input [Preset Number] and press [Preset] button shortly.
< Set Preset >	Input [Preset Number] and keep pressing [Preset] button for more than 2 seconds.
< Run Pattern >	Input [Pattern Number] and press [Pattern] button shortly.
< Set Pattern >	Input [Pattern Number] and keep pressing [Pattern] button for more than 2 seconds.

- If your controller or DVR has no pattern button or function, use the Hot Keys with preset numbers. For more information, refer to **"Reserved Presets(Hot Keys)"** in this manual.

OSD Menu

- Function — With OSD menu, the system can be properly configured for each application.
- Entering into OSD — Go Preset [95]

Reserved Presets (Hot Keys)

- Description — Some Preset numbers are reserved to change some parameters without entering into OSD menu.
- Hot Keys

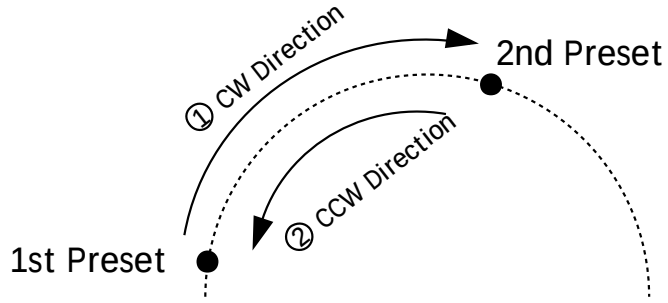
Go Preset [95]	:	Entering into OSD menu
Go Preset [131~134]	:	Running Pattern Function 1 ~ 4
Go Preset [141~150]	:	Running Swing Function 1 ~ 10
Go Preset [151~158]	:	Running Group Function 1 ~ 8
Go Preset [167]	:	Setting Zoom Proportional Function to ON
Set Preset [167]	:	Setting Zoom Proportional Function to OFF
Go Preset [170]	:	Setting Camera BLC Mode to OFF
Go Preset [171]	:	Setting Camera BLC Mode to ON
Go Preset [174]	:	Setting Camera Focus Mode to AUTO
Go Preset [175]	:	Setting Camera Focus Mode to Manual
Go Preset [176]	:	Setting Camera Focus Mode to SEMI-AUTO
Go Preset [177]	:	Setting Day & Night Mode to AUTO
Go Preset [178]	:	Setting Day & Night Mode to NIGHT
Go Preset [179]	:	Setting Day & Night Mode to DAY
Go Preset [182]	:	Run Wiper function once
Go Preset [183]	:	Run Wiper function
Go Preset [184]	:	Stop Wiper function
Go Preset [190]	:	Setting OSD Display Mode to AUTO (Except Privacy Mask)
Go Preset [191]	:	Setting OSD Display Mode to OFF (Except Privacy Mask)
Go Preset [192]	:	Setting OSD Display Mode to ON (Except Privacy Mask)
Go Preset [193]	:	Setting all Privacy Mask Display to OFF
Go Preset [194]	:	Setting all Privacy Mask Display to ON

Preset

- Function — MAX. 209 presets can be configured except the Reserved Presets (Hot Keys). Camera parameters such as White Balance, Auto Exposure and others can be set up independently and each preset can have its own parameter values independently from the other persets. When setting up presets with a controller, Label should be blank and Video settings should be set to "GLOBAL" as the default. To change the parameters, enter into OSD menu.
- Setting Presets — Set Preset [1~255]
- Running Presets — Go Preset [1~255]
- Deleting Presets — To delete Presets, enter into OSD menu.

Swing

- Function — This function is that the camera moves repetitively between two preset positions at programmed speeds. When a swing 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 and the preset assigned as the 2nd point are same, the camera turns on its axis by 360° in CW(Clockwise) direction and then it turns back on its axis by 360° in CCW(Counterclockwise) direction. The Swing speed is defined from 10°/sec to 180°/sec.

- Setting Swings — To set Swing, enter into OSD menu.
- Running Swings — Method 1) <Run Pattern> [Swing NO. + 10] ex) Run Swing 3 : <Run Pattern> [13]
  Method 2) <Go Preset> [Swing NO. + 140] ex) Run Swing 3 : <Go Preset> [143]
- Deleting Swings — To delete Swings, enter into OSD menu.

Pattern

● Function

This function is that the camera memorizes the path (mostly curve path) by the joystick of the controller and revives the trajectory operated by joystick as closely as possible.

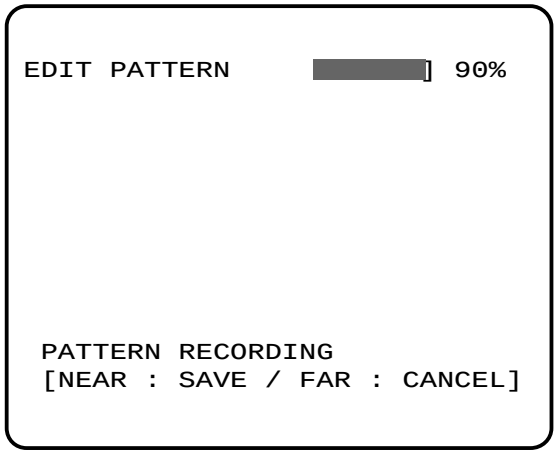
MAX. 8 Patterns are programmable and Maximum 768 communication commands can be programmed in a pattern.

● Setting Patterns

A Pattern can be created by the following methods.

Method 1) <Set Pattern> [Pattern NO.]

○ The Pattern programming window appears on the monitor as below.



○ The movement by Joystick can be memorized in a pattern.

○ To save the recording, press **NEAR** key and to cancel, press **FAR** key.

Method 2) Programming in OSD Menu : See the section "How to use OSD Menu".

● Running Patterns

Method 1) <Run Pattern> [Pattern NO.] ex) Run Pattern 2 : <Run Pattern> [2]

Method 2) <Go Preset> [Pattern NO. + 130] ex) Run Pattern 2 : <Go Preset> [132]

● Deleting Patterns

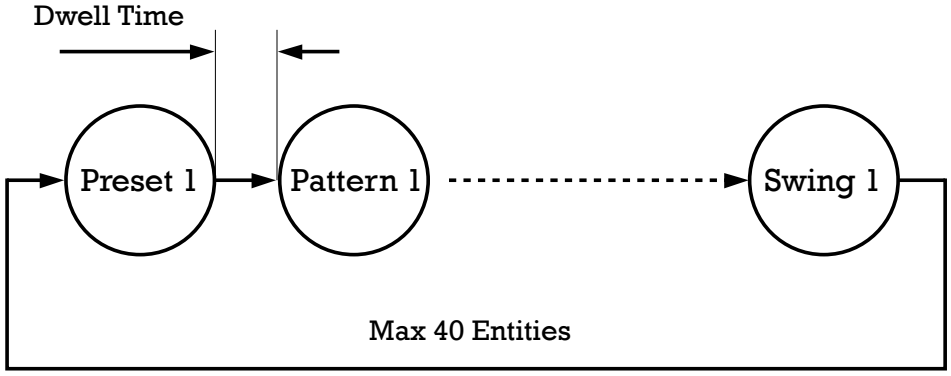
To delete Patterns, enter into OSD menu.

Note) When the system memorizes Patterns, the commands are stored in the momories, no the positions of Pan/Tilt/Zoom. Hence there might be small differences between the origina path and the revived path by path type of Patterns. Note that it is not a problem in positio precision.

Group

- Function

This function is that the camera memorizes the combination of Presets, Pattern and/or Swings sequently and runs Presets, Pattern and/or Swings repetitively. MAX. 8 sets of Group are programmable. Each group can have MAX. 40 actions which are the combination of Preset, Pattern and Swing. Preset speed can be set up and the repeat number of Pattern & Swing can be set up in Group setup. Dwell time between actions can be set up also.



- Setting Groups

To set Groups, enter into OSD menu.

- Running Groups

Method 1) <Run Pattern> [Group NO. + 20] ex) Run Group 7 : <Run Pattern> [27]
Method 2) <Go Preset> [Group NO. + 150] ex) Run Group 7 : <Go Preset> [157]

- Deleting Groups

To delete Groups, enter into OSD menu.

Other Functions

- Power Up Action

This setting defines a specific activity (Preset, Pattern, Swing and Group) to be performed in the event that the power to the camera is cycled. This function enables the user to resume, after turning on power, the last action being executed before turning off the power. Most of actions such as Preset, Pattern, Swing and Group are available for this function but Jog actions are not available to resume.

- Auto Flip

In case that tilt angle arrives at the top of tilt orbit(90°), zoom module camera turns on its axis by 180° at the top of tilt orbit and moves to opposite tilt direction (180°) to keep tracing targets.

- Parking Action

This feature allows the camera to begin a specified operation after a programmed time of inactivity. This function makes the camera automatically run a pre-defined action if there is no command from controller for a pre-defined time period. "Wait Time" means how long a camera should wait for from the previous-last (most recent) command before running the pre-defined action. It can be set to 1 second ~ 3 hours.

- **Alarm Input**

  3 Alarm Inputs are available. When external sensors activate, the camera runs pre-defined actions such as Preset, Pattern, Swing and Group. After the pre-defined time period passed, "Post Alarm" activates, which is pre-defined. Note that only the latest alarm input is effective when multiple sensors are activated at the same time.

- **Schedule**

  8 Schedule are programmable. A camera runs functions such as Preset, Pattern, Swing and Group at assigned times. After a pre-defined time passes, "Post Action" runs. Also this function can be run periodically by pre-defined schedules. A Period can be configured by Hour/Day/Week/Month.

- **Privacy Zone Mask**

  Privacy Zone Mask allows a user to program 8 rectangulars that can not be viewed by the operator of the system. To protect others' privacy, MAX. 8 Privacy Masks can be created on the arbitrary position to hide objects such as windows, shops or private house. With the Spherical Coordinates system, powerful Privacy Zone Mask function is possible. A mask area will move with pan and tilt functions and automatically adjust in size as the lens zooms telephoto and wide.

- **Password for OSD**

  A Password can be configured in OSD menu and OSD menu can be protected.

  [Important Notice] It is mandatorily recommended that a user must take a memo for a password before a user applies a password to a system. When a Password is forgotten, a unit can not be unlocked and the unit is supposed to be shipped back to the manufacturer.

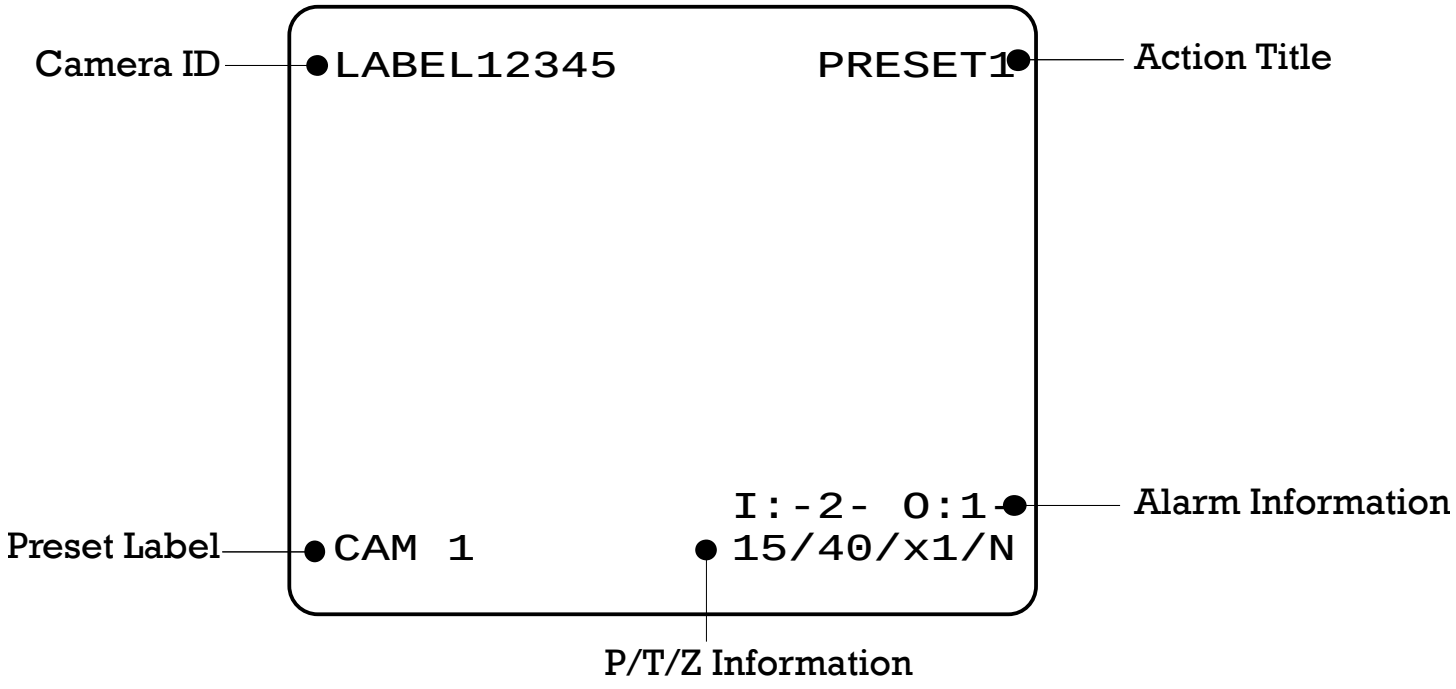
- **GLOBAL/LOCAL Image Setup**

  WB(White Balance) and AE(Auto Exposure) can be set up independently for each preset. There are 2 modes, "Global" mode & "Local" mode. The Global mode is that WB and/or AE are/is set up totally and simultaneously for all presets. The Global parameter setup such as WB and AE can be done in "ZOOM CAMERA SETUP" menu. The Local mode is that WB and/or AE are/is set up independently or separately for each preset. The Local parameter setup for WB and AE can be done in each preset setup menu. Each Local parameter such as WB and AE activates correspondingly when the camera arrives at each preset position. During jog operation, Global WB/AE value should be applied. All Local WB/AE values do not change although Global WB/AE value changes. The Local mode has the prior to the Global mode.

- **Semi-Auto Focus**

  This mode automatically exchanges focus modes between Manual Focus mode and Auto Focus mode by operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. With Manual mode at presets, Focus data is memorized in each preset in advance and the camera calls focus data in correspondence with presets as soon as the camera arrives at presets. It should shorten time to get focuses. The focus mode automatically changes to Auto Focus mode when jog operation starts.

OSD Display



- P/T/Z Information — Displays the pan/tilt positions and zoom magnification.
- Camera ID — Displays the selected Camera ID (Address).
- Action Title — Identfies Actions

"PRESET xxx"	When Preset xxx is memorized or the camera reaches Preset xxx.
"PATTERN x"	When Pattern x is in action.
"SWG×-PRESET xxx"	When Swing x is in action. Displays both of Swing number and Preset number.
"UNDEFINED"	When a undefined function is called to run

- Preset Label — Displays preset labels when the camera arrives at presets.
- Alarm Information — Displays activated alarms. This information shows current state of Alarm Inputs and Relay Outputs. If an Input point is **ON** state, it will show a number corresponding to each point. If an Input point is **OFF** state, '–' will be displayed.

  Example) The point 2 & 3 of inputs are **ON** and Output 1 is **ON.**

  I:-23 O:1-

Quick Programming Guide

- The menu items with < > always have sub-menus.
- To go to submenus or make the cursor move to the right, press **NEAR** key.
- To go to the previous-upper level menus, press **FAR** key.
- To make a selection, press **NEAR** key
- To cancel a selection, press **FAR** key
- To move the cursor in the menu, use the joystick to the **Up/Down** direction or **Left/Righ** direction.
- To change a value of an item, use **Up/Down** of the joystick in the controller.
- To save changes, press **NEAR** key.
- To cancel changes, press **FAR** key.

Main Menu

```
PTZ CAMERA
------------------------
→<SYSTEM INFORMATION>
 <DISPLAY SETUP>
 <CLOCK SETUP>
 <DOME CAMERA SETUP>

 <PASSWORD SETUP>
 <SYSTEM INITIALZE>


 EXIT
```

- **System Information** — Displays the system information and configuration. The system setting can not be changed using the OSD menu and the information is for reference only.
- **Display Setup** — Configures labels and how to display labels on a monitor.
- **Clcok Setup** — Configures current time and how to display in OSD.
- **Dome Camera Setup** — Configures various functions of a camera.
- **Password Setup** — Configures a Password for OSD.
- **System Initialize** — Initializes all system configurations and all data to the factory default parameters.

Display Setup

```
DISPLAY SETUP
------------------------
→CAMERA ID            ON
 PTZ INFORMATION      AUTO
 ACTION TITLE         AUTO
 PRESET LABEL         AUTO
 ALARM I/O            AUTO
 LANGUAGE             ENG
 <SET NORTH DIRECTION>
 <PRIVACY ZONE>
 BACK
 EXIT
```

Display setup allows you to program how labels are displayed on the monitor. In case of AUTO, the labels are displayed on the monitor when there are any changes in parameters.

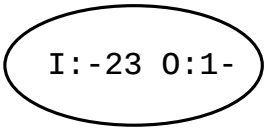
- **Camera ID** [ON/OFF]
  Displays the selected Camera ID.

- **PTZ Information** [ON/OFF/AUTO]
  Displays the positions of pan/tilt, zoom magnification and current compass direction.

- **Action Title** [ON/OFF/AUTO]
  Identfies Actions.
  "SET PRESET xxx"
  "PRESET xxx"
  "PATTERN x"
  "SWG/PRESET xxx"
  "UNDEFINED"

- **Preset Label** [ON/OFF/AUTO]
  Displays the preset labels when the camera arrives at presets.

- **Alarm I/O** [ON/OFF/AUTO]
  Displays the activated alarms. This information shows the current state of Alarm Inputs and Relay Outputs. If an Input point is **ON** state, it will show a number corresponding to each point. If an Input point is **OFF** state, '-' will be displayed.
  Example) The point 2 & 3 of inputs are **ON** and Output 1 is **ON**.



- **Language** [ENG/POL/FRN/ITL]
  Selects a language for OSD menu.

❑ Compass Direction Setup

```
SET NORTH DIRECTION
------------------------




MOVE TO TARGET POSITION
[NEAR:SAVE  /FAR:CANCEL
```

Move the camera to a target position and press **NEAR** button to save the direction as North. The direction is the reference direction to assign other compass directions.

Privacy Zone Mask Setup

```
PRIVACY ZONE
------------------------
→MASK NO        1
                UNDEFINED
 DISPLAY        OFF
 CLEAR MASK     CANCEL
 <EDIT MASK>



 BACK
 EXIT
```

Privacy Zone Mask allows the user to program 8 rectangulars that can not be viewed by the operator of the system. To protect privacy, MAX. 8 Privacy Masks can be created on the arbitrary position to hide objects such as windows, shops or private house. With the Spherical Coordinates system, powerful Privacy Zone Mask function is possible. A mask area will move with pan and tilt functions and automatically adjust in size as the lens zooms telephoto and wide.

- Mask NO [1~8]

  Selects a Mask number to program. If the selected mask has already data, the camera moves as it was programmed. Otherwise, "UNDEFINED" will be displayed under the Mask number.

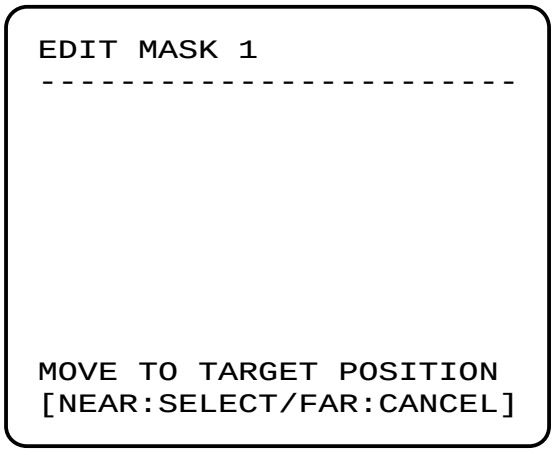
- Display [ON/OFF]

  Sets if the mask of the selected mask number shows or not on the screen.

- Clear Mask [CANCEL/OK]

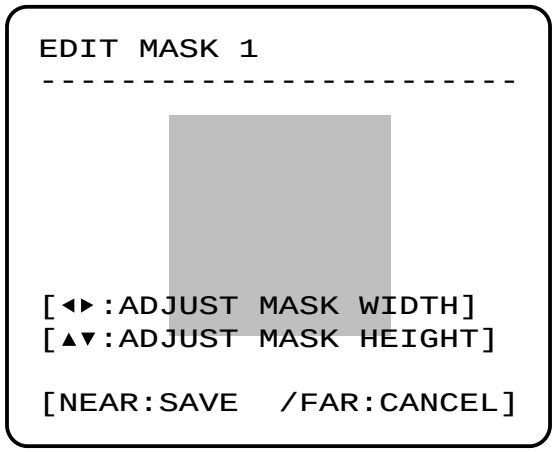
  Deletes the mask data of the selected mask number.

❑ Privacy Zone Mask Area Setup



Move your camera to an area to mask. Then a mask and the menu to adjust the mask size will be displayed.

❑ Privacy Zone Mask Size Setup



Adjusts the mask size. Use the joystick or the arrow button of your controller to adjust mask size.

- ◂ ▸ (Left/Right) Adjusts the mask width.
- ▴ ▾ (Up/Down) Adjusts the mask height.

Clock Setup

```
CLOCK SETUP
------------------------
→DISPLAY DATE        ON
 DISPLAY TIME        ON
 SET CLOCK
  ●01/JAN/2013 TUE
  ●00:01:02 [hh:mm:ss]



 BACK
 EXIT
```

Configures current time and how to display in OSD.

- Display Date [ON/OFF]

  Configures whether Date will be displayed in OSD or not.

- Display Time [ON/OFF]

  Configures whether Time will be displayed in OSD or not.

- Set Clock [CANCEL/OK]

  Configures current date (DD/MM/YYYY) and time (hh:mm:ss). A day should be automatically changed according to Date change.

Camera Setup

```
CAMERA SETUP
------------------------
→HD VIDEO OUT    1080p30
 FOCUS MODE      SEMIAUTO
 DIGITAL ZOOM    ON
 FLICKERLESS     OFF
 IMAGE FLIP      OFF
 <WHITE BALANCE SETUP>
 <AUTO EXPOSURE SETUP>
 <SPECIAL>
 BACK
 EXIT
```

Sets the general functions of zoom camera module.

- HD Video Out [1080p30/720p60/720p30] or [1080p25/720p50/720p25]

  Sets the video resolution of TVI. Match the resolution with the setting of DVR. If there is no confirmation within 10 seconds by pressing the **NEAR** button, it is automatically restored to its previous configuration.

- Focus Mode [AUTO/MANUAL/SEMIAUTO]

  Sets camera Focus mode.

  ○ SEMIAUTO Mode

  This mode automatically exchanges focus modes between Manual Focus mode and Auto Focus mode by operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. With Manual mode at presets, Focus data is memorized in each preset in advance and the camera calls focus data in correspondence with presets as soon as camera arrives at presets. It should shorten time to get focuses. Focus mode automatically changes to Auto Focus mode when jog operation starts.

- Digital Zoom [ON/OFF]

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

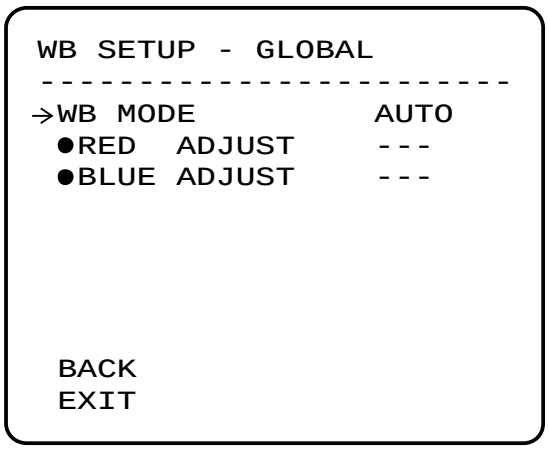
● Flickerless [ON/OFF]

If NTSC camera is used in 50Hz frequency circumstance or if PAL camera is used in 60Hz frequency circumstance, there should be flicker on monitor since power frequency is different from sync frequency of camera. In this case, set it to ON to prevent flicker

● Image Flip [ON/OFF]

Sets System Image Flip Function to ON/OFF. When this function is set to ON, flipped images always come out. When the camera is installed as Desktop type, set to ON to get proper images.

❑ White Balance Setup



● WB Mode [AUTO/INDOOR/OUTDOOR/MANUAL]

Retains color balance over a color temperature range. In auto mode, this feature automatically processes the viewed image. In Manual mode, Red and Blue level can be set up manually.

● Red Adjust [0-20]

Adjusts the picture output in the red range.

● Blue Adjust [0-20]

Adjusts the picture output in the blue range.

❑ Auto Exposure Setup

```
AE SETUP-GLOBAL
------------------------
→DAY/NIGHT       AUTO
 BACKLIGHT       OFF
 WDR             OFF
 AE MODE         AUTO
 ●IRIS           ---
 ●AGC            ---
 ●SHUTTER        ---
 ●BRIGHT         10
 BACK
 EXIT
```

- **Day/Night** [AUTO/DAY/NIGHT]
  Sets Day&Night mode.

- **Backlight** [ON/OFF]
  Sets Backlight Compensation. If a bright backlight is present, the subjects in the picture may appear dark or as a silhouette. Backlight compensation enhances objects in the center of the picture.

- **WDR** [ON/OFF]
  The WDR(Wide Dynamic Range) is a function for dividing an image into several blocks and correcting blocked-up shadows and blown-out hightlights in accordance with the intensity diffrence. It enables you to obtain images in which portions ranging from dark to light can be recognized, even when capturing a subject with a large intensity difference that is backlit or includes extremely light portions.
  If this function is set to ON, the analog video output is disabled.

- **AE Mode** [AUTO/SHUTTER/IRIS/MANUAL]
  Set Auto Exposure mode.

- **Iris** [0~16/OPEN] or [CLOSE/5~16/OPEN]
  If AE mode is set to IRIS mode or MANUAL mode, this can be set up.

- **AGC** [0dB ~ 60dB] or [0dB ~ 45dB]
  If AE mode is set to MANUAL mode, this can be set up.

- **Shutter** [×32~1/30000] or [1/8~1/30000]
  If AE mode is set to SHUTTER mode or MANUAL mode, this can be set up.

- **Bright** [0~14] or [0~20]
  Set the brightness of image. If AE mode is set to MANUAL mode, this can not be set up.

❑ Special Setup

```
SPECIAL
------------------------
→AUTO DSS          ON
 NIGHT>DAY LEVEL   10
 APERTURE          6
 NR                3
 STABILIZATION     OFF
 HLC               OFF
 DEFOG             OFF
  ●LEVEL           ---
 BACK
 EXIT
```

- **Auto DSS** [ON/OFF]
  When set to ON, ensure that the slow shutter is set to automatically when the brightness drops.

- **Night > Day Level** [0 ~ 28]
  Adjust the sensitivity to change Night mode to Day mode.

- **Aperture** [0 ~ 10]
  Adjust the enhancement of the edges of objects in the picture.

- **NR** [OFF/1~5] or [AUTO/OFF/1 ~ 3]
  NR(Noise Reduction) function removes noise to provide clearer images.

- **Stabilization** [ON/OFF]
  Compensates image vibrations by wind or others. The images with vibrations are compensated by Digital Zoom function and the image resolution with this function should be lower than normal image resolution when this function is turned on.

- **HLC** [ON/OFF]
  HLC(High Light Compensation) function removes the high light in a limited environment such as parking garage

- **Defog** [ON/OFF]
  Sets the Defog function and level.

Motion Setup

```
MOTION SETUP
------------------------
→MOTION LOCK      OFF
 PWR UP ACTION    ON
 AUTO FLIP        ON
 JOG MAX SPEED    60/SEC
 JOG DIRECTION    INVERSE
 FRZ IN PRESET    OFF
 <PARKING ACTION SETUP>
 <ALARM INPUT SETUP>
 BACK
 EXIT
```

Sets the general functions of Pan/Tilt motions.

- **Motion Lock** [ON/OFF]
  If Motion Lock is set to ON, it is impossible to set up and delete Preset, Swing, Pattern and Group. It is possible only to run those functions. To set up and delete those functions, enter into OSD menu.
- **Power Up Action** [ON/OFF]
  Refer to "Other Functions" section.
- **Auto Flip** [ON/OFF]
  Refer to "Other Functions" section.
- **Jog Max Speed** [1°/sec ~180°/sec]
  Sets the maximum jog speed. Jog speed is inversely proportional to the zoom magnifications. As the zoom magnification goes up, the pan/tilt speed goes down.
- **Jog Direction** [INVERSE/NORMAL]
  Sets the Jog Direction. If this is set to 'Inverse', the view direction in the screen is same as the direction of joystick. If this is set to 'Normal', the view direction in the screen is the reverse dirction of joystick.
- **Freeze in Preset** [ON/OFF]
  Sets Frame Freeze Function. This feature freezes the scene on the monitor when going to a preset. At the start point of a preset movement, a camera starts freezing the image of the start point. Camera keeps displaying the image of the 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 the end preset point. This feature also reduces bandwidth when working with digital systems or digital network systems.

  This function availability should be different by models.

❑ Parking Action Setup

```
PARKING ACTION SETUP
------------------------
→PARK ENABLE    OFF
 WAIT TIME      00:10:00
 PARK ACTION    HOME




 BACK
 EXIT
```

This feature allows the camera to begin a specified action after a programmed time of inactivity.

- Park Enable [ON/OFF]

  If Park Enable is set to ON, the camera runs an assigned function automatically if there is no PTZ command during the programmed "Wait Time".

- Wait Time [1~59 sec. / 1~180 min.]

  Wait Time can be programmed from 1 second to 180 minutes.

- Park Action [HOME/PRESET/PATTERN/SWING/GROUP/PREV ACTION]

  This feature defines the activity when the camera parks. If Park Action is set to "HOME", the camera moves to the home position which is memorized when the system boots. If Park Action is set to "PREV. ACTION", the camera runs the previous action which it ran most recently.

❑ Alarm Input Setup

```
ALARM INPUT SETUP
------------------------
→ALARM NO.      1

 TYPE           N.OPEN
 ACTION         NOT USED
 HOLD TIME      ENDLESS
 POST ACTION    HOME


 BACK
 EXIT
```

Defines Alarm Function. When an alarm is receive, an input signal to the camera triggers the user-defined action programmed for the alarm.

- **Alarm No** [1~3]
  Selects a sensor number to set up.
- **Type** [Normal OPEN/Normal CLOSE]
  Selects sensor operation type.
- **Action** [NOT USED/PRESET/PATTERN/SWING/GROUP]
  Selects an action to run when a sensor signal is input.
- **Hold Time** [ENDLESS / 1~59 SEC. / 1~180 MIN.]
  Sets the time period for the action which is run by external sensor activation. After the time period passes, the action pre-defined in "Post Action" runs sequentially in succession to the action by external sensor activation. If this option is set to "ENDLESS", "Post Action" does not activate.
- **Post Action** [HOME/PRESET/PATTERN/SWING/GROUP /PREV ACTION]
  Selects the action that a camera will run after the time period in "HOLD TIME" passes. If Post Action is set to "PREV. ACTION", the camera runs the previous action which it ran most recently.

Preset Setup

```
PRESET SETUP
------------------------
→PRESET NO.     1

 CLR PRESET     CANCEL
 <EDIT SCENE>
 <EDIT LABEL>   LABEL123
 RELAY OUT 1    OFF
 RELAY OUT 2    OFF
 CAM ADJUST     GLOBAL
 BACK
 EXIT
```

- **Preset Number** — [1~255] MAX. 209 Presets except the Reserved Presets (Hot Keys)
  Selects a preset number to set up. If a selected preset is already defined, the camera moves to the pre-defined position and preset parameters such as Label and CAM Adjust show on the monitor. If a selected preset is not defined, "UNDEFINED" shows on the monitor.
- **Clear Preset** — [CANCEL/OK]
  Deletes the data of the selected Preset.
- **Edit Preset Scene** — Re-defines the scene position of the selected Preset.
- **Edit Preset Label** — Edits the label of the selected Preset to show on the monitor when the preset runs. MAX. 10 alphanuberic characteristics are allowed.
- **Relay Out X** — Defines the relay output 1 and 2.
- **CAM Adjust** — [GLOBAL/LOCAL]
  WB(White Balance) and AE(Auto Exposure) can be set up independently for each preset. There are 2 modes, "Global" mode & "Local" mode. The Global mode is that WB and/or AE are/is set up totally and simultaneously for all presets. The Global parameter setup such as WB and AE can be done in "ZOOM CAMERA SETUP" menu. The Local mode is that WB and/or AE are/is set up independently or separately for each preset. The Local parameter setup for WB and AE can be done in each preset setup menu. Each Local parameter such as WB and AE activates correspondingly when the camera arrives at each preset position. During jog operation, Global WB/AE value should be applied. All Local WB/AE values do not change although Global WB/AE value changes. The Local mode has the prior to the Global mode.

❑ Preset Scene Setup

```
EDIT SCENE - PRESET 1
------------------------




MOVE TO TARGET POSITION
[NEAR:SAVE  /FAR:CANCEL]
```

① Use the Joystick to move the camera to a desired position.

② Save the preset position by pressing **NEAR** key.

③ Press **FAR** key to cancel targeting the preset position.

❑ Preset Label Setup

```
EDIT LABEL - PRESET 1
------------------------
  [          ]
   ----------
   1234567890      OK
   ABCDEFGHIJ      CANCEL
   KLMNOPQRST
   UVWXYZabcd
   efghijklmn
   opqrstuvwx
   yz<>-/:. ←
   ----------
```

Edit the label of the selected preset to show on the monitor when camera arrives at the preset. In the Edit Label menu, the dark rectangular is the cursor. As soon as finishing selecting an alphabet or a number, the cursor moves to the next digit.

```
[          ]
```

Current Cursor Position

① With **Left/Right/Up/Down** of the joystick, move to a desired Alphabet or a desired number in the Alphanumeric set. To select a desired Alphabet or a desired number, press the **NEAR** key.

```
----------
1234567890
ABCDEFGHIJ
KLMNOPQRST
UVWXYZabcd
efghijklmn
opqrstuvwx
yz<>-/:. ←
----------
```

Space Char. Back Space Char.

If you want to use a blank, select the double quotation mark (" "). If you want to delete an Alphabet or a number, use the back space character (" ←").

② If you complete the Label editing, move the cursor to "OK" and press the **NEAR** key to save the completed label. To abort the current change, move the cursor to "Cancel" and press the **NEAR** key.

Swing Setup

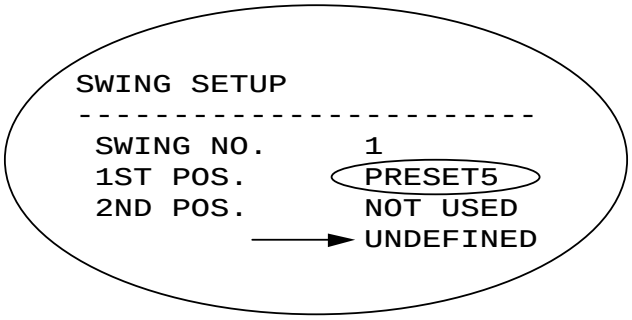
```
SWING SETUP
------------------------
→SWING NO.      1
 1ST POS.       NOT USED
 2ND POS.       NOT USED

 SWING SPEED    30/SEC
 CLEAR SWING    CANCEL
 RUN SWING

 BACK
 EXIT
```

● Swing Number — [1~10]
Selects a Swing number to edit. If the selected Swing is not defined, "NOT USED" is displayed in the 1st Position and the 2nd Position.

● 1st Position / 2nd Position — [PRESET 1~255]
Sets the 2 positions for a Swing function. If the selected preset is not defined, "UNDEFINED" is displayed as shown below.



When a swing 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 and the preset assigned as the 2nd point are same or only 1 Preset position is assigned, the camera turns on its axis by 360° in CW direction and then it turns on its axis by 360° in CCW direction.

● Swing Speed — [1°/sec. ~90°/sec.]
Defines Swing speed between the 2 Preset positions from 1°/sec to 180°/sec

● Clear Swing — [CANCEL/OK]
Deletes the data of the selected Swing.

● Run Swing — Runs Swing for the test purposes to check if it works properly.

Pattern Setup

```
PATTERN SETUP
------------------------
→PATTERN NO.    1
                UNDEFINED
 CLR PATTERN    CANCEL
 RUN PATTERN
 <EDIT PATTERN>



 BACK
 EXIT
```

- **Pattern Number** [1~8]
  Selects a Pattern number to edit. If the selected pattern number is not defined, "UNDEFINED" will be displayed under the selected pattern number.
- **Clear Pattern** [CANCEL/OK]
  Deletes the data of the selected pattern.
- **Run Pattern** Runs the Pattern for the test purposes to check if it works properly.
- **Edit Pattern** Edits the selected pattern.

❑ Pattern Edit

```
EDIT PATTERN 1
------------------------




MOVE TO START POSITION
[NEAR:START /FAR:CANCEL]
```

① With the Joystick of your controller, move the camera to the start position with an appropriate zoom magnafication. To start the pattern recording, press **NEAR** key. To exit, press **FAR** key.

```
EDIT PATTERN 1
□□□□□□□□□□□□□□□□□□□□□□□□



[NEAR:SAVE   /FAR:DELETE]
                  0/0/x1/N
```

② Move camera with joystick of controller or run preset function to memorize the path (mostly curve path) in the selected pattern. The movement by Joystick and preset movement will be memorized in a pattern. After a pattern is programmed, the remaining storage is displayed in progress bar on the screen.

③ To save the data and exit, press **NEAR** key. To cancel saving the data and delete the data, press **FAR** key.

Group Setup

```
GROUP SETUP
------------------------
→GROUP NO.      1
                UNDEFINED
 CLEAR GROUP    CANCEL
 RUN GROUP
 <EDIT GROUP>



 BACK
 EXIT
```

- **Group Number** [1~8]
  Selects a Group number to edit.
  If the selected Group number is not defined, "UNDEFINED" will be displayed under the selected Group number.
- **Clear Group** [CANCEL/OK]
  Deletes the data of the selected Group.
- **Run Group** Runs the Group for the test purposes to check if it works properly.
- **Edit Group** Edit the selected Group.

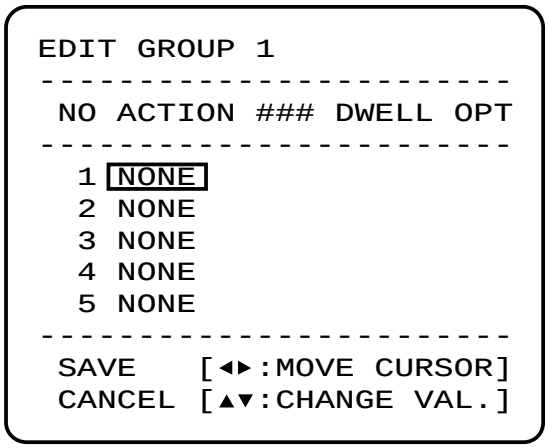
❑ Group Edit

```
EDIT GROUP 1
------------------------
→NO ACTION ### DWELL OPT
------------------------
  1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
 SAVE
 CANCEL       [NEAR:EDIT]
```

① Press **NEAR** key when the cursor is at "NO" to start editing the selected Group.

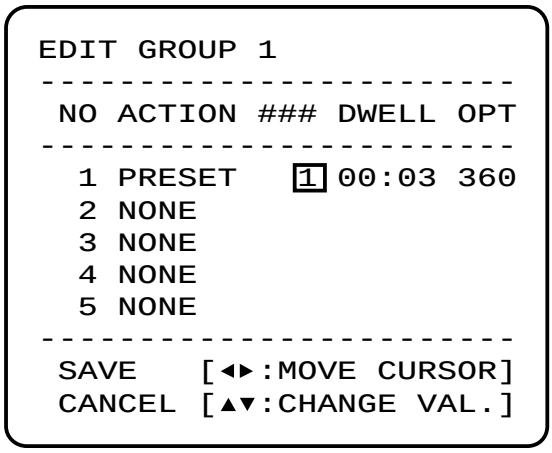
```
EDIT GROUP 1
------------------------
 NO ACTION ### DWELL OPT
------------------------
→ 1 NONE
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
 SAVE     [NEAR:EDIT ACT]
 CANCEL   [FAR :EDIT END]
```

② Note that MAX. 40 actions are allowed in a Group. Move the cursor up/down to select an Action. Press **NEAR** key to edit.

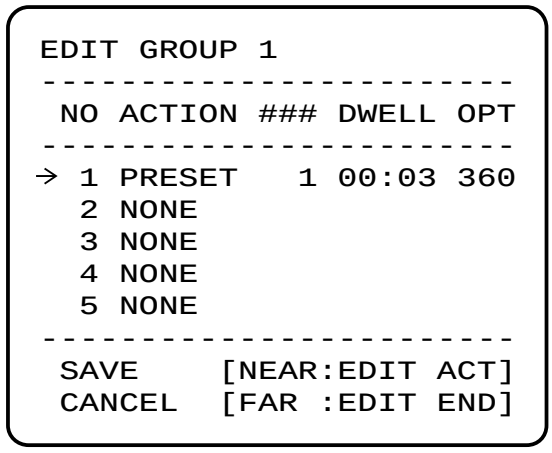


③ Define Action, Dwell time and Option. Note that the dark rectangular is the cursor. Move the cursor **LEFT/RIGHT** to select an item and move cursor **UP/DOWN** to change each parameter.

- Action ### [NONE/PRESET/SWING/PATTERN]
- DWELL [0 SEC. ~ 4 MIN.]
  Sets the Dwell Time between functions.
- OPT Option. It is a preset speed when a preset is selected in the Action. It is the number of repeat when a Pattern or a Swing is selected in the Action.



④ Edit the items such as Action, ###, Dwell and OPT by moving the cursor.



⑤ After finishing editing a Action, press **NEAR** key to go to the previous-upper level menu (Step ②). Move the cursor **UP/DOWN** to select an Action number and repeat Step ② ~ Step ④ to keep editing the selected Group.

```
EDIT GROUP 1
------------------------
 NO ACTION ### DWELL OPT
------------------------
  1 PRESET   1 00:03 360
  2 NONE
  3 NONE
  4 NONE
  5 NONE
------------------------
→SAVE
 CANCEL
```

⑥ After finishing setting up, press **FAR** key to exit. Then the cursor will move to "SAVE". Press **NEAR** key to save the data.

Schedule Setup

```
SCHEDULE SETUP
------------------------
→SCHEDULE NO    1
 ACTION         NOT USED
 HOLD TIME      ENDLESS
 POST ACTION    HOME
 CYCLE          ONCE
 TIME
  ●01/JAN/2013 TUE
  ●09:00:00 [hh:mm:ss]
 BACK
 EXIT
```

- **Schedule No** [1~8]
  Selects a Schedule to be configured.
- **Action** [NOT USED/PRESET/PATTERN/SWING /GROUP]
  Consigures a function to be run for a configured time period.
- **Hold Time** [ENDLESS / 1~59 SEC. / 1~180 MIN.]
  Configures a time period to run an Action. After this time passes, "Post Action" should run. If Post Action is configured to ENDLESS, Post Action should not run.
- **Post Action** [HOME/PRESET/PATTERN/SWING/GROUP /PREV ACTION]
  Configures a function to be run after a Hold Time. When "PREV. ACTION" is configured, the latest function which is running just before a Schedule Function should keep running again.
- **Cycle** [ONCE/HOUR/DAY/WEEK/MONTH]
  Configures a time period to repetitively run a Schedule Function. If "ONCE" is configured, a Schedule function should run once and it should not run again. For an example, if Time is set to 00:15:00 & CYCLE is set in HOUR, a camera starts running at 00:15:00 and keeps repetitively running at 01:15:00 / 02:15:00 / 03:15:00……..
- **Time** Configures a Date(DD/MM/YYYY) and a Time(hh:mm:ss) to run a Schedule Function. A day should be automatically changed according to Date change.

IR LED Setup

```
IR LED SETUP
------------------------
 CDS VALUE          218
→DAY>NIGHT LEVEL    43
 NIGHT>DAY LEVEL    67
 DWELL TIME         10SEC
 FAR IR VALUE       AUTO
 NEAR IR VALUE      AUTO


 BACK
 EXIT
```

- **CDS Value** [0(Dark)~255(Bright)]
  Display current value of Illuminance CDS sensor.
- **Day->Night Level** [0(Dark)~255(Bright)]
  Set the level to switch from Day to Night.
- **Night ->Day Level** [0(Dark)~255(Bright)]
  Set the level to switch from Night to Day. This value must be larger than **Day to Night Level**.
- **Dwell Time** [5~60 sec]
  The duration of the camera divert between the day and night change.
- **Far IR Value** [AUTO, OFF, 2~127]
  Set to control the brightness of IR LED for long distance. Its brightness can be adjusted according to Zoom value.
  In the Auto Mode, the brightness can be adjusted automatically according to its zoom ratio. In the manual mode, set to control the indicator to value 2 for the lowest brightness, 127 is the maximum brightness.
- **Near IR Value** [AUTO, OFF, 2~127]
  Set to control the brightness of IR LED for short distance. Its brightness can be adjusted according to Zoom value.
  In the Auto Mode, the brightness can be adjusted automatically according to its zoom ratio. In the manual mode, set to control the indicator to value 2 for the lowest brightness, 127 is the maximum brightness.

Password Setup

```
PASSWORD SETUP
------------------------
→CHECK PASSWORD      OFF
 <EDIT PASSWORD>




 BACK
 EXIT
```

● Password Setup [ON/OFF]

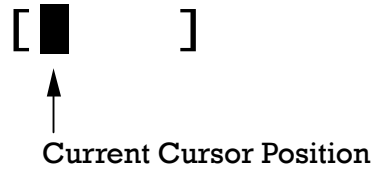
Configures whether OSD menu will be protected with a password. A password can be configured in [EDIT PASSWORD].

[Caution] It is mandatorily recommended that a user must take a memo for a password before a user applies a password to a system. When a Password is forgotten, a unit can not be unlocked and the unit is supposed to be shipped back to the manufacturer.

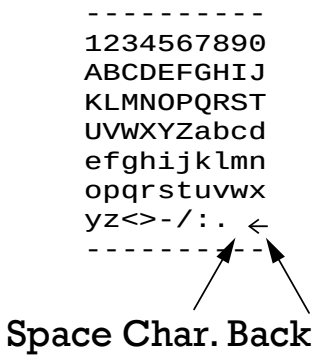
❑ Edit Password

```
EDIT PASSWORD
------------------------
  [    ]
   ----------
   1234567890      OK
   ABCDEFGHIJ      CANCEL
   KLMNOPQRST
   UVWXYZabcd
   efghijklmn
   opqrstuvwx
   yz<>-/:. ←
   ----------
```

A password should be made up with a 4 Alphanumeric combination



① With **Left/Right/Up/Down** of the joystick, move to a desired Alphabet or a desired number in the Alphanumeric set. To select a desired Alphabet or a desired number, press the **NEAR** key.



If you want to use a blank, select the double quotation mark (" "). If you want to delete an Alphabet or a number, use the back space character (" ←").

② If you complete the Password editing, move the cursor to "OK" and press the **NEAR** key to save. To abort the current change, move the cursor to "Cancel" and press the **NEAR** key.

System Initialization

```
SYSTEM INITIALIZE
------------------------
→CLEAR ALL DATA      NO
 ●CLR DISPLAY SET    NO
 ●CLR CAMERA SET     NO
 ●CLR MOTION SET     NO
 ●CLR EDIT DATA      NO
 REBOOT CAMERA       NO
 REBOOT SYSTEM       NO

 BACK
 EXIT
```

- ● Clear All Data — Deletes all configuration data and the system is set to the factory default.
- ● Clear Display Set — Initializes all the configuration data for Display.
- ● Clear Camera Set — Initializes all the configuration data for Camera.
- ● Clear Motion Set — Initializes all the configuration data for Motion.
- ● Clear Edit Data — Deletes all the configuration data for Preset, Swing, Pattern and Group.
- ● Reboot Camera — Reboots the zoom camera module.
- ● Reboot System — Reboots the system.

❑ Factory Default

● Display Parameters	
Camera ID	ON
PTZ Information	AUTO
Action Title	AUTO
Preset Label	AUTO
Alarm I/O	AUTO
Language	ENG
North Direction	Pan 0°
Privacy Zone	Undefined
Display Date	ON
Display Time	ON

● Motion Parameters	
Motion Lock	OFF
Power Up Action	ON
Auto Flip	ON
Jog Max Speed	60°/sec
Jog Direction	INVERSE
Freeze In Preset	OFF
Park Action	OFF
Alarm Action	OFF
● User-Defined Data	
Preset 1~255	Undefined
Swing 1~10	Undefined
Pattern 1~8	Undefined
Group 1~8	Undefined
Schedule 1~8	Undefined
Password	OFF / Blank

● Camera Parameters			
HD Video Out	1080p30(p25)	AE Mode	AUTO
Focus Mode	SemiAuto	Auto DSS	ON
Digital Zoom	ON	Night > Day Level	10
Flickerless	OFF	Aperture	6
Image Flip	OFF	NR	3
White Balance	AUTO	Stabilization	OFF
Day&Night	AUTO	HLC	OFF
Backlight	OFF	Defog	OFF
WDR	OFF		

Specifications

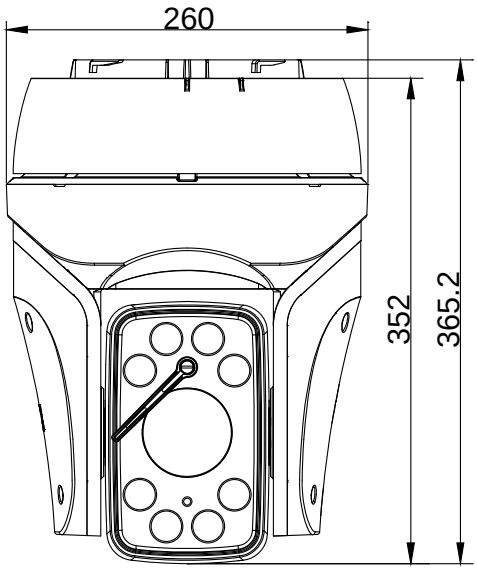
[Note]
1) Specification and features are subject to change without prior notice.
2) Specification and features are different by models.
3) Check the voltage and current capacity of rated power carefully.

CAMERA PART	
Image Sensor	1/3" Panasonic CMOS Sensor
Total Pixels	2,000K pixels
Zoom	×30 Optical Zoom, ×12 Digital Zoom
Video Signal-to-Noise	more than 50dB
Forcal Length	F1.6~4.7, f=4.3~129.0mm
Angle of View (H)	58.9°(Wide)~2.11°(Tele)
Minimum Illuminance	0.5 Lux @ DSS OFF / 0.125 Lux @ DSS ON (Color) 0 Lux (IR Mode)
Day & Night	Auto / Day / Night(ICR)
Focus	Auto / Manual / SemiAuto
AE Mode	Auto / Iris / Shutter / Manual
White Balance	Auto / Indoor / Outdoor / Manual(Red, Blue Gain Adjustable)
BLC	ON / OFF
WDR	ON / OFF
Defog	ON / OFF
Aperture	Adjustable
NR	AUTO / OFF / 1~3 Level
Image Stabilization	ON / OFF
Privacy Zone	8 Masks, Spherical Coordinate

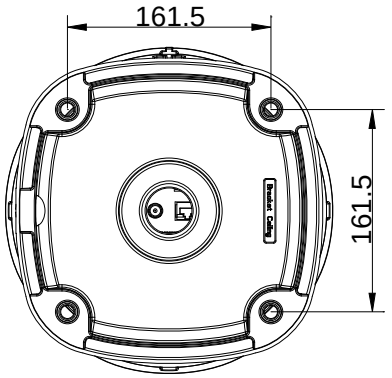
MECHANISM PART		
Movement Range	Pan	360°(Endless)
	Tilt	-20° ~ 90°
Speed	Preset	240°/sec.
	Jog	0.1 ~ 240°/sec. (Proportional to Zoom)
	Swing	1~ 90°/sec.
Preset		209 Presets (Label, Independent Camera Parameter Setting)
Pattern		8 Patterns [768 Commands(Approx. 5 Minute) / Pattern]
Swing		10 Swings
Group		8 Groups (MAX. 40 Actions with The Combination of Preset, Pattern and Swing)
Schedule		8 Schedules
Other Pan/Tilt Functions		Auto Flip, Auto Parking, Power Up Action and etc.
Video Output	HD Video	HD-TVI 1920×1080p30, 1280×720p60, 1280×720p30 (NTSC)
	Analog	1Vp-p, Disables when WDR is ON
Real Time Clock		Yes, RTC battery backup time : 2 weeks
Communication		RS-485
Protocol		Pelco-D, Pelco-P, Hikvision-C Selectable
OSD		4 Languages (English/Polish/French/Italian) Menu / Time / PTZ information etc, Password protection
Sensor Input		3 Inputs, Photo-Coupler Type
Alarm Outputs		2 Outputs, Relay Output, MAX. Load DC24V 1A / AC125V 0.5A
IR LED	Wave Length	850nm
	Distance	250 meters
	Brightness	Auto (Proportional to Zoom), Manual (Off~127)
Illumination Sensor		CDS Sensor
Fan / Heater		Fan always ON, Heater runs under internal temperature 10°C
Wiper		Optional
Operation Temperature		-30°C ~ 50°C
Waterproof / IK Code		IP 66 / IK 10
Dimension		Main Body : ∅260 × 365 mm
Weight		Approx 7.6 Kg
Rated Power		AC 24V / 3.0A

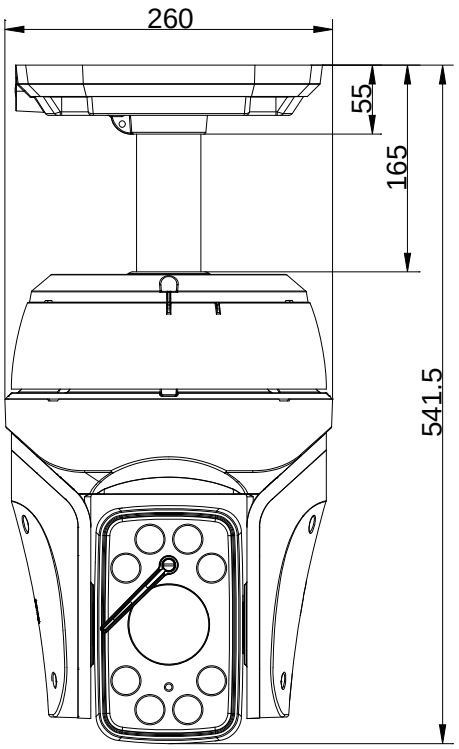
Dimension

● Main Body

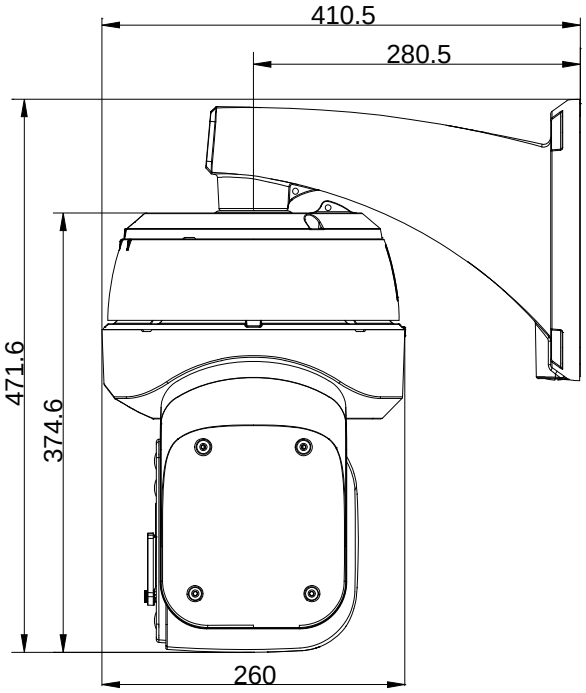


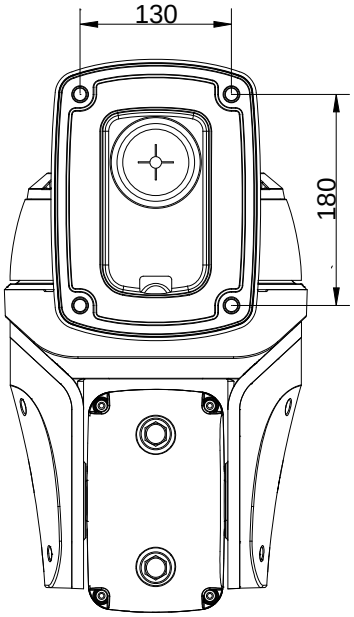
● Ceiling Mount Type





● Wall Mount Type





[Unit : mm]