Mini Speed Dome Camera

☐ Mini
☐ Internal
☐ External

INSTRUCTION MANUAL
CAUTION:  To reduce the risk of electrical shock, do not open 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.

WARNING: To prevent the risk of fire or electric shock hazard do not expose this camera to rain or moisture.
## Important Safeguard

1. **Read Instructions**
   Read all of the safety and operating instructions before using the product.

2. **Retain Instructions**
   Save these instructions for future reference.

3. **Attachments / Accessories**
   Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.

4. **Water and Moisture**
   Do not use this product near water or moisture.

5. **Installation**
   Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer’s instructions and use only mounting accessories recommended by manufacturer.

6. **Power source**
   This product should be operated only from the type of power source indicated on the marking label.

## 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 local 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.
1. Introduction

2. Installation

3. Operation

4. How to use OSD Menu

5. Specifications

---

**Features**

**Product & Accessories**

**1. Introduction**

**2. Installation**

**3. Operation**

**4. How to use OSD Menu**

**5. Specifications**

---


---

2. Features

---

3. Product & Accessories

---

4. How to use OSD Menu

---

5. Specifications

---

6. Features

---

7. Product & Accessories

---

8. How to use OSD Menu

---

9. Specifications

---

10. Features

---

11. Product & Accessories

---

12. How to use OSD Menu

---

13. Specifications

---

14. Features

---

15. Product & Accessories

---

16. How to use OSD Menu

---

17. Specifications

---

18. Features

---

19. Product & Accessories

---

20. How to use OSD Menu

---

21. Specifications

---

22. Features

---

23. Product & Accessories

---

24. How to use OSD Menu

---

25. Specifications

---

26. Features

---

27. Product & Accessories

---

28. How to use OSD Menu

---

29. Specifications

---

30. Features

---

31. Product & Accessories

---

32. How to use OSD Menu

---

33. Specifications
Features

Camera Specifications
- CCD Sensor: 1 / 4 " Interline Transfer CCD
- Zoom Magnification: x 12 Optical Zoom, x 16 Digital Zoom (Max x 192 Zoom)
- Day & Night Function
- Various Focus Mode : Auto-Focus / Manual Focus / Semi-Auto Focus.
- Independent & Simultaneous Camera Characteristic Setup in Preset operation

Powerful Pan/Tilt Functions
- Max. 300°/sec high speed Pan/Tilt Motion
- Using Vector Drive Technology, Pan/Tilt motions are accomplished in a shortest path. As a result, time to target view is reduced dramatically and the video on the monitor is very natural to watch.
- For jog operation using a controller, since ultra slow speed 0.05 °/sec can be reached, it is very easy to locate camera to desired target view. Additionally it is easy to move camera to a desired position with zoom-proportional pan/tilt movement.

Preset, Pattern, Swing, Group, Privacy Mask and More...
- MAX. 127 Presets are assignable and characteristics of each preset can be set up independently.
- Max. 8 set of Swing action can be stored. This enables to move camera repetitively between two preset positions with designated speed.
- Max .4 of Patterns can be recorded and played back. This enables to move camera to follow any trajectory operated by joystick as closely as possible.
- Max- 8 set of Group action can be stored. This enables to move camera repetitively with combination of Preset. A Group is composed of max. 16 entities of Preset.
- Privacy Masks are assignable, not to intrude on other's privacy. (8 Privacy Zones)

PTZ(Pan/Tilt/Zoom)Control
- With RS-485 communication, max. 255 of cameras can be controlled at the same time.
- Pelco-D or Pelco-P protocol can be selected as a control protocol in the current version of firmware.
OSD (On Screen Display) Menu
- OSD menu is provided to display the status of camera and to configure the functions interactively.
- The information such as Camera ID, temperature, Pan/Tilt Angle, Alarm Input and Preset can be displayed on screen.

I/O Functions (for External Mini Model)
- To reject external electric noise and shock perfectly, alarm sensor Input is decoupled with photo coupler.
- Using the dry contact for alarm input.
- If an external sensor is activated, camera can be set to move to the corresponding Preset position.

Reserved Presets for Special Purpose
- Most camera characteristics can be set up easily and directly with reserved preset, not entering into OSD menu. For more information, refer to “Reserved Preset” in this manual.
II Product & Accessories

Assembly
* Ceiling bracket is standard for mini PTZ Dome.

![Diagram of Speed Dome Mounting Base with screws and thread connector]

Option

<table>
<thead>
<tr>
<th>Ceiling Bracket</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Do not support Internal PTZ Dome)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pendant Bracket</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>L type Wall Mount Bracket</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>ARM Type Wall Mount Bracket</th>
</tr>
</thead>
</table>
* Internal PTZ Dome built in a ceiling plate for installation.

* ARM Type wall mount bracket is standard for External mini PTZ Dome.
DIP Switch Setup

Before you install the camera, you should set the DIP switches to configure the camera ID, communication baud rate.

Camera ID Setup

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

<table>
<thead>
<tr>
<th>PIN</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNC.</td>
<td>A0</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
<td>A4</td>
<td>A5</td>
<td>A6</td>
<td>A7</td>
<td></td>
<td>Baud Rate</td>
</tr>
<tr>
<td>ON</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>16</td>
<td>32</td>
<td>64</td>
<td>128</td>
<td>Refer to the Manual</td>
<td></td>
</tr>
<tr>
<td>OFF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The range of ID is 1~255. Factory default of Camera ID is 1.

If you want to control a certain camera, you must match the camera ID with Cam ID setting of DVR or Controller.

When DIP SW set all off the speed dome can change the ID address and baud rate via OSD menu.
Communication Baud Rate Setup

- Select the appropriate Baud Rate with DIP switch combination.

<table>
<thead>
<tr>
<th>Switch State</th>
<th>Baud Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>P9</td>
<td>P10</td>
</tr>
<tr>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

- If you want to control using DVR or P/T controller, their protocol must be identical to camera. Otherwise, you can not control the camera.

- If you changed camera protocol by changing DIP S/W, the change will be effective after you reboot the camera.

- Factory default of baud rate is 2400 bps. You can change it in OSD menu.

- Speed dome will detect the Pelco-D or Pelco-P automatically in the Present conditions.
Cabling

Power Connection
- Please, check the voltage and current capacity of rated power carefully. Rated power is indicated in the back of main unit.

<table>
<thead>
<tr>
<th>Rated Power</th>
<th>Input Voltage Range</th>
<th>Current Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC 12V</td>
<td>DC 11V~13 V</td>
<td>0.8A</td>
</tr>
</tbody>
</table>

RS-485 Communication
- For PTZ control, connect this line to keyboard and DVR. To control multiple cameras at the same time, RS-485 communication lines of them is connected in parallel as shown below.
Video Connection
- Connect with BNC coaxial cable.

Alarm input

<table>
<thead>
<tr>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN COM</td>
<td>Common point for alarm</td>
</tr>
<tr>
<td>IN1-, IN2-, IN3-, IN4-</td>
<td>Alarm input signal</td>
</tr>
</tbody>
</table>

Speed dome can detect the status of alarm input (NO or NC) automatically.

Normal Open and Normal Close define as below

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Open</td>
<td>No contact between alarm input and common point</td>
</tr>
<tr>
<td>Normal Close</td>
<td>Keeping contact between alarm input and common point</td>
</tr>
</tbody>
</table>
Check points before operation

- Before power is applied, please check the cables carefully.
- The camera ID of the controller must be identical to that of the target camera. The camera ID can be checked by reading DIP switch of the camera.
- If your controller supports multi-protocols, the protocol must be changed to match to that of the camera.
- If you changed camera protocol by changing DIP switch, the change will be effective after you reboot the camera.
- Since the operation method can be different for each controller available, refer to the manual for your controller if camera can not be controlled properly. The operation of this manual is based on the standard Pelco® Controller.

Preset and pattern Function Pre-Check

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

<table>
<thead>
<tr>
<th>Function</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Go Preset&gt;</td>
<td>Press [Call] input [Preset number] and press [Enter]</td>
</tr>
<tr>
<td>&lt;Set Preset&gt;</td>
<td>Press [Preset] input [Preset number] and press [Enter]</td>
</tr>
<tr>
<td>&lt;Run Pattern&gt;</td>
<td>Press [Call] input [Pattern number] and press [Enter]</td>
</tr>
<tr>
<td>&lt;Set Pattern&gt;</td>
<td>Please refer to the pattern setup, turn to “Pattern Setup”</td>
</tr>
</tbody>
</table>

- If controller or DVR has no pattern button or function, use shortcut keys with preset numbers. For more information, refer to “Reserved Preset” in this manual.
Starting OSD Menu

- Function: Using the OSD menu, Preset, Pattern, Swing, Group and Alarm Input function can be configured for each application.

- Enter Menu: Press <Call> + Preset Number [95] +<Enter>

Reserved Preset

- Description: Some Preset numbers are reserved to special functions.

- Function:
  - <Call> [95]<Enter> : Enters into OSD menu
  - <Call>[131~134]<Enter> : Runs Pattern Function 1~4
  - <Call>[141~148]<Enter> : Runs Swing Function 1~8
  - <Call>[151~158]<Enter> : Runs Group Function 1~8
  - <Call>[200]<Enter> : Runs the minimum angle of Horizontal scanning.
  - <Call>[160]<Enter> : Sets Alarm ON
  - <Call>[161]<Enter> : Sets Alarm OFF
  - <Call>[170]<Enter> : Sets Camera BLC Mode to OFF
  - <Call>[171]<Enter> : Sets Camera BLC Mode to ON
  - <Call>[174]<Enter> : Sets Camera Focus Mode to AUTO
  - <Call>[175]<Enter> : Sets Camera Focus Mode to Manual
  - <Call>[176]<Enter> : Sets Camera Focus Mode to SEMI-AUTO
  - <Call>[177]<Enter> : Sets Day & Night Mode to AUTO
  - <Call>[178]<Enter> : Sets Day & Night Mode to NIGHT
  - <Call>[179]<Enter> : Sets Day & Night Mode to DAY
  - <Call>[190]<Enter> : Sets OSD Display Mode to AUTO
    (Except Privacy Mask)
  - <Call>[191]<Enter> : Sets OSD Display Mode to OFF (Except Privacy Mask)
  - <Call>[192]<Enter> : Sets OSD Display Mode to ON (Except Privacy Mask)
  - <Call>[193]<Enter> : Sets all Privacy Mask Display to OFF
  - <Call>[194]<Enter> : Sets all Privacy Mask Display to ON
Preset

- Function: Max 127 positions can be stored as Preset position. The Preset number can be assigned from 1 to 128, but 95 is reserved for starting OSD menu.

- Set Preset: <Preset>[1~128] <Enter> (Except [95])

- Run Preset: <Call>[1~128] <Enter> (Except [95])

- Delete Preset: To delete Preset, use OSD menu.

\[<\text{DOME CAMERA SETUP}> \rightarrow <\text{PRESET SETUP}> \rightarrow <\text{CLR PRESET}>\]

Swing

- Function: By using Swing function, you can make camera to move between 2 Preset positions repeatedly. When swing function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW (Clockwise) direction. Then camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise)direction.

\[\begin{align*}
\text{START POSITION} & \quad \text{END POSITION} \\
\end{align*}\]

Speed can be set up from 1°/sec to 180°/sec.

- Set Preset: To set Swing, use OSD menu.

\[<\text{DOME CAMERA SETUP}> \rightarrow <\text{SWING SETUP}>\]

- Run Swing: Ex: Run the first swing <Call>[141]<Enter>

Ex: Run the second swing <Call>[142]<Enter>

- Delete Swing: To delete Swing, use OSD menu.

\[<\text{DOME CAMERA SETUP}> \rightarrow <\text{SWING SETUP}> \rightarrow <\text{CLEAR SWING}>\]
### Pattern

**Function** Pattern Function is that a camera memorizes the path (mostly curve path) by joystick of controller for assigned time and revives the path exactly as it memorized.

4 Patterns are available and Maximum 150~180S or 500 communication commands can be stored in a pattern.

**Setup Pattern**  
&DGMSSET &PATTERN &EDIT &PATTERN>

- Pattern editing screen is displayed as bellow.

- Movement by Joystick and preset movement can be memorized in a pattern.
- The recording time will be shown on the right-down corner (Max 150~180S or 500 commands)
- To save the recording, press OPEN key to save.

**Run Pattern**  
Ex) Run Pattern 1: <Call>[131]<Enter>
Ex) Run Pattern 2: <Call>[132]<Enter>

**Delete Pattern** Use OSD menu to delete Pattern
&DGMSSET &PATTERN &CLR &PATTERN>

---

Mini Speed Dome Camera Introduction Manual 15
**Group**

- **Function**
  
  The group function allows running sequence of Presets Max 8 group can be stored.
  
  Each group can have max 16 preset can be set up in Group setup.
  
  Dwell time between actions can be set up also.

- **Set Group**
  
  Use OSD Menu to create a Group

- **Run Group**
  
  Ex) Run Group 1: <Call>[151]<Enter>
  
  Ex) Run Group 2: <Call>[152]<Enter>

- **Delete Group**
  
  Use OSD Menu to delete

  &lt;DOME CAMERA SETUP&gt;&lt;GROUP SETUP&gt;&lt;CLR GROUP&gt;
Other Functions

● Power Up Action

This function enables to resume the last action executed before power down. 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 (90º), zoom module camera keep moving to opposite tilt direction (180º) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction (90º), images should be reversed automatically.

● Parking Action

This function enables to locate the camera to specific position automatically if operator doesn't operate the controller for a while. The Park Time can be defined as an interval from 3 to 240 seconds.

● Home Place

This function enables to adjust the camera in the best condition as the Home Place.

● Privacy Zone Mask

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 Spherical Coordinates system, powerful Privacy Zone Mask function is possible.

● Global/Local Image Setup

WB(White Balance) and AE (Auto Exposure) and Brightness (1 to 100) can be set up independently for each.

● SemiAuto Focus

This mode exchanges focus mode automatically 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 memoried in each preset in advance and camera calls focus data in correspondence with presets as soon as camera arrives at a preset. It should shorten time to get focuses. Focus mode changes to Auto Focus mode automatically when jog operation starts.
OSD Display of Main Screen

- **P/T/Z Information**: Current Pan/Tilt angle in degree and a compass direction.
- **Camera ID**: Current Camera ID (Address).
- **Action Title**: Following are possible Action-Titles and their meaning.
  - "SET PRESET xxx" When Preset xxx is stored
  - "GOTO PRESET xxx" When camera reach to Preset xxx
  - "RUN PATTERN x" When Pattern x is in action
  - "RUN SWG x / GROUP xxx" When Swing is in action
  - "xxxxxx ERROR xxx" When undefined function is called to run
- **Action Label**: The Label stored for specific Preset and Pattern and Group.
- **Alarm Input**: <for External Mini Model>
  This information shows current state of Alarm Input. 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
  Ex) Point 2 & 3 of inputs are ON, OSD will show as below

  ![A: -23-](image)

- **Temperature**: Shows Show current speed dome internal temperature.
General Rules of Key Operation for Menu

- The menu items surrounded with ( ) always has its sub menu.
- For all menu level, to go into sub menu, press OPEN key or use joystick in the right.
- To go to up-one-level menu, press CLOSE key or use joystick in the left.
- To move from items to item in the menu, use joystick in the Up/Down.
- To change a value of an item, use Up/Down of the joystick in the controller.
- Press OPEN key or use joystick in the right to save values and Press CLOSE key or use joystick in the left to cancel Values.

Main Menu

SPEED DOME CAMERA
<SYSTEM INFORMATION>
<DISPLAY SETUP>
<DOME CAMERA SETUP>
<ALARM SETUP>
<SYSTEM INITIALIZE>
EXIT
UP AND DOWN TO SELECT
OPEN ENTER, CLOSE EXIT

- System Information Displays system information and configuration.
- Display Setup Enable/Disable of OSD display on Main Screen
- Dome Camera Setup Configure various functions of this camera.
- Alarm Setup Configure alarm action.
- System Initialize Initializes system configuration and sets all data to factory default configuration
### 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.

- Camera ID: [ON/OFF]
- PTZ Information: [ON/OFF/AUTO]
- Action Title: [ON/OFF/AUTO]
- Alarm Input: [ON/OFF/AUTO]
- Temperature: [ON/OFF/AUTO]

### Compass Direction Setup

Set North to assign compass direction as criteria. Move camera and press OPEN button to save.
Privacy Zone Mask Setup

<DISPLAY SETUP>→<PRIVACY ZONE>

Select area in image to mask.

- **Mask No** [1~8]
  
  Select Mask number. If the selected mask has already data, camera moves as it was set. Otherwise, “UNDEFINED” will be displayed under “Mask No”.

- **Display** [ON/OFF]
  
  Sets if camera makes mask shows or not on images

- **Clear Mask** [CANCEL/OK]
  
  Deletes data in the selected mask NO.

Privacy Zone Area Setup

<DISPLAY SETUP>→<PRIVACY ZONE>→<EDIT MASK>

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

- **By Pressing “OPEN” to enter, then press “OPEN” again,** the menu to adjust mask size will be displayed.

Privacy Zone Size Adjustment

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

- ⤷ ⤹ (TILT/WIDE) Adjusts mask width.

- ▲ ▼ (FAR/NEAR) Adjusts mask height.
Camera Setup

Setup the general functions of zoom camera module

- **Focus Mode** [AUTO/MANUAL/SEMIAUTO]
  Sets camera focus mode.

  - **SEMI AUTO Mode**
    This mode exchanges 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. 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.

- **IRIS Mode** [AUTO/MANUAL/SEMIAUTO]
  Sets camera IRIS mode.

- **Day/Night** [AUTO/DAY/NIGHT]
  Sets camera day or night mode.

- **Digital Zoom** [ON/OFF]
  Sets digital zoom function to ON/OFF. If this is set to OFF, optical zoom function runs but zoom function stops at the end of optical zoom magnification.

White Balance Setup

In Manual mode, Red and Blue level can be set up manually.

- **WB Mode** [AUTO/MANUAL]

- **Red Adjust** [50 ~ 200]

- **Blue Adjust** [50 ~ 200]
**Auto Exposure Setup**

<Dome Camera Setup>→<Camera Setup>

→<Auto Exposure Setup>

- **Backlight** [HIGH/NORMAL/OFF]
  
  Sets Backlight Compensation

- **Brightness** [0~100]
  
  Adjusts brightness of images. Iris, Shutter Speed and Gain are adjusted automatically in correspondence with this value.

- **Shutter** [DEFAULT/MANUAL/A.FLK]
  
  If Shutter Speed is set to A. Flicker, to remove Flicker, Shutter Speed should be set to 1/100 secretary.

  for NTSC and 1/120 for PAL.

- **AGC** [HIGH/MIDDLE/LOW/OFF]
  
  Enhances image brightness automatically in case that luminance level of image signal is too low.

- **SSNR** [OFF/LOW/MIDDLE/HIGH]
  
  Enhances images by deducting noises when gain level of images is too high.

- **SENS-UP** [ON/OFF]
  
  Activates Slow Shutter function when luminance of Image (signal) is too dark.

  It is possible to set up the maximum number of frames piled up one on another by Slow Shutter function.

- **SENS-UP** [0~11]
  
  The user can configure Sens-Up limit by increasing/decreasing the shutter speed.
### Motion Setup

Setup the general functions of Pan/Tilt motions.

- **Motion Lock** [ON/OFF]
  Group. It is possible only to run those functions. To set up and delete those functions, enter into OSD menu.

- **Power Up Action** [NORTH/GROUP/PATTERN/SWING]
  Refer to "Other Functions" section.

- **Auto Flip** [ON/OFF]
  Refer to "Other Functions" section.

- **H.REVERSE** [ON/OFF]
  Flip horizontal

- **Jog Direction** [INVERSE/NORMAL]
  If you set this to 'Inverse', the view in the screen is moving same direction with jog tilting. If 'Normal' is selected, the view in the screen is moving reversely.

- **Jog Max Speed** [1°/sec–300°/sec]
  Sets maximum jog speed. Jog speed is inversely proportional to zoom magnification. As zoom magnification goes up, pan/tilt speed goes down

- **Freeze 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

### <DOME CAMERA SETUP>\(\rightarrow\)<MOTION SETUP>\(\rightarrow\)<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".

- **Wait Time** [003~240S]
  The time is displayed with "XXX S" format and you can change this joystick or keyboard.

- **Park Action** [NOTHING/PATTERN/SWING/GROUP]
  Ex) If you set park action is HOME, the camera will move to home position when there is no PTZ command during assigned "Wait Time".

### Preset Setup

### <DOME CAMERA SETUP>\(\rightarrow\)<PRESET SETUP>

- **Preset Number** [1~128] (Except [95])
  If a selected preset is already defined, camera moves to pre-defined position. If a selected preset is not defined. "UNDEFINED" shows on monitor.

- **Clear Preset** [CANCEL/OK]
  Delete current Preset data (include edit label)

- **Clear all Preset** [CANCEL/OK]
  Delete all current Preset data (include edit label)

- **Edit Scene**
  Redefine current Preset scene position Using Joystick move camera to desired position, By pressing OPEN to save current PTZ data.

- **Edit Label**
  Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, “?” cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor. After inputting, press “OPEN” key to save and exit the setting.
Swing Setup

Swing Number [1~8]
Selects Swing number to edit.

Start Position
Set up the 2 position for Swing function if a selected preset is not defined, "UNDEFINED" will be displayed.

When swing function runs, camera moves form the preset assigned as the start point to the preset assigned as the end point in CW (Clockwise) direction. The camera moves from preset assigned as the start point to preset assigned as the end point CCW (Counterclockwise) direction. Then camera moves from the preset assigned as the endpoint to the preset assigned as the start point in CCW (Counterclockwise) direction.

Swing Speed [001~180]
Sets Swing speed from 001 to 180.

Clear Swing [CANCEL/OK]
Deletes current Swing data

Run Swing Run current Swing
Pattern Setup

- Pattern Number [1~4]
  Selects Pattern number to edit.
  If a selected pattern number is not defined, "UNDEFINED" will be displayed under selected pattern number.

- Clear Pattern [CANCEL/OK]
  Deletes data in current pattern

- Label Display [ON/OFF]

- Edit Pattern [OK/CANCEL]
  OK: Edit the pattern function
  Cancel: Don't execute the pattern function.

Edit Pattern

- Edit Pattern
  Starts editing pattern. By using Joystick, move to start position with appropriate zoom. To start pattern recording, press OPEN key. To exit this menu, press CLOSE key. Move camera with joystick of controller or run preset function to memorize the path (mostly curve path) in a selected pattern. Maximum 500 commands can be stored in a pattern.

- Edit Label
  Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, "?" cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor. After inputting, press "OPEN" key to save and exit the setting.

- Run Pattern
  Run current Pattern
### Group Setup

**<GROUP SETUP>**
- **GROUP NO.:** 001
- **STATE:** DEFINED
- **CLR GROUP:** CANCEL
- **LABEL DISPLAY:** OFF
- **<EDIT GROUP>**
- **<EDIT LABEL>**
- **RUN GROUP**
- **BACK**
- **EXIT**

**UP AND DOWN TO SELECT**
**OPEN ENTER / CLOSE EXIT**

1. **Clear Group [CANCEL/OK]**
   - Deletes data in current Group

2. **Edit Group**
   - Starts editing Group.

3. **Edit Label**
   - Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, “?” cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor. After inputting, press “OPEN” key to save and exit the setting.

4. **Run Group**
   - Run current Group

---

### Edit Group

**<EDIT GROUP>**

<table>
<thead>
<tr>
<th>ID</th>
<th>PRESET</th>
<th>SPEED</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>2</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>3</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>4</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>5</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>6</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>7</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
<tr>
<td>8</td>
<td>000</td>
<td>240</td>
<td>005S</td>
</tr>
</tbody>
</table>

**UP AND DOWN TO SELECT**
**OPEN ENTER / CLOSE EXIT**

1. **<Dome Camera Setup>→<Group Setup>→<Edit Group>**
   - **Group Number [1~8]**
     - Selects Group number to edit.
     - If a selected Group number is not defined, “UNDEFINED” will be displayed under selected Group number.

2. **Clear Group [CANCEL/OK]**
   - Deletes data in current Group

3. **Edit Group**
   - Starts editing Group.

4. **Edit Label**
   - Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, “?” cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor. After inputting, press “OPEN” key to save and exit the setting.

5. **Run Group**
   - Run current Group

---

1. Press OPEN key to start Tour setup.

2. Note that MAX. 16 “Presets” are allowed in a Tour. Move cursor up/down and press OPEN key to set up.

3. Set up Action, Dwell time and Speed is optional. Time value from displayed in reverse. Move cursor Left/Right to select items and 3 sec To 240 sec. Speed value from 50 to 300. Move cursor Left/Right to select items and move cursor Up/Down to change each value.
## Alarm Input Setup

(For External mini PTZ Dome only)

- **<DOME CAMERA SETUP>** → **<ALARM SETUP>**
  - **ALARM ENABLE** [ON/OFF]
  - **ALARM NO.** [001~004]
  - **RELEASE ACT** [NOTHING]
  - **RELEASE TIME** [00S]
  - **START FAN** [050°C]
  - **START HEATER** [001°C]

**UP AND DOWN TO SELECT**

**OPEN ENTER, CLOSE EXIT**

- **Alarm Enable** [ON/OFF]
  - Establish the current passage reports to the police open of function with pass

- **Alarm No.** [001~004]
  - Select alarm channel number

- **Alarm x Action** [NOTHING/PRESET/PATTERN/SWING/GROUP]
  - Assign counteraction Preset position to each Alarm input.

- **Release Time** [001~240 S]
  - Alarm output time is postponed to a certain time, adjustable range is 0 sec t 240 sec.

- **Start Fan** [20~60°C]
  - Ex) If set start fan is 30°C, the dome will start fan when above 30°C, and it will stop to fan when temperature is lower than set value 5°C.

- **Start Heater** [-20~10°C]
  - Ex) If set start fan is -10°C, the dome will start heat when above -10°C, and it will stop to heat when temperature is higher than set value 5°C.
## System Initialize

- **Clear All Data** Deletes all configuration data such as display, camera, motion setup and so on.
- **Clear Display Set** Initializes Display Configuration
- **Clear Camera Set** Initializes Camera Configuration
- **Clear Motion Set** Initializes Motion Configuration
- **Clear Edit Data** Deletes Preset Date, Swing Data, Pattern Data and Group Data
- **Reboot Camera** Reboots Zoom Camera module
- **Reboot System** Reboots Speed Dome Camera

### Initial Configuration Table

<table>
<thead>
<tr>
<th>Display Configuration</th>
<th>Camera Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Camera ID</strong> ON</td>
<td><strong>Focus Mode</strong> SemiAuto to</td>
</tr>
<tr>
<td><strong>PTZ Information</strong> AUTO</td>
<td><strong>Iris Mode</strong> SemiAuto to</td>
</tr>
<tr>
<td><strong>Action Title</strong> AUTO</td>
<td><strong>Digital Zoom</strong> OFF</td>
</tr>
<tr>
<td><strong>Alarm Input</strong> AUTO</td>
<td><strong>Day &amp; Night</strong> AUTO</td>
</tr>
<tr>
<td><strong>Temperature</strong> AUTO</td>
<td><strong>White Balance</strong> AUTO</td>
</tr>
<tr>
<td><strong>&lt;Set North Direction&gt;</strong></td>
<td><strong>Backlight</strong> OFF</td>
</tr>
<tr>
<td><strong>&lt;Privacy Zone&gt;</strong></td>
<td><strong>Brightness</strong> 50</td>
</tr>
<tr>
<td><strong>Focus Mode</strong></td>
<td><strong>Shutter</strong> DEFAULT</td>
</tr>
<tr>
<td><strong>Iris Mode</strong></td>
<td><strong>AGC</strong> HIGH</td>
</tr>
<tr>
<td><strong>Digital Zoom</strong></td>
<td><strong>SSNR</strong> MID DLE</td>
</tr>
<tr>
<td><strong>Day &amp; Night</strong></td>
<td><strong>SENS-UP</strong> ON</td>
</tr>
<tr>
<td><strong>White Balance</strong></td>
<td><strong>User Edit Data</strong></td>
</tr>
<tr>
<td><strong>Backlight</strong> OFF</td>
<td><strong>Preset 1~128</strong> Undefined</td>
</tr>
<tr>
<td><strong>Brightness</strong> 50</td>
<td><strong>Swing 1~8</strong> Undefined</td>
</tr>
<tr>
<td><strong>Shutter</strong> DEFAULT</td>
<td><strong>Pattern 1~4</strong> Undefined</td>
</tr>
<tr>
<td><strong>AGC</strong> HIGH</td>
<td><strong>Group 1~8</strong> Undefined</td>
</tr>
<tr>
<td><strong>SSNR</strong> MID DLE</td>
<td><strong>SENS-UP</strong> ON</td>
</tr>
<tr>
<td>Specifications</td>
<td>Mini Speed Dome Camera Introduction Manual</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>Mini / External mini</td>
</tr>
<tr>
<td><strong>Video Signal System</strong></td>
<td>NTSC / PAL</td>
</tr>
<tr>
<td><strong>CCD</strong></td>
<td>1/4&quot; Interline Transfer CCD</td>
</tr>
<tr>
<td><strong>Max. Pixels</strong></td>
<td>NTSC: 811(H)×508(V)410K / PAL: 795(H)×596(V)470K</td>
</tr>
<tr>
<td><strong>Effective Pixels</strong></td>
<td>NTSC: 768(H)×494(V)380K / PAL: 752(H)×582(V)440K</td>
</tr>
<tr>
<td><strong>Horizontal Res.</strong></td>
<td>600 TV Line(Color), 680 TV Line(B/W)</td>
</tr>
<tr>
<td><strong>S/N</strong></td>
<td>Ration 52 dB (AGC Off)</td>
</tr>
<tr>
<td><strong>Zoom</strong></td>
<td>x12 Optical zoom, x16 Digital Zoom</td>
</tr>
<tr>
<td><strong>Focal length</strong></td>
<td>f=3.94 ~ 46.05 mm (F1.67~1.88)</td>
</tr>
<tr>
<td><strong>Min. Illumination</strong></td>
<td>0.2 Lux /F1.67(50 IRE)Color / 0.02 Lux F1.67 (50 IRE)B/W</td>
</tr>
<tr>
<td><strong>Day &amp; Night</strong></td>
<td>Auto / Day(Color)/ Night(ICR, B/W)</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td>Auto / Manual / Semi Auto</td>
</tr>
<tr>
<td><strong>Iris</strong></td>
<td>Auto / Manual / Semi Auto</td>
</tr>
<tr>
<td><strong>Shutter</strong></td>
<td>Pal: x128 ~ 1/120000 sec</td>
</tr>
<tr>
<td><strong>AGC</strong></td>
<td>Low / Middle / High / Off</td>
</tr>
<tr>
<td><strong>White Balance</strong></td>
<td>Auto / Manual(Red, Blue Gain Adjustable)</td>
</tr>
<tr>
<td><strong>BLC</strong></td>
<td>Normal / High / Off</td>
</tr>
<tr>
<td><strong>SSNR UP</strong></td>
<td>ON/OFF</td>
</tr>
<tr>
<td><strong>SSNR</strong></td>
<td>Low / Middle / High / Off</td>
</tr>
<tr>
<td><strong>SSNR Pan/Tilt Speed</strong></td>
<td>Pan : 360°(Endless)</td>
</tr>
<tr>
<td></td>
<td>Tilt : 180°(Auto-Flip), 95°(Normal)</td>
</tr>
<tr>
<td><strong>Preset</strong></td>
<td>Go to Preset Speed : 1~300°/sec</td>
</tr>
<tr>
<td></td>
<td>Manual : 0.05~300°/sec</td>
</tr>
<tr>
<td></td>
<td>127 Preset(Label)</td>
</tr>
<tr>
<td><strong>Pattern</strong></td>
<td>4 Pattern, 1200 commands /Pattern</td>
</tr>
<tr>
<td><strong>Swing</strong></td>
<td>8 Swing/Speed:1~180/sec</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>8 Group (20 action entities per Group)</td>
</tr>
<tr>
<td><strong>Direction</strong></td>
<td>INVERSE / NORMAL</td>
</tr>
<tr>
<td><strong>Other Functions</strong></td>
<td>Auto flip, Auto Parking, Power Up Action etc.</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>RS-485(9600, 4800, 2400 Select table or change from OSD menu)</td>
</tr>
<tr>
<td><strong>Protocol</strong></td>
<td>Pelco-D, Pelco-P, Auto identify</td>
</tr>
<tr>
<td><strong>Privacy Zone</strong></td>
<td>8 Zone</td>
</tr>
<tr>
<td><strong>Alarm Input</strong></td>
<td>No / 4 Input</td>
</tr>
<tr>
<td><strong>OSD</strong></td>
<td>Menu / PTZ information etc</td>
</tr>
<tr>
<td><strong>Fan and Heater</strong></td>
<td>No / Yes</td>
</tr>
<tr>
<td><strong>Rated Power</strong></td>
<td>DC 12V / 0.8A / DC 12V / 1.1A</td>
</tr>
<tr>
<td><strong>Dimension</strong></td>
<td>Ø128 x 187(H)mm / Ø190 x 144(H)mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>about 2.4Kg / about 2.6Kg</td>
</tr>
<tr>
<td><strong>Operating Temp.</strong></td>
<td>0 °C ~ 40 °C / -30 °C ~ 50 °C</td>
</tr>
</tbody>
</table>
## Dimension

- **Ceiling Bracket**
  - Ø 128 mm
  - Ø 107.7 mm
  - Ø 127 mm

- **Pendant Bracket**
  - 223 mm
  - 400 mm

- **ARM Type Wall Mount Bracket**
  - 200.7 mm
  - 204.4 mm
  - 118 mm
  - 136 mm

- **L Type Wall Mount Bracket**
  - 130 mm
  - 190 mm
  - 180 mm
  - 140 mm

*Unit (mm)*