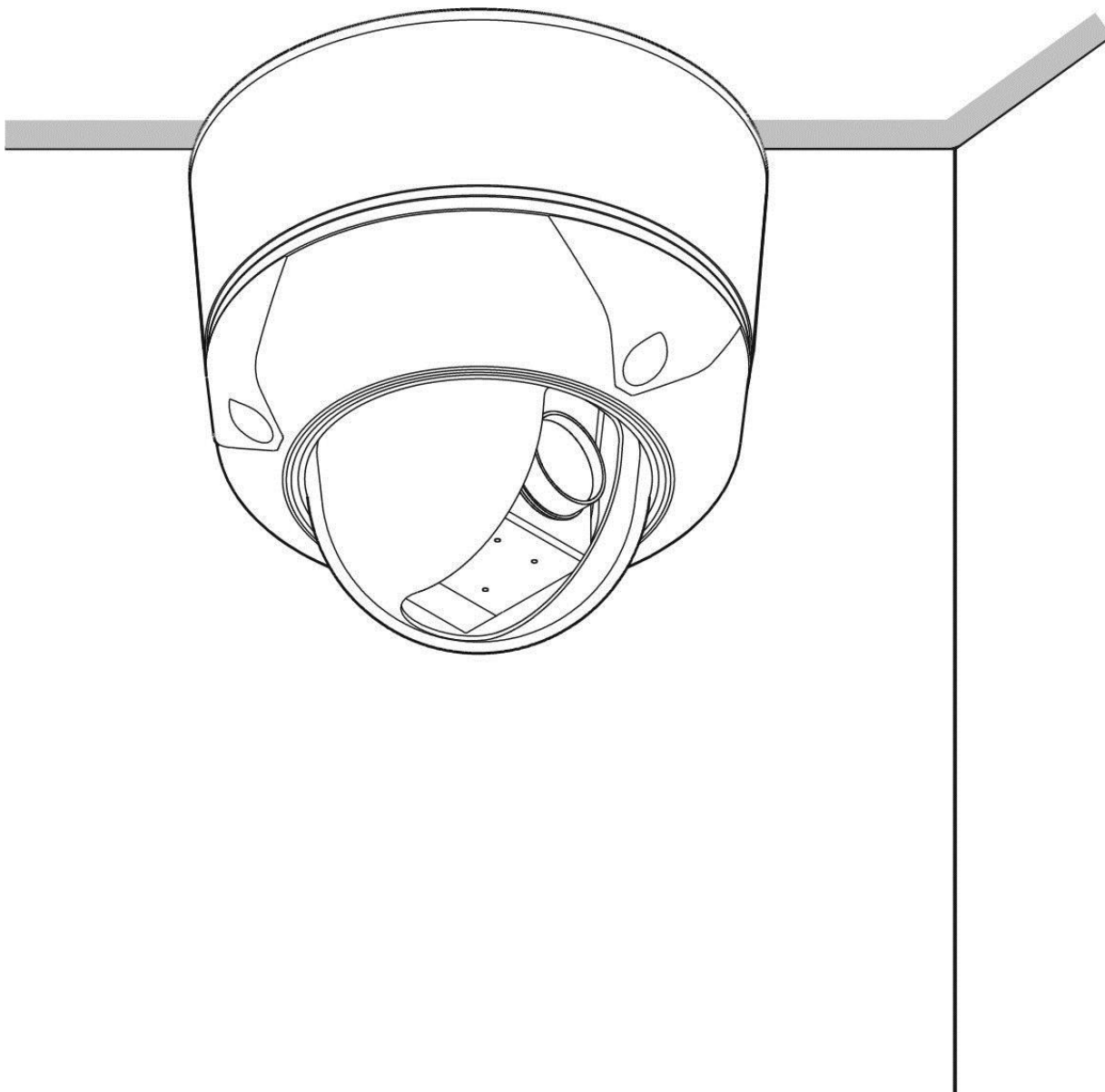


**MINI SPEED DOME CAMERA**

**12X Mini Speed Dome Camera  
Instruction Manual**



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## WARNINGS & CAUTION

If you fail to read this information and handle the product incorrectly, death or serious injury may occur.

The unit should be installed by the trained personnel

Switch off immediately if the product emits smoke or abnormal heat.

Never install the product in area exposed to water, oil or gas.

Never install the product on a ceiling that cannot hold its weight.

Never touch the power cord with wet hands.

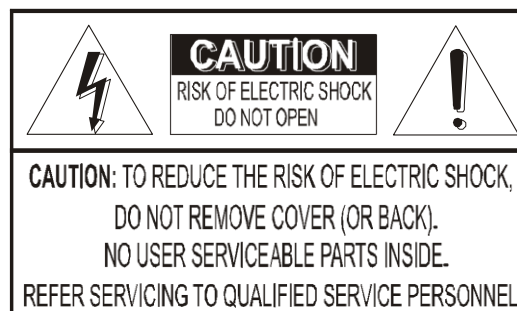
Clean only with dry cloth.

Never install the product in extreme high or low temperature.

Ensure that the product is not subjected to strong impacts and vibration

Never expose the camera to direct sunlight

Never touch the front glass of the product.



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

### Warning

**Never manually move the pan/tilt assembly. Serious and permanent damage will occur**

### What's in the Box ?

1. Camera
2. Screws ( Ø4x16 screw 5EA )
3. Terminal block 5pin 2EA (DC Type)
4. Terminal block 5pin 1EA , 6pin 1EA (AC 12V Type)
5. Manual
6. Screw Cap (1 EA)

## **GENERAL FEATURES**

---

### **12X Zoom Mini Speed Dome**

12X Optical Zoom with 16X digital zoom

### **±0.05° dome system accuracy with full micro step**

With 0.05° positional accuracy, the camera provides excellent sensitive and delicate control. This is achieved by full micro step motors and twin gear system

### **360° Endless Rotation**

12X mini speed dome is capable of endless rotation of 360 degrees

### **Compensation function: preset position**

The function provides absolute preset position even in difficult applications where vibration and strong winds may otherwise affect dome performance.

### **Over 200°/Sec Preset Speed**

The 360° full pan function moves through a maximum of 200°/sec., enabling you to quickly pinpoint the spot you want to watch. Tilt speed is also driven at 200°/sec on preset seek.

### **Polarity Protection of Power (DC12V)**

This protection function prevents damage to the domes power board if the dc supply is connected with incorrect polarity.

### **Filter changeable True Day/Night**

Top quality images are assured under day and night conditions due to the true day / night camera with IR cut filter. Low light sensitivity is further increased by the cameras digital slow shutter.

### **Indoor / Outdoor applications**

The domes small size and construction to IP 66 ingress protection rating make it ideal for internal or external applications.

### **Quick Operation Keys**

This camera provides quick function keys to allow control by most keyboards and DVRs that have Pelco protocol support.

### **Various Surveillance Functions**

**Auto Scan** repeats pan and tilt between two preset positions with different speed and dwell time.

**8 Group Tour** up to 8 Programmable Group tours are available with each group is consisting of up to 60 preset steps with different speed and dwell times along with 16 character titling.

**165 Preset positions** up to 165 programmable preset positions are available with 16 character title.

**8 Patterns** up to 8 programmable user-defined patterns are available with 16 character title. Each can be up to 50 seconds long, giving a total of 400 seconds.

**8 Sectors** up to 8 programmable user-defined sectors are available with 16 character titling.

**4 Privacy Masking Zones** up to 4 programmable user-defined privacy masking zones are available.

**4 Alarm input** up to 4 alarms can be wired to the dome head and can activate presets, tours, or patterns.

### **150°/S – Manual speed**

The dome provides up to 150°/sec of manual speed and is also adjustable from 100°/sec to 150°/sec in 10°/sec increments.

### **1/4" Sony Super HAD CCD**

Equipped with Sony Super HAD CCD technology, the camera provides excellent sensitivity and low smear levels.

### **Intelligent Pan/Tilt Controlling**

Intelligent Pan/Tilt function is continually increases or decreases pan and tilt speeds in proportion to zoom.

### **Dome Housing**

The elegantly designed aluminum body and Poly Carbonate dome cover provide a very solid product for a wide range of applications.

### **Password Protection**

It is possible to password protect all dome settings to prevent unauthorized changes.

## NAMES OF EACH PART

---

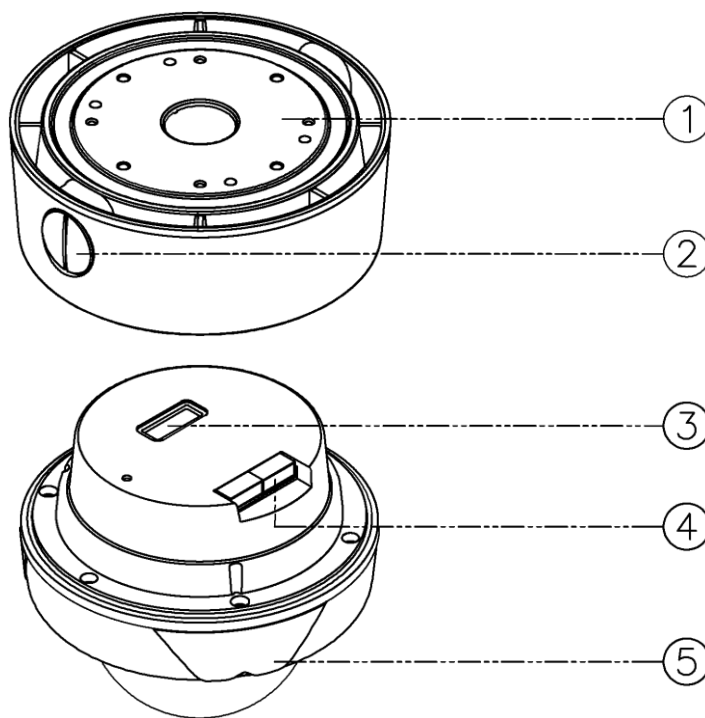


FIG. 1

1. Surface Mount Adaptor
2. Cap Screw (PT3/4, 1EA)
3. Dip Switch
4. Terminal Block
5. Main body

# INSTALLATION

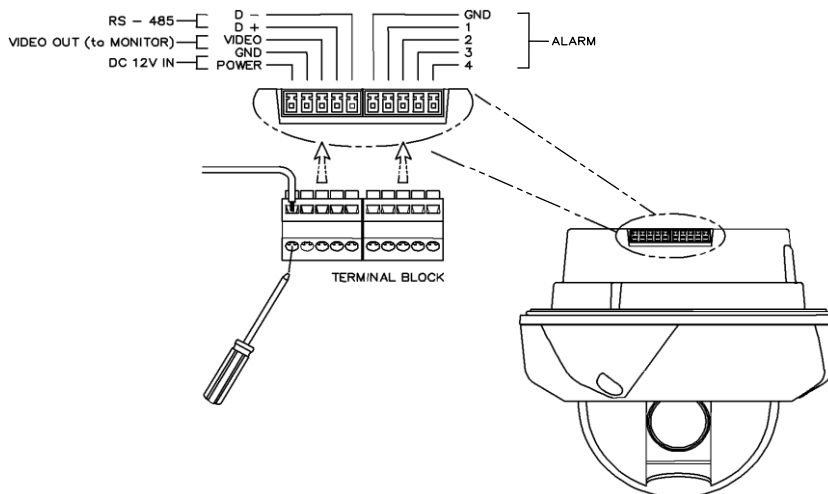
## A. CONNECTIONS

### A-1

1. Loose the screws on the domes cover and remove it from the base. (Screws won't be removed)
2. Loosen the screws which connect mount cover and Main base and separate dome cover from the main base. (These are captive screws that do not remove)
3. Connect power to Power and GND.
4. Connect video to video and GND.
5. Connect communication cable to RS-485 connectors.
6. Connect alarm common cables to GND. Connect the alarm input cables to their relevant terminal (1-4) Alarm polarity can be programmed as N/O or N/C

● **Do not over tighten screws. This can cause damage.**

#### ■ 12VDC type



#### ■ 24VAC type

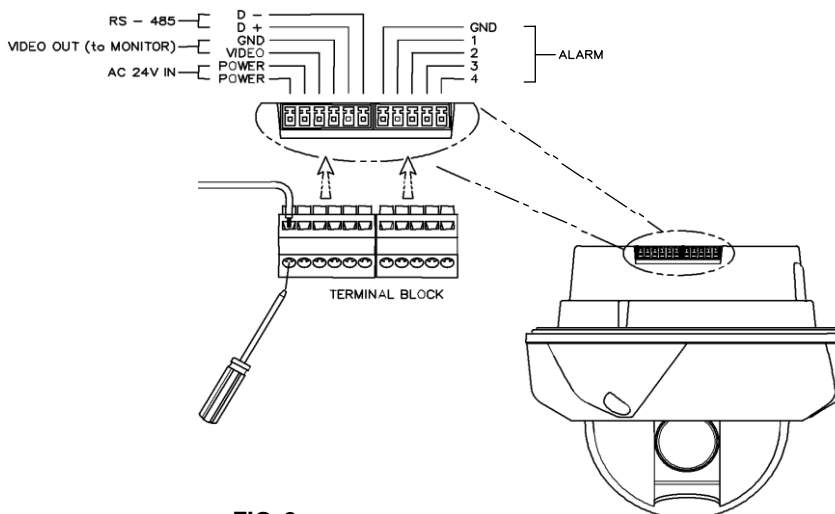


FIG. 2

# INSTALLATION

## B. CEILING MOUNT TYPE

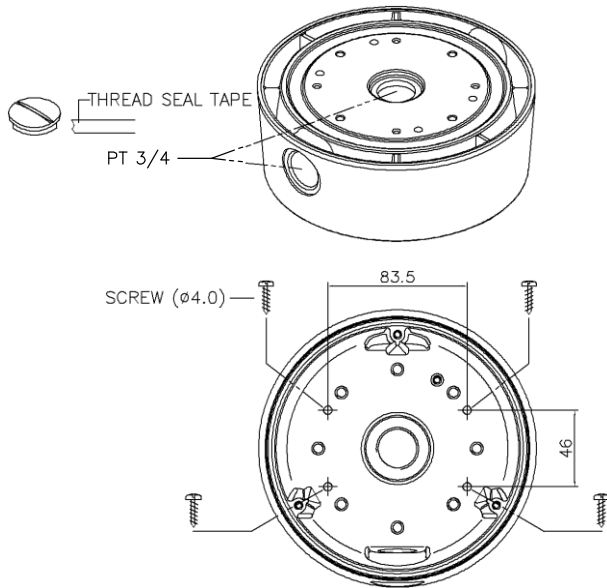


FIG. 3

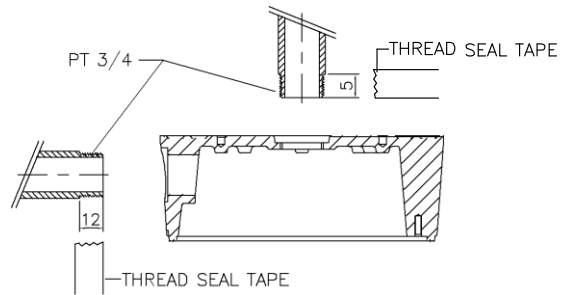


FIG. 4

1. Fix the surface mount adaptor with 4pcs of screws on the place where you want to install. (FIG. 3)  
**Caution )** Be sure to use seal tape for 3/4" cap screw to prevent a water leakage.
2. When you use pipe, please note the standard size of pipe. (FIG.4)  
**Caution )** Be sure to use seal tape for pipe screw to prevent a water leakage.
3. Re-assemble the dome.

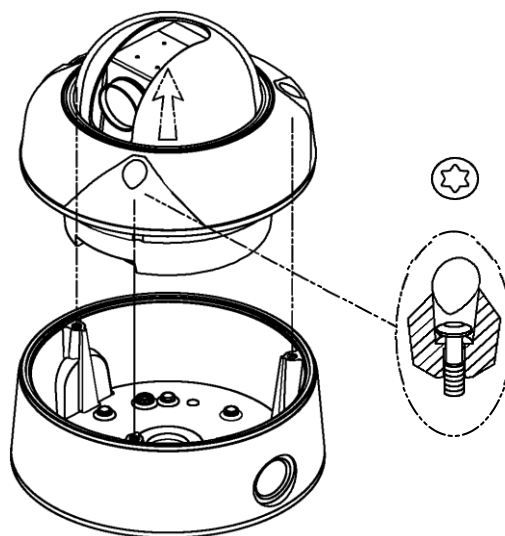


FIG. 5

# INSTALLATION

## C. EMBEDDED MOUNT TYPE

### Contents

- Embedded mount bracket 1ea
- Decoration cover 1ea
- Screw – M3.0 x 6 5ea
- Holder 3ea
- Safety wire 2ea
- Screw - Ø4.0 x 16 1ea

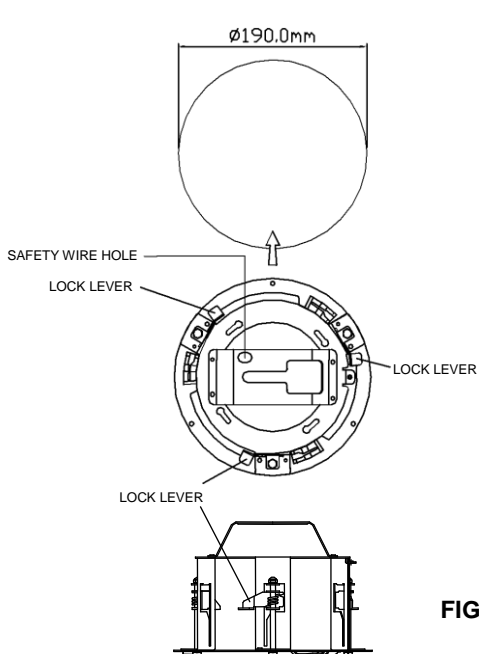


FIG. 6

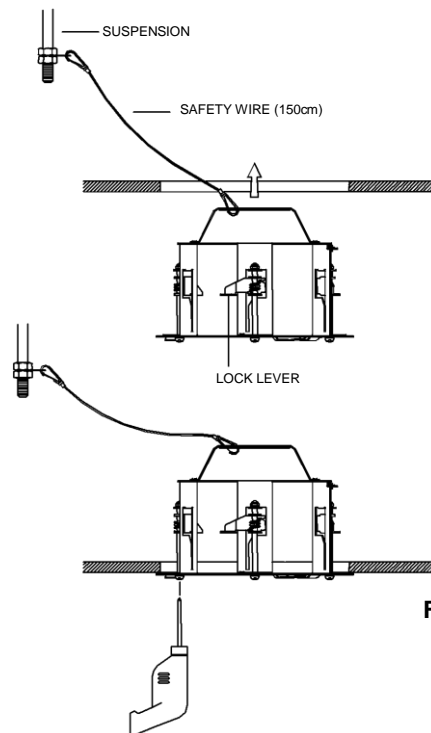


FIG. 7

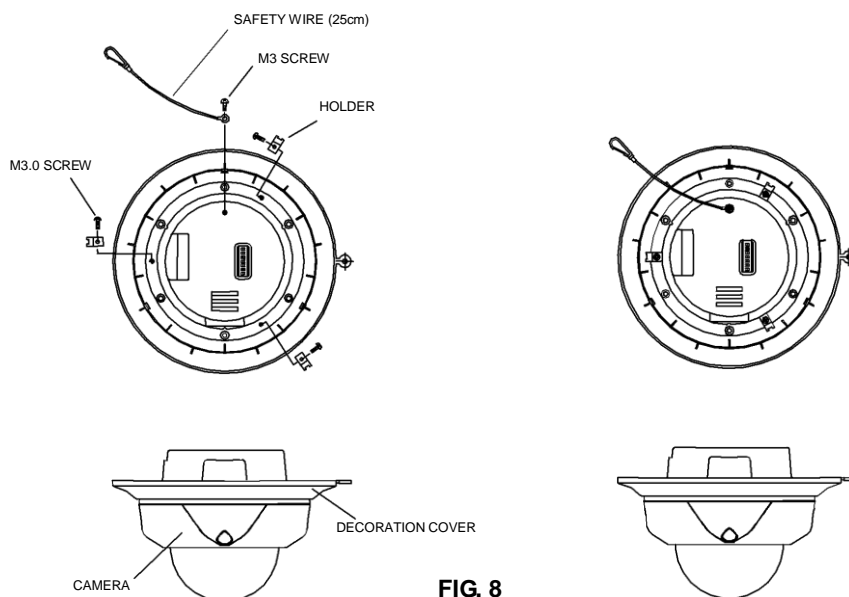
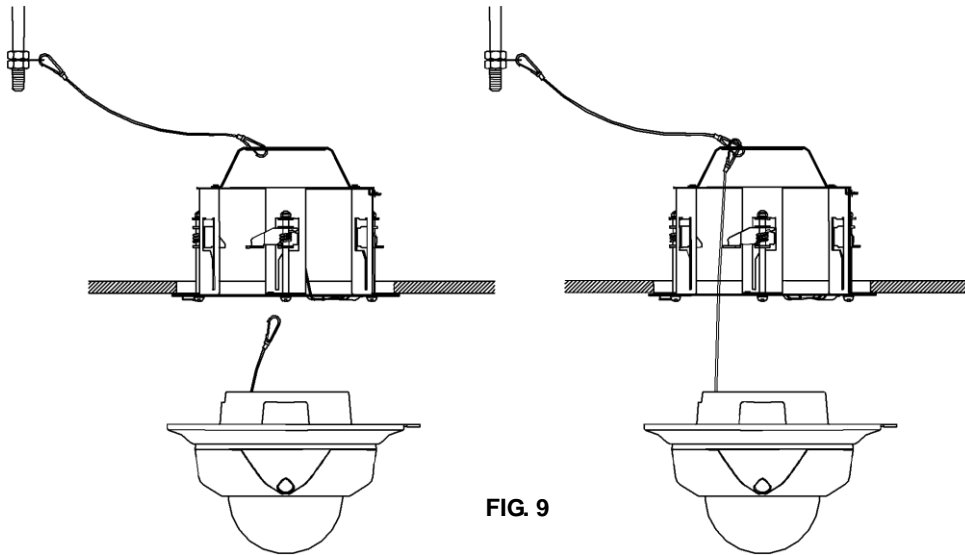


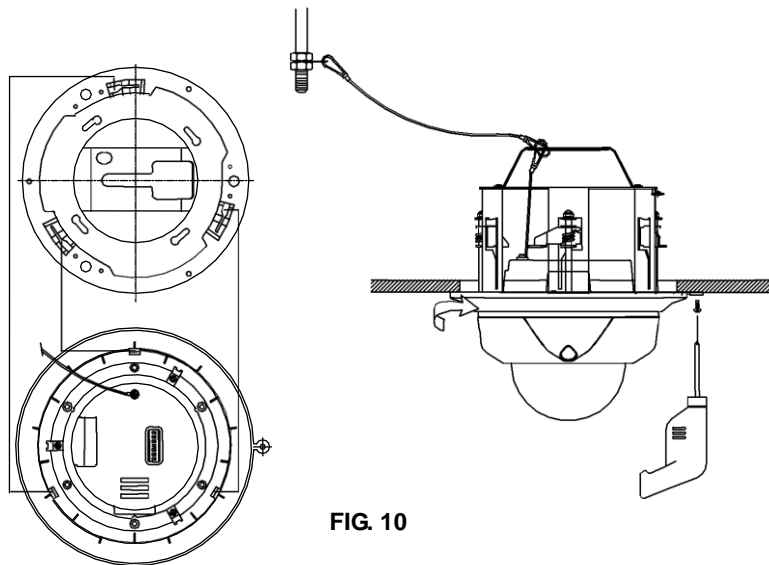
FIG. 8

# **INSTALLATION**

1. Make a hole, 190mm, on the ceiling. (FIG. 6)
2. Hook the safety wire over suspension and safety wire hold of embedded mount bracket.  
Fold the lock levers and insert the bracket into the hole.  
You can fix the lock lever by driving screws. (FIG. 7)
3. Fix the decoration cover on the rear of camera by holder screws (M3.0) (FIG. 8)
4. Drive the screw (M4.0) to fix safety wire of camera and hook the safety wire over safety wire hold of embedded mount bracket. (FIG. 9)
5. Install the camera by inserting cover lock and twisting it clockwise. (FIG. 10)
6. Fix the decoration cover by screw (Ø4.0x16) (FIG. 10)



**FIG. 9**

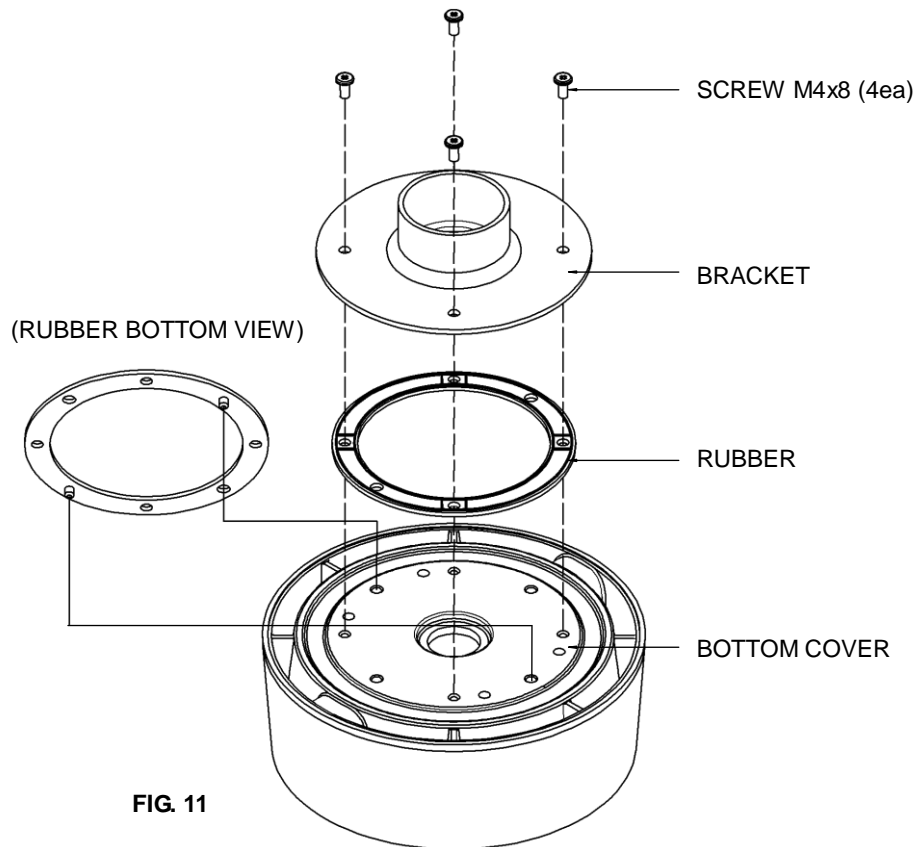


**FIG. 10**

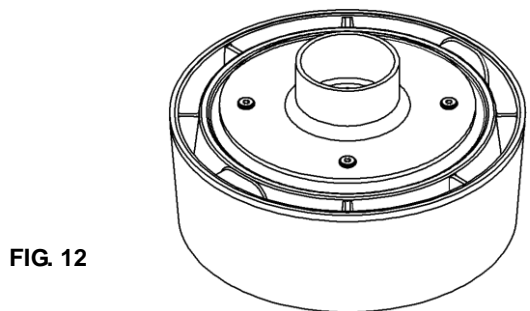
# INSTALLATION

## D. PIPE MOUNT TYPE

Contents	
■ Pipe mount bracket 1ea	■ Rubber 1ea
■ Screw – M4.0 x 8 4ea	■ Set anchor bolt (W5/16) 4ea



1. As above FIG.11, assemble rubber and bracket on the bottom of camera.
2. After finishing assembly, it will be shown as below. (FIG.12)



# INSTALLATION

3. If you want to install the speed dome on the concrete wall, you need to make 12.5mm diameter 4 holes by drill like FIG. 13 (Depth 37mm)
4. Install SET ANCHOR BOLT on the holes.
5. As shown on FIG.15, after assembling mini PTZ and bottom cover assembly, drive the pipe mount bracket and fix. (FIG.15)

**Caution )** Be sure to use seal tape for pipe screw to prevent a water leakage.

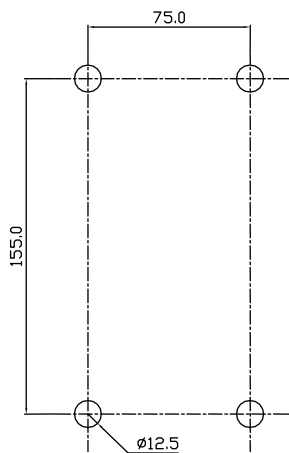
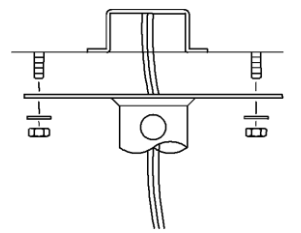
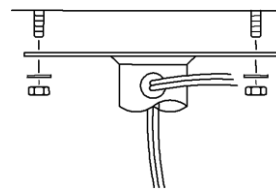


FIG. 13



<the cable into the ceiling>



<the cable out of the ceiling>

FIG. 14

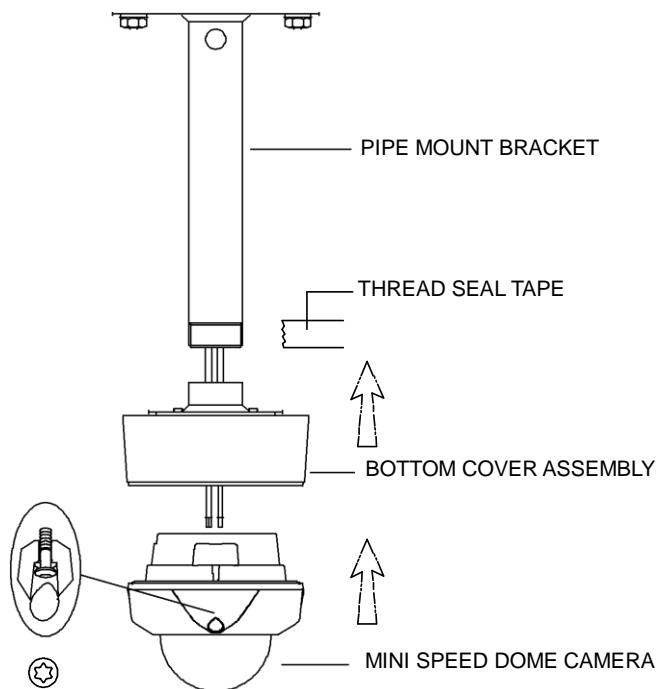
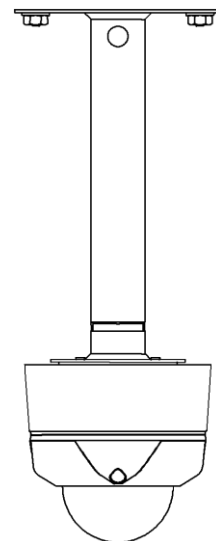


FIG. 15



# INSTALLATION

## E. GOOSENECK MOUNT TYPE

- |                               |                  |
|-------------------------------|------------------|
| ■ Gooseneck mount bracket 1ea | ■ Rubber 1ea     |
| ■ Set anchor bolt (W5/16) 4ea | ■ Screw M4x8 4ea |

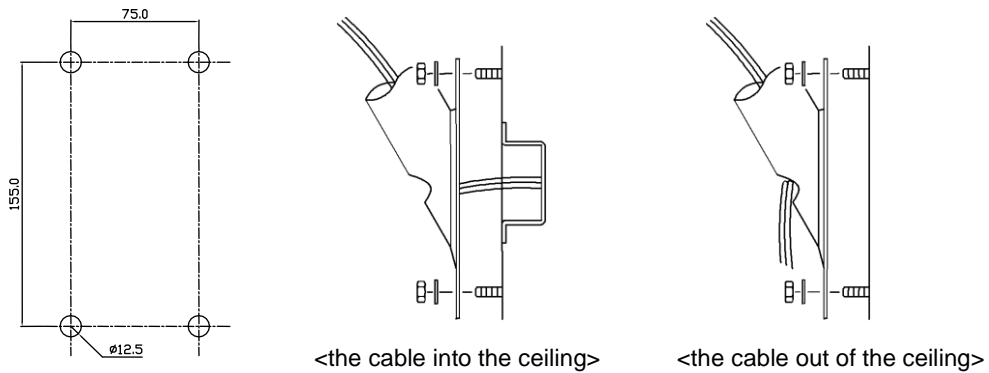


FIG. 16

1. If you want to install the speed dome on the concrete wall, you need to make 12.5mm diameter 4 holes by drill like FIG.16 (Depth 37mm)
2. Install SET ANCHOR BOLT on the holes.
3. As shown on FIG.17, after assembling mini PTZ and bottom cover assembly, drive the gooseneck mount bracket and fix. (FIG.17)

**Caution )** Be sure to use seal tape for pipe screw to prevent a water leakage.

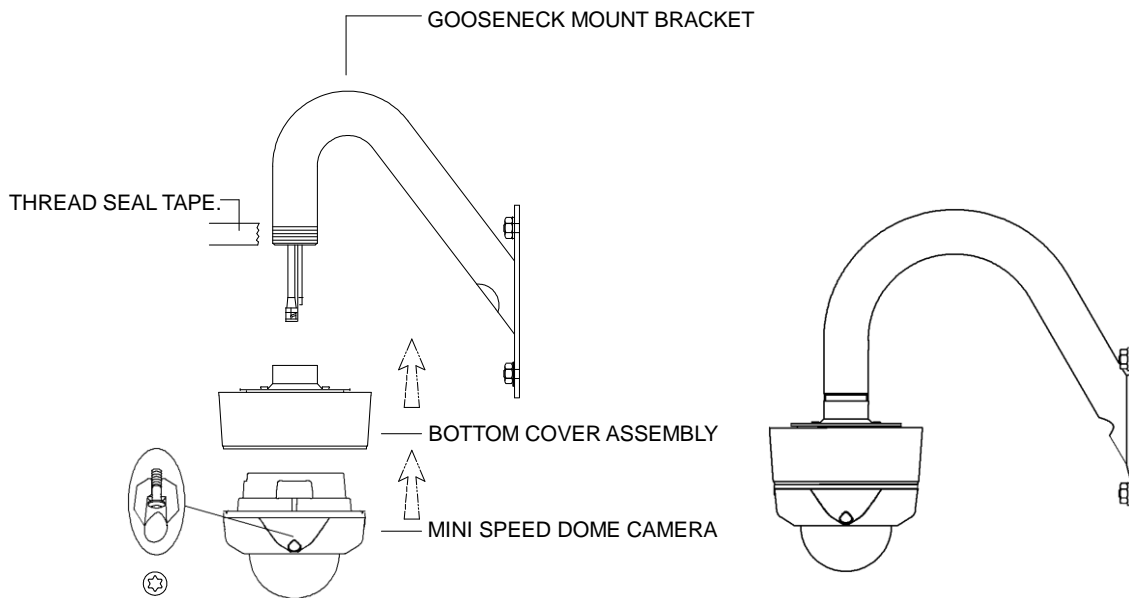


FIG. 17

# INSTALLATION

## F. WALL MOUNT TYPE

### Contents

- Wall mount bracket 1ea
- Hexagon Socket head cap screw M4.0 x16 4ea
- Hexagon wrench 3mm L Type 1ea
- Set Anchor Bolt (W5/16) 4ea

1. If you want to install the speed dome on the concrete wall, you need to make 12.5mm diameter 4 holes by drill like FIG. 1 (Depth 37mm) (FIG.18)
2. Install SET ANCHOR BOLT on the holes.
3. To install Wall Mount Bracket

**Tip> Select a ceiling board strong enough to hold 4 times the total weight of the camera  
(Weight combined camera: approx.5kg)**

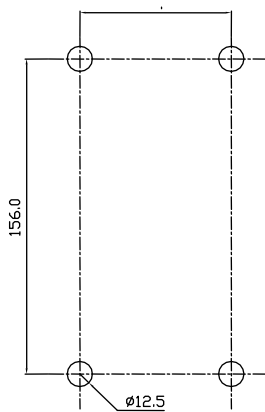


FIG. 18

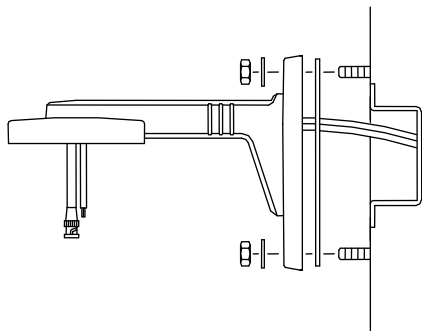
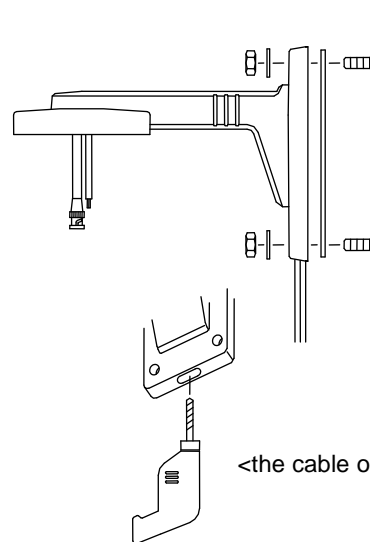


FIG. 19

<the cable into the ceiling>



<the cable out of the ceiling>

# INSTALLATION

4. Assemble a wall mount bracket and camera by Hexagon socket head cap screws (M4.0X16) (FIG. 20)

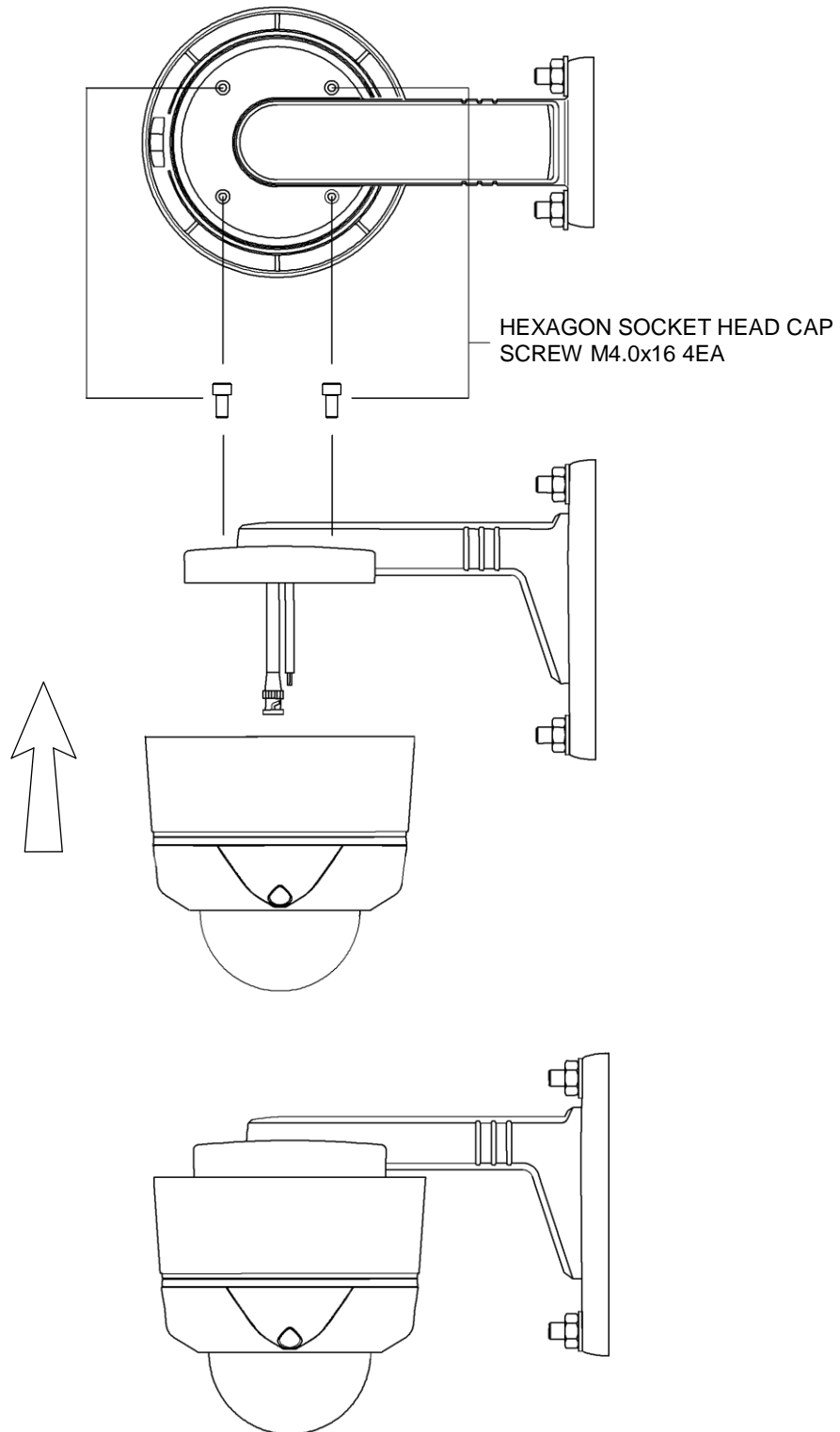


FIG. 20

# INSTALLATION

## G. CORNER MOUNT TYPE

### Contents

- Corner mount adaptor 1ea
- Set Anchor Bolt (W5/16) 4ea
- M10 Bolt & Nut 4ea

1. First mark the positions of holes placing the corner mount bracket. (FIG. 21)
2. Make 12.5mm diameter 4 holes by drill. (Depth 37mm)
3. Install SET ANCHOR BOLT on the holes.
4. Fix the wanted bracket on the corner mount bracket with 4 ea of M10 BOLT before you install the corner mount bracket. (FIG. 22)
5. Screw the set anchor bolt of the bracket by nut on the wall. (FIG. 23)

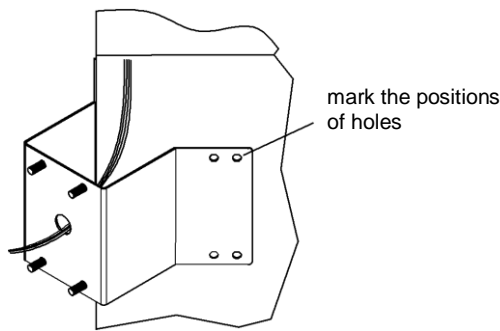


FIG. 21

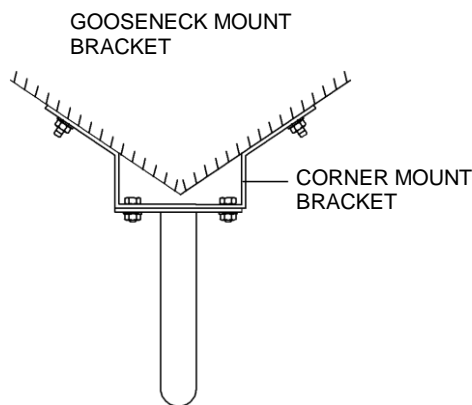


FIG. 23

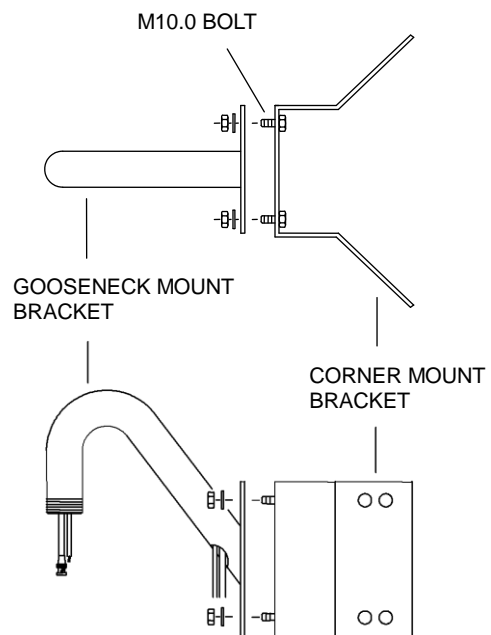


FIG. 22

# INSTALLATION

6. After driving a bottom cover assembly to gooseneck mount bracket, as shown on FIG 23, assemble mini PTZ with bottom cover assembly. (FIG. 24)

**Caution )** Be sure to use seal tape for pipe screw to prevent a water leakage.

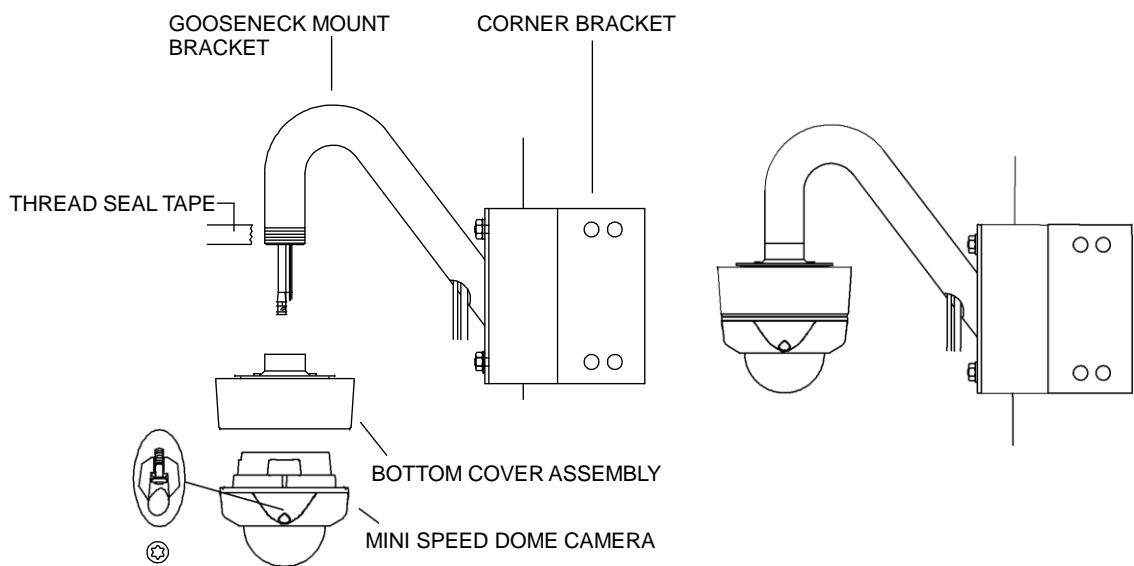


FIG. 24

# INSTALLATION

## H. POLE MOUNT TYPE

### Contents

- Pole mount adaptor 1ea
- Band Clamp 2ea
- M10 Bolt & Nut 4ea

1. Fix the wanted bracket on the pole mount bracket with 4 ea of M10 BOLT before you install the pole mount bracket. (FIG. 25)
2. Tie the bracket with SUS BAND tightly. (FIG. 26)
3. As shown FIG. 26 after installing a wall mount bracket, fix a camera on the wall mount bracket. (FIG. 27)

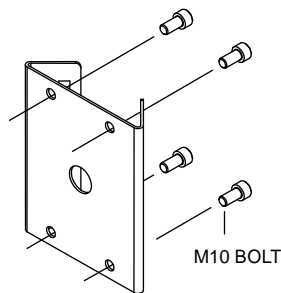


FIG. 25

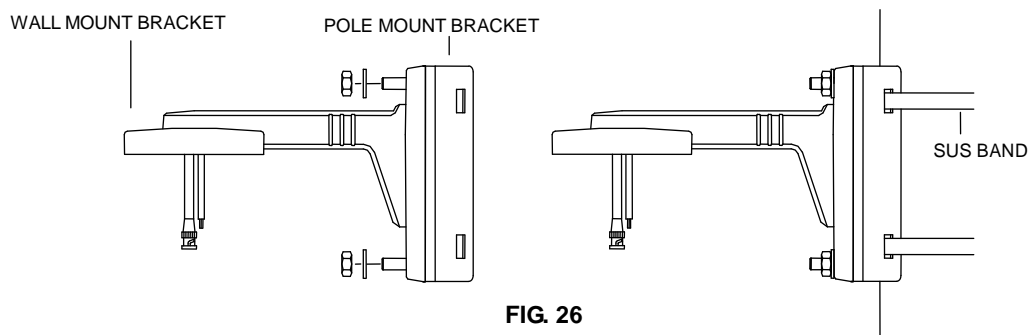


FIG. 26

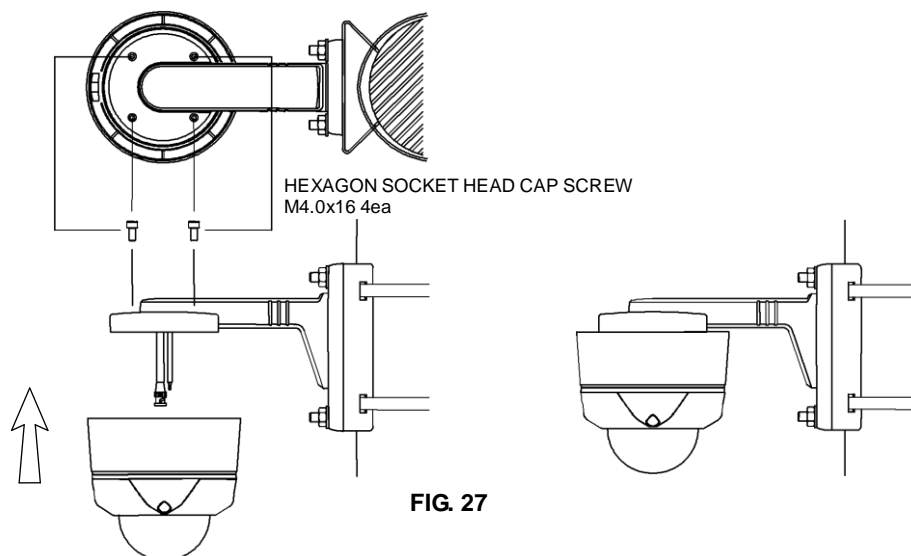


FIG. 27

## QUICK OPERATING KEYS

The dome supports Pelco-D/P, SAMSUNG and VICON protocols.

The dome may be used with any controller or DVR etc that supports the Pelco D and Pelco P protocols.

The default setting of the dome is Pelco D / P with 2400 bps (baud rate).

### [PELCO D/P, SAMSUNG PROTOCOLS]

The comprehensive feature set of the dome is available from Pelco compatible controllers via quick operation keys as defined below.

1-64 + preset and 100~200 + preset are used for normal user presets.

Presets 65-99 + are reserved for special functions.

For example, to enter OSD MENU, press the button  +

#### <Quick Operation Key Table 1, Pelco D/P, SAMSUNG>

Number	Note	Function
1 ~ 64, 100~200 +Call	PRESET	Execute Preset 1 ~ 64
65 + Call	PRESET STATUS	Display Preset Status
66 +Call	AUTO SCAN	Execute Auto Scan
67 +Call	AUTO FLIP	Selectable On/Off/Auto in Auto Flip function
71~78 +Call	GROUP TOUR	Execute Group Tour #1 ~ #8
81~88 +Call	PATTERN	Execute Pattern #1 ~ #8
91 + Call	ZERO POSITION	Search For Pan / Tilt Zero Position
92 + Call	FREEZE	Select Freezing of current image
93 + Call	BLC MODE	Selectable On/Off in BLC function
94 + Call	D/N MODE	Selectable Day/Night Mode (Auto/Day/Night Mode)
95 + Call	OSD MAIN MENU	To enter OSD Main Menu
96 + Call	FOCUS ADJUST	Focus adjustment
97 +Call	ALARM	Selectable Enable/Disable all Alarms

#### <Quick Operation Keys Table 2> Use these function keys if controller has these keys>

Menu	Function
Tilt Up / Down	Sub menu cursor moves up / down
Pan Left / Right	Enter to the sub menu or status change or decrement
Focus Near	Using for Enter key when user select YES or NO
Focus Far	Using for function changing keys when set coordinate
Zoom Tele	Status cursor to the right
Zoom Wide	Status cursor to the left

- + Call : "Preset Status" is displayed, to remove this screen, press  button.
- + Call : This feature freezes the current live image during tour, auto scan or pattern operation. When you press  + Call button, the image freezes but the camera is still working as per operation such as tour, pattern or auto scan. To return to normal images, press  + Call button again.  
This feature is operated by preset number but not included in OSD main menu.
- If a controller asks for an unsupported feature "Not available" is displayed on the monitor.

## QUICK OPERATING KEYS

### [VICON PROTOCOL]

If user wants to choose Vicon Protocol, the user may change the dip switch first.

(Refer to Page #36 DIP SWITCH SETTING - PROTOCOL)

**Baud Rate: 4800 (Vicon default)**

The operation system is almost same as Pelco D/P protocols but some special features are different way as noted below'

<Quick Operation Key Table 2: VICON>

Number	Note	Function
1 ~ 79 +Call	PRESET	Execute Preset 1 ~ 79
80~87 +Call	GROUP TOUR	Execute Group Tour #1 ~ #8
88~89 +Call	PATTERN	Execute Pattern #1 ~ #2
90 + Call	Focus Mode Set	Focus Mode Toggle to Auto or Manual
90 + Call	Pan/Tilt Lockout	PAN/TILT Lock or Unlock setting
91 + Call	ZERO POSITION	Search For Pan / Tilt Zero Position
92 + Call	ALARM	Selectable Enable/Disable all Alarms
93 + Call	BLC MODE	Selectable On/Off in BLC function

<Quick Operation Keys Table 2> Use these function keys if controller has these keys>

Menu	Function
Tilt Up / Down	Sub menu cursor moves up / down
Pan Left / Right	Enter to the sub menu or status change or decrement
A/P	Using for Enter key when user select YES or NO
A/I	Using for function changing keys when set coordinate
Zoom Tele	Status cursor to the right
Zoom Wide	Status cursor to the left

## **DIAGNOSTIC**

---

Whenever the dome is powered on, a standard diagnostic is operated.

The following messages are displayed on the monitor.

```
CAMERA ID : 001  
BAUD RATE : 2400 BPS  
  
WAITING.....
```

```
PAN ORIGIN          TEST OK  
TILT ORIGIN         TEST OK  
TX CONNECTION       TEST OK  
CAMERA COMM        TEST OK
```

**A. Pan Origin Test**

Zero point of Pan is located during the Panning test.

**B. Tilt Origin Test**

Zero point of Tilt is located during the Tilt test.

**C. TX connection Test**

The TX connection test looks for commands from a controller to the dome. If no commands are detected the test will exit after 60 seconds.

During the 60 seconds, the camera must receive a signal from the controller or DVR, so please operate the controller during this phase. As soon as the dome detects a command "OK" will be displayed and the test will move on to the next step.

If the Tx connection test fails check the RS 485 wiring.

**D. Camera Comm. Test**

Camera communication is also checked.

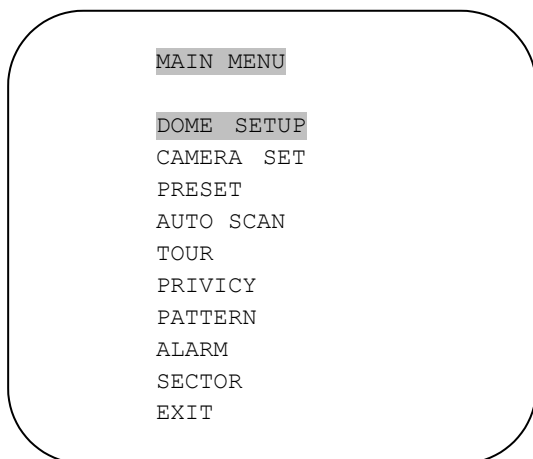
OK should be displayed in these four tests before installation.

If all the above Tests are OK, "**NOW EEPROM CHECKING**" and "**ALL DATA INITIALIZING**" is displayed and the camera is ready to operate.



## OSD MENU SETTING

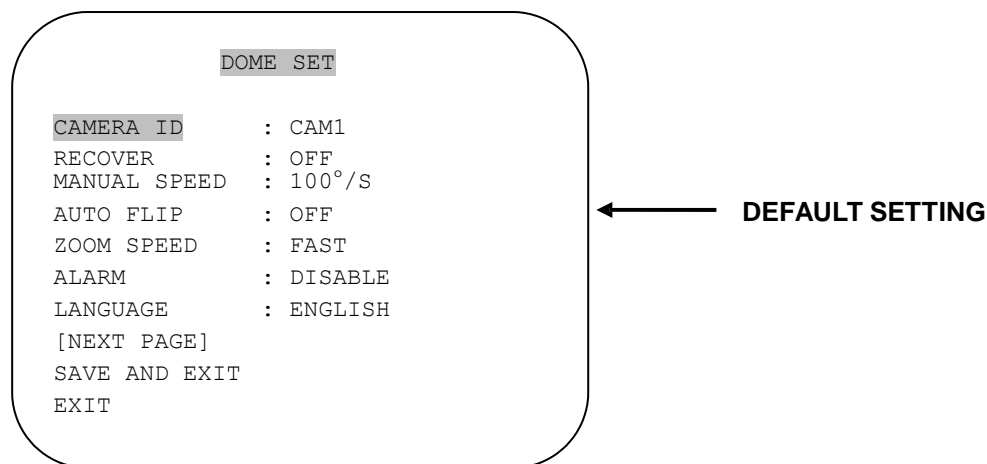
To enter OSD Menu, press the button **95** + **Call**.



\* Use “ up down” to move the position and “ left right” to make selection

### B. Dome Setup

In order to enter Dome setup, select right direction when the cursor is on dome setup.



#### B-1. DOME SET - CAMERA ID

To set camera name, and select a title of up to 16 characters using left or right direction keys or joystick.

Press **ZOOM TELE** button to move to the next character from left to right direction and

**ZOOM WIDE** button to move to the next character from right to left direction

(Space displays when  appears)

## OSD MENU SETTING

### B-2. DOME SET - RECOVER

This feature allows the dome to revert to a specific programmed action when the dome has not received a command for the recovery timer period.

Actions can be Auto scan, group tour and pattern. The recovery time can be programmed from 15 second to 90 seconds. The default setting is OFF.

### B-3. DOME SET - MANUAL SPEED

The manual speed of Pan/Tilt is selectable from 100°/sec up to 150°/sec.

The default setting is 100°/sec

### B-4. DOME SET - AUTO FLIP

Auto Flip enables the dome to automatically do a 180° turn when the tilt bottom point is reached.

The default setting is OFF. This function can be recalled by pushing **67+ Call** button.

### B-5. DOME SET - ZOOM SPEED

Zoom speeds are selectable as FAST or SLOW mode. The default setting is FAST.

### B-6. DOME SET - ALARM

You must enable the alarms for them to operate. The default setting is DISABLED.

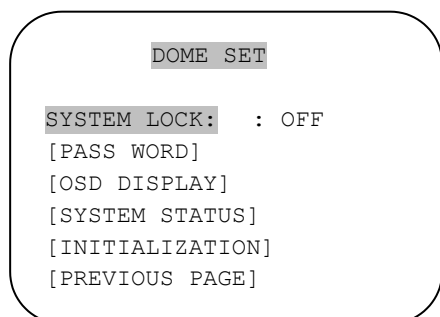
This function can be recalled by pushing **97 + Call** button.

### B-7. DOME SET - LANGUAGE

Multiple languages are selectable (English, German, Dutch, Danish, French)

The default setting is ENGLISH.

### B-8. DOME SET - [NEXT PAGE]



← DEFAULT SETTING

#### B-8-1. DOME SET - [NEXT PAGE] - SYSTEM LOCK

All stored dome settings can be password protected to prevent unauthorized changes.

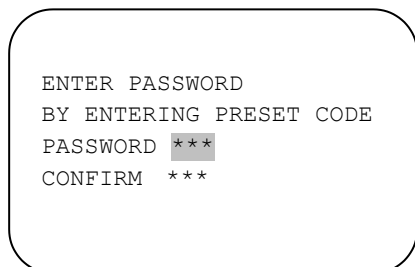
In order to enter [PASS WORD] page, the system lock status must firstly be set as ON.

The default setting is OFF.

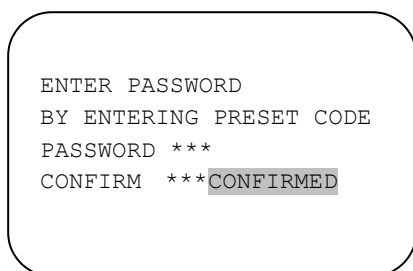
## OSD MENU SETTING

### B-8-2. DOME SET - [NEXT PAGE] - [PASSWORD]

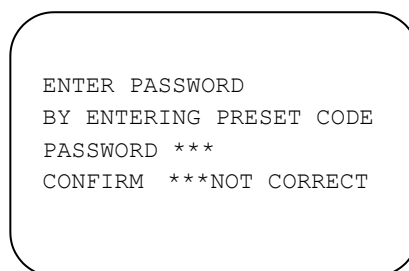
To enter this page to set a password, move joystick or pan key in the right direction.  
The password must be set by preset number from 001 to 255 (**Default 99**)



Enter any number from 001~255 on the password blank area and again for confirmation on blank area. Then “CONFIRMED” is displayed on the monitor and the menu will go back to the previous page automatically.



<CONFIRMED>



<CANCELLED>

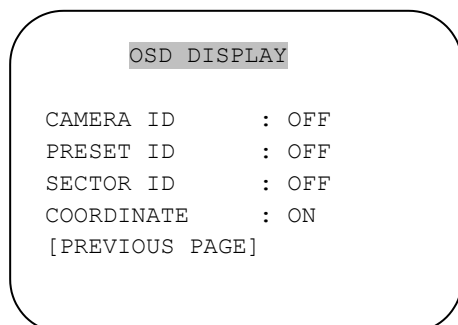
If you press an incorrect number between PASSWORD and CONFIRM, “NOT CORRECT” is displayed on the monitor.

\* When a password has been set, the operator must enter the correct password in order to enter OSD MAIN MENU, or to change any of the domes configuration data

\* If you set a password you must ensure that it does not get lost. If this happens the dome must be returned for workshop repair

### B-8-3. DOME SET - [NEXT PAGE] - [OSD DISPLAY]

The camera ID setting defines whether the camera OSD display is displayed or switched off.

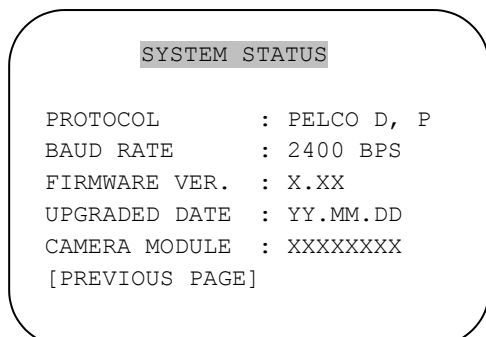


← DEFAULT SETTING

## OSD MENU SETTING

### B-8-4. DOME SET - [NEXT PAGE] - [SYSTEM STATUS]

This page shows the information of this camera.

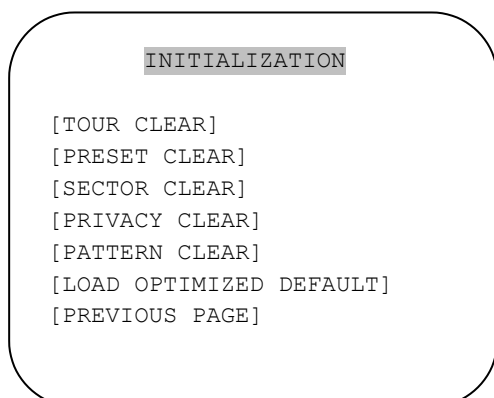


← DEFAULT SETTING

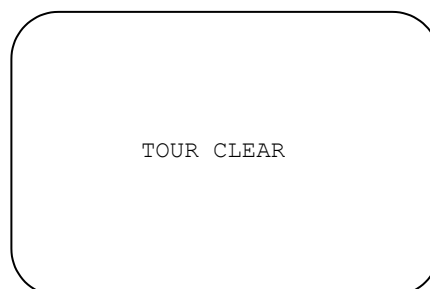
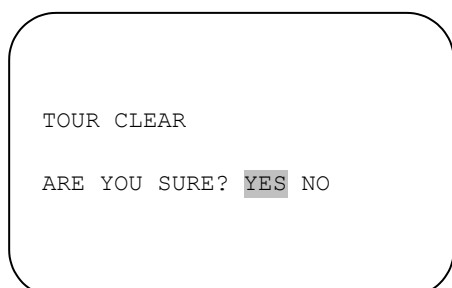
- Protocol and baud rate are shown according to the dip switch setting (Refer to page 36, 37)
- Firmware version and upgraded date will be changed if the dome has been upgraded.
- The camera module type is stated as follows.  
SAMSUNG 12X ZOOM CAMERA MODULE.

### B-8-5. DOME SET - [NEXT PAGE] - [INITIALIZATION]

To clear the current settings select the item that you wish to reset back to factory defaults.



- To clear the memorized data, move the joystick or pan right key until the cursor is on the required item.

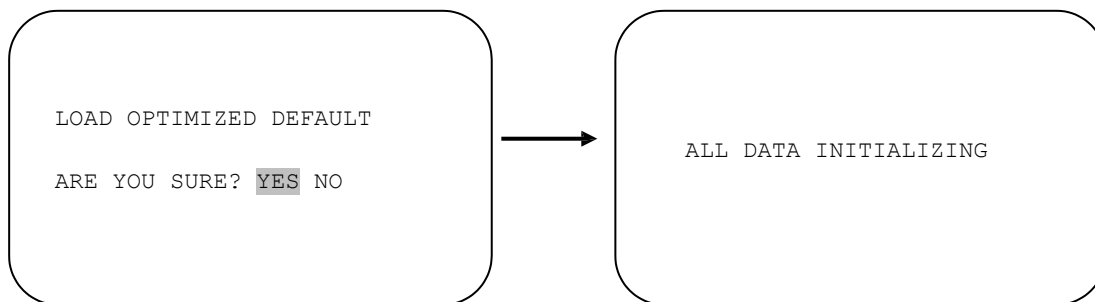


## OSD MENU SETTING

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Press **FOCUS NEAR** button when the cursor is at YES in order to clear memorized data. Then each item such as tour, preset, and sector will flicker for about 2~3 seconds. After this process, the menu is returned to the previous page.

\* Use the above method for **[PRESET CLEAR]**, **[SECTOR CLEAR]**, **[PRIVACY CLEAR]**, **[PATTERN CLEAR]**, **[TOUR CLEAR]**.



- To clear all data and return to factory defaults, move the joystick right or press the pan right key to when the cursor is at **[LOAD OPTIMIZED DEFAULT]** to enter the next page.
- Move joystick or the pan right keys so that the cursor is over YES, then press the **FOCUS NEAR** button.

"ALL DATA INITIALIZING" is then displayed for about 5~7 seconds and then the menu is returned to the previous page automatically.

### B-9. DOME SET - **[NEXT PAGE]** - SAVE AND EXIT

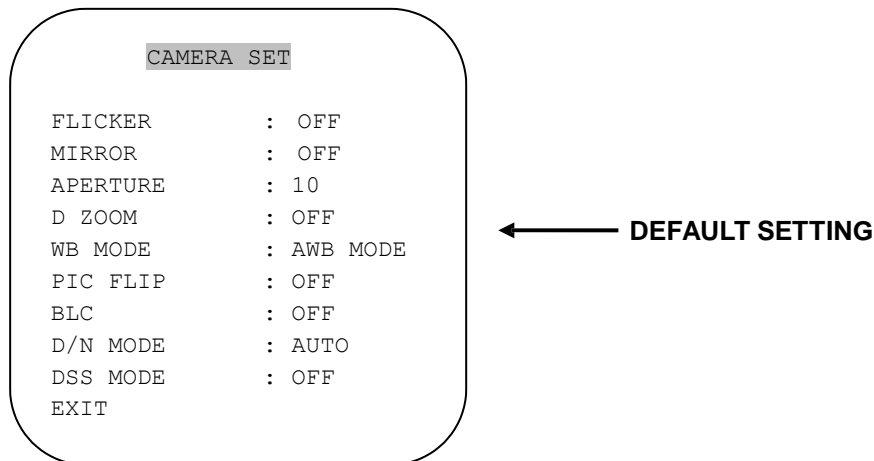
To save the memorized data and escape this page, move the joystick right or press the pan right key when cursor is at SAVE AND EXIT.

### B-10. DOME SET - **[NEXT PAGE]** - EXIT

In order to escape this page, move the joystick right or press the pan right key when the cursor is at EXIT

## OSD MENU SETTING

### C. CAMERA SET



#### C-1. CAMERA SET - FLICKERLESS

The flicker less feature has options of 50Hz and 60Hz.

The default setting is OFF (NTSC: 60Hz / PAL: 50Hz). The flicker less mode only needs to be set when there is a mismatch between the power frequency and camera sync rate.

The default setting is OFF.

#### C-2. CAMERA SET - MIRROR

This feature literally swaps the image left and right as if looking into a mirror.

The default setting is OFF.

#### C-3. CAMERA SET - APERTURE

Aperture correction enhances the picture details and sharpness by increasing the gain of the camera. Increase the value to sharpen the image, decrease to soften it. The default setting is 10. (the aperture level is from 01 ~ 15)

#### C-4. CAMERA SET - D ZOOM

If enabled digital zoom is applied when the zoom lens has reached its maximum optical zoom in capability. The default setting is OFF.

#### C-5. CAMERA SET - WB MODE

White balance functions has 4 modes and may need to be changed depending on the situation.

- AWB Mode – 3,200°K to 6,000°K (Default)
- Indoor – up to 3,200°K
- Outdoor – up to 5,800°K
- ATW Mode - 2,000°K to 10,000°K

## **OSD MENU SETTING**

---

### **C-6. CAMERA SET - PIC FLIP**

The picture flip feature swps the top and bottom of the image, literally inverting it.

The default setting is OFF.

### **C-7. CAMERA SET - BLC (Back Light Compensation)**

The default setting is OFF and BLC modes can be OFF/ON.

- OFF – Backlight compensation is not activated.
- ON – Back light compensation is activated.

This function can be recalled by pushing  button.

### **C-8. CAMERA SET - D/N MODE**

The dome camera can operate in day /night mode and will switch depending on lighting conditions. Alternatively it can be forced into color only mode.

The default setting is AUTO MODE.

This function can be recalled by pushing  button.

### **C-9. CAMERA SET - DSS MODE (DIGITAL SLOW SHUTTER)**

If digital slow shutter is enabled the exposure time of the camera is increased, this allowing more light to be collected and improving low light response. This setting should not be enabled if the dome is touring at night or fast moving objects are likely to be in the scene as smearing is also increased.

The default setting is OFF.

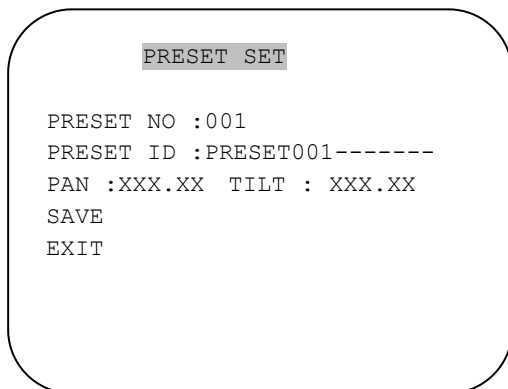
### **C-10. CAMERA SET - EXIT**

To escape this page, move the joystick right or press the pan right key.

## OSD MENU SETTING

### D. PRESET SET

To enter PRESET SET, move joystick to the right direction.



← **DEFAULT SETTING**

#### D-1. PRESET - PRESET NO.

Up to 165 preset positions are available. Use the joystick or pan left/right keys to select the number.

#### D-2. PRESET - PRESET ID

To create preset titles use the joystick or pan left/right keys to navigate the menu.

The **ZOOM TELE** button moves to the next character from left to right and **ZOOM WIDE** button moves to the next character from right to left (Space displays when  appears)

#### D-3. PRESET - PAN: XXX.X TILT: XX.X

Press **FOCUS FAR** button in order to set preset position then, use the joystick or pan left/right keys to the position where memorized preset number .is needed. Then press **FOCUS FAR** button again after setting a preset location.

#### D-4. PRESET - SAVE

Move the joystick right or press the pan right key when the cursor is at SAVE and then the cursor will be located on Preset ID for the continuous preset No. setting.

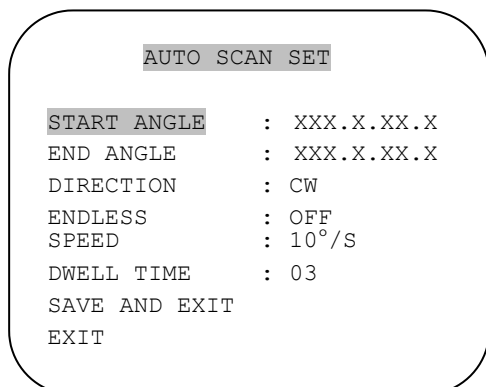
#### D-5. PRESET - EXIT

To escape this page, move the joystick right or press the pan right button.

## OSD MENU SETTING

### E. AUTO SCAN SET

\* **66 + Call** button is working as AUTO SCAN after setting.



← **DEFAULT SETTING**

#### E-1. AUTO SCAN - START ANGLE

To set the start position, press **FOCUS FAR** button then move the dome to the required start position. Press **FOCUS FAR** button again is to escape.

#### E-2. AUTO SCAN - END ANGLE

To set the end position, press **FOCUS FAR** button then move the dome to the required end position. Press **FOCUS FAR** button again is to escape.

#### E-3. AUTO SCAN - DIRECTION

Auto Scan directions are available as CW or CCW.

- CW: Clock wise direction (Default)
- CCW: Count Clock Wise Direction.

#### E-4. AUTO SCAN - ENDLESS

Auto Scan can be set to endless rotation by enabling the endless option.  
The default setting is OFF.

#### E-5. AUTO SCAN - SPEED

Auto scan speed can be programmed from 05°/S up to 35°/S. The default setting is 10°/S.

#### E-6. AUTO SCAN - DWELL TIME

The dwell time at the start and end points can be programmed from 1 second to 30 seconds.  
The default setting is 03 seconds.

#### E-7. AUTO SCAN - SAVE AND EXIT

To save the memorized data and escape this page, move the joystick right or press the pan right key when the cursor is at SAVE AND EXIT.

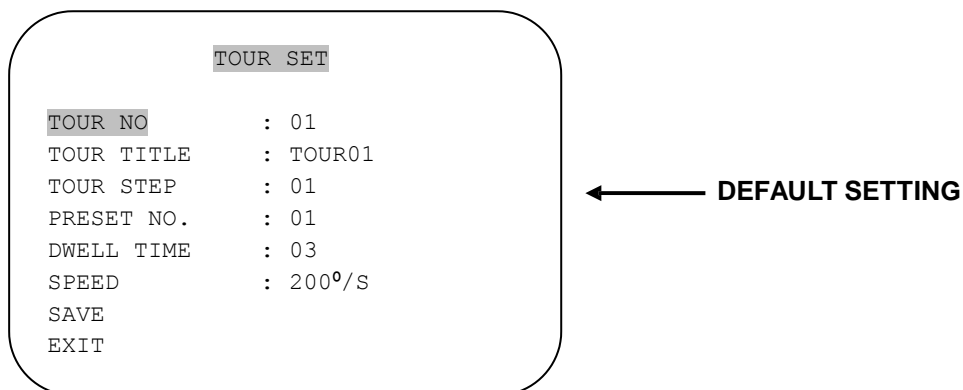
#### E-8. AUTO SCAN - EXIT

To escape this page, move the joystick right or press the pan right key.

## OSD MENU SETTING

### F. TOUR SET

8 Programmable tours can be set and each tour can have up to 64 preset steps.  
After setting up the tours the **71~78 + Call** buttons launch group tours # 1~8



#### F-1. TOUR SET - TOUR NO.

Up to 8 group tours can be programmed.

#### F-2. TOUR SET - TOUR TITLE

To set a tour title, use the joystick left/right or pan left/right keys.

Each title can have up to 16 characters.

Press **ZOOM TELE** button to move the next character from left to the right and **ZOOM WIDE** button to move the next character from right to left (Space displays when **□** appears) The tour title is not displayed on the monitor and is only for the reference of user.

#### F-3. TOUR SET - TOUR STEP

Each tour group consists of up to 60 preset steps with different dwell time and speed.  
It is possible to match any preset # for any tour step.

#### F-4. TOUR SET - PRESET NO.

For each tour step it is possible to select any preset number up to 64.  
The default setting is **BLK**

#### F-5. TOUR SET - DWELL TIME

Dwell time can be programmed from 1-99 seconds. The default setting is **03 seconds**.

#### F-6. TOUR SET - SPEED

Each tour step can be set with a different speed up to 200°/S and it is selectable from 10°/S.  
The default setting is **200°/S**.

#### F-7. TOUR SET - SAVE

To save the memorized data and escape this page, move the joystick right or press the pan right key when cursor is at **SAVE**

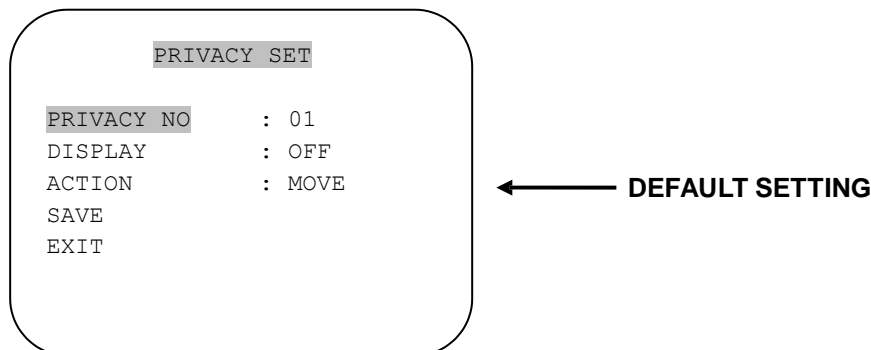
#### F-8. TOUR SET - EXIT

To escape this page, move the joystick right or press the pan right key.

## OSD MENU SETTING

### G. PRIVACY SET

4 Privacy masking zones can be set.



#### G-1. PRIVACY SET - PRIVACY NO.

Up to 4 privacy masking zones can be set.

#### G-2. PRIVACY SET - DISPLAY.

Move the joystick right or left or press pan right/left to set ON in order to show the selectable block in the center of the monitor. This block appears as a translucent square with blue color when set ON. The default setting is OFF.

#### G-3. PRIVACY SET - ACTION (MOVE / ADJUST)

To set the blocking area, press **FOCUS FAR** button when MOVE MODE is displayed.

Then use the joystick or pan keys to the user defined area in order to set the blocking area.

Then press **FOCUS FAR** button again to escape from MOVE MODE.

To adjust the size of the blocking area, move the joystick or use the pan keys when the cursor is on ACTION. After it has changed to ADJUST MODE, press **FOCUS FAR** button in order to adjust the size of the blocking area. The size of the blocking area can be adjusted by using joystick up/down or left right – or the pan and tilt keys. After adjusting the size of the blocking area, press **FOCUS FAR** button to escape the ADJUST mode.

- ADJUST : You can change the masking size by using the joystick or pan keys
- MOVE : You can move the masking area by using the joystick or pan keys (Default)

#### G-4. PRIVACY SET - SAVE

After setting the privacy masking zone, to save the data, move the joystick right or pan right key when the cursor is on SAVE. After saving the data, the cursor moves to PRIVACY NO.2 automatically to prepare for the next privacy masking zone.

#### G-5. PRIVACY SET - EXIT

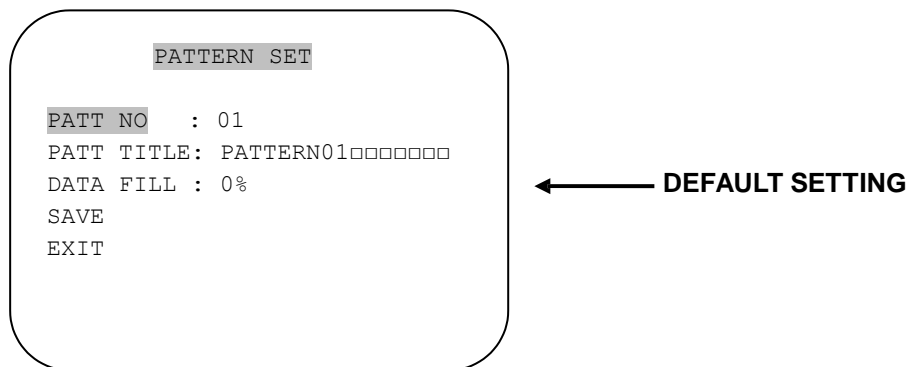
To escape this page, move the joystick right.

## OSD MENU SETTING

### H. PATTERN SET

8 programmable patterns are available, each with a programmable title.

After setting up each pattern # 1~8, 81~88+ preset buttons will recall Patterns # 1~8.



#### H-1. PATTERN SET - PATT NO.

Up to 8 programmable user-defined patterns are available.

#### H-2. PATTERN SET - PATT TITLE

To set PATTERN TITLE move Joystick left/right or use the pan keys.

Press **ZOOM TELE** button moves to the next character from the left / right and **ZOOM WIDE** button moves to the next character from the right / left (Space displays when  appears)  
The pattern title is not displayed on the monitor, but only for the reference of the user.

#### H-3. PATTERN SET - DATA FILL

To memorize a pattern, press **FOCUS FAR** button in order to start the process.

The progress is shown as % filled. Press **FOCUS FAR** button again in order to escape.

#### H-4. PATTERN SET - SAVE

To save the memorized pattern data, move the joystick right or press the pan right key when the cursor is on SAVE. Then the cursor moves to the PATT NO.02 in order to prepare for the next pattern.

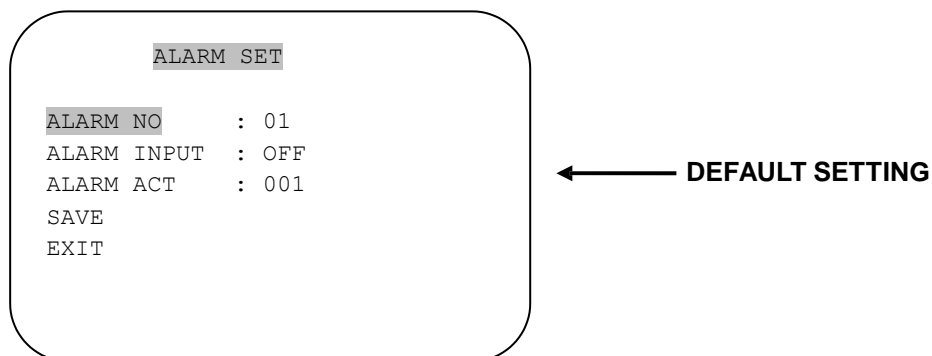
#### H-5. PATTERN SET - EXIT

To escape this page, move the joystick right or press the pan right key.

## OSD MENU SETTING

### I. ALARM SET

4 Alarm inputs are available and each input can activate presets, group tours or patterns.



#### I-1. ALARM SET - ALARM NO.

Up to 4 alarms are selectable by using joystick right or pressing the pan right key when the cursor is on ALARM NO.

#### I-2. ALARM SET - ALARM INPUT

Alarm inputs can be programmed as NC (Normally Close) or NO (Normally Open)  
The default setting is OFF.

#### I-3. ALARM SET - ALARM ACT

Active alarms can trigger modes such as presets, Group tours 1-8, and Patterns 1-8.  
Use the joystick or pan keys to select any preset number, group tour no. or pattern no.

#### I-4. ALARM SET - SAVE

After setting up the alarm features, to save the data move the joystick right or press the pan right key when the cursor is on SAVE. After saving the data, the cursor moves to Alarm NO.2 automatically to prepare for the next alarm.

#### I-5. ALARM SET - EXIT

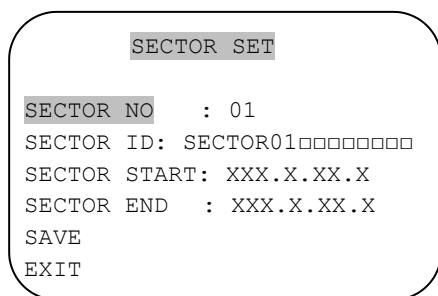
To escape this page, move the joystick right or press the pan right key.

\* Before activating Alarms, you must set ALARM ENABLE at DOME SET – ALARM – ENABLE  
(Refer to page 23)

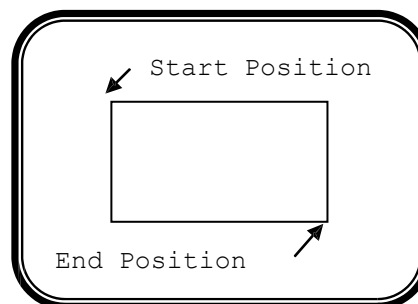
## OSD MENU SETTING

### J. SECTOR SET

Up to 8 programmable sectors are available, each with a 16 character title.  
This feature allows the various areas of the domes 360° rotation to be given logical titles.  
When the dome is moved the relevant title for each area is displayed as the dome passes through the area.



DEFAULT SETTING



#### J-1. SECTOR SET - SECTOR NO.

Up to 8 programmable sectors are available.

#### J-2. SECTOR SET - SECTOR ID

To set a SECTOR ID, use the joystick or pan left/right keys.

Press **ZOOM TELE** button to move to the next character from left to right and **ZOOM WIDE** button to move to the next character from right to left (Space displays when □ appears)

#### J-3. SECTOR SET - SECTOR START

To set a SECTOR START position, press **FOCUS FAR** button then move the joystick or pan keys to set the position. Press **FOCUS FAR** button again to escape.

#### J-4. SECTOR SET - SECTOR END

To set a SECTOR END position, press **FOCUS FAR** button then move the joystick or pan keys to set the position. To press **FOCUS FAR** button again to escape.

#### J-5. SECTOR SET - SAVE

After setting the SECTOR positions, to save the data move the joystick right or press the pan right key when the cursor is on SAVE. After saving the data, the cursor moves to SECTOR NO.2 automatically to prepare for the next SECTOR.

#### J-6. SECTOR SET - EXIT

To escape this page, move the joystick right or press the pan right key.

### K. EXIT

To escape OSD Main Menu, move joystick to the right or left direction then this camera is Ready to operate.

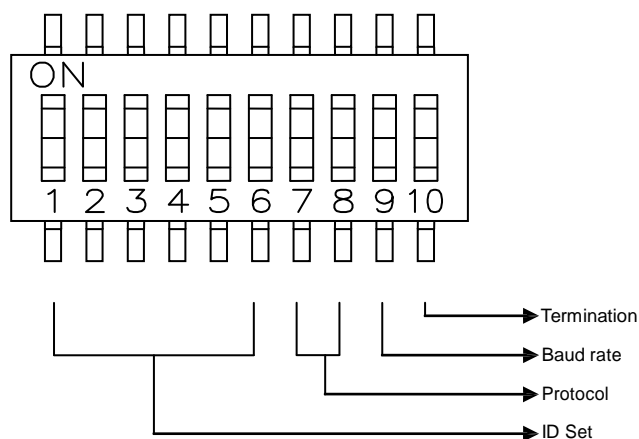
## DIP SWITCH SETTING

### A. FACTORY DEFAULT SETTING

The dome cameras RS 485 address is set using switches 1-6 of DIP SW1, refer to the table below...

Open the camera case to set ID using DIP SW1.

\* Factory default: Camera ID = 1, PELCO-D Baud Rate: 2400bps



### B. ID SETTING (1-ON, 0-OFF) (1→10)

DIP SW	ID VALUE	DIP SW	ID VALUE	DIP SW	ID VALUE
10000XXXX	1	111010XXXX	23	101101XXXX	45
010000XXXX	2	000110XXXX	24	011101XXXX	46
110000XXXX	3	100110XXXX	25	111101XXXX	47
001000XXXX	4	010110XXXX	26	100011XXXX	48
101000XXXX	5	110110XXXX	27	100011XXXX	49
011000XXXX	6	001110XXXX	28	010011XXXX	50
111000XXXX	7	101110XXXX	29	110011XXXX	51
000100XXXX	8	011110XXXX	30	001011XXXX	52
100100XXXX	9	111110XXXX	31	101011XXXX	53
010100XXXX	10	000001XXXX	32	011011XXXX	54
110100XXXX	11	100001XXXX	33	111011XXXX	55
001100XXXX	12	010001XXXX	34	000111XXXX	56
101100XXXX	13	110001XXXX	35	100111XXXX	57
011100XXXX	14	001001XXXX	36	010111XXXX	58
111100XXXX	15	101001XXXX	37	110111XXXX	59
000010XXXX	16	011001XXXX	38	001111XXXX	60
100010XXXX	17	111001XXXX	39	101111XXXX	61
010010XXXX	18	000101XXXX	40	011111XXXX	62
110010XXXX	19	100101XXXX	41	111111XXXX	63
001010XXXX	20	010101XXXX	42		
101010XXXX	21	110101XXXX	43		
011010XXXX	22	001101XXXX	44		

## DIP SWITCH SETTING

### C. PROTOCOL SETTING

7<sup>th</sup>~8<sup>th</sup> dip switches are used for Protocol Setting.

Factory Default: Pelco-D or Pelco-P (Auto detection)

DIP SW1- 7	DIP SW1- 8	
OFF	OFF	Pelco-D or Pelco-P
ON	OFF	VICON
OFF	ON	SAMSUNG
ON	ON	

### D. BAUD RATE SETTING

The 9<sup>th</sup> Dip Switch is used for BAUD RATE setting.

DIP SW can be changeable to 2400bps, 9600bps.

Factory Default: 2400bps. (If user selects Vicon protocol, then Baud rate is automatically set as 4800bps.)

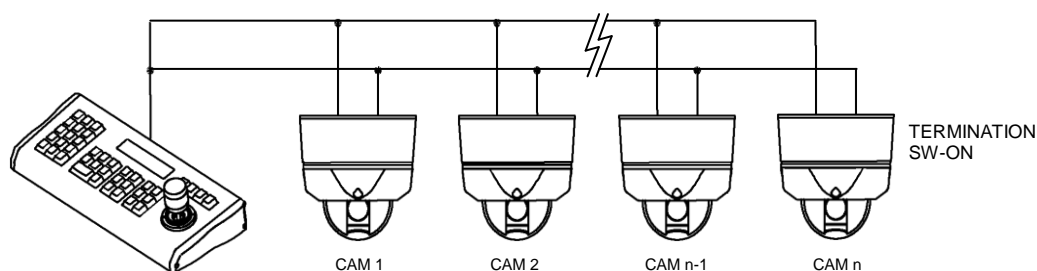
DIP SW1 9 <sup>th</sup>	BAUD RATE
OFF	2400bps(Default) 4800bps(VICON)
ON	9600bps

### E. 485 TERMINATIONS

10<sup>th</sup> Dip Switch is used for 100Ω termination.

Set on 10<sup>th</sup> Dip Switch only for the last looped camera from the controller.

Even in case of only one camera, set on 10<sup>th</sup> Dip Switch of the camera.



## **TROUBLE SHOTING**

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If you have trouble setting up or operating the camera, refer to the following.

<b>PROBLEM</b>	<b>SOLUTION</b>
No operation	Check if the power supply is DC12V. Check if RS-485 communication cable is connected correctly. Check camera ID setting. Check the RS 485 termination.
No picture	Check if all the cables are connected correctly. Check if the monitor is adjusted correctly. Check for video locally at the dome.
Dark screen	Check video termination and monitor settings
Abnormal camera operation	Check if PSU voltage level at the dome Check the RS 485 termination.

# SPECIFICATIONS

MODEL		12X Mini Speed Dome Camera	
PAN /TILT	Pan Rotation Angle		360° Endless
	Pan Speed	Manual	Max 150° /sec
		Preset	Max 200° /sec
	Tilt Rotation Angle		0° ~ 90°
Tilt Speed	Manual	Max 150° /sec	
	Preset	Max 150° /sec	
FUNCTIONS	Presets		165 positions with a 16-character label available for each position
	Privacy Masking Zones		4 Programmable privacy masking zones
	Pattern		8 Programmable pattern tour
	Sector		8 Programmable sectors
	Group Scanning		Max.8 Programmable group tours (each one consisting of up to 60 preset steps with different steps)
	Auto scan		Programmable Auto scan
	Password Protection		Yes
	Alarm Input		4 alarms OFF/NC/NO (with various programmable states)
	Alarm Actions		Activate preset, tour and patterns
	Auto Flip		ON / OFF
POWER	OSD Menu		Multiple Languages on screen
	Communication		RS-485
	Protocol		Pelco D/P, VICON, SAMSUNG
POWER	Power Consumption	12V DC	750mA, 10W MAX (1.3A, 16W MAX with Heater)
			12V DC 750mA (1.3A with Heater)
OTHERS	Construction		Anti-vandal bubble (Poly carbonate), Body (Aluminum)
	Motor Type		Stepper Motor
	Operating Temperature		-10°C ~ 50°C (-40°C ~60°C with heater)
	Certifications		IP66,CE,FCC
	Image Sensor		1/4" Sony Super HAD CCD
CAMERA MODULE	Total Image Pixels	NTSC	811(H) * 508(V) 410K
		PAL	795(H) * 596(V) 470K
	Number Of Effective Pixels	NTSC	768(H) * 494(V) 380K
		PAL	752(H) * 582(V) 440K
	Horizontal resolution		580 TV Lines/ B/W 660 TV Lines
	Lens	Optical	12x Optical Zoom f=3.94 ~ 46.05mm (F1.67~1.88)
		Digital	12x (192x with optical)
	Day & Night (ICR)		Auto/ Day/ Night
	Digital Slow Shutter		ON / OFF
	Min. illumination	Normal mode	0.2Lux / F1.6 (Color: 50IRE)
		Night mode	0.04Lux / F1.6 (B/W : IRC ON)
	Luminance S/N Ratio		More than 502B
	Video Output		Composite video output 75Ω Terminated
BLC		ON / OFF	
Flicker less	NTSC	ON / OFF (1/100)	
	PAL	ON / OFF (1/120)	
WHITE BALANCE		ATW/AWC/INDOOR/OUTDOOR	

## DIMENSIONS

