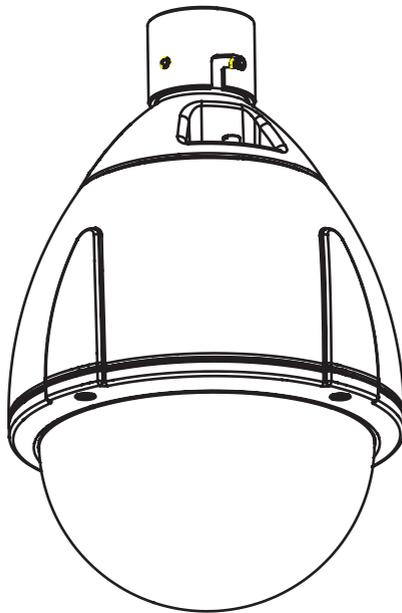


# (Network) Speed Dome Camera Instruction Manual



ZEIM-4000604G A.1  
SDS710/730/750/712Pro  
NIC910/930/950HPro





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# SAFETY INFORMATION

1. Read this Instruction Manual:  
Before using the product, please carefully read through the safety information and operation instructions.
2. Keep this Instruction Manual:  
Safely store the Instruction Manual for future reference.
3. Take note of the “Caution” labels:  
Please follow the “Caution” labels on the product and Instruction Manual to ensure operation safety.
4. Follow instructions:  
When operating the unit, please follow instructions on the Instruction Manual.
5. Cleaning:  
Before cleaning the unit, please first unplug the power.
6. Peripheral/accessories:  
Do not place the unit on an unstable cart, tripod, or on a tabletop as personal injury and damage to the unit may occur due to a fall. Please use officially certified support, frames, and accessories included with the product. Follow the instructions in this Instruction Manual during installation to ensure the quality and maintain safety.
7. Power:  
Please follow the labeled specifications on the unit and supply with the correct power. If unsure of the actual power requirements, please contact the distributor and do not connect the power at will.
8. Power cable:  
The power cable must be properly secured as improper connections may cause a short circuit, fire hazards, or serious damage and hazards.
9. Lightning strike:  
During prolonged inactivity, please unplug the power cable and the video cable to avoid damage from lightning strike and power surges.
10. Foreign objects and fluids:  
Please do not insert any objects into the unit or spill liquids to avoid short circuits.
11. Warning:  
High voltage circuitry contained within the unit. Do not disassemble to avoid electric shock. All maintenance operations must be handled by qualified maintenance staff.
12. Maintenance:  
When the following occurs, please first power off the unit and then perform maintenance by qualified maintenance staff:
  - (a). Damaged power cable or socket
  - (b). Liquid spills or foreign objects in the unit
  - (c). Inoperable unit when proper instructions are followed
  - (d). Dropped unit or damaged shell
  - (e). Other anomalies
13. Component replacement:

# SAFETY INFORMATION

Replaced components by the maintenance staff must be official certified parts of identical specifications. Using unauthorized components can cause fire hazards and electric shock damage.

## 14. Safety inspection:

After the unit maintenance has been completed, the maintenance staff must perform safety inspection to ensure proper operation.



The “**Caution**” label to the left will be adhered on the unit



The triangle symbol with lightning arrow indicates that ungrounded “Hazardous Voltage” exists within the unit. The voltage level may cause personal electric shock hazards.



The triangle symbol with exclamation mark indicates that there are important operation and maintenance instructions in the Instruction Manual.

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions:

- (1). This device may not cause harmful interference.
- (2). This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

· This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

· You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate this equipment.

· The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital output device pursuant to Subpart B of Part 15 of FCC rules.

# FEATURES

## 1. Features

This high-speed dome camera is equipped with a Sony designed 1/4" CCD module, coupled with a 18X/28X/36X optical zoom lens, resulting in excellent color reproduction performance. In coordination with the precision mechanical structure, high-speed rotation can be achieved.

1. Built-in 18X/28X/36X optical lens for precise image monitoring.
2. Utilizes Sony high sensitivity camera module
3. Features ICR day/night automatic switching, for a clear and sharp image even under a nighttime environment of 0.01lux.
4. 3D privacy zone: Up to 24 configurable zones with individual zoom adjustments for complete privacy protection.
5. Maximum 432X zoom range (depends on model).
6. 560 lines of horizontal resolution.
7. Horizontal 360° rotation, rotation speed up to 430°/sec.
8. Utilizes the latest patented design of rotating slip ring to ensure perfect image transmission.
9. SNR > 50db for a clear and sharp image even under nighttime conditions.
10. Configure, save, and recall 256 preset points.
11. OSD menu for easy operation.
12. Horizontal 180° quick flip monitoring.
13. Adjustable speed/zoom range.
14. Four sets of programmable patrol mode.
15. Programmable horizontal and vertical scanning range.
16. RS485 remote communication interface up to 19200 bps.
17. Automatic defogger to heat up during lower temperature conditions.
18. User can modify individual preset speed for individual preset points.
19. Support WDR function (depend on model)
20. Built-in 9 different language support (English, Traditional Chinese, Spanish, Portuguese, French, Japanese, German, Polish and Italian).
21. Support Preset WDR(P0~P66 point) / Preset motion function(P0~ P10 point) (depend on speed dome model)
22. Support Messoa P/D, Pelco P/D, Bosch, Ernitec, GE (Kalatel), and Tyco communication protocol

## 2. Important Information

1. Do not point the camera at the sun, as the internal CCD component may be damaged.
2. Do not touch the lens use specialized soft cloth to gently wipe off the lens surface on necessary.
3. During prolonged inactivity of the camera, please cover up the lens with the cap.
4. Avoid direct shooting of intense light emitting objects, e.g. mercury-vapor lamps. When shooting at strong lights, a vertical line pattern will

# FEATURES

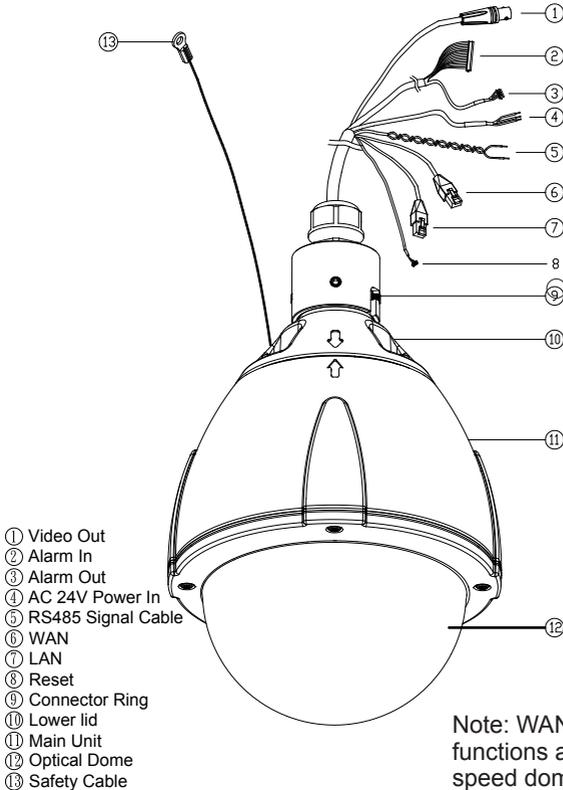
show up on the image which is not a camera malfunction.

5. Install the unit away from interference sources and please adjust the video cable or reinstall if the screen image results in interference.
6. Please do not remove the serial number label from the unit, as this may invalidate the warranty.

### 3. Main/accessory

1. Camera unit..... 1
2. Instruction Manual..... 1
3. Quick installation guide..... 1
4. Power adapter..... 1

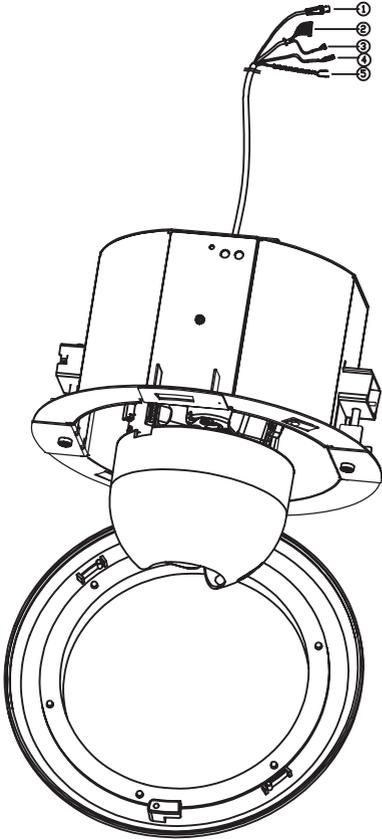
### 4. Component Diagram



Note: WAN, LAN, and Reset functions are for network high-speed dome only.



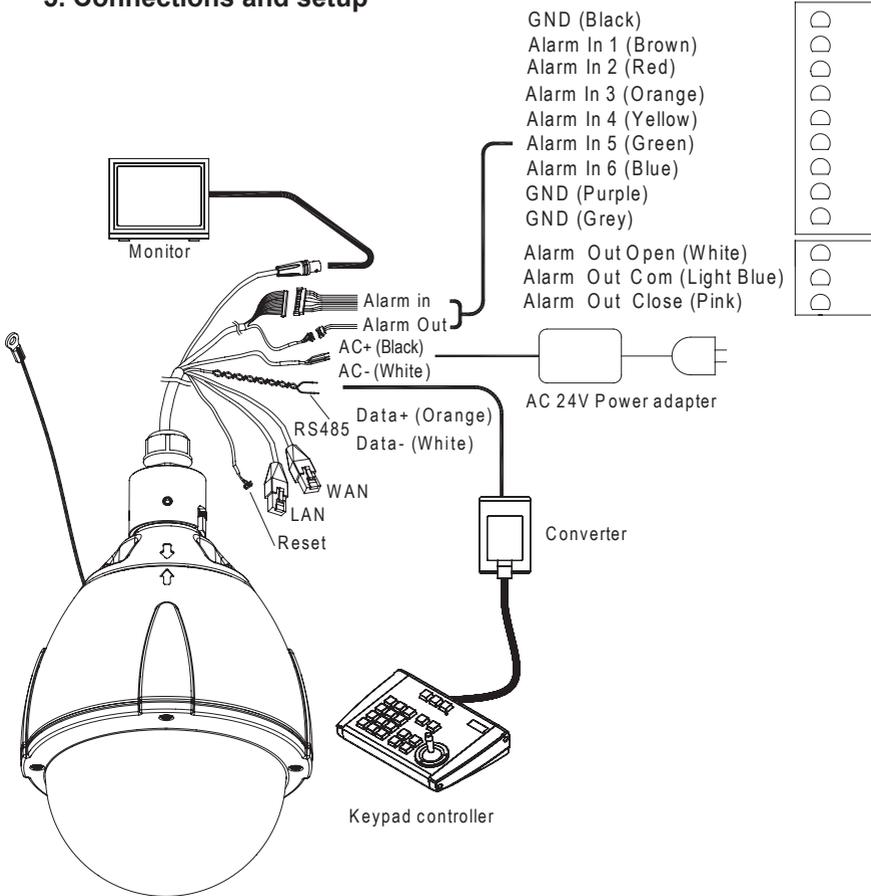
# FEATURES



1. Video out
2. Alarm in
3. Alarm out
4. AC24V power in
5. Black: AC+ / White: AC-
6. RS485 signal cable
7. Orange: Data+ / White: Data-

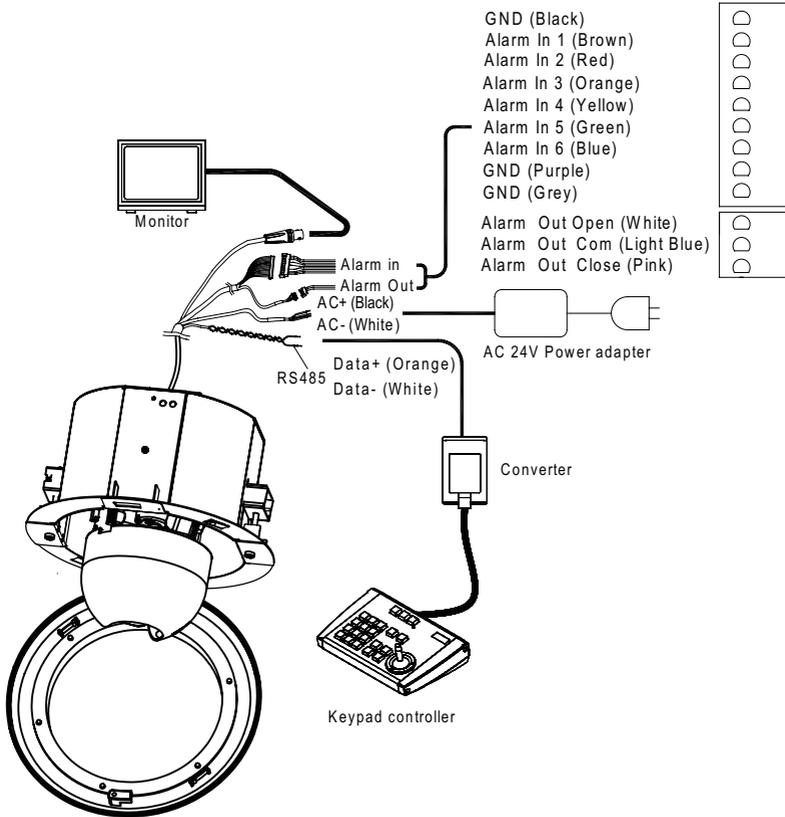
# CONNECTIONS AND SETUP

## 5. Connections and setup



- Please use an appropriate power adapter.
- Please confirm that the dip switches are correctly configured.
- Please contact your supplier for adequate control panel.  
Improper control panel might cause damage for speed dome.
- WAN, LAN, and Reset functions are for network model only.

# CONNECTIONS AND SETUP



- ⚠ ● Please use an appropriate power adapter.
- Please confirm that the dip switches are correctly configured
- Please contact your supplier for adequate control panel.  
Improper control panel might cause damage for speed dome.

# OPERATION INSTRUCTIONS

## 6.Operation Instructions

### Startup Screen

VER:

PROTOCOL:

ADDRESS:

BAUD RATE:

The startup screen will show the software version, communication protocol, machine address, and transmission baud rate etc.

### 6.1 Activate OSD Menu:

Method to activate the OSD menu may differ with the connected keypad controller. For keypad controller that is compatible with Pelco P / Pelco D (Messoa-P/Messoa-D), press the **MENU** key to enter the main menu screen.

### 6.2 Horizontal Pan/Vertical Tilt:

Manual horizontal pan:

Manual horizontal pan must be controlled through the joystick on the keypad controller. The rotation speed is adjustable between 0.1°~90°/sec by the position of the joystick, and up to 150°/sec under Turbo mode. The speed will be restricted when under Proportion P/T mode.

Manual vertical tilt:

Manual vertical tilt speed is adjustable between 0.1°~45°/sec, and the speed will be restricted when under Proportion P/T mode.

Horizontal pan range	360° continuous rotation
Vertical tilt range	92°
Manual horizontal pan speed	0.1°~90° /s
Manual horizontal pan speed (Turbo mode, Pelco P/Messoa-P only)	150° /s
Manual vertical tilt speed	0.1°~45°/s
Preset maximum rotation speed	Horizontal: 430° /s Vertical: 200° /s

Note: for indoor environment, maximum tilt angle is 85 degree; maximum 92 degree for outdoor environment.

### 6.3 Scanning Mode:

#### 6.3.1 Auto Scan:

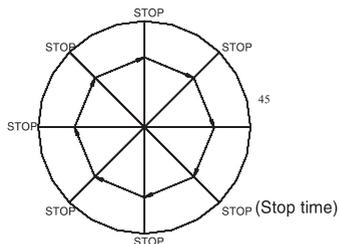
Auto scan can be configured to run at startup, or can be controlled by the keypad controller.

(a). *When the scan range has not been set:*

The camera will rotate horizontally until a command from the keypad controller is

# OPERATION INSTRUCTIONS

received (e.g. horizontal rotate, vertical rotate, IRIS, and focus etc.)



*(b). When the scan range has been set:*

The camera will rotate horizontally in the scan range until a command from the keypad controller is received (e.g. horizontal rotate, vertical rotate, iris, and focus etc.) For configuring the scan range, please use the menu command <PAN/TILT SETUP> SCAN LIMIT STOPS.

*(c). Lens zoom:*

During startup, the lens will zoom out and auto scanning will remain at the original zoom level.

*(d). Tilt angle:*

During startup, the camera will perform vertical scanning from the tilt angle setting. For configuring the tilt angle, please use the menu command <OTHERS> SCAN TILT ANGLE. When the keypad controller issues auto-scanning command, the tilt angle will remain at the original setting.

## 6.3.2 Frame Scanning:

Frame scanning can be configured to run at startup, or can be controlled by the keypad controller. Configuring the zoom level and tilt angle is the same as in auto scanning.

*(a). When the scan range has not been set:*

The camera will scan at 45° increments until a command from the keypad controller is received (e.g. horizontal rotate, vertical rotate, iris, and focus etc.) Please refer to the diagram below.

## 6.3.3 Random Scanning:

Random scanning can be configured to run at startup, or can be controlled by the keypad controller. Configuring the zoom level and tilt angle is the same as in auto scanning.

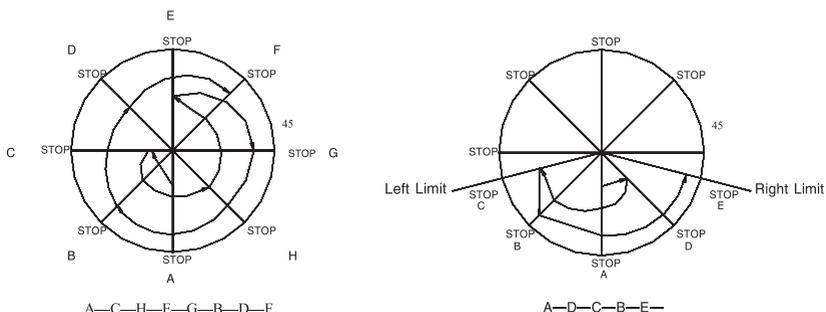
*(a). When the scan range has been set: (figure.1)*

The camera will randomly pick a stop point and perform scanning until a command from the keypad controller is received (e.g. horizontal rotate, vertical rotate, iris, and focus etc.) Please refer to the diagram below.

*(b). When the scan range has been set: (figure.2)*

The camera will randomly pick a stop point and perform scanning in the scan range until a command from the keypad controller is received (e.g. horizontal rotate, vertical rotate, iris, and focus etc.) Please refer to the diagram below.

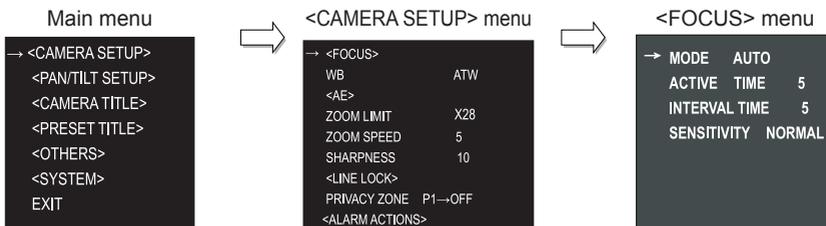
# OPERATION INSTRUCTIONS



Note: Please use the menu command <PAN/TILT SETUP> STOP TIME (P0) to configure the stop time, range from 5 sec to 120 sec.

## 6.4 Camera Settings:

### 6.4.1 FOCUS:



#### Description:

These focus modes to choose from:

- Manual: Use the **NEAR** and **FAR** keys to control the focus.
- AUTO: Press the **NEAR** or **FAR** keys to switch to manual focus mode until the commands for lens zoom, horizontal, and vertical rotate button control signals are received.
- IN ICR ON: Enables focus compensation in ICR On mode.
- ONE PUSH AF: Perform AF operation once in Manual Focus mode.
- INTERVAL: The camera will switch between auto focus and manual focus modes according to the Active time and Interval time settings: Active Time (auto)→Interval Time (manual)→Active Time (auto)→Interval Time (manual)... Interval and Active time settings range between 0 and 255 seconds.
- ZOOM TRIGGER: The camera will remain under manual focus mode until the control signals for **ZOOM IN** or **ZOOM OUT** are received from the keypad. After the action is carried out, the camera will return to manual focus mode.

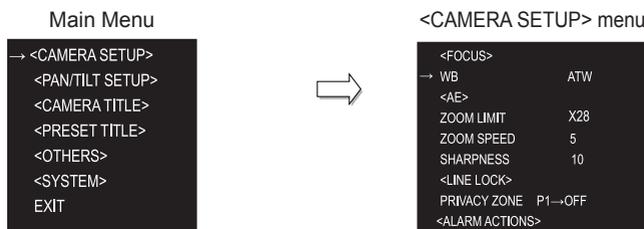
Auto focus sensitivity can be set to Normal or Low.

# OPERATION INSTRUCTIONS

## **Adjust Focus setting options:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to <FOCUS>, and then press the **OPEN** key to enter <FOCUS> menu.
4. Move the cursor to <MODE>, and then press the **OPEN** key to enter mode selection menu.
5. Move the joystick up and down to choose the function to use.
6. Press the **OPEN** key to confirm, or press **CLOSE** to cancel selection and exit from the menu screen.

## **6.4.2 WHITE BALANCE (WB):**



### **Description:**

Provides the following white balance modes:

- AUTO: White balance range from 3000°K to 7500°K.
- ATW: White balance range from 2000°K to 10000°K.
- SODIUM LAMP FIX: A fixed WB mode for sodium lamps.
- SODIUM LAMP AU (AUTO): An Auto WB mode for sodium lamps.
- OUTDOOR AUTO: Allows to capture images with natural white balance in the morning and evening.
- MANUAL: Manual control of R and B gain, 256 steps each.
- OUTDOOR: 5800°K base mode.
- INDOOR: 3200°K base mode.
- ONE PUSH WB: Use the hotkey combination (number "73"+ **PRESET** key) to activate ONE PUSH white balance (ONE PUSH WB mode has to be enabled).

### **Adjust White Balance setting option:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to WB, and then press the **OPEN** key to enter WB mode selection.
4. Move the joystick up/down to make the selection.
5. Press the **OPEN** key to confirm the selection or press the **CLOSE** key to cancel selection and exit from the menu screen.

# OPERATION INSTRUCTIONS

## 6.4.3 AUTO EXPOSURE (AE):



The aperture can be directly controlled by the **OPEN** or **CLOSE** keys.

- Mode:

- FULL AUTO: The shutter speed is set at 1/60 sec (NTSC) or 1/50 sec (PAL) and the camera will automatically adjust the aperture according to the amount of outside light. The aperture can be manually controlled; but once the zoom or horizontal pan/vertical tilt command is received, the camera will return to FULL AUTO mode.
- MANUAL: Variable Shutter, Iris and Gain
- BRIGHT COMP: Can be either ON or OFF, or directly controlled by the keypad (number "71"+ **PRESET** key = ON; number "72"+ **PRESET** key = OFF)
- SHUTTER PRIORITY: The shutter speed ranges between 1/1 ~1/10,000 seconds, with 22 steps.
- AUTO SLOW SHUTTER: Can be either ON or OFF.
- SHUTTER SPEED: Only can be selected when AE mode is SHUTTER SPEED.
- AE COMPENSATION: Can be adjusted between -7 to +7.
- BACK LIGHT COMP: Can select WDR, ON. OFF.
- DAY/NIGHT: Can be either automatic or manual. To improve nighttime sensitivity, the infrared filter in the camera lens can be removed. When set to auto mode, the camera will automatically adjust according to the environment brightness; under manual mode, directly press the keys number "88"+ **PRESET** key = Daytime color mode; number "89"+ **PRESET** key = Nighttime monochrome mode.
- FLICKERLESS: ON or OFF.
- GAIN CONTROL: ON or OFF.

### Adjust Auto Exposure setting option:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to AE, and then press the **OPEN** key to enter AE mode selection.
4. Move the cursor to the selection and then press the **OPEN** key to enter.
5. Move the joystick up/down to choose the selection.
6. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.



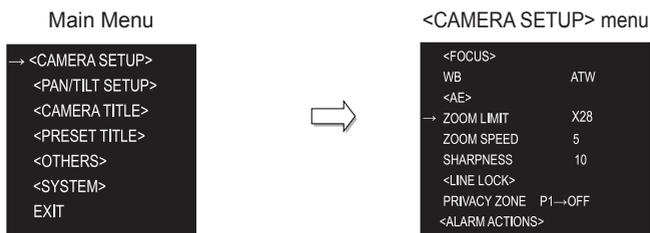
# OPERATION INSTRUCTIONS

## 6.4.4 ZOOM LIMIT:

Description:

- Directly set as wide or tele mode.
- Zoom levels: X18, X28, X36, X56...up to X432.(depend on lens module)
- Max optical zoom level is X36, digital zoom level starts from X36 to X432 (depend on lens module)

Menu:



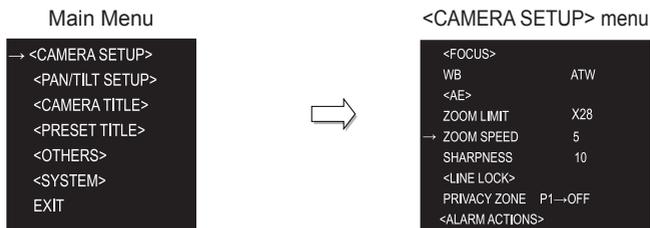
### Adjust the Zoom Limit:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to ZOOM LIMIT, and then press the **OPEN** key to enter zoom level selection.
4. Move the joystick up/down to choose the zoom level selection.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.4.5 ZOOM SPEED:

Description:

- There are nine steps of zoom speed for the lens 0 ~ 7 that can be selected from the menu. When set to EXT mode, the command has to be issued through the RS485 interface.



### Adjust the Zoom Speed:

1. Press "95" + hold the **PRESET** key for 2 seconds to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to

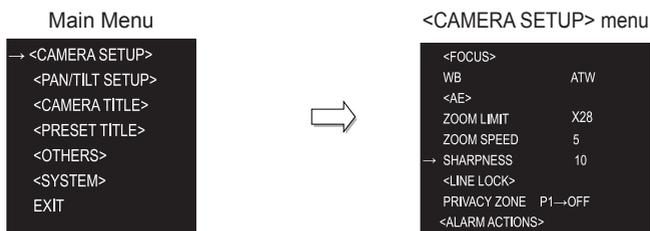
# OPERATION INSTRUCTIONS

enter <CAMERA SETUP> menu.

3. Move the cursor to ZOOM SPEED, and then press the **OPEN** key to enter zoom speed selection.
4. Move the joystick up/down to choose the zoom speed selection.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.4.6 SHARPNESS:

Sharpness control ranges from 0 to 15 (15 is the sharpest).



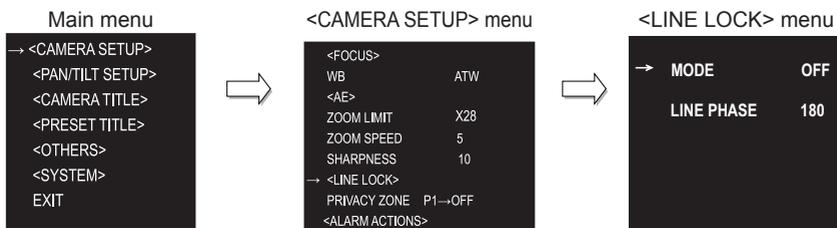
### Adjust the Sharpness:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to SHARPNESS, and then press the **OPEN** key to enter sharpness selection.
4. Move the joystick up/down to choose the appropriate sharpness selection.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.4.7 LINE LOCK:

The camera can use the power line frequency as the sync signal source.

- Line Lock can be set to ON or OFF
- Line Phase range between 40° ~ 250°



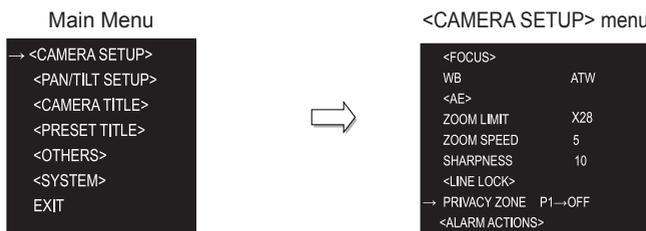
### Set the LINE LOCK:

# OPERATION INSTRUCTIONS

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to <LINE LOCK>, and then press the **OPEN** key to enter <LINE LOCK> mode selection.
4. Move the cursor to the selection and then press the **OPEN** key to enter.
5. Move the joystick up/down to choose the selection.
6. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.4.8 PRIVACY ZONE:

This feature can enable the user to black out (or white out) a specific portion of the screen to protect the necessary privacy. The size and position of these frame areas can be adjusted according to the horizontal pan, vertical tilt, and lens zoom of the camera. Up to 24 frame zones can be configured.



### Set Privacy Zone #:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
3. Move the cursor to PRIVACY ZONE, and then press the **OPEN** key to enter the selection.
4. Move the joystick up/down to set the P1~P24 ON/OFF selection.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

### Set Privacy Zone Size and Position:(Using the keypad controller)

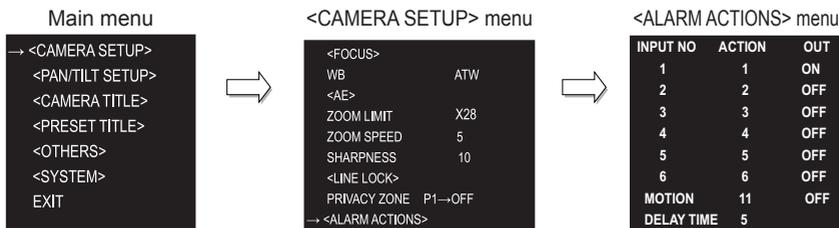
1. First move the image to be masked to the center of the screen.
2. Press number key "83" then press and hold the **PRESET** key for 2 seconds to go to the setup screen for the zone #:  
Screen display: PRIVACY ZONE 1  
Move the joystick up/down to select the zone #
3. Press the **OPEN** key to confirm the zone #, and then go to the setup screen for the zone size:  
Screen display: PRIVACY ZONE SIZE,  
Move the joystick up/down to set the zone size.

# OPERATION INSTRUCTIONS

- Press the **OPEN** key to confirm the zone size, and then go to the setup screen for the zone color:  
Screen display: PRIVACY ZONE COLOR  
Move the joystick up/down to select the zone color (black or white).
- Press the **OPEN** key to confirm the zone color and then go to the next zone setting step, or press the **CLOSE** key to exit the privacy zone setup mode.  
Note:
  - Up to 24 zones can be setup, but the screen can simultaneously display 8 zones.
  - It is recommended to set the privacy zone slightly larger than the actual area, to ensure that privacy area is not revealed during movement.
  - Privacy zone will zoom with the lens zoom level to ensure the effect.

## 6.4.9 Alarm Action:

There are a set of alarm ports under the camera including 6 alarm inputs and 1 alarm output. Each alarm can be configured with 256 preset action point, and when alarm 1~6 is triggered, the camera will immediately move to the predefined position.



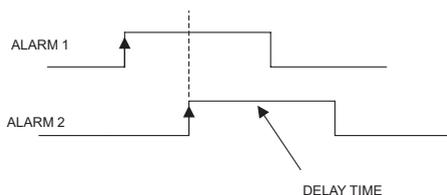
### Set the Alarm Action:

- Press the **MENU** key to enter the main menu screen.
- Move the cursor to <CAMERA SETUP>, and then press the **OPEN** key to enter <CAMERA SETUP> menu.
- Before entering the <ALARM ACTIONS> screen, please first use the keypad controller to set the preset action point (press number key + **PRESET** key at least 2 seconds and up to 256 points) and then move the cursor to <ALARM ACTIONS> then press the **OPEN** key to enter the <ALARM ACTIONS> menu.
- Move the cursor to the alarm input, and configure the preset action and alarm output status (ON or OFF).
- Alarm DELAY TIME: The alarm delay time can be configured (5~120 sec).

The diagram below explains the alarm action from the signal:

- Positive edge triggered.
- If there are new alarms triggered during an existing alarm, then the first alarm will be invalid.
- After the alarm ends, the camera will continue with the action before the alarm is triggered.

# OPERATION INSTRUCTIONS



## **When using the infrared projector:**

When using the infrared illuminations during nighttime as an auxiliary light source, the infrared activation signal can be connected to the alarm input port and set the alarm action to BW mode. This will prevent the constant switching between color and monochrome images caused by the strength of the external light source, as well as improve sensitivity and avoid image shaking.

## **MOTION Detection:**

The camera features motion detection capabilities and is similarly configured as the alarm setup.

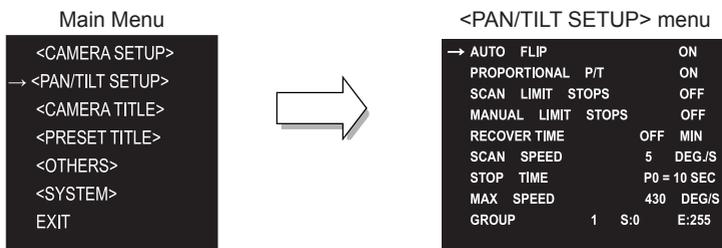
### **Note:**

Motion function is selectable: PATH/BW/Preset point/OFF action. When camera set in Path action, the camera would track the moving objective.

## **6.5 Horizontal Pan/Vertical Tilt Setup:**

### **6.5.1 Auto Flip**

The auto flipping function will enable the camera to quickly flip 180° in the vertical direction. Objects moving under the camera can be tracked without interruption.



## **Activate 180° Auto Flip:**

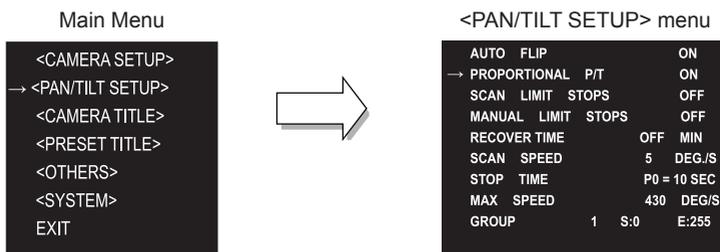
1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to **<PAN/TILT SETUP>**, and then press the **OPEN** key to enter **<PAN/TILT SETUP>** menu.
3. Move the cursor to the **AUTO FLIP** selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose **ON** or **OFF**.

# OPERATION INSTRUCTIONS

- Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.2 Proportional P/T:

Proportional P/T enabled to let the camera to adjust the horizontal pan/vertical tilt speed according to the zoom level. When zoomed in, the horizontal and vertical speed will be slowed down so as to keep the image from moving too rapidly.

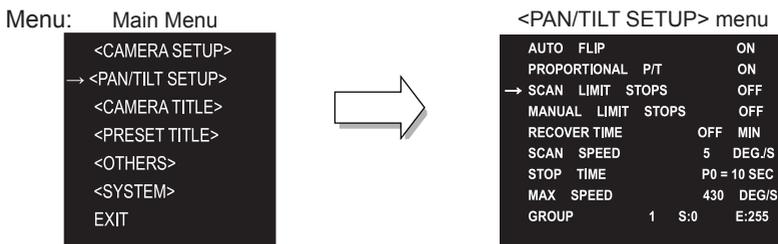


### Activate the Proportional P/T:

- Press the **MENU** key to enter the main menu screen.
- Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
- Move the cursor to the PROPORTIONAL P/T selection and then press the **OPEN** key to enter.
- Move the joystick up/down to choose ON or OFF.
- Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.3 Scan Range :

When the camera scan mode is set to random, frame, or auto, once the scan range is reached, the camera will turn the other direction.



### Activate Scan Range:

- Press the **MENU** key to enter the main menu screen.
- Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.

# OPERATION INSTRUCTIONS

3. Move the cursor to the SCAN LIMIT STOPS selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## Set the Scan Range:

1. Activate the scan range (SCAN LIMIT STOP = ON) and then exit the menu.
2. Set the left limit: use the joystick and move the camera to the left limit position, then press number key "92" + hold the **PRESET** key for 2 seconds. The screen will show: SCAN LEFT LIMIT, and the left limit will be set.
3. Set the right limit: use the joystick and move the camera to the right limit position, then press number key "93" + hold the **PRESET** key for 2 seconds. The screen will show: SCAN RIGHT LIMIT, and the right limit will be set.

## 6.5.4 MANUAL Scan Range:

When using the joystick to control the horizontal panning, the camera will stop panning once it reaches the MANUAL LIMIT STOPS. The scan limit can be configured as left and right limit.



## Activate the Manual Scan Range:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
3. Move the cursor to the MANUAL LIMIT STOPS selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## Set the Manual Scan Range:

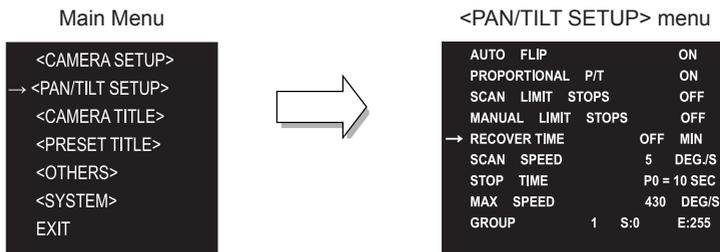
1. Activate the manual scan range (MANUAL LIMIT STOP = ON) and then exit the menu.
2. Set the left limit: use the joystick and move the camera to the left limit position, then press number key "90" + hold the **PRESET** key for 2 seconds. The screen will show: MANUAL LEFT LIMIT, and the left limit will be set.
3. Set the right limit: use the joystick and move the camera to the right limit

# OPERATION INSTRUCTIONS

position, then press number key “91” + hold the **PRESET** key for 2 seconds. The screen will show: MANUAL RIGHT LIMIT, and the right limit will be set.

## 6.5.5 RECOVER TIME:

Under scan mode (auto, frame, random), if the auto patrol and pattern patrol are interrupted from inadvertent keypad controller input, the camera will resume the previous action after a set amount of time. The recovery time can be configured from 1 to 120 min, and can be disabled (OFF).

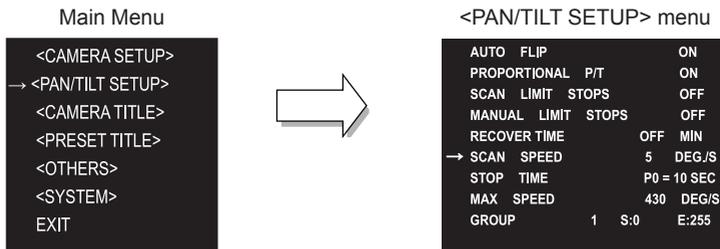


### Set the Recovery Time:

1. Press “95” + hold the **PRESET** key for 2 seconds to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
3. Move the cursor to the RECOVER TIME selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the time.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.6 SCAN SPEED:

Auto, random, and frame scan speed can be configured between 1° ~ 90° /sec, but cannot exceed the MAX SPEED setting.



### Set the Scan Speed:

1. Press “95” + hold the **PRESET** key for 2 seconds to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to



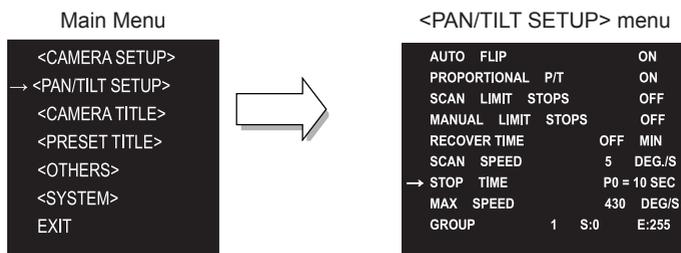
# OPERATION INSTRUCTIONS

enter <PAN/TILT SETUP> menu.

3. Move the cursor to the SCAN SPEED selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the speed.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.7 STOP TIME:

Under random, frame, or auto scan modes, the STOP TIME can be set. During scanning, the camera will pause at each stop position from 5 sec to 120 sec.



### Set the Stop Time:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
3. Move the cursor to the STOP TIME selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose the position, and left/right to set the time.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.8 MAX SPEED:

The max speed for horizontal pan/vertical tilt can be configured between 1° to 430°/sec. To lower the amount of noise, it is recommended that a lower speed be used.



# OPERATION INSTRUCTIONS

## Set the Max Speed:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
3. Move the cursor to the MAX SPEED selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the speed.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.5.9 GROUP:

For convenience of key press controls, the unit provides 4 sets of preset auto patrol group configurations.

- (1) GROUP 1:  
Press "70"+ **PRESET** key to run first auto patrol group.
- (2) GROUP 2:  
Press "90"+ **PRESET** key to run second auto patrol group.
- (3) GROUP 3:  
Press "91"+ **PRESET** key to run third auto patrol group.
- (4) GROUP 4:  
Press "92"+ **PRESET** key to run fourth auto patrol group.

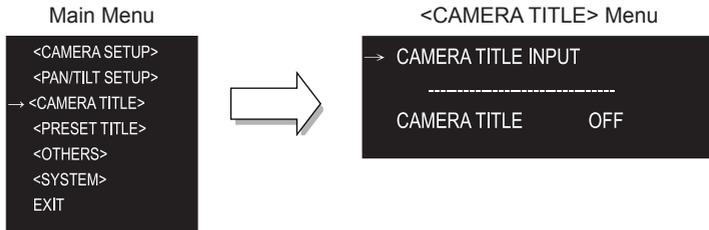


## Set the Preset Group:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PAN/TILT SETUP>, and then press the **OPEN** key to enter <PAN/TILT SETUP> menu.
3. Move the cursor to the GROUP selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the group.
5. Move the joystick left/right to choose the start position (S), move up/down to set the preset point.
6. Move the joystick left/right to choose the end position (E), move up/down to set the preset point.
7. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

# OPERATION INSTRUCTIONS

## 6.6 TITLE:



### ***Set the Title:***

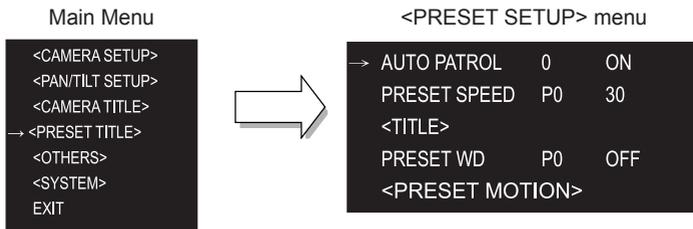
1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <CAMERA TITLE>, and then press the **OPEN** key to enter <CAMERA TITLE> menu.
3. Move the cursor down to CAMERA TITLE INPUT, and then press the **OPEN** key. Use the joystick up/down to select the character.
4. Move the cursor down to CAMERA TITLE, and then press the **OPEN** key to select either ON or OFF. If OFF is selected, then the camera title will not be shown.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.7 PRESET SETUP:

### **6.7.1 AUTO PATROL:**

The auto patrol function will continuously scan up to 256 preset positions and is not limited by the scan range.

# OPERATION INSTRUCTIONS



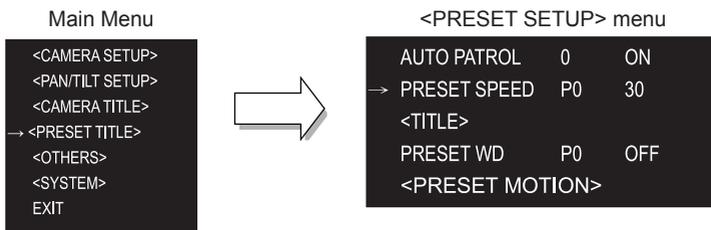
\*Before activating the auto patrol feature, please refer to Chapter 8 Configure preset points to configure the desired patrol points\*

## **Activate the Auto Patrol:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PRESET SETUP>, and then press the **OPEN** key to enter <PRESET SETUP> menu.
3. Move the cursor to the AUTO PATROL selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose the position, and left/right to set ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## **6.7.2 PRESET SPEED:**

You can modify individual preset speed for individual preset points. When setting "MAX" SPEED in preset speed section, the speed is depended on the setting in SCAN SPEED



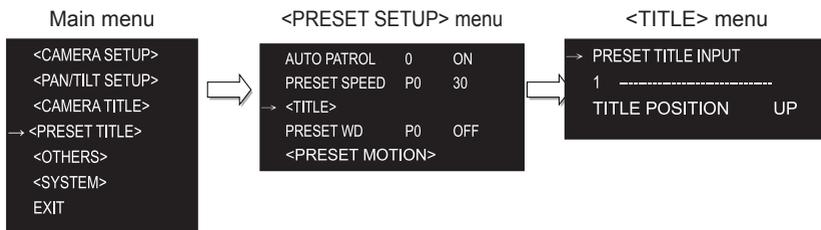
## **Activate the Preset speed:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PRESET SETUP>, and then press the **OPEN** key to enter <PRESET SETUP> menu.
3. Move the cursor to the PRESET SPEED selection and then press the **OPEN** key to enter.

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4. Move the joystick up/down to choose the position, and left/right to set preset speed.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.7.3 TITLE:



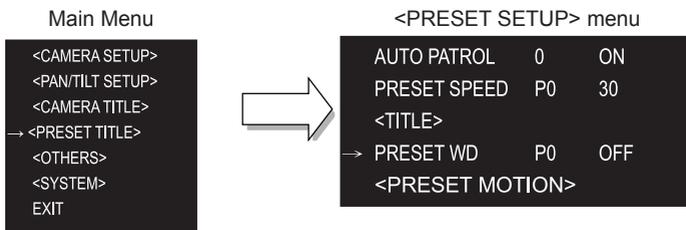
### Activate the Title:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to **<PRESET SETUP>**, and then press the **OPEN** key to enter **<PRESET SETUP>** menu.
3. Move the cursor to the **TITLE** selection and then press the **OPEN** key to enter.
4. Enter **TITLE** menu then move the joystick up/down to select the preset point.
5. Move the cursor to the right to enter the title input field. Use the joystick up/down to select the character, and then move the cursor left/right to the next character.
6. Move the cursor down to the **TITLE POSITION**, and then press the **OPEN** key to select either the **UP** or **DOWN** position. **UP** will show the title at top of the screen, and **DOWN** will show the title at bottom of the screen.

## 6.7.4 PRESET WD (For WDR model only)

You can enable WDR function for individual preset point.

Note: PRESET WD function only support certain models and support P0~P66 preset point only.



# OPERATION INSTRUCTIONS

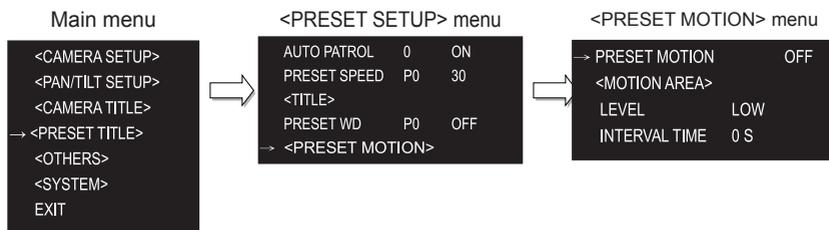
## **Activate the Preset WD:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PRESET SETUP>, and then press the **OPEN** key to enter <PRESET SETUP> menu.
3. Move the cursor to the PRESET WD selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose the position(P0~66), and left/right to set OFF, BLC, or WDR.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## **6.7.5 PRESET MOTION: (For WDR model only)**

User can enable motion function for individual preset points. You can create and move up to 4 motion areas for every individual present point.

Note: PRESET MOTION function only support certain models and support P0~P10 preset point only.



## **Activate the Preset motion:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <PRESET SETUP>, and then press the **OPEN** key to enter <PRESET SETUP> menu.
3. Move the cursor to the PRESET MOTION selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to choose the position(P0~10), and left/right to set ON, or OFF.
5. Move the cursor to the MOTION AREA selection and then press the **OPEN** key to enter.
6. Press the **OPEN** key to confirm the zone #, and then move zone.  
Screen display: MOTION AREA 1 MOVE
7. Press the **OPEN** key to confirm the zone #, and then go to the setup screen for the zone size:  
Screen display: MOTION AREA 1 SIZE
8. Move the joystick up/down to set the zone size.
9. Press the **CLOSE** key to exit from the menu screen.

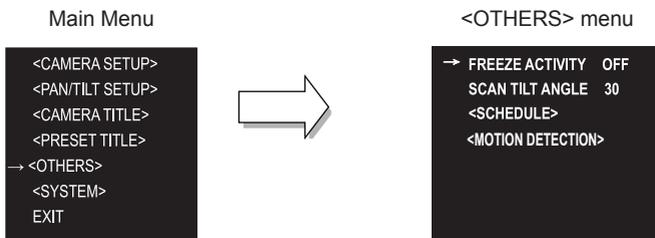
# OPERATION INSTRUCTIONS

10. Move the joystick up/down to choose the threshold LEVEL selection, and left/right to set HI, MID or LOW.
11. Move the joystick up/down to choose the INTERCAL TIME selection, and left/right to set the time.
12. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.8 OTHERS MENU:

### 6.8.1 FREEZE ACTIVITY:

When the camera is in frame, random, auto, or preset scanning modes, the camera screen can be disabled during movement, and the screen image will only be shown until the camera reaches the stop point.

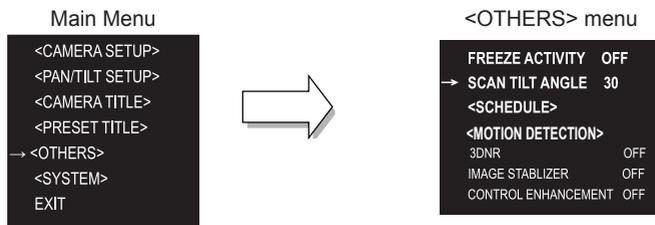


### Set Freeze Activity:

1. Press “95” + hold the **PRESET** key for 2 seconds to enter the main menu screen.
2. Move the cursor to <OTHERS>, and then press the **OPEN** key to enter <OTHERS> menu.
3. Move the cursor to the FREEZE ACTIVITY selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

### 6.8.2 SCAN TILT ANGLE:

The camera tilt angle can be configured for different application requirements.

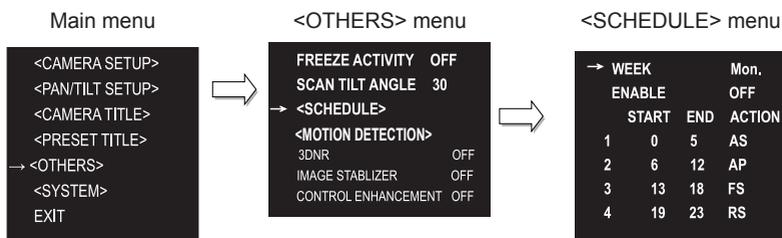


# OPERATION INSTRUCTIONS

## Set the Tilt Angle:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <OTHERS>, and then press the **OPEN** key to enter <OTHERS> menu.
3. Move the cursor to the SCAN TILT ANGLE selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set tilt angle (0~92°).
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.8.3 SCHEDULE:



Four sets of schedules can be configured with individual start time, end time, and action mode. The actions include preset(0~32), auto scan, auto patrol 1~4, frame scan, and random scan modes.

## Set a Schedule:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <OTHERS>, and then press the **OPEN** key to enter <OTHERS> menu.
3. Move the cursor to <SCHEDULE>, and then press the **OPEN** key to enter the <SCHEDULE> menu.
4. Move the cursor to WEEK and then press the **OPEN** key. Use the joystick up/down to select the week and press the **OPEN** key to confirm the selection and quit.
5. Move the cursor to ENABLE and press the **OPEN** key to enter the option. Use the joystick up/down to set ON or OFF.
6. Press the **OPEN** key to set the start time, end time, and status options.
7. Move the joystick up/down to make the selection.
8. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## Note:

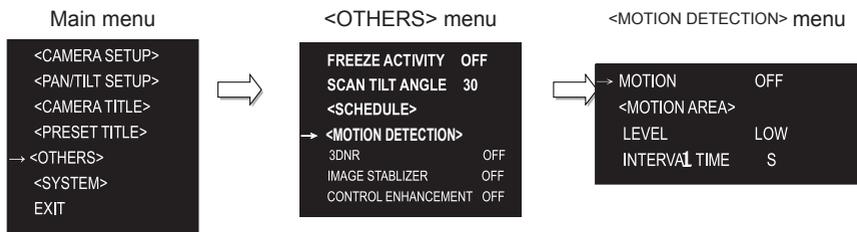
1. The Start and End time setup is by the unit of hours.  
For example, set 0 -> 1 means from 00:00 to 01:59, 2 hours in total.
2. When a schedule mode is ON and within the schedule time interval, the dome will still perform scheduling after power up from abnormal power lost; regardless of the setting for power on Menu.



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## 6.8.4 MOTION DETECTION: (For WDR model only)

You can set motion area to detect moving objectives. You can create and move up to 4 motion areas from display. The motion detection is active as camera rotates.



## 6.8.5 2D/3D NR

You can turn on the 2D/3D Noise Reduction function to remove noise to provide clearer images. The options include OFF and up to 5 levels according to the illumination.

## 6.8.6 IMAGE STABILIZER

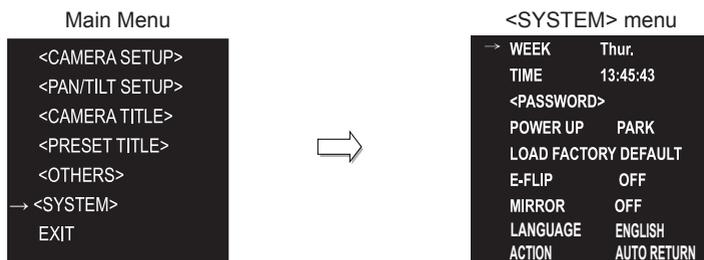
You can turn on the IMAGE STABILIZER function to improve the stability of the image.

## 6.8.7 COLOR ENHANCEMENT

You can turn on this function to change a full-color image to a black & yellow one. It suits for applications where high contrast image is preferred.

## 6.9 SYSTEM Setup:

### 6.9.1 WEEK:



### Set the Week:

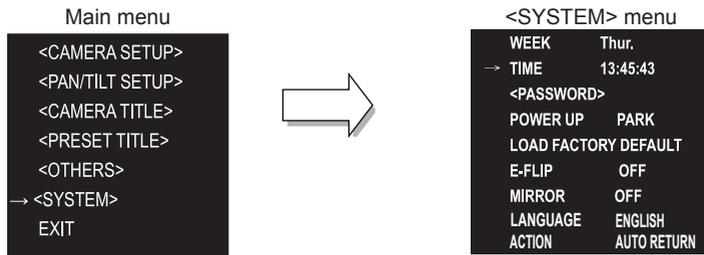
1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the WEEK selection and then press the **OPEN** key to

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enter.

4. Move the joystick up/down to set the week.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

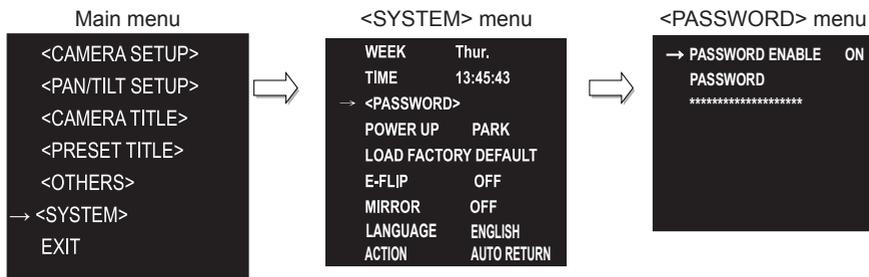
## 6.9.2 TIME:



### Set the Time:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the TIME selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the time.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.9.3 PASSWORD:



### Set the Password:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to <PASSWORD>, and then press the **OPEN** key to enter the

# OPERATION INSTRUCTIONS

<PASSWORD> menu.

4. Move the cursor to PASSWORD ENABLE and press the **OPEN** key to enter the option. Use the joystick up/down to set ON or OFF.
5. If ON is selected, please enter the password. Press the **OPEN** key to enter the PASSWORD menu.
6. Move the joystick up/down to set the password.
7. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.9.4 POWER UP Mode:

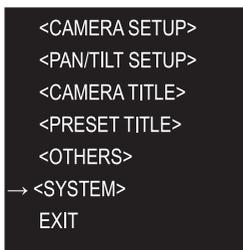
The camera can be configured to different moves after power up:

- (a).PARK: The camera will move to the first preset position.
- (b).AUTO SCAN: The camera will run auto scan.
- (c).FRAME SCAN: The camera will run frame scan.
- (d).RANDOM SCAN: The camera will run random scan.
- (e).AUTO PATROL: The camera will run auto patrol.
- (f).PATTERN 1: The camera will run pattern 1.
- (g).BY DEFAULT: The speed dome would return to default setting after power on. Ex, if the default setting is Auto Scan, the speed dome would run Auto Scan after power on.
- (h).SCHEDULE: If the default setting is SCHEDULE, the speed dome would run the path setting in SCHEDULE after power on.

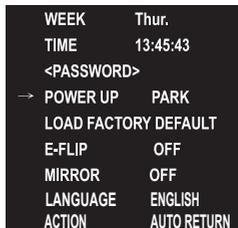
Note: 1. If Recover Time is enabled, the speed dome would still enable Recover Time function after power on.

2. When a schedule mode is ON and within the schedule time interval, the dome will still perform scheduling after power up from abnormal power lost; regardless of the setting for power on Menu.

Main Menu



<SYSTEM> menu



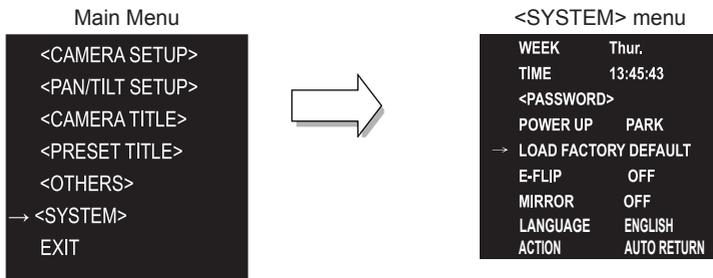
### Set the Power Up Mode:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the POWER UP selection and then press the **OPEN** key to enter.
4. Move the joystick up/down to set the power up mode.

# OPERATION INSTRUCTIONS

5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.9.5 LOAD FACTORY DEFAULT:

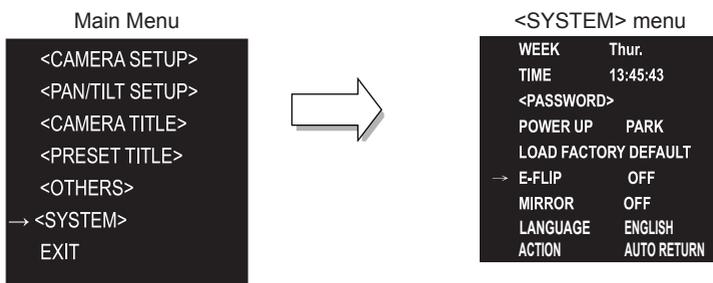


### **Load the Factory Default:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to LOAD FACTORY DEFAULT, and then press the **OPEN** key twice to show the screen:  
\*LOAD FACTORY DEFAULT and the setup is complete.

Note: Please do not operate keyboard when “\*” appear; wait for arrows showing on screen.

## 6.9.6 E-FLIP



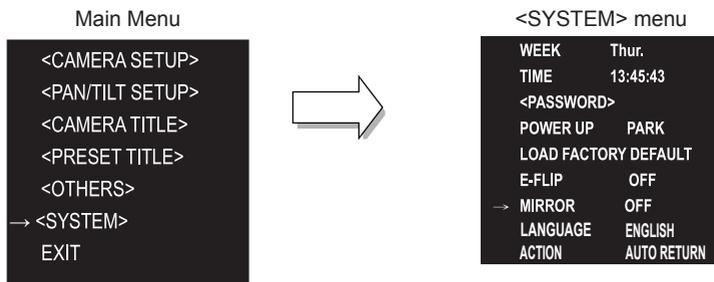
### **Set as E-Flip:**

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the E-FLIP selection and then press the **OPEN** key to enter E-FLIP menu.

# OPERATION INSTRUCTIONS

4. Move the joystick up/down to set ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.9.7 MIRROR:

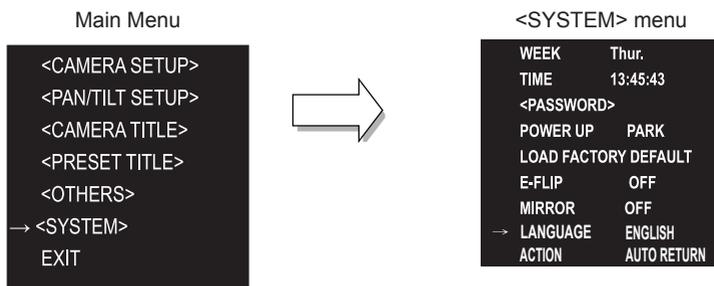


### Set Mirror mode:

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the MIRROR selection and then press the **OPEN** key to enter MIRROR menu.
4. Move the joystick up/down to set ON or OFF.
5. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## 6.9.8 LANGUAGE

OSD supports multiple languages: English, Traditional Chinese, Spanish, Portuguese, French, Japanese, German, Polish and Italian.



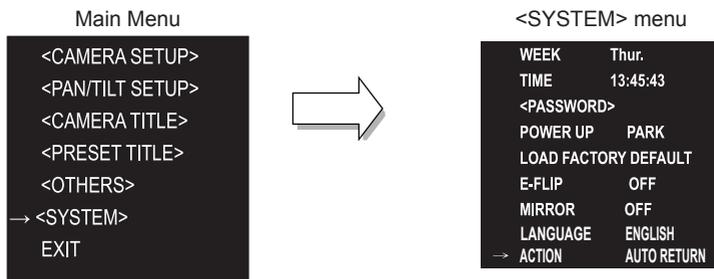
# OPERATION INSTRUCTIONS

## ***Set the language:***

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the LANGUAGE selection and then move the joystick up/down to set language.
4. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

## **6.9.9 ACTION**

You can set speed dome to auto return to default scan mode/patrol or return to park when recover time end.



## ***Set the ACTION:***

1. Press the **MENU** key to enter the main menu screen.
2. Move the cursor to <SYSTEM>, and then press the **OPEN** key to enter <SYSTEM> menu.
3. Move the cursor to the ACTION selection and then move the joystick up/down to set AUTO RETURN or PARK.
4. Press the **OPEN** key to confirm selection, or press the **CLOSE** key to cancel selection and exit from the menu screen.

# OPERATION INSTRUCTIONS

## 6.10 PATTERN TOUR:

This camera provides 4 sets of patterns and playback modes for selection. Actions for playback include lens zoom, horizontal pan, and vertical tilt etc. Once the pattern is recorded, it can be played back accordingly to the user's discretion. Each set can record up to 6 minutes and up to 4 sets (24 minutes) of patterns recorded.

Pattern tour configuration:

1. Record:

Press "101" +  key for 2 seconds → Begin first set

Press "102" +  key for 2 seconds → Begin second set

Press "103" +  key for 2 seconds → Begin third set

Press "104" +  key for 2 seconds → Begin fourth set

2. Stop recording: Press "105" +  key

3. Playback:

Press "101" +  key → Playback first set

Press "102" +  key → Playback second set

Press "103" +  key → Playback third set

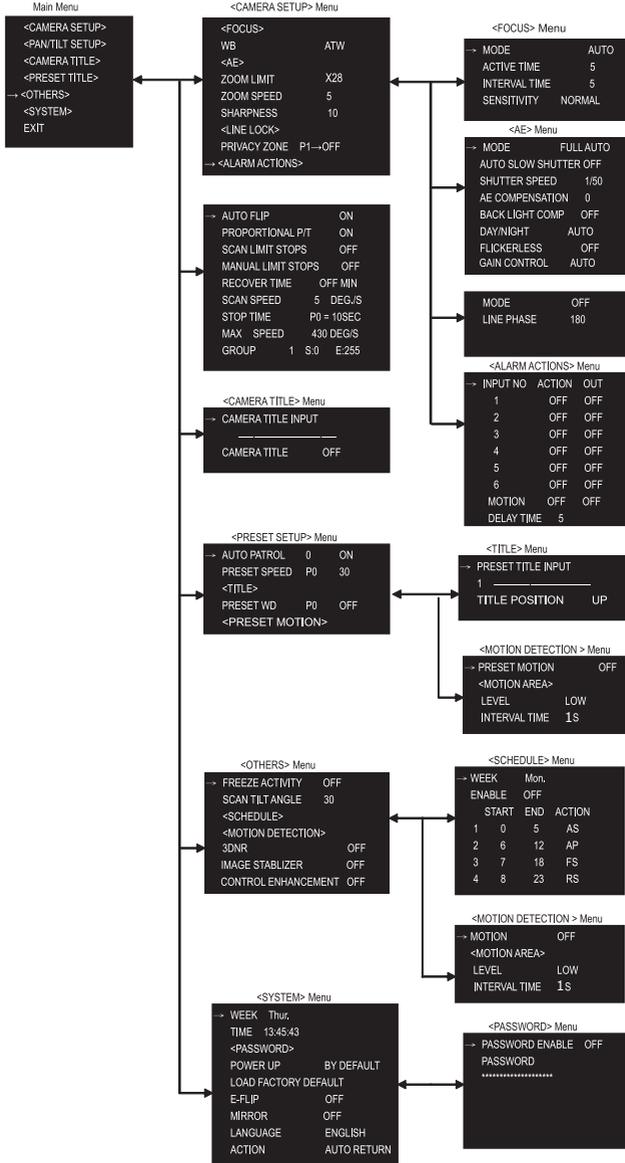
Press "104" +  key → Playback fourth set

\*When the user is recording a pattern, the OSD cannot be accessed to modify an action, as the pattern recording will be interrupted.

\*The ongoing pattern would keep being performed after powered up from abnormal power lost; regardless of the setting for power menu.

# MENU INDEX

## 7.1 Menu Structure





# MENU INDEX

## 7.2 Menu Settings Table:

Main Menu	Submenu 1	Submenu 2	Contents	Factory default
CAMERA SETUP	FOCUS	MODE	MANUAL, AUTO, IN ICR ON MODE, ONE PUSH AF INTERVAL, ZOOM TRIGGER	AUTO
		ACTIVE TIME	0-255 S	5 S
		INTERVAL TIME	0-255 S	5 S
		SENSITIVITY	LOW, NORMAL	NORMAL
	WB		AUTO, ATW, SODIUM LAMP FIX/AU, OUTDOOR AUTO, MANUAL, OUTDOOR, INDOOR, ONE PUSH WB	ATW
	AE	MODE	FULL AUTO, MANUAL, BRIGHT COMP., SHUTTER PRIORITY	FULL AUTO
		AUTO SLOW SHUTTER	ON/OFF	OFF
		SHUTTER SPEED	PAL: 1/1~1/10,000 22 STEPS; NTSC:1/1~1/10,000 22 STEPS;	PAL:1/50; NTSC:1/60
		AE COMPENSATION	-7 ~ +7	0
		BACK LIGHT COMP	ON, OFF, WDR	OFF
		DAY/NIGHT	AUTO, MANUAL	AUTO
		FLICKERLESS	ON, OFF	OFF
		GAIN CONROL	AUTO, MANUAL	AUTO
	ZOOM LIMIT		x18 model: x18, x36, x72, x144, x216 x28 model: x28, x56, x112, x224, x324 x36 model: x36, x72, x144, x288, x432	x18 x28 x36
	ZOOM SPEED		EXT, 0-7	5
	SHARPNESS		0 ~ 15	10
	LINE LOCK	MODE	ON, OFF	OFF
		LINE PHASE	40 ~ 250°	180°
	PRIVACY ZONE		P1 ~ P24: ON/OFF	OFF
	ALARM ACTIONS	INPUT NO	0 ~ 256, BW, OFF	OFF
MOTION		0 ~ 256, BW, OFF, PATH	OFF	
DELAY TIME		5 ~ 120 S	5	
PAN/TILT SETUP	AUTO FLIP		ON/OFF	ON
	PROPORTIONAL P/T		ON/OFF	ON
	SCAN LIMIT STOPS		ON/OFF	OFF
	MANUAL LIMIT STOPS		ON/OFF	OFF
	RECOVER TIME		OFF, 1 ~ 120 MIN	OFF
	SCAN SPEED		1 ~ 90 %/S	5 %/S
	STOP TIME		P0 ~ 255: 5 ~ 120 S	10 S
	MAX SPEED		1 ~ 430 %/S	430 %/S
GROUP		1~4	1	
CAMERA TITLE	CAMERA TITLE INPUT		20 CHARACTERS (MAX)	--
	CAMERA TITLE		ON/OFF	OFF

# MENU INDEX

PRESET SETUP	AUTO PATROL		P0 ~ 255: ON/OFF	P0, OFF	
	PRESET SPEED		P0 ~ 255: 30-MAX	P0, MAX	
	TITLE	PRESET TITLE INPUT	256 POSITION, 20 CHARACTERS (MAX)		
		TITLE POSITION	UP/DOWN	UP	
	PRESET WD		P0-66: OFF/BLC/WDR	OFF	
	PRESET MOTION	PRESET MOTION	P0 ~ 10: ON, OFF	P0, OFF	
		MOTION AREA	1-4 MIN AND MAX		
		LEVEL	HI, MID, LOW	LOW	
	INTERVAL TIME	1-255s	1 s		
OTHERS	FREEZE ACTIVITY		ON, OFF	OFF	
	SCAN TILT ANGLE		0 ~ 92°	30	
	SCHEDULE	WEEK		SUN, MON, TUE, WED, TUR, FRI, SAT	MON..
		ENABLE		ON, OFF	OFF
		START		00:00-23:59	00
		END		00:00-23:59	00
		ACTION		NA, AS, FS, RS, AP1-4, Preset (0-32)	AS
	MOTION DETECTION	MOTION		ON, OFF	OFF
		MOTION AREA		1-4 MIN AND MAX	
		LEVEL		HI, MID, LOW	LOW
		INTERVAL TIME		1-255s	1 s
	2D/3DNR		OFF, 1-5	OFF	
	IMAGE STABILIZER		ON, OFF	OFF	
	COLOR ENHANCEMENT		ON, OFF	OFF	
SYSTEM	WEEK		SUN, MON, TUE, WED, TUR, FRI, SAT	MON.	
	TIME		00:00-23:59	00	
	PASSWORD	PASSWORD ENABLE	ON, OFF	OFF	
	POWER UP		BY DEFAULT, PARK, PATTERN1, SCHEDULE, AUTO PARTOL, RANDOM SCAN, FRAME SCAN, AUTO SCAN.	BY DEFAULT	
	LOAD FACTORY DEFAULT				
	E-FLIP		ON, OFF	OFF	
	MIRROR		ON, OFF	OFF	
	LANGUAGE		ENGLISH	ENGLISH	
	ACTION		AUTO RETURN, PARK	AUTO RETURN	

# PRESET COMMANDS

## 8. Preset Commands

Use the keypad controller preset commands to quickly execute specific functions or perform setting changes. Please refer to the following table for the button combinations and the corresponding functions. The following commands are for use with keypad controllers: Messoa-P, Messoa-D, Pelco P, Pelco D, Bosch, and Ernitec protocol.

Number + Key Press	Function
0~32, 35~66, 111~255+Preset	Move camera to preset point 0~32, 35~66, 111~255
33+Preset	Flip
34+Preset	Return to origin
70+Preset	Begin auto patrol – Group 1
90+Preset	Begin auto patrol – Group 2
91+Preset	Begin auto patrol – Group 3
92+Preset	Begin auto patrol – Group 4
71+Preset	Backlight compensation ON
72+Preset	Backlight compensation OFF
73+Preset	White balance – one push
74+Preset	Focus – one push
75+Preset	Show software version
76+Preset	Self test
88+Preset	Color mode (daytime)
89+Preset	Monochrome mode (nighttime)
96+Preset	Stop scan
97+Preset	Begin random scan
98+Preset	Begin frame scan
99+Preset	Begin auto scan
101+Preset	Run Pattern Tour-Group 1
102+Preset	Run Pattern Tour-Group 2
103+Preset	Run Pattern Tour-Group 3
104+Preset	Run Pattern Tour-Group 4
105+Preset	Stop Pattern Tour-record
0~32、35~66、111~255+ Set Preset	Configure preset point 0~32, 35~66, 111~255
83+Set Preset	Enter privacy zone setup mode
90+Set Preset	Set manual left limit
91+Set Preset	Set manual right limit
92+Set Preset	Set scan left limit
93+Set Preset	Set scan right limit
95+Set Preset	Open menu screen
101+Set Preset	Start pattern record -Group 1
102+Set Preset	Start pattern record -Group 2
103+Set Preset	Start pattern record -Group 3
104+Set Preset	Start pattern record -Group 4

\*123+ Preset – unavailable \*

\*only 211 points can be preset and there are 20 points preserved for future use such as 67~69, 77~82, 84~87, 94, 100, 106~110\*

# PRESET COMMANDS

The following commands are for use with keypad controller GE (Kalatel KTD-405) protocol.

Number + Key Press	Function
0~32, 35~52 +Preset	Move camera to preset point 0~32, 35~52
33+Preset	Flip
34+Preset	Return to origin
53+Preset	Backlight compensation ON
54+Preset	Backlight compensation OFF
55+Preset	White balance – one push
56+Preset	Focus – one push
58+Preset	Show software version
57+Preset	Self test
60+Preset	Stop scan
61+Preset	Begin random scan
62+Preset	Begin frame scan
59+Preset	Begin auto scan
0~32, 35,52+ Set Preset	Configure preset point 0~32, 35,52
62+Set Preset	Set manual left limit
60+Set Preset	Set manual right limit
61+Set Preset	Set scan left limit
59+Set Preset	Set scan right limit
63+Set Preset	Open menu screen

## Notes:

- (a). +Preset: press the PRESET key once, for example:  
 <Begin auto scan> press number key 99 then press the PRESET key
- (b). +Set Preset: press and hold the PRESET key for 2 seconds, for example:  
 <Open menu screen> press number key 95 then press and hold the PRESET key for 2 seconds
- (c). Different keypad controllers may have different preset button combinations. Please refer to the instruction manual for key combinations; the above example is the standard setup for controller PELCO P/ PELCO D (MESSOA-P/MESSOA-D).

# PRESET COMMANDS

The following commands are for use with DVR Tyco Protocol

Command Name	Description	DVR Tyco
Pan Left	Pan left (24°/sec) until Pan	√
Pan Right	Pan right (24°/sec) until Pan Stop	√
Pan Stop	Stop Panning	√
Tilt Up	Tilt up until Tilt Stop	√
Tilt Down	Tilt down until Tilt Stop	√
Tilt Stop	Stop Panning	√
Focus Near	Focus Near until Focus Far or Focus Stop	√
Focus Far	Focus Far until Focus Near or Focus Stop	√
Focus Stop	Stop focus	√
Zoom In	Zoom in(telephoto) until Zoom Out or Zoom Stop	√
Zoom Out	Zoom in(wide angle) until Zoom Out or Zoom Stop	√
Zoom Stop	Stop zoom	√
Iris Open	Opens iris (manual iris mode)/lightens Iris Preference™ offset (auto iris mode) until Iris Close or Iris Stop	√
Iris Close	Close iris (manual iris mode)/darkens Iris Preference™ offset (auto iris mode) until Iris Close or Iris Stop	√
Iris Stop	Stop iris offset adjustment (also stops V-Phase Adjust)	√
Define Pattern 1	Start defining Pattern 1	√
Define Pattern 2	Start defining Pattern 2	√
Define Pattern 3	Start defining Pattern 3	√
Mark Target 1	Store the current position as Target 1	√
Mark Target 2	Store the current position as Target 2	√
Mark Target 3	Store the current position as Target 3	√
Mark Target 4	Store the current position as Target 4	√
Mark Target 5	Store the current position as Target 5	√
Mark Target 6	Store the current position as Target 6	√
Mark Target 7	Store the current position as Target 7	√
Go to Target 1	Go to preset position called Target 1	√
Go to Target 2	Go to preset position called Target 2	√
Go to Target 3	Go to preset position called Target 3	√
Go to Target 4	Go to preset position called Target 4	√
Go to Target 5	Go to preset position called Target 5	√
Go to Target 6	Go to preset position called Target 6	√
Go to Target 7	Go to preset position called Target 7	√
Run Pattern 1	Run Pattern 1	√
Run Pattern 2	Run Pattern 2	√
Run Pattern 3	Run Pattern 3	√
Pattern End	Tells the dome to stop recording (defining) a pattern	√
Flip	Pan 180° from the current position.	√
Enter Dome Menu	Display dome menu and enters menu mode	√
Exit Dome Menu	Exits dome menu and returns to normal dome operation	
Proportional speed	Proportional speed pan or tilt movement commands	
Set Preset	Store the current position as the specified preset.	
Go to Preset	Positions to preset specified by preset number.	

# INSTALLATION INSTRUCTIONS

## 9. 1 Installation Instructions

### 9.1.1 Pendant Pipe Mount

#### Ceiling Support Frame Installation Instructions

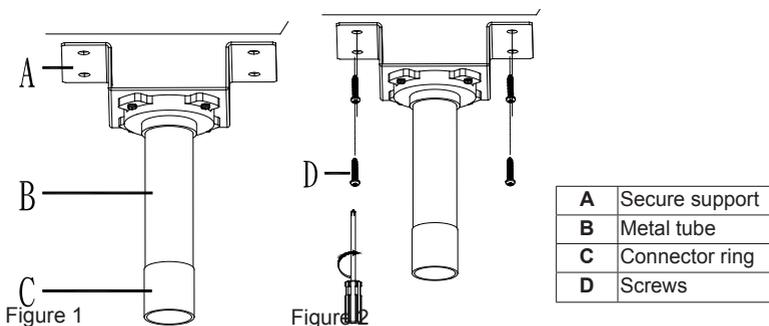
- (1) Remove the ceiling support frame and attach the connector ring to the aluminum tube in clockwise direction.
- (2) Mark the ceiling with regards to the 4 mount holes on the ceiling support frame.
- (3) Drill 4 holes of diameter  $\phi 6\text{mm}$ , depth 20mm.
- (4) Hammer the 4 wall screws into the holes.
- (5) Secure the entire ceiling support frame to the screw mounts (Figure 1).
- (6) Fasten the connector ring to the wall hang support in the clockwise direction (Figure 2).
- (7) Thread the cabling of the main unit through the short aluminum tube and push the cables out from the bottom (Figure 4, 5).
- (8) Pull out the cables and connect the main unit to the connector ring in the clockwise direction. Use hex driver to secure the stop screw to the connector ring and fasten the safety cable to the tube (Figure 6).
- (9) Installation completed (Figure 7).

#### Note:

- When using water sealing tape, the entire portion of the spiral tooth for the connector ring must be applied with the tape. This will prevent rain water leaking through the connection.
- When drilling the hole, please make sure the wall thickness is greater than 50mm in order to maintain its structural integrity.
- The holes on the wall support are of diameter  $\phi 8\text{ mm}$ . Please use screws of  $\phi 6\sim 7.5\text{mm}$ .

#### Warning:

- Please remove the connector ring from the speed dome and replace with the connector ring that comes with the support.



- When using in an outdoor environment, the safety cable must be secured to the main unit and the pendant mount bracket. Please select from one of the four screw holes (figure 1) on the nearby support frame to secure the safety cable. This will prevent the unit from falling and cause personal injuries.

# INSTALLATION INSTRUCTIONS

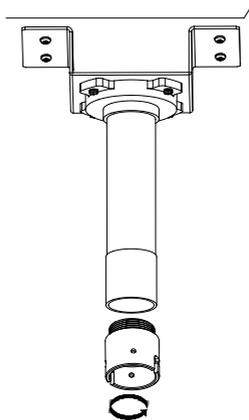
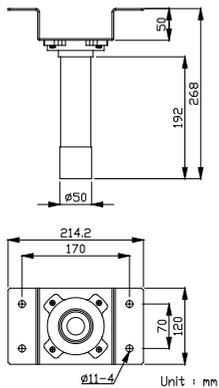


Figure 3

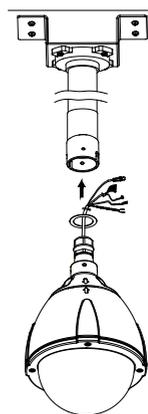


Figure 4

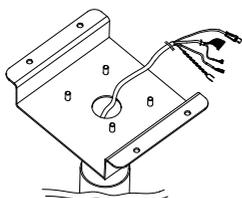


Figure 5

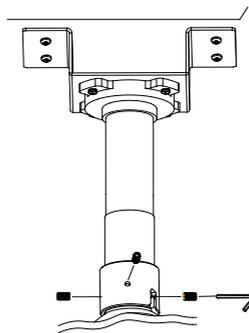


Figure 6

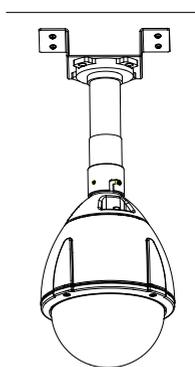


Figure 7

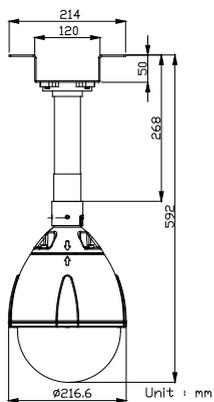


Figure 8

# INSTALLATION INSTRUCTIONS

## 9.1.2 Wall Mount

### Wall Hang Support Installation Instructions

- (1) Remove the secure plate and drill 4 holes on the wall matching the mount holes on the plate. Diameter  $\phi 3/8"$  (9.5mm), depth  $1/1/2"$  (40mm).
- (2) Hammer 4 screw mounts into the holes and then secure the plate with a hex driver.
- (3) Fasten the connector ring to the wall hang support in the clockwise direction (Figure 2).
- (4) Thread the cabling of the main unit through the short aluminum tube and push the cables out from the bottom.
- (5) Pull out the cables and connect the main unit to the connector ring in the clockwise direction. Use hex driver to secure the stop screw to the connector ring and fasten the safety cable to the tube (Figure 3).
- (6) Installation completed (Figure 4).

#### Note:

- When using water sealant, the entire portion of the spiral tooth for the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi 10$  mm. Please use screws of  $\phi 8\sim 9$ mm, and make sure the drilled holes are of correct size to ensure proper installation.
- When drilling the hole, please make sure the wall thickness is greater than 50mm in order to maintain its structural integrity.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and wall mount bracket. This will avoid personal hazards if the unit falls from its installation. When installing the main unit, please secure the safety cable to one of the four screw holes on the nearby support frame.
- Make sure there are no damaged parts during assembly.
- Please remove the connector ring from the speed dome and replace with the connector ring that comes with the support.

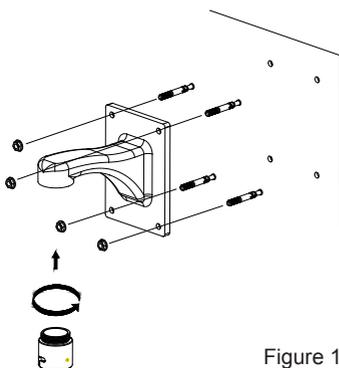


Figure 1

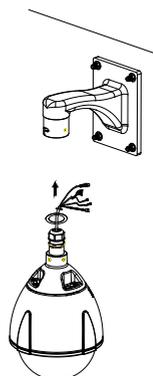


Figure 2



# INSTALLATION INSTRUCTIONS

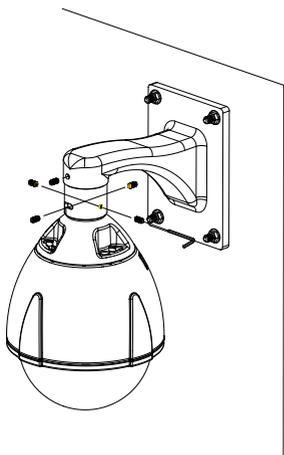


Figure 3

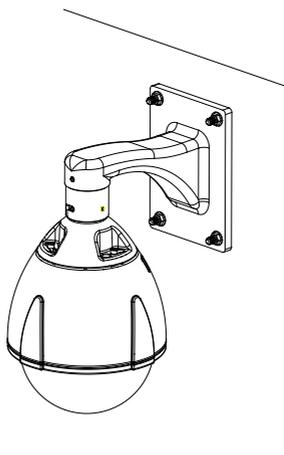


Figure 4

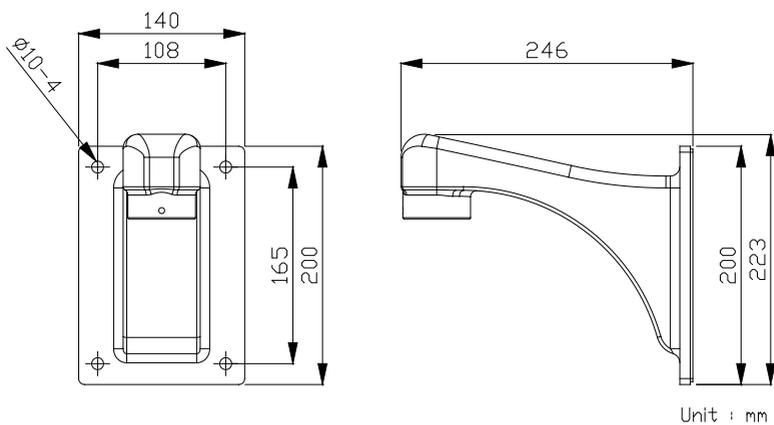


Figure 5

# INSTALLATION INSTRUCTIONS

## 9.1.3 Wall Mount With Power Box

### U-Shape Water-Proof Box Installation Instructions

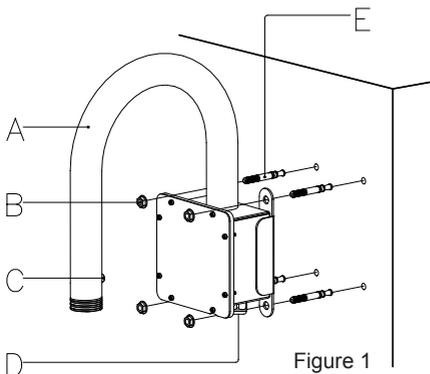
- (1) Attach the mounting holes guide onto the wall.
- (2) Drill 4 holes on the wall matching the mount holes on the plate. Diameter  $\phi 3/8"$  (9.5mm), depth  $1/1/2"$  (40mm) (Figure 1).
- (3) Hammer 4 screw mounts into the holes.
- (4) Secure the water-proof box to the U tube with a hex driver (Figure 2).
- (5) Loosen the security screws of the lid with a hex driver (leave the single lower right screw in) (Figure 4).
- (6) Fasten the connector ring to the U tube and use a hex driver to secure the stop screws to the connector ring. Thread the cabling of the main unit through the U tube and push the cables out to the bottom of the water-proof box. Pull out the cables and connect them to the PCB board (Figure 3).
- (7) After all cables are connected, please make sure the cables are properly fitted to avoid water leaks (Figure 5).
- (8) Return the lid to position and securely fasten the security screws.
- (9) Installation completed (Figure 6).

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi 10$  mm. Please use screws of  $\phi 8-9$ mm, and make sure the drilled holes are of correct size to ensure proper installation.
- When drilling the hole, please make sure the wall thickness is greater than 50mm in order to maintain its structural integrity.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole (Figure 1). This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.



<b>A</b>	Wall Moun With Power Box
<b>B</b>	Hexagon head nuts
<b>C</b>	Safety wire screw
<b>D</b>	Gland
<b>E</b>	Expansion anchor

# INSTALLATION INSTRUCTIONS

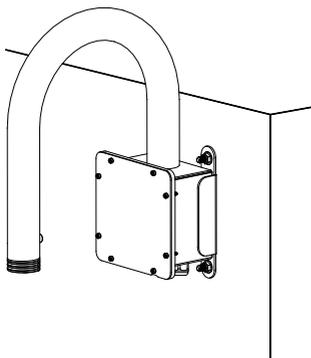


Figure 2

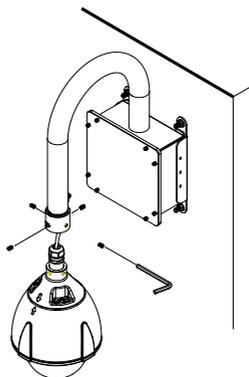


Figure 3

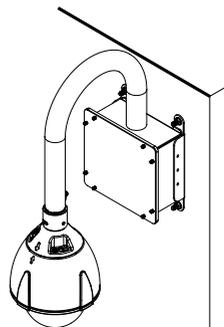
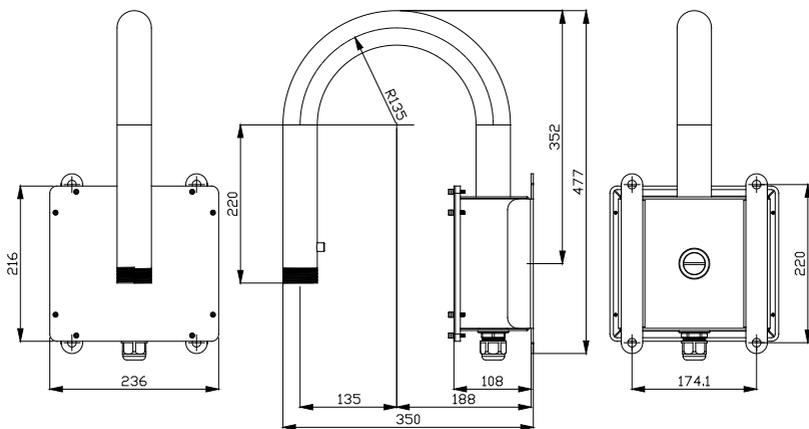


Figure 4



Unit : mm

Wiring Diagram

# INSTALLATION INSTRUCTIONS

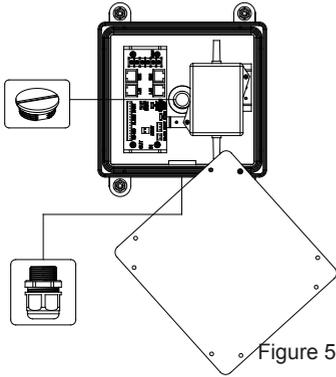


Figure 5

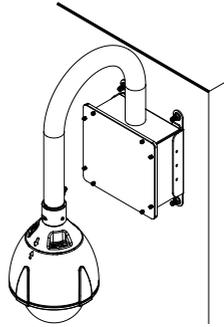
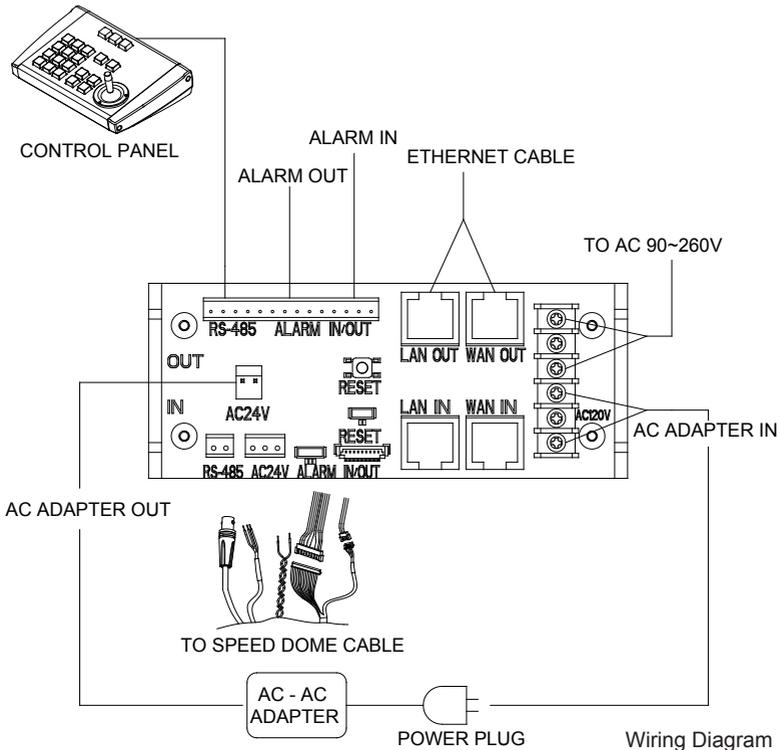


Figure 6



# INSTALLATION INSTRUCTIONS

## 9.1.4 Pendant Pipe Mount With Power Box

### L-Shape Water-Proof Box Installation Instructions

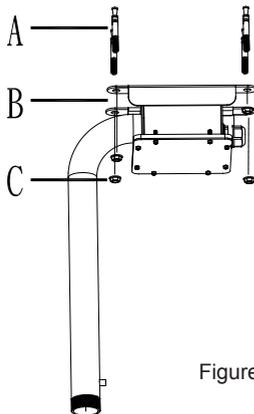
- (1) Attach the mounting holes guide onto the wall.
- (2) Drill 4 holes on the wall matching the mount holes on the plate. Diameter  $\phi 3/8"$  (9.5mm), depth  $1/1/2"$  (40mm) (Figure 1).
- (3) Hammer 4 screw mounts into the holes.
- (4) Secure the water-proof box to the L tube with a hex driver (Figure 2).
- (5) Loosen the security screws of the lid with a hex driver (leave the single lower right screw in) (Figure 4).
- (6) Fasten the connector ring to the L tube and use a hex driver to secure the stop screws to the connector ring. Thread the cabling of the main unit through the L tube and push the cables out to the bottom of the water-proof box. Pull out the cables and connect them to the PCB board (Figure 3).
- (7) After all cables are connected, please make sure the cables are properly fitted to avoid water leaks (Figure 5).
- (8) Return the lid to position and securely fasten the security screws.
- (9) Installation completed (Figure 6).

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi 10$  mm. Please use screws of  $\phi 8\sim 9$ mm, and make sure the drilled holes are of correct size to ensure proper installation.
- When drilling the hole, please make sure the wall thickness is greater than 50mm in order to maintain its structural integrity.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole (Figure 1). This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.



A	Expansion anchor
B	Pendant Pipe Mount With Power Box
C	Hexagon head nuts

Figure 1

# INSTALLATION INSTRUCTIONS

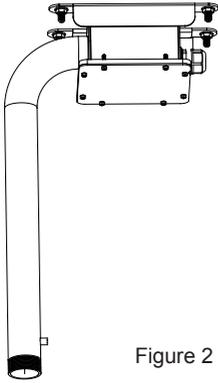


Figure 2

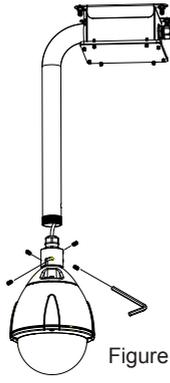
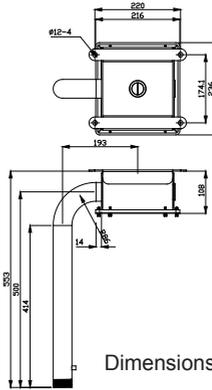


Figure 3



Dimensions Diagram

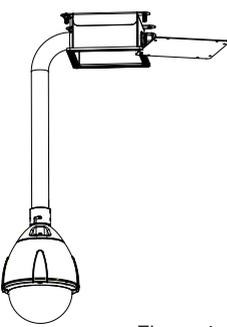


Figure 4

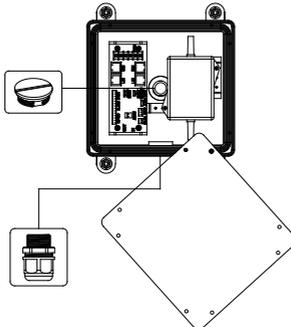


Figure 5

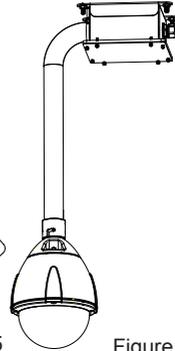
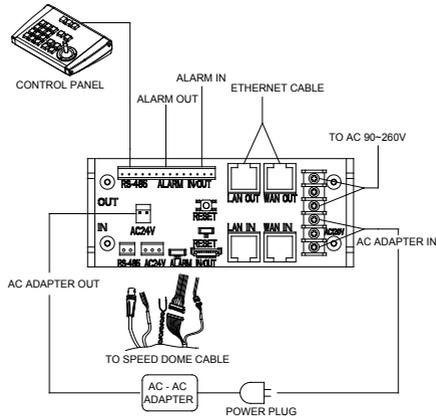


Figure 6



# INSTALLATION INSTRUCTIONS

## 9.1.5 Parapet Wall Mount

### Daughter Wall Installation Instructions

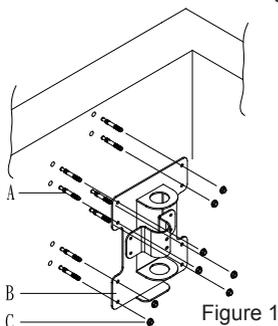
- (1) Remove the secure plate and drill 8 holes on the wall matching the mount holes on the plate. Diameter  $\phi 3/8"$  (9.5mm), depth  $1/1/2"$  (40mm) (Figure 1).
- (2) Hammer 8 screw mounts into the holes and then secure the plate with a hex driver (Figure 2).
- (3) Fasten the connector ring to the L tube in the clockwise direction (Figure 3).
- (4) Thread the cabling of the main unit through the short aluminum tube and push the cables out from the bottom (Figure 4).
- (5) Pull out the cables and connect the main unit to the connector ring in the clockwise direction (Figure 4).
- (6) Use hex driver to secure the stop screw to the connector ring and fasten the safety cable to the tube (Figure 5).
- (7) Insert the entire tube (including the main unit) into the hole fitting on the secure plate (Figure 6).
- (8) Rotate the tube clockwise until  $180^\circ$  with the secure plate, and then fasten the screws (Figure 7).
- (9) Installation completed (Figure 8).

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi 10$  mm. Please use screws of  $\phi 8\sim 9$ mm, and make sure the drilled holes are of correct size to ensure proper installation.
- When drilling the hole, please make sure the wall thickness is greater than 50mm in order to maintain its structural integrity.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole. This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.



A	Expansion anchor
B	Fixed plate
C	Hexagon head nuts
D	Hole
E	Gland

# INSTALLATION INSTRUCTIONS

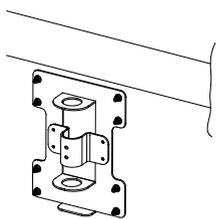


Figure 2

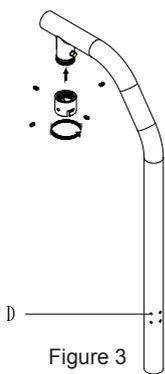


Figure 3

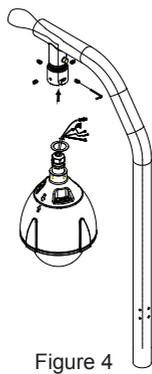


Figure 4

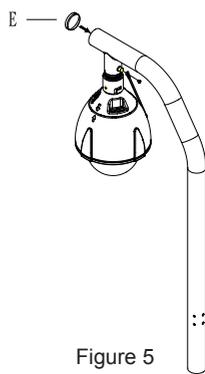


Figure 5

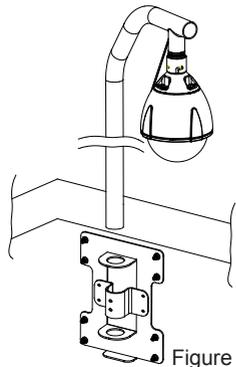


Figure 6

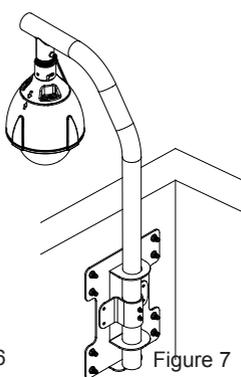


Figure 7

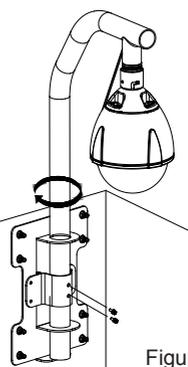
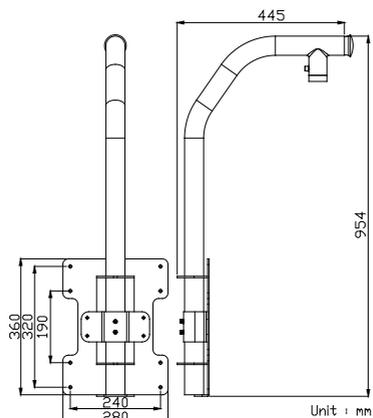


Figure 8





# INSTALLATION INSTRUCTIONS

## 9.1.6 Pole Mount

### Tube Support Installation Instructions

- (1) Thread the metal strap through the rectangular holes on the corner support (Figure 1).
- (2) Use a Philips screwdriver to tighten the metal strap, and then line up the holes on the water-proof box to the holes on the support. Use a hex driver to secure in a clockwise direction (Figure 2).
- (3) Installation completed (Figure 3).

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the extension pole and the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi$  10 mm. Please use screws of  $\phi$  8~9mm, and make sure the drilled holes are of correct size to ensure proper installation.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole. This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.

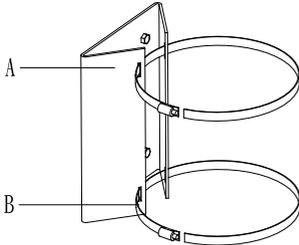


Figure 1

A	Corner Mount adapter
B	Metal strap

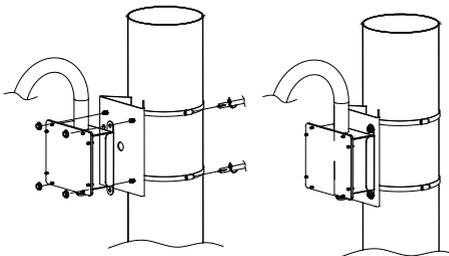
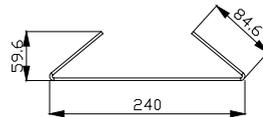
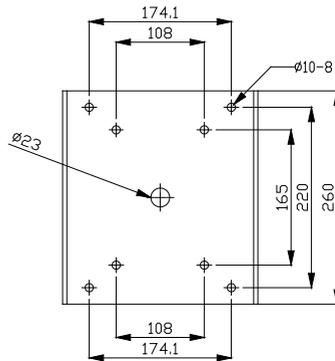


Figure 2

Figure 3



Unit : mm

# INSTALLATION INSTRUCTIONS

## 9.1.7 Corner Mount

### Corner Support Installation Instructions

- (1) Drill 4 holes on the wall of diameter  $\phi 3/8"$  (9.5mm), depth 1-1/2" (40mm).
- (2) Hammer screw mounts into the drilled holes (Figure 1).
- (3) Line up the holes on the water-proof box to the holes on the support, and use a hex driver to secure in the clockwise direction (Figure 2).
- (4) Installation completed (Figure 3).

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the extension pole and the connector ring must be applied with the sealant. This will prevent rain water leaking through the connection.
- The holes on the wall support are of diameter  $\phi 10$  mm. Please make sure the drilled holes are of correct size to ensure proper installation.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole. This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.

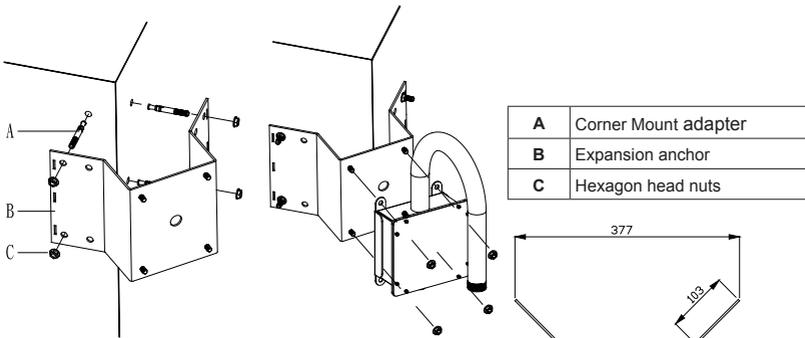


Figure 1

Figure 2

<b>A</b>	Corner Mount adapter
<b>B</b>	Expansion anchor
<b>C</b>	Hexagon head nuts

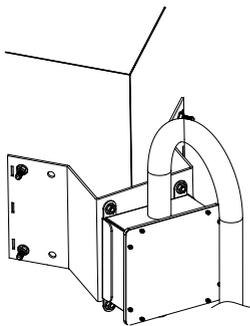
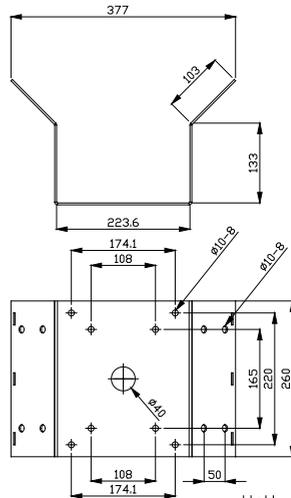


Figure 3



Unit : mm

# INSTALLATION INSTRUCTIONS

## 9.1.8 Extension Pole

### Extension Pole Installation Instructions

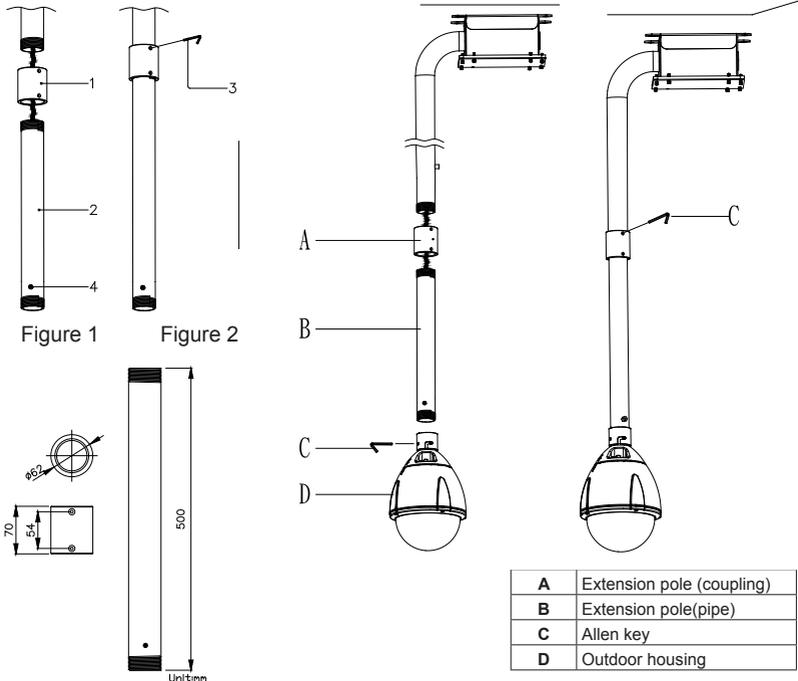
- (1) Remove the extension pole and connector ring.
- (2) Secure the connector ring to the original connection unit in the clockwise direction (Figure 1).
- (3) Secure the extension pole to the connector ring and use a hex driver to secure the stop screws in place (Figure 2).
- (4) Installation completed.

#### Note:

- When using water sealant, the entire portion of the spiral tooth of the extension pole and the connector ring must be applied with the sealant. This will prevent rainwater leaking through the connection.
- The space within the ceiling must be greater than 250mm or otherwise the installation will not fit.

#### Warning:

- When using in an outdoor environment, the safety cable must be connected to the main unit and safety wire screw hole. This will avoid personal hazards if the unit falls from its installation.
- Make sure there are no damaged parts during assembly.



# INSTALLATION INSTRUCTIONS

## 9.1.9 Sun Shield

### Sun Shield Installation Instructions

- (1) Remove the sun shade.
- (2) Place the sun shade over the main unit from above (Figure 1).
- (3) Use a hex driver to secure the screw to the connector ring clockwise (Figure 2).
- (4) Installation completed (Figure 3).

#### Note:

- Make sure there is no damage to the parts during assembly.

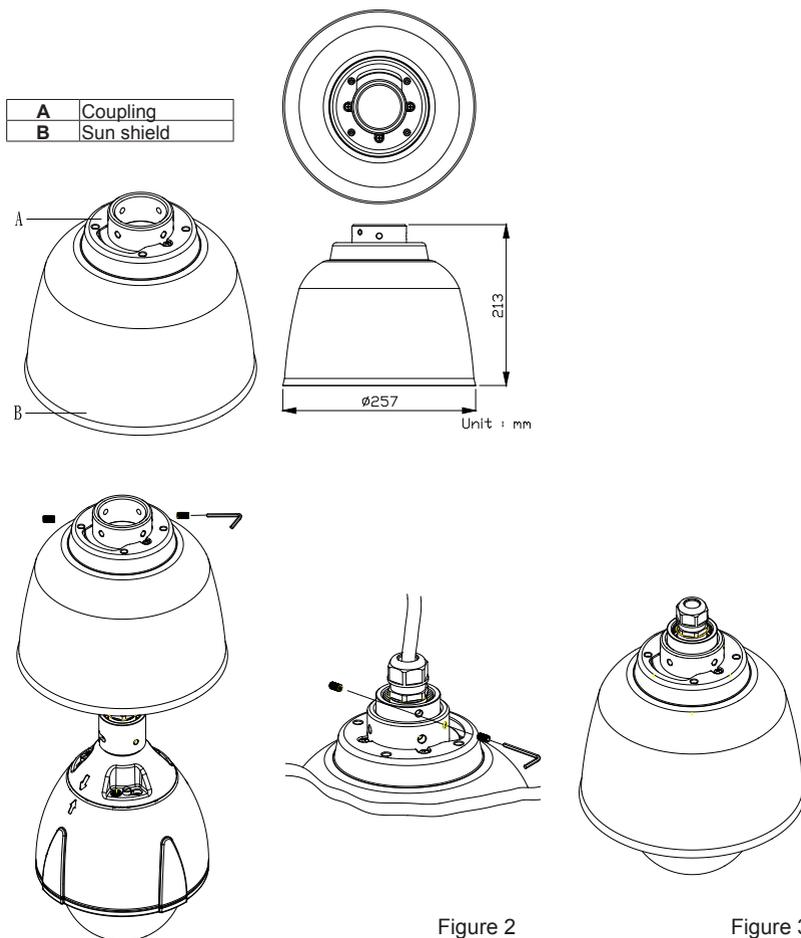


Figure 2

Figure 3

# INSTALLATION INSTRUCTIONS

## 9.1.10 In-Ceiling Mount

**Suggest to power on the speed dome beyond  $-5^{\circ}\text{C}$  ( $-23^{\circ}\text{F}$ ) or it would need 2-5 minutes to warm up before powered on**

- (1) Remove four tapes from dome cover then open the dome cover counterclockwise. Please refer to Figure 1.
- (2) Remove the pink EPE and the tapes on iron hooks. Please refer to Figure 2.
- (3) Move the iron hooks to track bottom by turning screws counterclockwise. Please refer to Figure 3.
- (4) Push the iron hooks to center. Please refer to Figure 4.
- (5) Glue the guide pattern on ceiling, drill the hole then mount the camera on ceiling. Please refer to Figure 5.
- (6) Push the iron hooks to both side, then move the iron hooks by turning screws clockwise to fasten on ceiling. Please refer to Figure 6.
- (7) The installation is completed, please note the minimum ceiling load required is 3.6Kg (7.9 lb). Please refer to Figure 7.

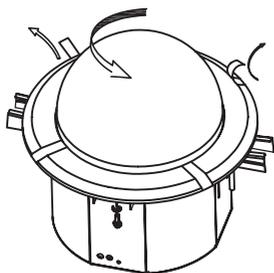


Figure 1

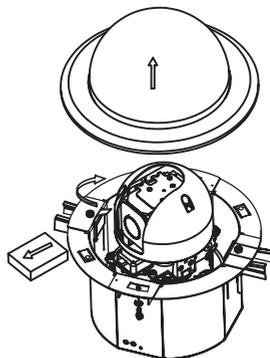


Figure 2

# INSTALLATION INSTRUCTIONS

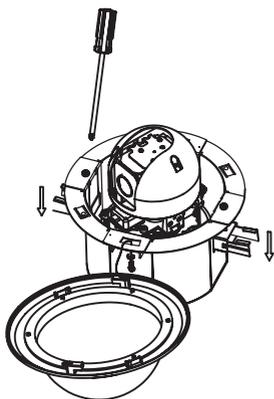


Figure 3

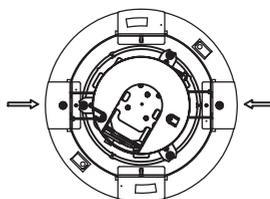


Figure 4

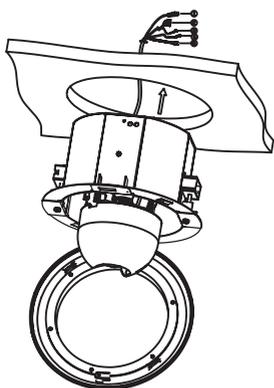


Figure 5

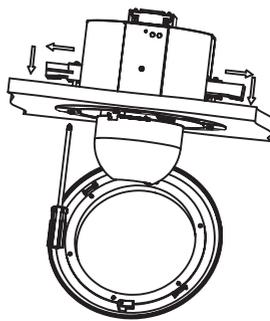


Figure 6

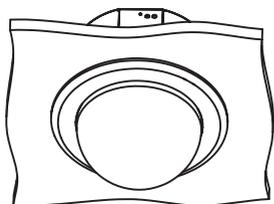


Figure 7

# DIP SWITCH SETTINGS

SW1: Camera address setup

Address	SW pin #							
	1	2	3	4	5	6	7	8
1	on	off	off	off	off	off	off	off
2	off	on	off	off	off	off	off	off
3	on	on	off	off	off	off	off	off
4	off	off	on	off	off	off	off	off
5	on	off	on	off	off	off	off	off
6	off	on	on	off	off	off	off	off
7	on	on	on	off	off	off	off	off
8	off	off	off	on	off	off	off	off
9	on	off	off	on	off	off	off	off
10	off	on	off	on	off	off	off	off
11	on	on	off	on	off	off	off	off
12	off	off	on	on	off	off	off	off
13	on	off	on	on	off	off	off	off
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26	off	on	off	on	on	off	off	off
27	on	on	off	on	on	off	off	off
28	off	off	on	on	on	off	off	off
29	on	off	on	on	on	off	off	off
30	off	on	on	on	on	off	off	off
31	on	on	on	on	on	off	off	off
32	off	off	off	off	off	on	off	off

Address	SW pin #							
	1	2	3	4	5	6	7	8
51	on	on	off	off	on	on	off	off
52	off	off	on	off	on	on	off	off
53	on	off	on	off	on	on	off	off
54	off	on	on	off	on	on	off	off
55	on	on	on	off	on	on	off	off
56	off	off	off	on	on	on	off	off
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64	off	off	off	off	off	off	on	off
65	on	off	off	off	off	off	on	off
66	off	on	off	off	off	off	on	off
67	on	on	off	off	off	off	on	off
68	off	off	on	off	off	off	on	off



230	off	on	on	off	off	on	on	on
231	on	on	on	off	off	on	on	on
232	off	off	off	on	off	on	on	on
233	on	off	off	on	off	on	on	on
234	off	on	off	on	off	on	on	on
235	on	on	off	on	off	on	on	on
236	off	off	on	on	off	on	on	on
237	on	off	on	on	off	on	on	on

# DIP SWITCH SETTINGS

33	on	off	off	off	off	on	off	off
34	off	on	off	off	off	on	off	off
35	on	on	off	off	off	on	off	off
36	off	off	on	off	off	on	off	off
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45	on	off	on	on	off	on	off	off
46	off	on	on	on	off	on	off	off
47	on	on	on	on	off	on	off	off
48	off	off	off	off	On	on	off	off
49	on	off	off	off	On	on	off	off
50	off	on	off	off	on	on	off	off

238	off	on	on	on	off	on	on	on
239	on	on	on	on	off	on	on	on
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250	off	on	off	on	on	on	on	on
251	on	on	off	on	on	on	on	on
252	off	off	on	on	on	on	on	on
253	on	off	on	on	on	on	on	on
254	off	on	on	on	on	on	on	on
255	on	on	on	on	on	on	on	on

W2: Communication protocol / Baud rate / Terminal resistance:

SW pin#		1	2	3	4	5	6	7	8
Comm. Protocol	Messoa-P	NC	NC	OFF	OFF	OFF	OFF	NC	NC
	Messoa-D	NC	NC	ON	OFF	OFF	OFF	NC	NC
	Pelco-P	NC	NC	OFF	ON	OFF	OFF	NC	NC
	Pelco-D	NC	NC	ON	ON	OFF	OFF	NC	NC
	Bosch	NC	NC	OFF	OFF	ON	OFF	NC	NC
	Ernitec	NC	NC	ON	OFF	ON	OFF	NC	NC
	Kalatel	NC	NC	OFF	ON	ON	OFF	NC	NC
	Tyco	NC	NC	ON	ON	ON	OFF	NC	NC
Baud Rate	2400	NC	NC	NC	NC	NC	NC	ON	ON
	4800	NC	NC	NC	NC	NC	NC	OFF	ON
	9600	NC	NC	NC	NC	NC	NC	ON	OFF
	19200	NC	NC	NC	NC	NC	NC	OFF	OFF
Terminal Resistance	ON	NC	ON	NC	NC	NC	NC	NC	NC
	OFF	NC	OFF	NC	NC	NC	NC	NC	NC



# SPECIFICATIONS

Model	18X High-speed Dome Camera	28X High-speed Dome Camera	36X High-speed Dome Camera
Image system	NTSC/PAL		
Lens			
Image Sensor	1/4" SONY Exview HAD CCD		
Optical zoom	18X	28X	36X
F-Stop Range	F1.4 ~ F3.0	F1.35 ~ F3.7	F1.6 ~ F4.5
Focal length (Wide~Tele)	4.1mm ~ 73.8mm	3.5 mm ~ 98 mm	f=3.4 mm ~ 122.4 mm
View Angle	48.0° (wide) ~ 2.8° (tele)	55.8° (wide) ~ 2.1° (tele)	57.8°(wide) ~ 1.7°(tele)
Effective pixels(HxV)	NTSC: 380K pixels approx, PAL: 440 pixels approx.		
Scanning system	2:1 Interlace, NTSC: V: 59.94Hz, H: 15.734KHz, PAL: V: 50Hz, H: 15.625KHz		
Sync system	Internal / line-lock		
Video output	1Vpp composite output, 75 ohm		
Horizontal resolution	560 TVL		
S/N ratio	More than 50 dB		
Zoom limit	Up to 216X (optical 18X, digital 12X)	Up to 324X (optical 28X, digital 12X)	Up to 432X (optical 36X, digital 12X)
Focusing system	Auto(normal sensitivity / low sensitivity)		
Focus	Auto (sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF		
Minimum illumination			
Normal Mode	Normal mode: 0.05 lux (F1.4, 1/60(1/50) sec. ICR OFF, 10 IRE) Slow shutter mode: 0.003 lux (F1.4, 1/4(1/3) sec. ICR OFF, 10 IRE)	Normal mode: 0.05 lux (F1.35, 1/60(1/50) sec. ICR OFF, @10 IRE) Slow shutter mode: 0.003 lux (F1.35, 1/4(1/3) sec. ICR OFF, @10 IRE)	Normal mode: 0.07 lux (F1.6, 1/60(1/50) sec. ICR OFF, @10 IRE) Slow shutter mode: 0.005 lux (F1.6, 1/4(1/3) sec. ICR OFF, @10 IRE)
	Night Mode 0.0075 lux (F1.4, 1/60 (1/50) sec. ICR ON, @10 IRE) Slow shutter mode: 0.0004 lux (F1.4, 1/4(1/3) sec. ICR ON, @10 I)	Night Mode 0.005 lux (F1.35, 1/60 (1/50) sec. ICR ON, @10 IRE) Slow shutter mode: 0.0003 lux (F1.35, 1/4(1/3) sec. ICR ON, @10 IRE)	Night Mode 0.0075 lux (F1.6, 1/60(1/50)sec. ICR ON, @10 IRE) Slow shutter mode: 0.0005 lux (F1.6, 1/4(1/3) sec. ICR ON, @10 IRE)
Gain control	Auto/Manual (-3 to 28 dB, 2 dB steps)		
White balance	Auto, ATW, One-push, Indoor, Outdoor, Manual, Outdoor Auto, Sodium Lamp		
Electric shutter	NTSC: 1/4 to 1/10,000sec. 20 Steps PAL: 1/3 to 1/10,000sec. 20 Steps		
Auto slow shutter	On / Off		
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Back-light compensation		
EV compensation	-10.5~+10.5dB (15 steps)		
Backlight Compensation	On / Off		

# SPECIFICATIONS

Alarm function	Yes
Day/Night mode	Yes
Flickerless	Yes
Wide dynamic	Yes, 128X
3D Noise Reduction	Yes
Motion detection	Yes
Image stabilizer	Yes
Picture Effect	
Mechanical Flip E-FLIP	Yes
Mirror Image	Yes
Freeze Image	Yes
P/T Operation	
Pan Range	360° continuous
Tilt range	184° (92° each hemisphere)
Manual Pan speed	0.1 - 90°/s
	0.1°/s: max dig. zoom ; 0.4°/s :max opt. zoom
Manual Pan speed (turbo)	150°/sec
Manual tilt speed	0.1 - 45°/s
	0.1°/s: max dig. zoom ; 0.4°/s :max opt. Zoom
Preset speed	Pan: 430°/sec(max); Tilt: 200°/sec (max)
Proportional P/T	Provided
Pan/Tilt limit	User definable
Auto Flip	on/off
Zoom Limit	18x (optical onl), 36x, 72x, 144x, 216x
Programmable Preset	256 points
Programmable Tours	4 pattern tours memorizing up to 6 mins of manual control
Privacy zone	On / off, up to 24 zones (3D Privacy Zone)
Scan function	Random,frame and auto-scan selectable
Alarm	6 inputs / 1 output
Preset titles	Max 20 characters
Password protection	Alphanumerical Dome OSD setup protection
Other Superior Functions	Super Fine Pan for 0.02° Accuracy / Motion Detection / Scheduling
Remote control	
Remote control	MESSOA P/D (Also support Pelco-P/D,GE-Kalatal, Bosch, Ernitec,Tyco)
Special Commands	support absolute(X , Y , Z) position
Interface	RS485 (2-wire)
Baud Rate	2400,4800,9600,19200 bit/s(DIP-sw selectable)

# SPECIFICATIONS

Network & Digital Video (Network High-Speed Dome Only)	
Video Compression	H.264/MPEG-4/MJPEG
Picture Resolution	Full D1 (720x480 in NTSC, 720x576 in PAL), CIF (352x240 in NTSC, 352x288 in PAL), QCIF (160x112 in NTSC, 176x144 in PAL)
Bit Rate	28K ~ 3M bps
Image Frame Rate	NTSC: 30fps at full D1 resolution, PAL: 25fps at full D1 resolution
Multi-stream	Up to 4 configurable frame rate /bit rates streams for preview and recording
Interface	LAN x 1, WAN x1, Ethernet(10/100 Base-T)
Software	
Web browser	Microsoft Internet Explorer 6.0 or above
SDK	ActiveX control, C SDK
Security	Password Protection: Configured by the Administrator
Mechanical/Environment	
Operating temperature	-10°C to 50°C (-14°F to 122°F)
Operating humidity	20% ~ 80% RH
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Dimensions(øxH)	Outdoor model: 217mm X 324mm (8.5" x 12.8") Indoor model: 250mm X 257mm (9.8" X 10.1")
Weight	3.8 KG (8.38 lb) approx.
Electrical	
Power requirement	AC24V +/-10%
Power consumption	
Outdoor model	High-speed dome: 46W (max.) Network High-speed dome: 52.5W (max.)
Indoor model	18W (max.)
OSD	
Multi language support	English, Simplified Chinese , Traditional Chinese, Spanish, Portuguese, French, Japanese, German, Polish, Italian
Protection (Outdoor model only)	
Vandal proof	750KG (1653 lb) impact
Water proof	IP67
Other	With Heater and Blower
Regulation	NTSC: FCC, UL, PAL: CE

