XtendLan

SDOMEOAT2-SD310

High Speed Dome Series

User Manual

CONTENTS

I   Before Installing

- Installation should be carried out only by qualified personnel and in accordance with any wiring regulations in force at the time.
- Please read this instruction and warnings before installing.
- Do not attempt to service or repair the speed domes as opening or removing covers may expose dangerous voltages or other hazards. Refer all servicing to qualified service personnel.
- Adequate protection against lightning strikes and power surges must be installed to prevent damage to the speed dome.

II   Key Features

- 360º Panning, speed is 0.1º-300º/s.
- Auto flip 180º
- 128 presets, the accuracy of preset is less than 0.1º
- 4 dynamic privacy zones (SONY Camera Module)
- Auto cruise by preset, the leisure time is 1s-250s.
- Image freeze while panning
- Manifold of scan, scan speed could be set from 1º/s to 80º/s
- Left limit and right limit scan.
- 7 alarm input and 2 relay output.
- Easy fixing configuration
- 24V power supply built in
- Static proof and thunder proof design

III   Environmental requirement:
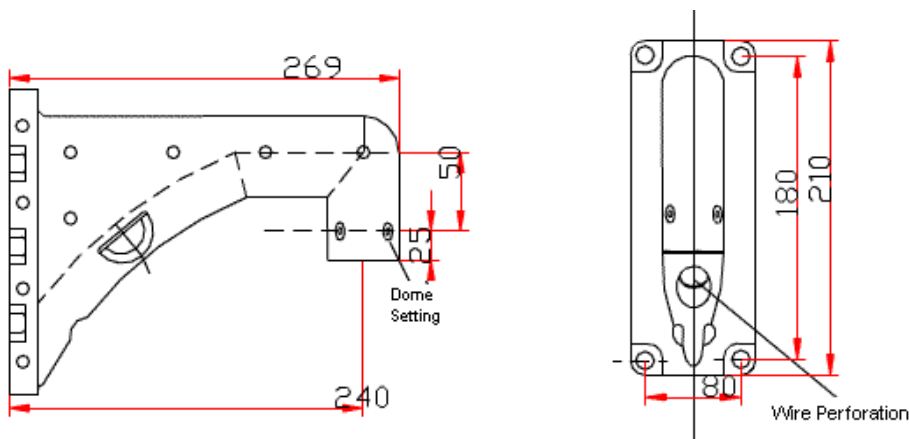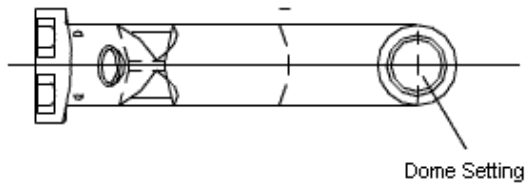
Operation Temperature: -40-+60

Humidity: <90%

Air pressure: 86-106Kpa

Power supply: AC24V/2.5A, 50/60Hz

IV   Dome setting

Bracket Configure
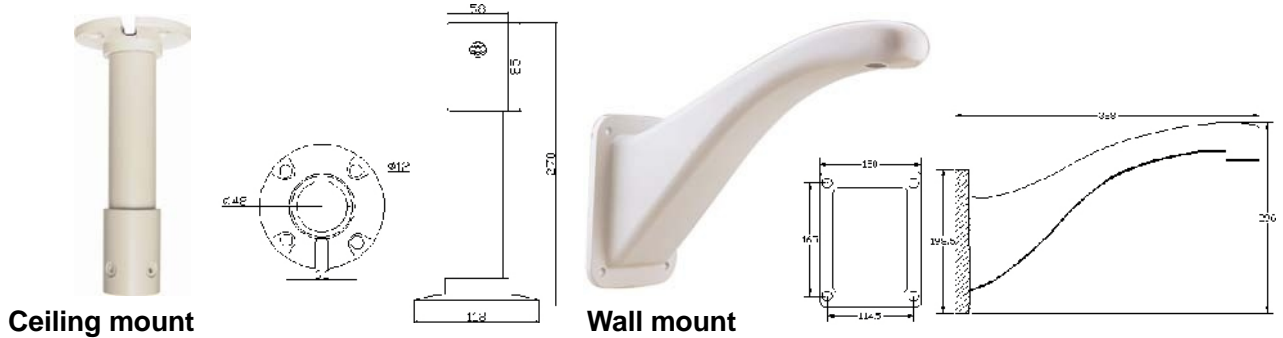
Dome Setting

Setting Attention:

Adequate protection against high speed dome falling and damage when installing.

The dome should be hang setting, and please avoid up side down.

Please install the dome at the low humidity condition and keep it sealing for avoiding any damage to dome.

Please set the power switch correct.

Ceiling mount   **Wall mount**

Communication PCB

PCB Locker

Open Up the PCB
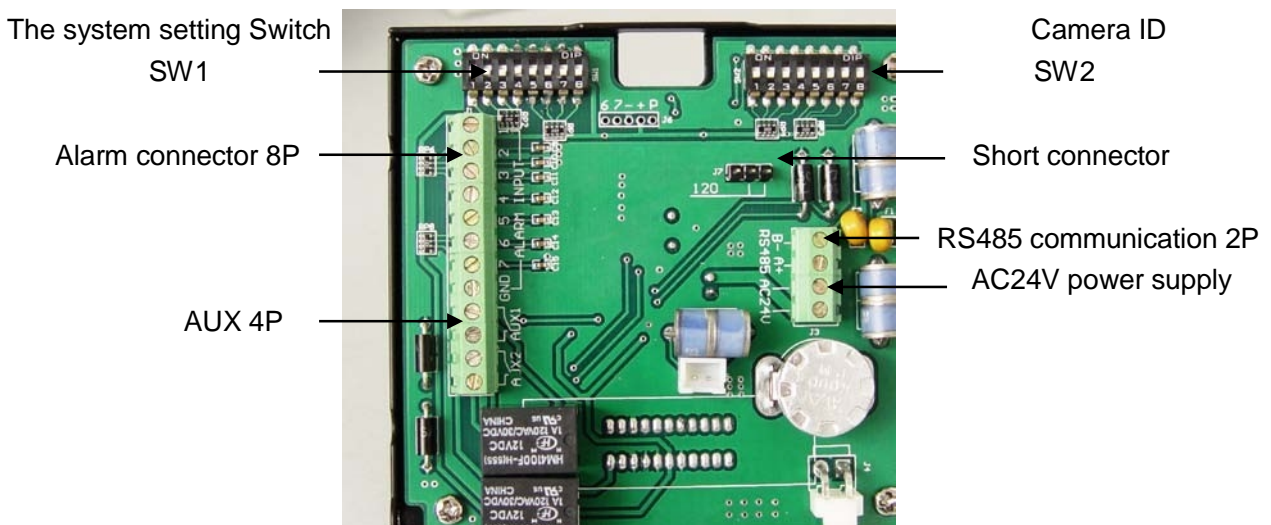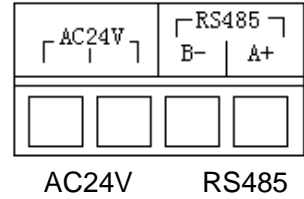
DIP table of Communication PCB board

Note: The PCB can be locked by the PCB locker as the picture showed, and it can be turned over when do the setting works as below (Please turn the locker to the housing side to open it):

The system setting Switch SW1

Camera ID SW2

Alarm connector 8P

Short connector

RS485 communication 2P

AC24V power supply

AUX 4P

1、Power supply and communication cable：AC24V

AC24V   RS485

2、Video output：

Alarm signal

✧ Alarm Relay Output "AUX1"

✧ Alarm Relay Output "AUX2

✧ Alarm Input GND

✧ Alarm input signal： I -7

AL1、AL2、AL3、AL4…AL7：Alarm input.

The switch setting   SW1   ON=1 OFF=0

DIP Switch	Protocol setting				Baud rate setting		Alarm	Alarm mode
	1	2	3	4	5	6	7	8
Description	SW1234=0000 (PELCO-D/PELCO-P Auto identify)				SW5,6= 00=2400 01=4800 10=9600 11=19200		1=Alarm enable 0=Alarm disable	1=Always short circuit. (Alarm while open) 0=Always open circuit. (Alarm while short)

Note：PELCOD、 PELCOP could be identifying automatically. On and off is the corresponding switch position.

Camera ID Setting:

SW2 switch: address DIP table

CAM ID	1	2	3	4	5	6	7	8
1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
3	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
4	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
5	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
6	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
7	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
8	OFF	OFF	OFF	OFF	OFF	ON	ON	ON

CAM ID	1	2	3	4	5	6	7	8
9	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
10	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
11	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
12	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
13	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
14	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
15	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
16	OFF	OFF	OFF	OFF	ON	ON	ON	ON
⋮								
128	OFF	ON	ON	ON	ON	ON	ON	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
130	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
131	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
132	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
⋮								
252	ON	ON	ON	ON	ON	OFF	ON	ON
253	ON	ON	ON	ON	ON	ON	OFF	OFF
254	ON	ON	ON	ON	ON	ON	OFF	ON
255	ON	ON	ON	ON	ON	ON	ON	OFF

Note：*The address of the some protocol are from 0, and the others are from 1, please setting the address(±1) as your protocol.*

Alarm

7 alarm input. The dome will alarm when alarm input port connect the GND. The AUX will be closed when has alarm, and open when no alarm in. The capacitance of the relay is AC24V/1A.

The relay output:

2 relay switch AUX1, AUX2, the biggest capability is AC24V/1A. AUX1 connect with the alarm, the master or keyboard controls AUX2.

Camera Module Setting Switch

The dome can be fit different camera, and they have different switch
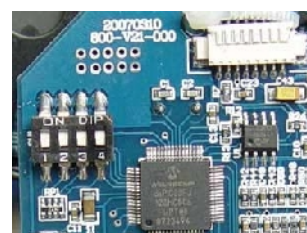
Camera	Switch 1	Switch 2	Switch 3	Switch 4
	DIP-1	DIP-2	DIP-3	DIP-4
SONY	OFF	OFF	OFF	OFF
HITACHI	OFF	OFF	ON	OFF
LG	OFF	ON	OFF	OFF
CNB-200L	OFF	ON	ON	OFF
CNB-M1560	OFF	ON	ON	ON
SAMSUNG(SDM300/SDM330)	ON	OFF	OFF	OFF

*Note: **Please make sure the camera parameters are correct or the camera cannot work or cannot work well. If this, please enter the camera menu and restore factory settings first, then setting the parameters as request.***

V   Basic high speed dome operation

When power on, the version, protocol, baud rate and ID will display on the monitor, and the dome will automatic self-check both the vertical and level then display the specs of camera.

Example:

```
High Speed Dome

Ver：1 00
PELCO D P
2400
ID：001


Tile reference OK
Pan reference OK


SONY    FCB-EX480CP
```

The operation by keyboard controller

Function	Control
Level / Vertical	Joystick left, right / up and down
OSD Confirm	OPEN
Cancel and Back	CLOSE
OSD Display	Call 95 preset
Original Position	Call 34 preset
Level Scan	Call 99 preset
Auto Flip	Call 33 preset
Level Scan Limit Point	Left limit: call 92 preset
	Right limit: call 93 preset
Call preset scan 1	Call 81 preset
Call preset scan 2	Call 82 preset
Call preset scan 3	Call 83 preset
Call preset scan 4	Call 84 preset

Function	Control
Camera mode 1	Call 100 preset
Camera mode 2	Call 101 preset
Camera mode 3	Call 102 preset
Privacy Mask	4 Privacy mask, only fit to SONY480, SONY980 and SONY1000 camera.
	Level area increase: FAR
	Level area reduce: NEAR
	Vertical area increase: TELE
	Vertical area reduce: WIDE

OSD Operation

Enter OSD

Please call the number 95 preset to display the OSD on the screen.

At ➡figures the current item, ☀figures the enabled item, and the after the item which have submenu. You can change the item state when it has been enabled. Please press **OPEN** key to enter or confirm and **CLOSE** key to back or cancel, and the key **UP** and **DOWN** control the cursor up and down.

Menu function instructions

Call the number 95 preset to enter the OSD, and you could set the shortcut key to display the OSD.

Main Menu

```
➡ Camera
   Pan
   Shortcut Key
   Self act          Nothing
   Leisure Time      030
```

Camera OSD (SONY)

➡Camera   Press Key **Open** to enter the camera menu.

```
➡ Exposure
   White Balance
   Privacy
   Other
   Camera Model
   Zoom Speed        005
   Focus Speed       001
```

Camera Exposure

➡Exposure   Press **OPEN** key to enter the camera exposure submenu.

Exposure operation

1, How to change the exposure

```
➡ Exp Mode       Auto
   Shutter speed   006
   Iris            016
   Gain            001
   Bright          016
   Back Light      Off
   Slow Shutter    Off
```

➡ Exp Mode press **OPEN** key, enable Exp Mode, then operate up and down by the joystick, the parameters are: Auto, Manual, Shutter, Iris and bright

7

2, Confirm Exposure.

☀ Exp Mode press **OPEN** key, select effect, the menu change to ➔ Exp Mode

3, Cancel Exposure

☀ Exp Mode press **CLOSE** to cancel the Exposure mode change, the menu change to ➔ Exp Mode

Back the main camera menu

➔ Exp Mode press **CLOSE** key to cancel the last menu.

Other operation of Exposure Menu

➔ Exp Mode, control the joystick up or down to let the ➔ up and down, press **OPEN** key to enable the item, then go on control up and down with joystick, and press **OPEN** key to confirm, the cursor will change to ➔.

White Balance

The dome has the function of Manual White Balance and Auto White Balance.

```
  Exposure
➔ White Balance
  Privacy
  Other
  Camera Model
  Zoom Speed        005
  Focus Speed       001
```

➔ White Balance press **OPEN** key, enter the White Balance submenu, then change the parameter,

    WB Mode   Auto
    R Gain   214(0-255)
    B Gain   175(0-255)

White Balance Mode operation:

```
➔ WB Mode          Auto
  R Gain            210
  B Gain            175
```

1、 WB Mode

2、At ➔ WB Mode, press **OPEN** key to enable the Exp Mode menu, then it will change to ☀ WB Mode, control the joystick to change the parameter which order is: Auto, Manual, ATW, OPW, Outdoor and Indoor.   R Gain

```
  WB Mode          Auto
☀ R Gain           210
  B Gain           175
```

3, R Gain

At ➔ WB Mode, operate the joystick down let the cursor come to **R Gain**, press **OPER** key to enter the menu. Then operate the joystick up (increase) and down (reduce) the R Gain. The homologous parameter is 0-255. Press **OPEN** key to confirm and back or press **CLOSE** to cancel and back.

```
  WB Mode          Auto
  R Gain           210
☀ B Gain           175
```

4, B Gain

At ➔ WB Mode operate the joystick to control the cursor come to **B Gain**, press **OPEN** key to enter the B Gain setting, joystick up and down to increase and reduce the parameter which from 0-255. Press **OPEN** key to confirm and back or press **CLOSE** to cancel and back.

Privacy Mask

```
    Exposure
    White Balance
 ➜  Privacy
    Other
    Camera Model
    Zoom Speed          005
    Focus Speed         001
```

At ➜ Exposure   operate the joystick to let the cursor come to Privacy press **OPEN** to enter the submenu, then set the parameter.

There are 4 privacy masks, which have the same operation

```
 ➜  Privacy1
    Privacy2
    Privacy3
    Privacy4
```

1. How to set privacy mask?
At the submenu of the Privacy, press **OPEN** key to enter the adjust image, adjust the privacy zone by **OPEN** (confirm), **CLOSE**(cancel), **FAR** (level increase), **NEAR** (level reduce), **TELE**(vertical increase), **WIDE** (vertical reduce). Then press **OPEN** key to confirm and back.

2 . How to clear privacy mask?
    a, Restart the speed dome, all of the privacy mask will be cleared.
    b, Enter the menu of the Privacy mask, press **OPEN** key to enter and press **CLOSE** to clear the privacy mask you want to clear.

Others of the Camera menu

```
 ➜  Digital Zoom        On
    Auto ICR            Off
    ICR                 Off
    Display             Off
```

Press **OPEN** key to enable the submenu, operate joystick to change the states of **ON** and **OFF**. Press **OPEN** to confirm and back and CLOSE to cancel and back.

Camera Mode

Camera Mode setting menu:

```
    Exposure
    White Balance
    Privacy
    Other
 ➜  Camera Model
    Zoom Speed          005
    Focus Speed         001
```

Press **OPEN** to enter the menu.

```
    Camera Mode Save：
 ➜  Normal
    Day
    Night
    Camera Mode Exec：
    Normal
    Day
    Night
```

There are three save mode under the Camera Mode Save menu, move the cursor to the mode going to be change, press **OPEN** the cursor will change to ☀, the setting will be saved and it will back to ➜ after 1 second.

The three items under Camera Mode Exec is opposite the three modes above. Move the cursor to the mode you want to call and press **OPEN** to confirm and back. The saved mode could be called by the shortcut preset: Normal---call 100 preset; Day --- call 101 preset; Night --- call

102 preset

Zoom Speed

At the submenu of Exposal, move the cursor to **Zoom Speed**, press **OPEN**, the cursor will change to ☀, then the parameter can be changed. Press **OPEN** to confirm and back or **CLOSE** cancel and back.

Focus Speed

Move the cursor to **Focus Speed**, press **OPEN**, the cursor will change to ☀, then the parameter can be changed. Press **OPEN** to confirm and back or **CLOSE** cancel and back.

Pan

```
➡ Home place      Off
  AS speed        060
  PS1 Speed       120
  PS1 time        005
  PS2 Speed       120
  PS2 time        005
  PS3 Speed       120
  PS3 time        005
  PS4 Speed       120
  PS4 time        005
  Auto Flip       On
```

This operation can control the home place of the dome, adjust the auto panning speed and 4 cruise line with presets, also the auto flip function.

Home Place	OFF (001-032, OFF)	
AS Speed	060(000-080)	Auto Pan speed
PS1 Speed	120(100-120)	Presets cruise 1 speed
PS1 Time	005(5-120))	Presets cruise 1 stop time.
PS2 Speed	120	Presets cruise 2 speed
PS2Time	005	Presets cruise 2 stop time.
PS3 Speed	120	Presets cruise 3 speed
PS3 Time	005	Presets cruise 3 stop time.
PS4 Speed	120	Presets cruise 4 speed
PS4 Time	005	Presets cruise 4 stop time.
Auto Flip		On(On/Off)

Shortcut Key

The functions can be setting by presets number, and can be called by the preset number which be set.

Note: The right side number is the default short cut key, they are the number of presets. The number can be saved by new shortcut but the old one will not be cancel.

Example: Change the number 095 into 16 that after Open Menu, the Menu can be called by 16 preset, and also can be called by 95 preset.

```
➡ Open Menu       095
  Auto Flip       033
  Reference       034
  Left Limit      092
  Right Limit     093
  Preset scan 1   081
  Preset scan 2   082
  Preset scan 3   083
  Preset scan 4   084
  Auto Scan       099
```

In the presets, the preset scan line 1 will cruise from presets 1-8, and preset scan line 2 will cruise from presets 9-16, the preset scan line 3 will cruise from presets 17-24, and the preset scan line 4 will cruise from 25-32. Every line will back the first preset when it met the point never be set, and it will quit cruise if the first preset is not be set. The function Auto Scan is right and left limit scan.

Note: The changing of the shortcut key can not be identical with the shortcut key already have.

Operation: Move the cursor to the item which going to be changed, press **OPEN**, then change the parameter, press **OPEN** to confirm and back or **CLOSE** cancel and back.

```
  Camera
  Pan
  Shortcut Key
➡ Self act        Nothing
  Leisure Time    030
```

Self Act.

The dome will check itself when electric and it will act the program automatic.

Nothing
P Scan 1   Preset scan 1
P Scan 2   Preset scan 2
P Scan 3   Preset scan 3
P Scan 4   Preset scan 4
A Scan   Auto scan (left and right limit scan
Home   Home place

Operation: Press **OPEN** the cursor will change to 🐞, and the parameter can be change. Press **OPEN** to confirm and back or **CLOSE** to cancel and back.

Leisure Time

Camera
Pan
Shortcut Key
Self act   Nothing
➔ Leisure Time   030

The dome will back to the home place after a while if it is moved manually, and the time is **Leisure Time**
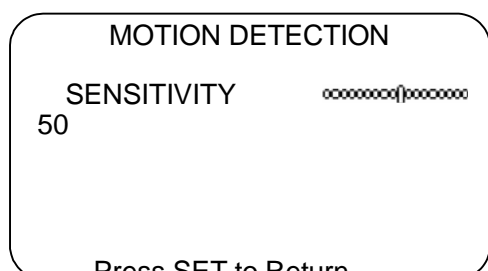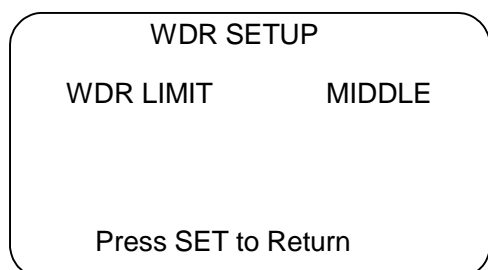
The parameter is from 1-240.

Operation: Press **OPEN** the cursor will change to 🐞, and the parameter can be change. Press **OPEN** to confirm and back or **CLOSE** to cancel and back.

VI High speed dome camera menu

Control

OPEN	Confirm (SET)	JOYSTICK	Cursor Up/ Down
NEAR	Control the cursor Up/Right to change the parameter	FAR	Control the cursor Down/ Left to change the parameter
	Currently menu（You can change the parameter only when at the currently menu）		
↵	Which have submenu, and press OPEN key to enter		

Enter the Camera menu:

```
       MAIN SETUP

CAM TITLE          ON⏎
WHITE BAL          ATW⏎
BACKLIGHT          OFF
MOTION DET         OFF
FOCUS⏎
EXPOSURE⏎
SPECIAL⏎
RESET
EXIT
```

1. CAM TITLE

```
        CAM TITLE

   ABCDEFGHIJKLMNO
   PQRSTUVWXYZabcd
   e f g h i j k l m n o p q r s
   t u v w x y z 0 1 2 3 4 5 6 7
   89 ( )<>-/#!?, .  ⏎

         CLR   POS   END

   — — — — — — — — — — —
```
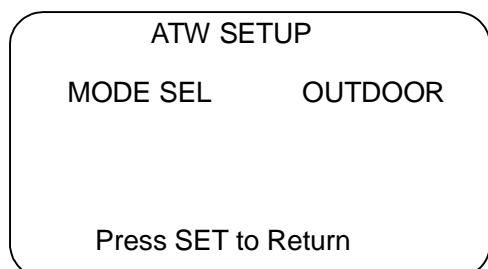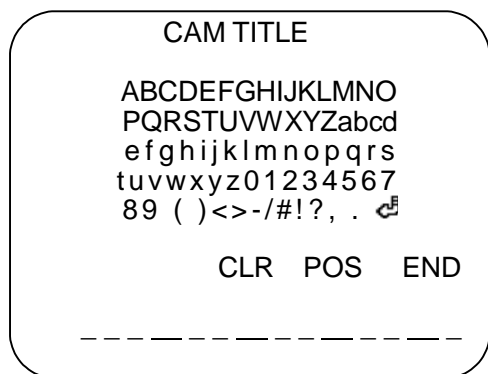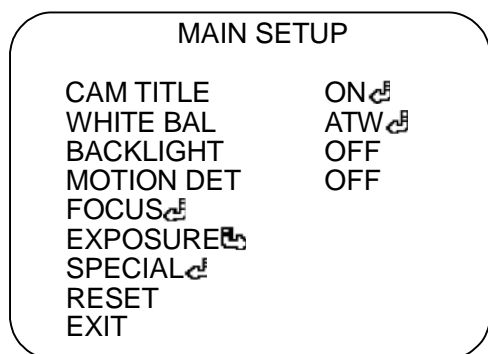
2, WHITE BAL

Please chose AWC-SET mold when at these situations below:

● The scenes have high COLOR TEMP things, for example the sky or setting sun.
● Caliginous scenes.
● The camera in the direction of the fluorescent lamp.

```
        ATW SETUP

MODE SEL           OUTDOOR




     Press SET to Return
```

3, BACKLIGHT

Attention:

● If the SHUTTER setting is MANUAL, the WDR function can not use.
● Please pay attention to the brightness of the monitor when setting the parameter.
● Add WDR may induce abnormity.
● Please do not use WDR when in these condition: abnormally color appears; ripple showed at the bright part.

```
        WDR SETUP

WDR LIMIT           MIDDLE




     Press SET to Return
```

4, MOTION DET

Attention:

● Please make sure if the camera could work normally after every adjust
● This function wills not working if the bright light coruscates.
● The other function will carry out more time if this function opens

```
      MOTION DETECTION

  SENSITIVITY       ooooooooo()oooooooo
50




    Press SET to Return.
```

5. EXPOSURE

```
       EXPOSURE SETUP                    .

  BRIGHTNESS        oooooooooo()oooooooo
50
  IRIS              AUTO
  SHUTTER           ---
  AGC
                    MIDD
  L SSNR                          ⏎
                    MIDD
  L
  SENS-UP
                    AUT
  O END
```

```
        SET SHUTTER

  SHUTTER          1/60



  Press SET to Return
```

SHUTTER:

Attention:

● When setting the BACKLIGHT as OFF, the A.FLK will show the best effect.

● If camera setting as ESC, the image will not steadily when face to the high light.

● Can not use WDR when setting as MANUAL.

● SEND-UP will can not use if under the MANUAL and A.FLK mode.

6. SPECIAL

```
          SPECIAL SETUP

  USER PRESET      OFF
  PRIVACY          OFF
  DAY/NIGHT
                   COLO
  R SYNC           INT
  FREEZE           OFF        ⏎
  H-REV
                   OF
  F V-REV
                   OF
  F IMAGE AD⏎
  COMMUNICATION ⏎
  EXIT
```

COMMUNICATION

Attention:

The COMMUNICATION parameter are setting previous, please do not change the parameters
if not sure, or it will induce the camera abnormally.

VII Auto-Tracking

Parameters Setting

Protocol ：PELCO-D / PELCO-P Baud
Rate：2400 / 4800 / 9600

How to use auto-tracking function?
This function is closed as default setting, and the setting table as below:

Preset Number	Function	Default Setting
35	Start-up Auto Tracking	
36	Stop Auto Tracking	YES
230	when the state of untrackable objects happen the PTZ will move to Preset 1	YES
231	when the state of untrackable objects happen the PTZ will not track anymore	
232	when the state of untrackable objects happen the PTZ will keep motion detection on other moving object	
233	The sensitivity of tracking：Low	
234	The sensitivity of tracking：Medium	YES
235	The sensitivity of tracking：High	
236	Object Size: Small	
237	Object Size: Medium	YES
238	Object Size: Large	
239	Object lost time：5 Second	
240	Object lost time：10 Second	
241	Object lost time：15 Second	YES
242	Object lost time：20 Second	
243	Object lost time：25 Second	
244	Object lost time：30 Second	
245	Object lost time：35 Second	
246	Object lost time：40 Second	
247	Auto Zoom：Open	
248	Auto Zoom：　Close	YES

Note: When you open the function of AUTO ZOOM, the lens will keep zoom in as the object move and not good at zoom out. When the object is too close to track, please just let the PTZ back to Preset 1 at the best position of it.

VIII Analysis on Common Malfunctions and Maintenance

If there is any problem at your operation, please work through the logical steps below to determine and rectify the problem.

Symptom	How to solve the problems?
No self-test	1 .Check the power supply and make sure if fuse is blow out or not 2. Make sure the adaptor of speed dome is specifically designed for use with this speed dome and verify that the input of speed dome inside is approximately AC24V. 3. Make sure the power pin on communication board is fixed but not loose.
No Picture	1. Check the PCB to make sure the red power LED is lit. If the power LED is lit, check the BNC crip connection is correctly made at both the PCB end and the monitor /DVR /matrix end. 2. Check that the PSU is correctly connected and make sure the camera module match this speed dome.
Self-test abnormal	1. Check the connection between camera module and PTZ. 2. Make sure that the DIP of speed dome setting is correct. Suggestion: check the camera module and confirm the DIP setting and then restart speed dome.
No PTZ control	1. Check the power on self test screen to ensure that the protocol, ID and baud rate are as expected. 2. If the settings match, you should check the polarity of the communication RS485 connections, both on the control equipment and the speed dome. 3. Check that the control equipment setting is available and if it is compatible with the speed dome and is configured to match the speed dome setting correctly. 4. Check the address switch setting is answer for host which you controlling (some of host address is 1 but camera address is 0 and vice versa. Make sure if the wire on communication board is fixed.
Work normally for close distance controlling but not available for long distance	1. The output drive of RS485 converter beyond their ability. 2. If the transport distance is over 1200M, then you need add a RS485 repeaters or signal amplifier. 3. Make sure that the short circuit pin of 120Ohm resistance connect correctly.