IR High Speed Dome Camera

User's Manual

● Please read the manual carefully before installing and using the unit.●

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Important Safeguards

1. During the course of transportation and storage, the product should be avoided from incorrect operations such as heavy pressing, strong vibration, soaking etc, which may cause damage to the unit.
2. The product is designed for wall-mount and pendant-mount installation, it can not be installed upside-down. And the module should be handled properly so as not to bring about mechanical problems affecting the integrative functions of it.
3. Do not let any foreign objects or liquid infiltrate into the unit, which may damage the machine.
4. Please follow all electrical standards for safety when it is being connected and adopt the particular power supply which is provided with the unit. The product's RS-485 and video signal adopt TVS-class lightning damage preventing technology, which can effectively prevent such pulse signal damage caused by lightning under 500W or electric surge. RS-485 and video signal should be kept enough distance from high voltage equipments and cables when they are in transmission, and necessary steps should be taken to prevent lightning damage or power surge.
5. No matter the unit is runing or not, the camera should never be aimed at the sun or object with extremely bright light. Otherwise, the camera's CCD might be permanently damaged.
6. There are no parts inside the unit which can be repaired by the users themselves. When mechanical problems arise, do not be in a haste to do any repairing, please refer to the User's Manual to find the trouble. If causes can not be located, please refer servicing to qualified professionals. All servicing must be done by authorized personnel.

I. Introduction

Adopting latest technological achievements and cutting-edge manufacturing techniques, the IR High Speed Dome Camera is created with many years of accumulated experience. Equiped with a high performance DSP camera with zooming lens, integrating built-in Pan/tilt, digital decoder and extraordinary IR lamps, it represents the future trend of hi-tech monitoring products. The unit is capable of rapid positioning, consecutively tracing and scanning, which realizes all-directional monitoring. The unit can automatically adapt to ambient brightness and object distance. Its digital control and elegantly simple design maximally reduces the connection between differnent parts in the system, which improves the reliability of the system and facilitate the installation and maintenance. Driven by a stepper electric motar, the unit runs smoothly, reacts quickly and locates positions accurately. At the same time, the unit has multi intelligent functions such as: left & right scan, pattern scan, tour, Privacy Mask, alarm function etc.

The IR lamp of the IR High Speed Dome Camera adopts the latest LED Array technology, LED Array has higher brightness, longer visible distance, more evenly distributed light field and much longer lifespan, with which the night-vision effect is greatly improved.

Based on the above characters, this IR High Speed Dome Camera is further equiped with powerful OSD menu with multi input modes, which further facilitates all kinds of operations and meet different demands from the customers.

With various performances, this type of IR High-speed Dome Camera can be applied in every walk of life to monitor moving objects in large areas, such as monitoring smart buildings, bank, city streets, power system, airports, bus/railway stations etc.

II. Technical Data

Power Supply	DC15V(4A) (The adaptor should be connected within 2 meters from the IR High-speed Dome)
Working temperature	－30°C～+60°C
Relative Humidity	10-90%
Power Consumption	35W
Communication Protocol	PELCO_D / PELCO_P / PELCO_D1
Communication Method	RS485 bus cable
Communication Baudrate	1200/2400/4800/9600bps
Address range of Speed Domes	1～255
Manually controlling Panning Speed	0.5°～120°/S
Range of Pan/tilt	Pan 360° endless, tilt 0°～+90°
Auto flip function	Auto-flip when vertical 90°
Speed Auto-control as per the changing of zoom ratio	The pan/tilt can automatically adjust the running speed following the change of the zoom ratio
OSD Menu	4 input modes, all the functions of the pan/tilt and the camera module can be oprated through the OSD menu
Preset Position number	128
Left & Right scan	The beginning and the end point free to be set, 3 grades of speed (low, medium and high) optional

360° Scan	Vertical angle free to be set, 3 grades of speed (low, medium and high) optional
Tour Group	4 groups, 16 preset positions for 1 tour group, dwelling time at each preset position can be set
Pattern Scan number	4
Privacy Mask Zone number	8
Idle Time functions	The function to be carried out in idle time can be configured, including invoking preset position, Left&Right scan, running tour etc
Alarm Functions	4 channels in, 1 channel out
IR Lamp	2 groups, made up of LED Array, 120m visible distance
Brightness control for IR lamps	Support brightness-control for IR lamps, including auto-control and manual-control 2 modes. The brightness is controlled by controlling the number of the groups of the IR lamps to be turned on.
IR light triggering control	Triggered by photosensitive resistor / triggered by camera module (IR Lamp turned on when camera module turns to Black & White mode), altogether 2 methods
Protection Grade	IP66
Lightening-proof	2 grades anti-lightening design, 3 groups protecting point (video, communication and power)
Weight	5.6Kg

III. Characteristics

- The cover is constructed with aluminum alloy, which ensures compact structure, high shielding strength and excellent heat-dispersion effect. The lower part of the unit is designed as exposed, which effectively solve the heat-dispersion problem for the camera module and the IR lamps etc parts.
- The Main Part, the Camera Module and the IR lamps are designed as isolated cover-shielding, which ensures not only good heat-dispersion effect but also water-proof effect and high reliability.
- Latest LED Array technology is adopted for the IR lamp, LED Array has higher brightness, longer visible distance, more evenly distributed light field and much longer lifespan.
- Brigtness-controlling function is supported for the IR lamps. Brigtness-controlling function consists of auto-control(indoor mode), auto-control (outdoor mode) and manual-control altogether 3 modes. According to the distance of the monitoring object, low, medium or high brightness of the IR lamps can be chosen for shooting, which can be expected to meet the requirement of brightness for different-distance object.
- Driven by a stepper electric motar, the unit runs smoothly, reacts quickly and locates positions accurately.
- In-built module programme can automatically identify different camera modules including SONY, HITACHI, LG, JCO etc. Other camera programmes can also be added as per the requirement of the customers.

- Day&night IR-sensible camera module equiped inside. In the daytime, it is in color mode, the image is vivid; at night, it turns to Black&white mode, the image is crisp. Thus, all day long (24hours) monitoring is realized.
- Adopting full-functional high-performance DSP design, performance stable
- Multiple protocol and baudrate supported, high compatibility.
- EEPROM data storing method adopted, so that the internally saved data will not lose when power off
- Powerful OSD Menu: 4 kinds of input methods. All the functions of the Pan/Tilt and the Camera Module can be configured and run through OSD menu.
- 128 preset positions for accurate location, 1 Left & Right scan, 4 tours, 4 pattern scan, 8 privacy mask zones.
- Support Idle Time function: According to actual requirement, the user can configure the function that the IR High-speed Dome Camera should carry out in idle time. The functions that can be set as Idle Time function includes Invoking Preset Positons, Left & Right scan, Tours etc.
- Support wire alarm function, 4 channels in, 1 channel out
- Memory recalling function once power on after power off

IV. Description of Functions

1. IR Lamp

The latest LED Array technology is adopted for this IR High Speed Dome Camera. LED Array is highly integration of traditional LED. Comparing with traditional LED, it has some advantages as below.

A. Higher brightness: Since LED Array is integration of LED, the brightness and the viewing distance are greatly increased.

B. Longer lifespan, due to the difference of the transparent material and the heat-dispersion effect, the lifespan of the LED Array is about 10 times as the traditional LED.

C. More evenly distributed light: The half-intensified beam angle of the traditional LED is about 10°, well it is 10°-120° (variable angle) for LED Array, which together with multi-angle disposal make the light evenly distributed and can light the whole room.

For this unit, the latest 3rd generation IR LED Array technology is adopted, campared with the 1st and 2nd generation IR LED Array, it has advantages as below:

A. The light giving out efficiency is much higher. The latest technology is adopted for the 3rd generation IR LED Array, under the same power consumption, the brightness is 2.5~3 times as the previous LED Array. At night, the visible distance is up to 150m or so.

B. The heat produced is much less when the IR lamp is turned on. Since the light generating efficiency of the 3rd generation IR Led Array is much higher, under the same power, less power is turned into heat and wasted, thus the lifespan of the IR Lamp is much longer.

2. Whole-day (24 hours/day) monitoring

The camera module inside is IR sensitive with IR-cut. In the daytime, the image is color and vivid. Well, at night, it turns to B&W, at the same time, the IR lamps will be turned on, which ensures the image crisp. Therefore whole-day (24 hours) monitoring is realized.

3. OSD Menu Operation

All the functions of the pan/tilt and the built-in camera module can be

conveniently configured and carried out through the OSD menu. These functions include: Preset Positions, Tours, Pattern Scan, Left & Right Scan, Privacy Mask, Alarm, Language Choosing, and the configuration of the parameters of the Camera Module etc. The user can also edit the title of the IR High-speed Dome Cameras and the preset positions through multiple Input Modes, so that the titles are easier to be remembered and identified. The above functions make the IR High-speed Dome Camera really realize intelligent control and in-time monitoring.

4. Trace the Target

The users can control the movement of the unit by operating the joystick of the keyboard so that they can trace the moving object or change the monitoring area. The angle of view or the size of the image of the object can be changed through adjusting the focal length. In the default Auto-focus, Auto-Iris state, following the movement of the unit, the lens will quickly adjust itself to get clear image according to the change of the object.

5. Automatic Adjustment of Focal Length/Movement Speed

When the focus is long and in the mode of manual adjustment, due to the high sensitivity of the IR High-speed Dome Camera, even the slightest movement of the joystick would make the image move quickly, which causes image losses. Based on human design, the IR High-speed Dome Camera can automatically adjust the horizontal and vertical moving speed of the pan/tilt according to the current focal-length, which makes the manual target-tracing operation much easier.

6. Configure and Invoke Preset Positions

The preset position function works in this way: the IR High-speed Dome Camera stores the data of the pan/tilt angles and lens focal-length in current state; when needed, invoke these data, then promptly move the pan/tilt and camera module to the corresponding position. Through the OSD menu, the user can quickly and conveniently configure, invoke, delete the preset positions and edit the title of the preset positions. When the user invokes the preset position through the OSD menu, the unit will move to the preset position promptly, at the same time, the title of the preset positon editted by the user will be shown. The unit supports 128 preset positions.

7. Automatic Tours

The automatic tour function is a built-in function of the IR High-speed Dome Camera. Through beforehand programming, the user can arrange the preset positions into the automatic tour in the desired order. When it's needed to run the tour, operating through the OSD menu, the user can make the IR High-speed Dome Camera automatically move as per the order of the preset positions configured in the tour with preset time intervals.

- The staying time at each preset position can be configured.
- Altogether 4 tours can be configured with the unit.
- Sixteen preset positions can be stored in one tour.

8. Left & right Scan

Left/right limiting positions can be conveniently set through OSD menu. After configuring well, the user can run the left/right scan directly through the OSD menu, then the IR High-speed Dome Camera will automatically run horizontally between the left limiting position and the right limiting position, at the preset speed.

9. 360° Scan

360° endless scan is supported. When running 360° scan, the unit will rotating endlessly. There are low, medium and high 3 grades optional for the running speed of the 360° scan.

10. Pattern Scan

The unit can store the user's operating track and invoke it when necessary. A 4-minutes operation is acceptable to be stored for one Pattern Scan track. Altogether 4 Pattern Scan tracks can be stored in this unit.

11. Privacy Mask

Within the monitoring range, if some privacy zones should be shielded from being monitored, some mask zones can be set within the monitoring image. Altogether 8 Privacy Mask zones can be set in the unit.

12. Alarm Function

The user can set the key areas as alarm points. Through the linkage with the external-connected detector, once there is alarm signal transmitted to the unit, the unit will promptly adjust the camera module to shoot the alarm point, at the same time, it will output alarm signal through the alarm output port.

13. Idle Time Function

Users can set the function that is to be carried out in idle time as the Idle Time Function. If the user exit the OSD menu after finishing with other operations, and if the IR High-speed Dome Camera is in still state without running, then after a period of time during which nobody operates the unit, the unit will automatically begin to carry out Idle Time Function that is configured in advance. The functions that can be set as Idle Time Function include invoking preset position, running left&right scan, running tour etc. The length of the period of time after which the Idle Time Function is to be carried out can be set, the range is 1~240minutes.

14. Memory recalling function once power off

The unit has memory recalling function when power is off. If the unit is running preset position, left & right scan, 360° scan, auto tour etc functions when the power is off, then once the power is on, the unit will automatically resume the ever-running functions after finishing self-checking

15. Camera module Lens Control

Users can adjust the Focal-length through controlling the keyboard to get panoramic view or close view that they desire.

Focal Length Control

Users can adjust the Focal-length through controlling the keyboard to get panoramic view or close view that they desire.

Focus Control

The system takes automatic focus as the default. While moving, the camera module can automatically focus on the center of the object view to get clear image. Under special circumstances, the user can manually adjust the focus to achieve desired image effect.

● Manual focus can be realized through controlling the keyboard or matrix. For details, please refer to the operation manual of the controlling keyboard or matrix.

● In the state of manual focus, the user can control focal–length to make the lens focus on objects. If the IR High-speed Dome Camera is configured to resume auto-focus upon joystick operation, when there is operating on the joystick, the IR High-speed Dome Camera will automatically focus. If a period

of time is configured for auto-focus resuming, once there is no controlling order received, after the period of time, the IR High-speed Dome Camera will resume auto-focus.

Under the following circumstances, the camera module can not carry out auto-focus:

● When the object is not in the center of the view.

● When simultaneously observe a far object and a near one, clarity for both of the images can not be guaranteed at the same time.

● When observing objects with extreme brightness, such as neon lights, spotlight, etc

● When the object is behind the glass with water drops or dust

● When the object moves very fast

● When the object is large-sized and drab, such as wall

● When the object is too dark or fuzzy

Iris Control

● The system takes automatic-iris as the default. The iris can automatically sense the change of the environmental light and make quick adjustment, so that the brightness of the image is stable.

● The user can manually adjust the iris through controlling the keyboard to obtain desired brightness for the image.

Automatic Back Light Compensation (BLC)

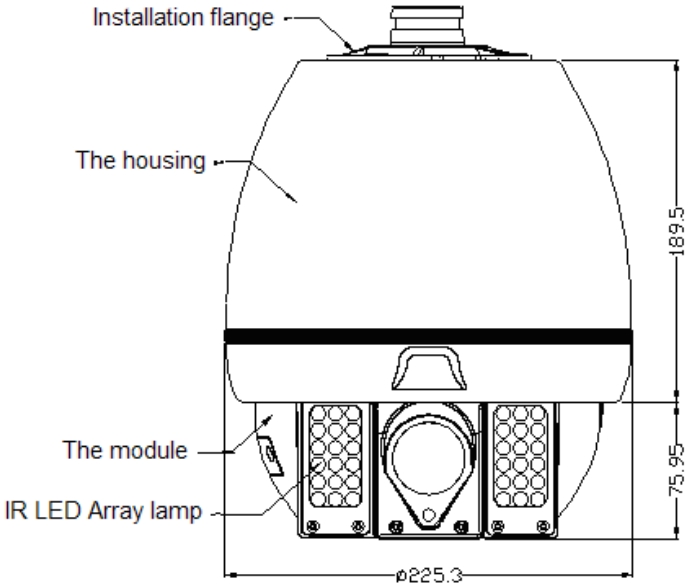
Automatic Back Light Compensation can be realized via district dividing. In extremely bright background, the camera module can compensate the brightness of the relatively dark objects, while adjust the light of the bright background, avoiding that the whole image is too bright to watch due to the too high brightness of the background while the object is too dark to be distinguished, so that clear image can be got.

Automatic White Balance

According to the ambient brightness, the camera module can automatically adjust the White Balance to re-display the real colors.

V. Installation and Connection of the IR High Speed Dome Camera

5.1 The outer shape and dimension of IR High Speed Dome Camera:



The outer shape and dimension of IR High Speed Dome Camera

5.2 Preparation for installation

1. Installation should be carried out by professional personnels as per relative regulations lest there is any problem.

2. Check if the accessaries with the unit are complete. Confirm if the applying site and the installing method of the unit is the same as required.

3. A set of unit consists of bracket, housing, module, adaptor, installing screws etc.

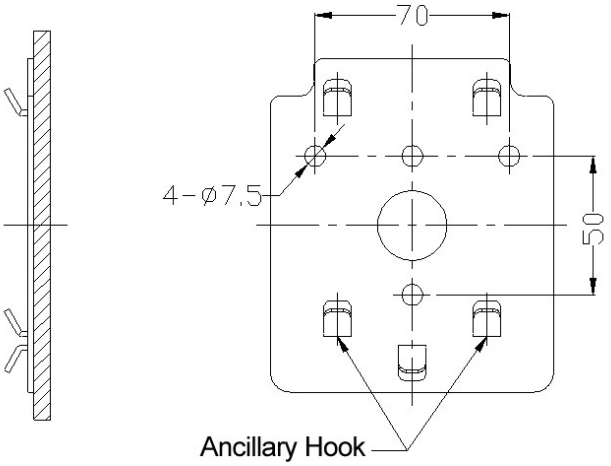
4. Before leaving the factory, the unit has been tested well for installation, users can install directly.

5. Before installation, please read carefully the instruction of installation in the User's Manual enclosed with the unit.

5.3 Installation of Wall-mount IR High-speed Dome Camera

Attention: The wall for the selected installation location must be firm without peeling. To avoid quivering images resulting from unstable installation, make sure the place for installation can sustain five times the total weight of the IR High-speed Dome Camera, the bracket and the base.

A. Use the bottom installation board of the bracket as template and draw the positions of the installing holes on the desired wall locus;

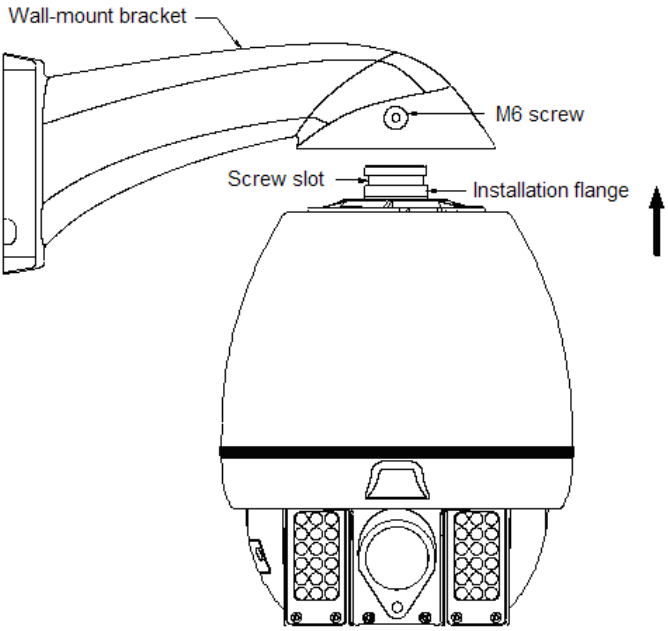


Wall Bracket Installation Dimensions

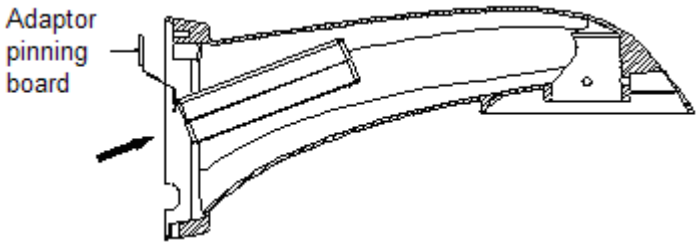
B. Use an electrical drill to make four holes for M6 screws on the above-drawn positions, and drive in the expansion M6 screws;

C. Fix the installation board of the bracket firmly on the wall with four M6 screw nuts and washers.

D. Push the power cable, communication cable and video cable through the bracket tube, then push the installing port on the top of the outer housing into the installing hole of the bracket, tighten the 3 M6 screws and fix well. Make sure the M6 screws just fit in the screw slot of the installing port of the housing. (See the picture below)

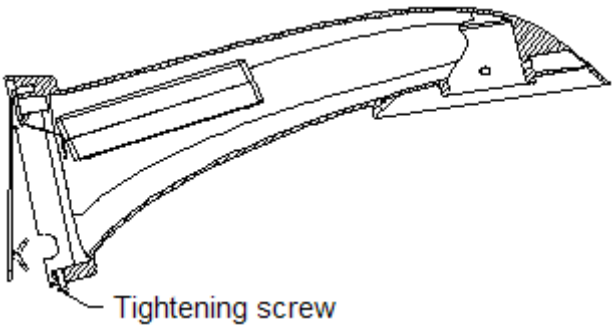


E. Put the power adaptor into the wall bracket and pin the power adaptor with the adaptor pinning board, lest the power adaptor slides out. (See the figure below)



Attention: The adaptor equiped can only be placed indoor or in water-proof box or other water-proof spaces, it can not be placed directly outdoor, otherwise water may seep in and damage the adaptor.

F. Put up the wall bracket assembled with IR High-speed dome on the ancillary hooks: Pull the power cable, video cable and controlling cable out through the wire-out-going hole of the bracket, then put the assembled on the two corresponding pegs on the installed peg-board, then push the bracket downward until it locks in place. Make sure the wall bracket is well fixed with the installation board, then direct the screw on the bracket to the corresponding hole on the lower part of the installation board and tighten the screw.



5.3.2 Connection of Exterior Cables

Cable	Application	Connecting Objects	Remarks
Power cable	power supply for the unit	IR High-speed dome--- power supply adaptor	Inner positive, outer negative
485 cable	Controlling the IR High-speed Dome	IR High-speed dome --- controlling device	Green (Positive), white(Negative)
Video Cable	video signal	IR High-speed dome ---monitoring device	Inner positive, outer negative
Earth connecting port	Connecting the earth for lightening proof	IR High-speed dome --- the earth	Black cable
5-strand cable	Alarm input	Detctor--- IR High-speed dome	Black (Alarm input public terminal) Yellow (the 1st channel alarm input) Green (the 2nd channel alarm input) Blue (the 3rd channel alarm input) White (the 4th channel alarm input)
2-strand cable	Alarm output	IR High-speed dome--- alarm bell	Brown (alarm output public terminal) Grey (alarm output terminal)

◆ When connecting, make sure the polarity of RS485 controlling cable is correct: A: RS485 positive, B: RS485 negative.

◆ If wrongly connected, the IR High-speed Dome Camera will be out of

control.

5.3.3 Switch on Power

a Make sure the polarity of plugs, sockets and the connection of cables is correct, then switch on power

b The IR High-speed Dome Camera begins to do the self-check: it moves pan 360°, tilt 90°, then moves to its original position, then zooms in and zooms out once. Through the self-check, the unit checks the mechanical moving performance of the pan/tilt, the electrical performance of the controlling system, the controlling of the camera module. After the IR High-speed Dome Camera finishes self-check, it stays at the original position and is ready to receive controlling instructions.

c Use controlling device to control the IR High-speed Dome Camera, checking whether it can perform the functions of the pan/tilt and the lens of the camera module. If not, please check the configuration of communication protocol, Baud rate and address, and the connection of 485 controlling cable.

5.4 Installation of Pendant-mount IR High-speed Dome Camera

5.4.1 Installation of Pendant-mount Bracket

Remarks: The ceiling for the selected installation location must be firm without peeling. To avoid quivering images resulting from unstable installation, make sure the place for installation can sustain five times the total weight of the IR High-speed Dome Camera, the bracket and the base.

A Use the bracket as template and draw the positions of the installing holes on the desired ceiling locus;

B Use an electric drill to make three holes for M6 screws on the

above-drawn positions, and drive in the special M6 screws;

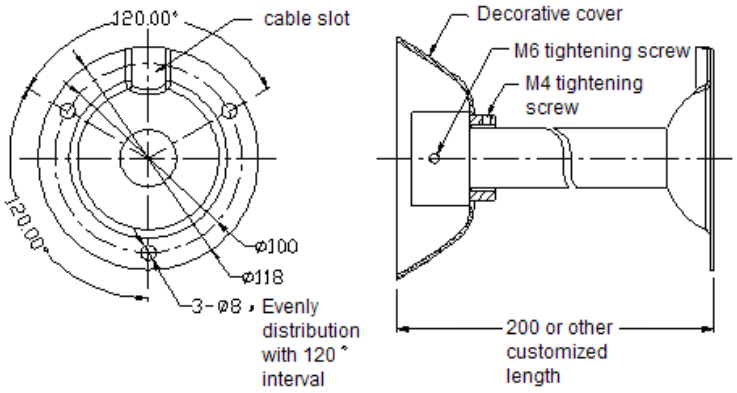
C Push the power cable, communication cable and video cable through the bracket tube, then push the installing port on the top of the outer housing of the unit into the installing hole of the bracket, tighten the 3 M6 screws and fix well. Make sure the M6 screws just fit in the screw slot of the installing port of the housing;

D Put the power adaptor into some installing box, fix the adaptor well lest it slides out.

Attention: The adaptor equiped can only be placed indoor or in water-proof box or other water-proof spaces, it can not be placed directly outdoor, otherwise water may seep in and damage the adaptor

E Pull the power cable, video cable and controlling cable out through the cable slot of the bracket, leaving long enough cables for connection;

F Fix the bracket firmly on the ceiling with three M6 screw nuts and washers.



5.4.2 Connection of Exterior Cables

Cable	Application	Connecting Objects	Remarks
Power cable	power supply for the unit	IR High-speed dome--- power supply adaptor	Inner positive, outer negative
485 cable	Controlling the IR High-speed Dome	IR High-speed dome --- controlling device	Green (Positive), white(Negative)
Video Cable	video signal	IR High-speed dome ---monitoring device	Inner positive, outer negative
Earth connecting port	Connecting the earth for lightening proof	IR High-speed dome --- the earth	Black cable
5-strand cable	Alarm input	Detctor--- IR High-speed dome	Black (Alarm input public terminal) Yellow (the 1st channel alarm input) Green (the 2nd channel alarm input) Blue (the 3rd channel alarm input) White (the 4th channel alarm input)
2-strand cable	Alarm output	IR High-speed dome--- alarm bell	Brown (alarm output public terminal) Grey (alarm output terminal)

◆ When connecting, make sure the polarity of RS485 controlling cable is

correct: A: RS485 positive, B: RS485 negative.

◆ If wrongly connected, the IR High-speed Dome Camera will be out of control.

5.4.3 Switch on Power

a Make sure the polarity of plugs, sockets and the connection of cables is correct, then switch on power

b The IR High-speed Dome Camera begins to do the self-check: it moves pan 360°, tilt 90°, then moves to its original position, then zooms in and zooms out once. Through the self-check, the unit checks the mechanical moving performance of the pan/tilt, the electrical performance of the controlling system, the controlling of the camera module. After the IR High-speed Dome Camera finishes self-check, it stays at the original position and is ready to receive controlling instructions.

c Use controlling device to control the IR High-speed Dome Camera, checking whether it can perform the functions of the pan/tilt and the lens of the camera module. If not, please check the configuration of communication protocol, Baud rate and address, and the connection of 485 controlling cable.

5.5 Connection of the cables for alarm in and out

Connect the alarm cables according to the sketch below. Once distinguishing the alarm signal coming in, the speed dome will immediately act as per the process set before, it will start the camera, display the image of the alarm zone on the monitor, adjust the speed dome to the alarm point, and monitor the preset position, record what happens at the alarm zone as soon as possible. Connection of the alarm cables as the sketch below:

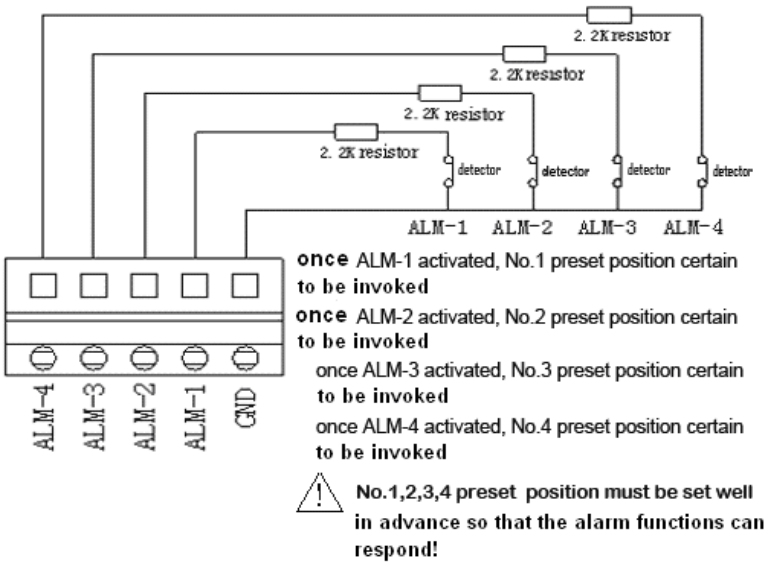
Attention:

a. Alarm input must be ON/OFF input signal, any other types of input signal(such as power voltage etc) is possible to damage the unit. When there are alarm signals from multi channels, the unit will respond to them one by one, the interval is 3 seconds.

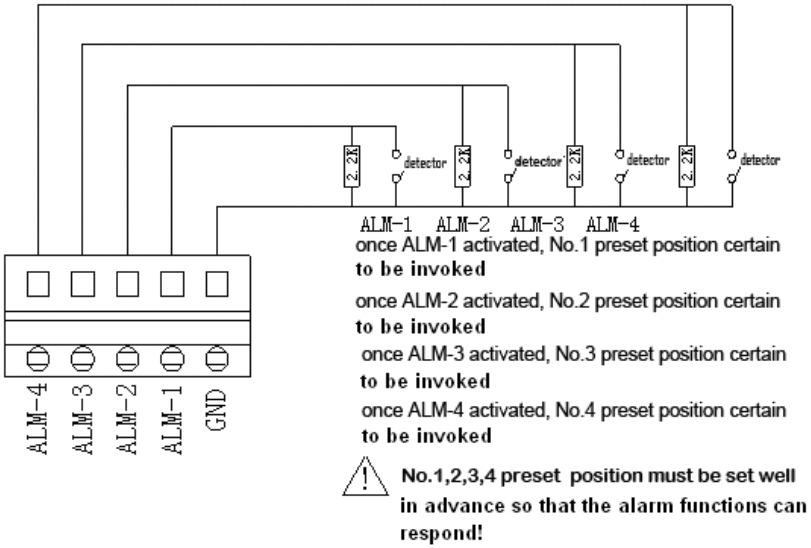
b. Once there is alarm signal coming in, the unit will not respond to “Scan” , “Cruising” etc functions. Manual operation is needed to restore “Scan” , “Cruising” etc functions.

c. For the input terminals which are not connected with detectors, 2.2KΩ risistor must be connected, otherwise the speed dome will thinks that there is alarm signal coming in, thus the alarm output is always on.

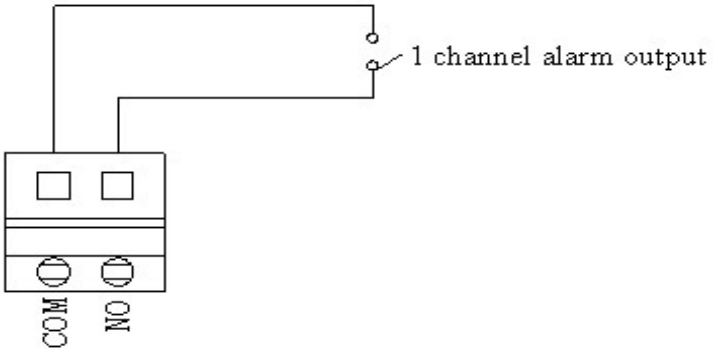
5.5.1 sketch for Series Connection Alarm input (with Constant-closed detector)



5.5.2 sketch for Parallel Connection Alarm input (with Constant-open detector)

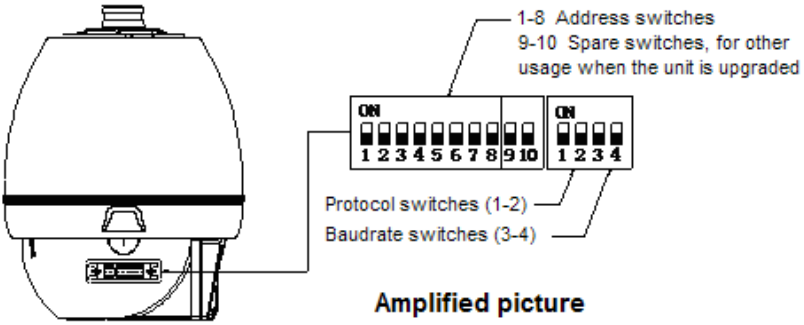


5.5.3 sketch for Alarm output connection



VI. Configuration of the system

Before power on, please confirm if the protocol, the Baud rate of the controlling system and the address code of the IR High-speed dome camera is right (the factory default is: Pelco_D for protocol, 4800bps for baudrate, 001 for address code). You must make sure that the configuration of them must be identical to that of the controlling device. The corresponding switches for configuration is shown in the following figure:



6.1 Configuration of Communication Protocol

The DIP-1 and DIP-2 of the 4-button switch on the PCB board is for communication protocol configuration. Please refer to the following table:

NO.	2 1	PROTOCOL
1	0 0	PELCO_D
2	0 1	PELCO_P
3	1 0	NEW
4	1 1	PELCO_D1

If the controlling device could only support the preset position numbers below 128, please use PELCO_D1 controlling protocol.

6.2 Configuration of Baud Rate

DIP-3 and DIP-4 of the 4-button switch on the PCB board is used to configure Baudrate of communication, the default configuration is 4800BPS. Following table shows states of coding switches and cosrresponding Baudrate.

No.	4 3	Baudrate
1	0 0	1200 BPS
2	0 1	2400 BPS
3	1 0	4800 BPS
4	1 1	9600 BPS

Remark: If the IR High-speed Dome Camera is used at the farthest terminal, there should be a parallel connection of a 120Ω terminal matching resistor between A, B lines of RS485.

6.3 Configuration of Address

Before actual operating of the unit, the address of the IR High-speed dome camera should be configured. The buttons from DIP-1 to DIP-8 of the 10-button Switch are used to set address of the IR High-speed Dome Camera from 1 to 255. The coding switches from DIP-1 to DIP-8 are equivalent to a 8-bit binary figure. The state “ON” of each bit means “1” while ”OFF” means ”0”. Corresponding state of coding switches and address is shown in the table below:.

Correspondence of Address and Coding Switch (DIP1-DIP8 of the 10-button switch)

NO	87654321	NO	87654321	NO	87654321
1	00000001	32	00100000	63	00111111
2	00000010	33	00100001	64	01000000
3	00000011	34	00100010	65	01000001
4	00000100	35	00100011	66	01000010
5	00000101	36	00100100	67	01000011
6	00000110	37	00100101	68	01000100
7	00000111	38	00100110	69	01000101
8	00001000	39	00100111	70	01000110
9	00001001	40	00101000	71	01000111
10	00001010	41	00101001	72	01001000
11	00001011	42	00101010	73	01001001
12	00001100	43	00101011	74	01001010
13	00001101	44	00101100	75	01001011
14	00001110	45	00101101	76	01001100
15	00001111	46	00101110	77	01001101
16	00010000	47	00101111	78	01001110
17	00010001	48	00110000	79	01001111
18	00010010	49	00110001	80	01010000
19	00010011	50	00110010	81	01010001
20	00010100	51	00110011	82	01010010
21	00010101	52	00110100	83	01010011
22	00010110	53	00110101	84	01010100
23	00010111	54	00110110	85	01010101
24	00011000	55	00110111	86	01010110
25	00011001	56	00111000	87	01010111
26	00011010	57	00111001	88	01011000
27	00011011	58	00111010	89	01011001
28	00011100	59	00111011	90	01011010
29	00011101	60	00111100	91	01011011
30	00011110	61	00111101	92	01011100
31	00011111	62	00111110	93	01011101
94	01011110	125	01111101	156	10011100
95	01011111	126	01111110	157	10011101

NO	87654321	NO	87654321	NO	87654321
96	01100000	127	01111111	158	10011110
97	01100001	128	10000000	159	10011111
98	01100010	129	10000001	160	10100000
99	01100011	130	10000010	161	10100001
100	01100100	131	10000011	162	10100010
101	01100101	132	10000100	163	10100011
102	01100110	133	10000101	164	10100100
103	01100111	134	10000110	165	10100101
104	01101000	135	10000111	166	10100110
105	01101001	136	10001000	167	10100111
106	01101010	137	10001001	168	10101000
107	01101011	138	10001010	169	10101001
108	01101100	139	10001011	170	10101010
109	01101101	140	10001100	171	10101011
110	01101110	141	10001101	172	10101100
111	01101111	142	10001110	173	10101101
112	01110000	143	10001111	174	10101110
113	01110001	144	10010000	175	10101111
114	01110010	145	10010001	176	10110000
115	01110011	146	10010010	177	10110001
116	01110100	147	10010011	178	10110010
117	01110101	148	10010100	179	10110011
118	01110110	149	10010101	180	10110100
119	01110111	150	10010110	181	10110101
120	01111000	151	10010111	182	10110110
121	01111001	152	10011000	183	10110111
122	01111010	153	10011001	184	10111000
123	01111011	154	10011010	185	10111001
124	01111100	155	10011011	186	10111010
187	10111011	210	11010010	233	11101001
188	10111100	211	11010011	234	11101010
189	10111101	212	11010100	235	11101011
190	10111110	213	11010101	236	11101100

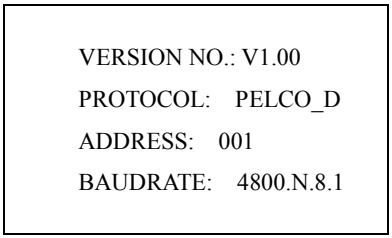
NO	87654321	NO	87654321	NO	87654321
191	10111111	214	11010110	237	11101101
192	11000000	215	11010111	238	11101110
193	11000001	216	11011000	239	11101111
194	11000010	217	11011001	240	11110000
195	11000011	218	11011010	241	11110001
196	11000100	219	11011011	242	11110010
197	11000101	220	11011100	243	11110011
198	11000110	221	11011101	244	11110100
199	11000111	222	11011110	245	11110101
200	11001000	223	11011111	246	11110110
201	11001001	224	11100000	247	11110111
202	11001010	225	11100001	248	11111000
203	11001011	226	11100010	249	11111001
204	11001100	227	11100011	250	11111010
205	11001101	228	11100100	251	11111011
206	11001110	229	11100101	252	11111100
207	11001111	230	11100110	253	11111101
208	11010000	231	11100111	254	11111110
209	11010001	232	11101000	255	11111111

VII. Configuration and Operations through the OSD Menu

7.1 Basic Operation

7.1.1 Power on and self-check of the IR High Speed Dome Camera

Once power on, the unit enters self-checking procedure. The unit pans slowly to the default horizontal 180° postion, then tilt to 20°. The lens zoom from far to near, then from near to far. During the self-checking process, the corresponding information of the system will be displayed on the screen, as shown below:



When the self-checking is finished, the title of the IR High Speed Dome Camera “IR HI-SPEED DOME” and the title of the location “180° 20° ” will be displayed. This indicates operations over the system can be carried out now. The detailed operation method will be introduced in the later chapters.
(Remark: If the unit is in normal running state when power off, then, once power on, after self-check, the unit will resume the previous state (such as invoking preset position, Left & Right scan, cruising tour, 360º scan, alarm linkage etc)

7.1.2 Enter and exit the Main Menu

(1) The Main Menu will be displayed when press “95 PREVIEW” (the operation is as invoking the 95th preset position) or invoke Preset Position

No.1 for twice within 5 seconds. All the configuration with the menu has to be through Main Menu.

⑵ The Main Menu will be exited when press “IRIS-”.

7.1.3 Corresponding functions of the keys and joystick of the keyboard.

[IRIS+](CLOSE)	It means “Enlarge Iris” when viewing image, it means “Save/Return” when configuring menu
[IRIS-](OPEN)	It means “Narrow Iris” when viewing image, it means “Exit the whole configuration process without saving the configuration” when configuring menu
[FOCUS+](FAR)	Focus to far. It means “Enter lower grade menu or enter the configuration” when configuring menu.
[FOCUS-](TEL)	Focus to near. It means “Delete or decrease” when configuring menu.
[ZOOM+](TELE)	Focal length shorter.
[ZOOM-](WIDE)	Focus length longer
Joystick Up	to Choose the upper one in Menu Configuration option, to make the camera turn upwards in Image Option.
Joystick Down	to Choose the lower one in Menu Configuration option, to make the camera turn downwards in Image Option.
Joystick Left	to Choose the left one in Menu Configuration option, to make the camera turn left in Image Option.
Joystick Right	to Choose the right one in Menu Configuration option, to make the camera turn right in Image Option.

Attention:

⑴ If the keyboard used for operation is not from this company, please choose the keys in the brackets for operation.

⑵ When carrying out number configuration, you need only press on FOCUS+, FOCUS- without release, the number will increase or decrease continuously.

7.2 Table for all Configuration and Operations through OSD Menu

MAIN MENU	1.SYSTEM INFO	1. EDIT SPEEDDOME TITLE		In English interface, titles can be editted with 4 input modes
		2. TITLE DISPLAY SETUP	1. SPEEDDOME TITLE	To choose which items of the informations are to be shown on the screen
			2. PRESET TITLE	
			3. DIRECTION TITLE	
		3. PAN/TILT SETUP	1. AUTO-FLIP	ON/OFF
			2. PROPORTION P/T	ON/OFF
			3.IDLE TIME	Can be set as 1-240 minutes
			4. IDLEACTIVATE	Invoking Preset Position, Left & Right Scan, Running Tour etc optional
			5. IR TRIGGER	2 modes optional: 1. triggerred by the photosensitive resistor 2. triggerred by the camera module as per the conversion of B&W and Color mode,
		4. CLEAR THE SETUP	1. CLEAR ALL PRE-POSITION	
			2. CLEAR ALL TOUR	
	2. CAMERA SETUP	1. DIGITAL ZOOM		ON/OFF
		2. BLC MODE		ON/OFF
		3. B&W/COLOR		auto/color/B&W

		MODE		
	3. AUTO-RUN	1. PRESET POSITION	1. SERIAL NO.	Maximum 128 Preset Positions
			2. SETUP	To set the preset position
			3. PREVIEW	To invoke the preset position
			4. DELETE	
			5. EDIT TITLE	
		2. AUTO SCAN	1. SPEED	High, medium, low 3 levels speed optional
			2. LEFT LIMIT	
			3. RIGHT LIMIT	
			4. RUNNING	
		3. TOUR	1. SERIAL NO.	Maximum 4 tours
			2. SETUP	To set tour group
			3. PREVIEW	To invoke the tour
			4. DELETE	
		4. PATTERN SCAN	1. SERIAL NO.	Maximum 4 Pattern scans
			2. RECORD	
			3. PREVIEW	To run the pattern scan
			4. DELETE	
	4.LANGUAGE			English
	5. ALARM SETUP			To configure the preset positions to be invoked for each alarm channel

	6. PRIVACY MASK	1. PRIVACY ZONE NO.		Maximum 8 zones
		2. PRIVACY ZONE SETUP		To set the Privacy Mask zones
		3. ACTIVATE		
		4. DELETE		

7.3 Configure the Information of the System

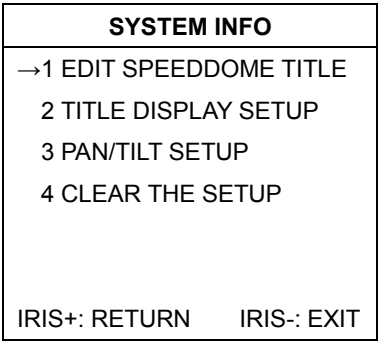
7.3.1 Compile the title of the IR High Speed Dome Camera

When multiple IR High-speed Dome Cameras are used in the system, in order to more easily identify the IR High-speed Dome Cameras, SPEEDDOME title configuration function can be used. The configuration method as below:

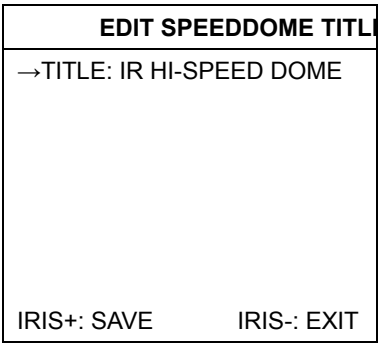
1. Press **95+PREVIEW** to enter the Main Menu.

MAIN MENU
→1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick to move the cursor to **[1 SYSTEM INFO],** then press **[FOCUS+]** to enter the lower menu:



3. Operate the joystick and move the cursor to **[1 EDIT SPEEDDOME TITLE**], press **[FOCUS+]** to enter "SPEEDDOME Title Compiling" state, now the cursor is at **[TITLE:]** position.



4. Press **[FOCUS+]** key to enter Input Modes optional state, move the joystick to "ABC", then press **[FOCUS+]** key repeatedly to choose required Input Mode.

5. After choosing the required Input Mode, move the joystick downwards to character options zone, move the joystick left or right to the required character, press **[FOCUS+]** to confirm.

6. If you want to delete the configuration of the IR High Speed Dome Title, move the cursor to **[TITLE: IR HI-SPEED DOME],** press **[FOCUS-]**, the Title Configuration content can be deleted.

EDIT SPEEDDOME TITLE	
→ **TITLE:**	
ABC Input:	
ABCDEFGHI	
IRIS+: SAVE	IRIS-: EXIT

Attention:

1) There are 4 Input Modes: ABC, abc, DIGIT and SIGN. When the cursor is moved to “ABC input”, press [FOCUS+] to confirm the Input Mode, then corresponding character is shown. Move the joystick downwards to the characters, move the joystick to left or right to the required character, then press [FOCUS+] to confirm the required character. If the required character is not in the current line, you may move the joystick to left to enter the next line.

2)Up to 20 letters or characters are acceptable for the Title.

7. After the configuration finished, press **[IRIS+]** key to save and return to the upper grade menu.

8. Press **[IRIS-]** key to exit the menu.

The detailed operation method for compiling IR High-speed Dome title is to be introduced below:

Take compiling title “**1Aa!** ” as an example:

According to the content of this title, the 4 types of Input Modes are as following in turn: DIGIT Input Mode, Capital letters Input Mode, Small letters Input Mode and Sign Input Mode. That is the turn to compile the title.

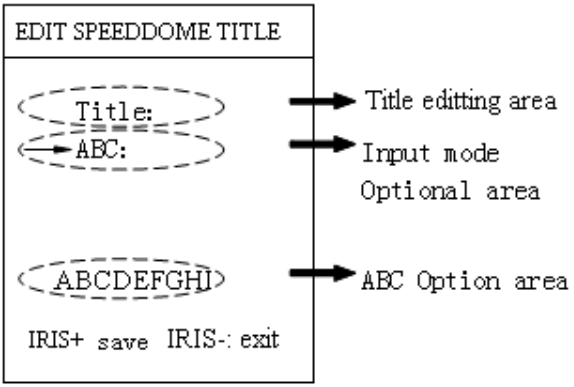
1. Firstly display the menu as Figure 1 (in this menu, the “IR HI-SPEED DOME” is the Ex-work default configuration). Press [FOCUS-] key to delete

the default configuration. Now there is not any character behind the “Title”, now you can compile the title.

EDIT SPEEDDOME TITLE	
→ **TITLE:**	
ABC Input:	
ABCDEFGHI	
IRIS+: SAVE	IRIS-: EXIT

2. Choose DIGIT input mode:

A: Move the joystick downwards and move the cursor to “DIGIT”, press [FOCUS+] to choose Input Mode;



B: After choosing “DIGIT”, use the joystick to move the cursor downwards to Digit Optional Zone, then move the cursor to “1” and press [FOCUS+] to confirm. Now “1” is displayed in the Title Compiling Zone.

EDIT SPEEDDOME TITLE	
Title: 1	
DIGIT:	
0→123456789	
IRIS+: SAVE	IRIS-: EXIT

3. Letter and sign Input Mode:

A: After the digit is input well, move the cursor upwards to Input Mode Optional Area, press [FOCUS+] key to Choose Capital Letter, Small Letter and Sign Input Modes in turn.(The operation process is the same as Digit input.) Add "**Aa!"** to Title Compiling Area, now "**1Aa!"** is shown in the Title Compiling Area, which means the title is compiled successfully.

B: Press [IRIS+] key to save and return to the upper grade menu.

Attention: So long as the "SPEEDDOME TITLE" function in the "TITLE DISPLAY SETUP" is configured as "ON", users can see the title information more conveniently and more promptly from the screen. The operating process also applies to the "Title Compiling" in "Preset position setup" function. No more detailed description for it in the following chapters. To facilitate your more smooth operating, please read carefully here.

7.3.2 CONFIGURATION FOR TITLE DISPLAY

1. Press **95+PREVIEW** to enter the main menu.

MAIN MENU
→1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[SYSTEM INFO],** press **[FOCUS+]** to enter next grade menu as:

SYSTEM INFO
1 EDIT SPEEDDOME TITLE
→2 TITLE DISPLAY SETUP
3 PAN/TILT SETUP
4 CLEAR THE SETUP
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick upwards or downwards to move the cursor to **[TITLE DISPLAY SETUP]**, press **[FOCUS+]** to enter, now the cursor is at **"SPEEDDOME TITLE ON".**

TITLE DISPLAY SETUP	
→1 SPEEDDOME TITLE	ON
2 PRESET TITLE	ON
3 DIRECTION TITLE	ON
IRIS+: RETURN	IRIS-: EXIT

4. There are 3 configuration options under the “TITLE DISPLAY SETUP”: **SPEEDDOME TITLE, PRESET TITLE, DIRECTION TITLE**.

5. Take the operation of displaying IR High-speed Dome Camera Title as an example. Move the cursor to SPEEDDOME TITLE and press [FOCUS+] key. There is an ON/OFF switch alternatively. When it is shown as **[ON]**, it means SPEEDDOME TITLE DISPLAY function is activated. Well, [OFF] means closed.

6. When the configuration finished, press [IRIS+] key to save and return to the upper grade menu.

7. Press [IRIS-] to exit the menu without saving.

Following the moving of the IR High Speed Dome Camera, the information on the screen changes accordingly. From the screen, users can see some current information of the IR High Speed Dome Camera including: **Horizontal and Vertical Angle, the SPEEDDOME Title, the Preset Position’s Title**.

7.3.3 Pan/Tilt parameter configuration

Through the configuration of the Pan/Tilt parameter, the movement of the IR High Speed Dome Camera can be controlled accordingly, which is very important for the control of the image.

1. press **95+PREVIEW** to enter the Main Menu.

MAIN MENU
→1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[SYSTEM INFO]**, press **[FOCUS+]** to enter next grade menu.

SYSTEM INFO
1 EDIT SPEEDDOME TITLE
2 TITLE DISPLAY SETUP
→3 PAN/TILT SETUP
4 CLEAR THE SETUP
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick upwards or downwards to move the cursor to **[PAN/TILT SETUP]**, press **[FOCUS+]**to enter PAN/TILT SETUP interface, now the cursor is at “AUTOFLIP ON”.

PAN/TILT SETUP	
→1 AUTOFLIP	ON
2 PROPORTION P/T	ON
3 IDLE TIME	000
4 IDLEACTIVATE	OFF
IRIS+: RETURN	IRIS-: EXIT

4. There are 5 configuration options under **[PAN/TILT SETUP]**: AUTOFLIP, PROPORTION P/T, IDLE TIME, IDLEACTIVATE, IR TRIGGER functions.

5. AUTOFLIP

[AUTOFLIP] is in the lower menu of **[PAN/TILT SETUP]**. Operate the joystick to move the cursor to **[AUTOFLIP]** option, press [FOCUS+] key to enter **[AUTOFLIP]** configuration function, there is ON/OFF switchable, press [FOCUS+] key to choose, ON means to activate **[AUTOFLIP]** function, OFF means to idle the **[AUTOFLIP]** function.

☆Small tips

If the **[AUTOFLIP]** function is activated, in the process of operating the joystick to trace and monitor, if the user move the lens to the bottom(vertical) then continues pressing the joystick, the lens will automatically flip 180º horizontally, then the user can still control it to move upwards till 90°, which enables the user to directly observe the situation on the back side, thus tilt 180° consecutive monitoring can be realized.

6. PROPORTION P/T

Operate the joystick to move the cursor to **[PROPORTION P/T]** option. Press [FOCUS+] to enter **[PROPORTION P/T]** function configuration. The configuration switches between **ON** and **OFF,** When **ON** is chosen, it means that Speed Matching Function is opened. Well, **OFF** means closed. Press

[IRIS+] to save and return to the upper grade menu.

☆ **Small tip**

When manually adjusting, if the focus length is far, due to the high sensitivity of the IR High Speed Dome Camera, the image will move very quickly even if the joystick is slightly touched, which may cause the lost of image; when the Focus Length is near, the image may trembles. Well, due to some special configuration inside the IR High Speed Dome Camera, the unit can automatically adjust the pan and tilt speed, so that the manual operating object-tracing could be more convenient and much easier.

7. IDLE TIME

Operate the joystick to move the cursor to **[IDLE TIME]** option, press [FOCUS+] key to increase the time, press [FOCUS-] to decrease time.

☆This configuration allow the IR High Speed Dome Camera has a period of idle time (1-240Minutes), after which it will carry out IDLE Time Function which is set by the user in advance. Default configuration is 0, which means it will not carry out any action.

8. IDLE TIME FUNCTION Activated

Operate the joystick to move the cursor to **[IDLEACTIVATE]** option, repeatedly press [FOCUS+] key to choose required option (**OFF, PRESET64, AUTOSCAN, TOUR 1**).

☆**[IDLEACTIVATE]** means the action which is to be carried out after it is activated. If the **[IDLE TIME]** is configured as 0, this configuration is invalid.

9. IR TRIGGER

[IR TRIGGER] is in the lower menu of **[PAN/TILT SETUP]**, when entering the **[PAN/TILT SETUP]** menu, operate the joystick to move upwards or downwards to display the second page, now the cursor is at **[5 IR TRIGGER PHOTOSENSE]**. There are PHOTOSENSE/CAMERA switchable. Press [FOCUS+] key to choose.

A. If [CAMERA] is chosen, the IR lamp is controlled in accordance with the conversion of the camera module between Color and Black&White mode.

(Attention: when configuring this function, firstly, [Auto] option should be chosen for [B&W/COLOR MODE] in [Camera Setup]. When the camera module turns to Black&White mode, the IR lamp will be turned on.

B. If [PHOTOSENSE] is chosen, the IR lamps are controlled by the Photosensitive Resistor, when the illumination is too low to be sensed by the Photosensitive Resistor, the IR lamps will be turned on.

When the configuration finished, press [IRIS+] key to save and return to the upper grade menu. Press [IRIS-] to exit the configuration without saving.

7.3.4 CLEAR THE CONFIGURATION

1. Press **95+PREVIEW** key to enter the main menu.

MAIN MENU
→1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[SYSTEM INFO]**, press **[FOCUS+]** key to enter the lower grade menu.

SYSTEM INFO
1 EDIT SPEEDDOME TITLE
2 TITLE DISPLAY SETUP
3 PAN/TILT SETUP
→4 CLEAR THE SETUP
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick upwards or downwards to move the cursor to **[CLEAR THE SETUP**], press **[FOCUS+]** key to enter the lower grade menu under the **CLEAR THE SETUP** interface.

CLEAR THE SETUP	
→1 CLR ALL PRE-POSITION	
2 CLR ALL TOUR	
IRIS+: RETURN	IRIS-: EXIT

4. Operate the joystick upwards or downwards to move the cursor to **[CLR ALL PRE-POSITION**], press **[FOCUS+]** key, now the sign "☆" appears at the cursor position, which means all the preset positions are cleared.

5. Operate the joystick upwards or downwards to move the cursor to **[CLR ALL TOUR**], press **[FOCUS+]** key, now the sign "☆" appears at the cursor position, which means all the tours are cleared.

6. Press [IRIS+] to return to the upper grade menu.

7. Press [IRIS-] to exit menu without saving.

Attention: For each order in the Clearing Control Menu, once carried out, it could not restore. If you need them, you could only reset them. So please be cautious to use this function.

7.4. Configure the Parameter of the Camera Module

7.4.1 Digital Zooming Restriction

1. Press **95+PREVIEW** to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
→2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[CAMERA SETUP]**, press **[FOCUS+]** to enter the lower grade menu:

CAMERA SETUP
→1 DIGITAL ZOOM ON
2 BLC MODE ON
3 B&W/COLOR MODE
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick upwards or downwards to move the cursor to **[DIGITAL ZOOM]** option, press **[FOCUS+]** to switch. Choosing **[ON]** means to open Digital Zooming control, that is to say, when the optical zoom reaches the maximum, if you continue to press [zoom+], the camera enters Digital Zoom; If you choose **[OFF]**, Digital Zooming Control is closed.

4. Press [IRIS+] to save and return.

5. Press [IRIS-] to exit the menu without saving

☆ **Small tip**

If the Digital Zooming is set as open, the maximum zooming times of the camera lens is the optical zooming times multiplying the digital zooming times.

If the Digital Zooming is set as closed, the maximum zooming times of the camera lens is just the optical zooming times.

7.4.2 Back Light Compensation Mode

1. Press **95+PREVIEW** to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
→2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[CAMERA SETUP],** press **[FOCUS+]** to enter the lower grade menu:

CAMERA SETUP
1 DIGITAL ZOOM ON
→2 BLC MODE ON
3 B&W/COLOR MODE
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick to move the cursor to **[BLC MODE]** option, press **[FOCUS+]** to switch. Choosing **[ON]** means to open the BLC MODE. Choosing **[OFF]** means to close.

4. Press [IRIS+] to save and return

☆ **Small Tip**

Strong backlight makes the back-lighted object have shadow, the Backlight Compensation Function enables the camera to automatically adjust the Iris to match the changing of the light, automatically adjust the brightness of the Main Object to make the image clearly displayed.

Attention: This function is related to the type and parameter of the inside camera module. When the Backlight Compensation function is open, it may have Automatically Adjusting(if open) or Manually Adjusting (0-255) 2 kinds of functions, which is subjected to the different camera.

7.4.3 B&W/COLOR MODE

1. Press **95+PREVIEW** to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
→2 CAMERA SETUP
3 AUTO-RUN
4LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick upwards or downwards to move the cursor to **[CAMERA SETUP],** press **[FOCUS+]** to enter the lower grade menu:

CAMERA SETUP
1 DIGITAL ZOOM ON
2 BLC MODE ON
→3 B&W/COLOR MODE
IRIS+: RETURN IRIS-: EXIT

3. Operate the joystick to move the cursor to **[B&W/COLOR MODE]** option, press **[FOCUS+]** to enter. There are 3 options:

★**[Auto]** Auto Color/B&W converting mode, the camera will automatically convert according to the illumination;

★**[Color]** Color Image mode;

★**[B&W]** B&W image mode

Attention: The Color/B&W mode configuring options are different for different camera modules:

CNB	Manual
CANON	Auto/B&W
HITACHI	Auto, Color and B&W
SONY	Auto, Color and B&W
LG	Auto/B&W

4. press [IRIS+] to save and return

5. press [IRIS-] to exit menu without saving

☆**Small Tips**

It is recommended to use Color/B&W Auto Conversion function, Color is adopted for daytime, well, B&W adopted for night, which ensures good image quality and also saves the storing room.

Attention: This function is related to the type and parameter of the inside camera module, since there is such function with the camera module, this function in the menu is valid.

7.5 Configuration of Auto Running

7.5.1 Preset Position Configuration

1. Press **95+PREVIEW** to enter the Main Menu

MAIN MENU
1 SYSTEM INFO
2 CAMERA SETUP
→3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Operate the joystick to move the cursor to **[AUTO-RUN]** option, press **[FOCUS+]** to enter the lower grade menu under the **[AUTO-RUN]**

AUTO-RUN
→1 RESET POSITION
2 ATO SCAN
3 TOUR
4 PATTERN SCAN
IRIS+: SAVE IRIS-: EXIT

3. Move the cursor to the **[PRESET POSITION]** option, press **[FOCUS+]** to enter the lower grade menu.

PRESET POSITION	
→1 SERIAL NO.	001
2 SETUP	
3 PREVIEW	
4 DELETE	
IRIS+: SAVE	IRIS-: EXIT

4. Set Preset Position Number: Operate the joystick to move the cursor to **[SERIAL NO.],** press **[FOCUS+]** to enter Serial Number configuration. Press **[FOCUS+]** to increase the number, press **[FOCUS-]** to decrease the number. The optional range is 001—128. Choosing number 001 as the current preset position, we explain the following operations all basing on this current preset position.

PRESET POSITION	
→5 COMPILE TITLE	
IRIS+: RETURN	IRIS-: EXIT

5. Configure Preset Position: Move the cursor to **[Setup]** option, press [FOCUS+] key, now the sign "☆" appears in front of the **[Setup]** option, which means Preset Position can be configured. Choose the position through operating the joystick, adjust the zooming times, choose the object image, press [FOCUS+] to save the configuration.

☆ **Small tips**

Preset position function is to save the Horizontal angle, the tilt angle as well as the Focus Length etc parameter in the IR High Speed Dome Camera, when necessary, promptly invoke these parameters, the Pan/Tilt and the Lens can automatically adjust to this position.

6. Invoke preset position: move the cursor to **[PREVIEW]**, Press [FOCUS+] button, when a "☆" sign appears in front of **[PREVIEW]**, it means the present preset position is already invoked. Screen shows the present preset position.

7. Delete present preset position: move the cursor to **[DELETE]**, Press [FOCUS+] button, when a "☆" sign appears in front of **[DELETE]**, it means the present preset position is already deleted.

8. Compile present preset position's title: move the cursor to **[COMPILE TITLE]**, press **[FOCUS+]** button for 2 times to enter preset position's title compiling configuration.

Attention: COMPILE TITLE is on the lower menu of the **PRESET POSITION**, you can choose it by operating the joystick upwards and downwards, for the title compiling operation, please refer to **SPEEDDOME title compiling** operation.

9. If there is need to delete the configuration of preset position's title, move the cursor to **[DELETE]**, press **[FOCUS+]** button, you can delete the content of the configuration.

10. Press [IRIS+] button to save and return.

11. Press **[IRIS-]** button to exit menu.

Attention: 1. When carrying out **Configuration, Invoke, Delete preset position** operations, preset position number must be chosen firstly. 2. The present preset position refers to the preset position with the corresponding number in the present SERIAL NO. option.

7.5.2 Left/right scan

1. Press **95+PREVIEW** button to enter the Main Menu

MAIN MENU
1 SYSTEM INFO
→2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Move the cursor to **[AUTO-RUN]** by operate the joystick upwards and downwards**,** press **[FOCUS+]** button to enter the lower menu of **[AUTO-RUN]**. Move the cursor to **[AUTO SCAN]**, press **[FOCUS+]** button and show the menu as:

AUTO-RUN
1PRESET POSITION
→2 AUTO SCAN
3 TOUR
IRIS+: RETURN IRIS-: EXIT

AUTO SCAN
→1 SPEED MEDIUM
2 LEFT LIMIT
3 RIGHT LIMIT
4 RUNNING
IRIS+: SAVE IRIS-: EXIT

3. **Configuration of Scanning speed**: move the cursor to **[SPEED]** option by operating the joystick, press **[FOCUS+]** button to choose speed, there are three kinds of optional speed (**Low, Medium, High**).

4. **Configuration of left limiting position**: move the cursor to **[LEFT LIMIT]** by operating the joystick, press **[FOCUS+]** button, when a "☆"sign appears in

front of **[LEFT LIMIT]**, it means the configuration can be carried out. Operate the joystick to choose the object image, press **[FOCUS+]** button to save.

5. **Configuration of right limiting position**: move the cursor to **[RIGHT LIMIT]** by operating the joystick, press **[FOCUS+]** button, when a "☆"sign appears in front of **[RIGHT LIMIT]**, it means the configuration can be carried out. Operate the joystick to choose the object image, press **[FOCUS+]** button to save.

6. Start scanning: operate the joystick to move the cursor to **[Running]**, press [FOCUS+] button, you will exit the menu firstly, then IR High Speed Dome Camera start to scan.

7. Press [IRIS+] button to save and return.

8. Press **[IRIS-]** button to exit the menu.

Attention:

1 Scan's left/right position can not be at the same position. If they are at the same position, that means scanning for 360°.

2 When scanning, the speed, zooming times, vertical angle will not change, if the zooming times and the vertical angle of the two positions are not identical correspondingly, the zooming times and the vertical angle of the left position will be adopted.

7.5.3 Tour configuration

1. Press **95+PREVIEW** button to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
2 CAMERA SETUP
→3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Move the cursor to **[AUTO-RUN]** by operating the joystick upwards and downwards**,** press **[FOCUS+]** button to enter the lower menu of **[AUTO-RUN]**. Move the cursor to **[TOUR]**, press **[FOCUS+]** button and show the menu as:

AUTO-RUN
1 PRESET POSITION
2 AUTO SCAN
→3 TOUR
IRIS+: SAVE IRIS-: EXIT

TOUR
→1 SERIAL NO. 001
2 SETUP
3 PREVIEW
4 DELETE
IRIS+: SAVE IRIS-: EXIT

3. Configuration of Tour Number: Move the cursor to **[SERIAL NO.]** by operating the joystick upwards, press **[FOCUS+]** button to enter the serial number configuration. Press **[FOCUS+]** button to increase, press **[FOCUS-]** button to decrease. The optional range is 001—004, choose 001 as the present tour serial number, all below operation is based on this tour number.

TOUR NO. 001			
PRESET	TIME	PRESET	TIME
01.→000	000;	02 . 000	000
03. 000	000;	04 . 000	000
05. 000	000;	06 . 000	000
IRIS+: SAVE		IRIS-: EXIT	

4. Preset position staying time configuration: move the cursor to **[SETUP]**, press [FOCUS+] button to enter the tour preset position and staying time configuration. 16 preset positions can be included in each tour group, the range of the preset positions is 001—128, the range of dwelling time is 000—255 seconds.

5. Tour route configuration: we take the 1st tour group (1 group has 16 preset positions), the 1st preset position with the dwelling time of 3 seconds as an example:

A: move the cursor to the first group in the tour configuration area **[01. 000 000……16. 000 000]**, among them, 01-16 means the quantity of the preset positions in the tour is 16, which can not be changed;

B: Operate the joystick left or right to move the cursor to the first configuration zone “000” (preset position). Press [FOCUS+] button to increase, press [FOCUS-] button to decrease, the range is 001-128, for example, we can set the preset position as “001”;

C: Then operate the joystick left or right to move the cursor to the second configuration zone “000” (dwelling time), press [FOCUS+] button to increase, press [FOCUS-] button to decrease, the range is 000-255sec, set the time as “003”, now one preset position has been added to the tour;

D: After the adding of one preset position, operate the joystick to right and move the cursor to the next configuration point for configuring, use the same

method to add all the preset positions of the tour as well as the corresponding dwelling time. After configuring, press [IRIS+] button to save and return. Now, the first tour route has been configured successfully, using the same method, you can configure the other tour routes.

6. Start running the tour: move the cursor to **[PREVIEW]** by operating the joystick, press [FOCUS+] button, you will exit the menu firstly, then the IR High Speed Dome Camera starts to run the tour.

7. Delete the configuration of the tour: move the cursor to **[DELETE]** by operating the joystick, press **[FOCUS+]** button, when a "☆"sign appears in front of **[DELETE]**, it means the present tour has been deleted.

8. Press **[IRIS+]** button to save and return

9. Press **[IRIS-]** button to exit menu

7.5.4 Pattern scan configuration

Description of the function: Pattern scan has record space 99, time can be different with different routes, the total time is about 4 minutes. The recording route can be configured freely (including the movement of the Pan/tilt, and the zoom ratio of the camera lens). Totally 4 Pattern Scan routes can be configured.

1. Press **95+PREVIEW** button to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
2 CAMERA SETUP
→3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

2. Move the cursor to **[AUTO-RUN]** by operate the joystick upwards and downwards, press **[FOCUS+]** button to enter the lower menu of **[AUTO-RUN]**. Move the cursor to **[PATTERN SCAN]**, press **[FOCUS+]** button and show the menu as:

AUTO-RUN
1 PRESET POSITION
2 AUTO SCAN
3 TOUR
→4 PATTERN SCAN
IRIS+: SAVE IRIS-: EXIT

3. Configure the serial number of the Pattern scan: move the cursor to **[SERIAL NO.]** by operating the joystick, press **[FOCUS+]** button to enter the serial number configuration interface. Press **[FOCUS+]** button to increase, press **[FOCUS-]** button to decrease. The optional range is 001—004, choose 001 as the present Pattern scan number, all the below operations take this Pattern scan number as an example.

4. **Recording**: After the Serial Number is chosen well, move the cursor to **[RECORD]**, press **[FOCUS+]** button to enter the "**MOVE TO START POINT**" interface. Now, you can operate the keyboard to adjust the image to the position where the record is to begin.

5. After choosing the starting position, press **1+PREVIEW** button(it means invoke the 1st preset position) to begin to record, operate the IR High Speed Dome Camera (including controlling the pan/tilt as well as the camera lens) to move according to your desired route so that the unit can record. The maximum recording room is 99/100 (about 4 minutes). After the recording is finished, press **1+PREVIEW** button to exit the recording operation and return to **Pattern Scan Configuration** interface. Now the Cursor is pointing to

[RECORD].

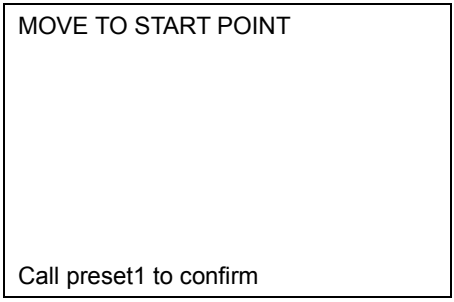
6. **Invoke the configuration**: move the cursor down to **[PREVIEW]**, press **[FOCUS+]** button to run the Pattern scan.

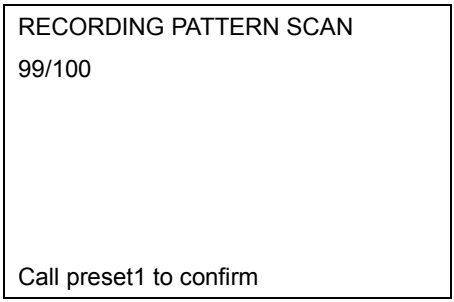
7. **Delete the configuration**: enter the pattern scan configuration menu, move the cursor down to **[DELETE]**, press **[FOCUS+]** button and a "☆"sign will appear, which means the present recorded content has been deleted.

8. Press [IRIS+] button to save and return.

9. Press **[IRIS-]** button to exit the menu.

Attention: the operating method for the other three Pattern scan Routes is the same as the above





7.6 Configuration of Language

For this version, the language is English which is definite and can not change.

1. Press **95+PREVIEW** button, enter Main Menu.

MAIN MENU
1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
→4 LANGUAGE ENGLISH
IRIS-: EXIT

2. In the Main Menu, there is an item as: **[LANGUAGE ENGLISH]**

3. Press **[IRIS-]** button to exit menu.

7.7 Configuration of Alarm function

1. Press **95+PREVIEW** button to enter the Main Menu. ALARM CONFIGURATION is on the second page of the MAIN MENU.

MAIN MENU
→1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
4 LANGUAGE ENGLISH
IRIS-: EXIT

MAIN MENU
→5 ALARM SETUP
6 PRIVACY MASK
IRIS-: EXIT

2. When the first page of the main menu is shown, operate the joystick upwards to show the second page of the MAIN MENU. Under the main menu, it shows [→**5 ALARM SETUP**], and now, the cursor is pointing to **ALARM SETUP.**

3. Press **[FOCUS+]** button to show the lower menu of **[ALARM SETUP**]:

ALARM SETUP	
→ALARM1	CALL PRESET:N/A
ALARM2	CALL PRESET:N/A
ALARM3	CALL PRESET:N/A
ALARM4	CALL PRESET: N/A
IRIS+: RETURN	IRIS-: EXIT

4. While enter this grade of menu, the cursor is pointing to the first channel alarm configuration, the ex-work default state of it is **N/A**(Off). Now we take the configuration of the 1st channel alarm **[ALARM1 CALL PRESET**: **N/A]** as an example. The preset positions must be configured well within the range of 001-064 in advance, so that they can be used for the configuration of alarm.

A. Press [FOCUS+] button to open the alarm configuration, the "N/A" changes to "001", it means the first channel alarm has been on, alarm point is the 1st preset position.

ALARM SETUP	
→ALARM1	CALL PRESET:001
ALARM2	CALL PRESET:N/A
ALARM3	CALL PRESET:N/A
ALARM4	CALL PRESET: N/A
IRIS+: RETURN	IRIS-: EXIT

B. If there is a need to configure any preset position among 001-064, just press [FOCUS+] to increase or [FOCUS-] to decrease.

C. The configuring method for other channels are the same as the 1st one.

5. The unit has 4 channels alarm input, 1 channel alarm output. Alarm interaction is realized. When external alarm signal is transmitted to the IR High Speed Dome Camera, the IR High Speed Dome Camera will turn to the alarm spot to shoot, and directly show on the screen what happens at the alarm spot. At the same time, it will output alarm signal at the alarm output port.

6. Press [IRIS+] button to save and return.

7. Press **[IRIS-]** button to exit the menu.

Attention:

A. Alarm input must be ON/OFF input signal, any other types of input signal(such as power voltage etc) is possible to damage the unit. When there are alarm signals from multi channels, the unit will respond to them one by one, the interval is 2 seconds.

B. Once there is alarm signal coming in, the unit will not respond to “Scan”, “Tour” etc functions. Manual operation is needed to restore “Scan”, “Tour” etc functions.

C. No matter the alarm function is activated or idled, alarm output always responds. For example, if the alarm function of the unit is not open, when the unit distinguishes alarm signal, the unit will not be adjusted to corresponding preset position, but the alarm output still responds.

7.8 Configuration of Privacy Mask function

The process of configuring Privacy Mask Function for the inside SONY camera module is as below:

1. Press **95+PREVIEW** button to enter the Main Menu.

MAIN MENU
1 SYSTEM INFO
2 CAMERA SETUP
3 AUTO-RUN
→4.LANGUAGE ENGLISH
IRIS-: EXIT

MAIN MENU
→5 ALARM SETUP
6 PRIVACY MASK
IRIS-: EXIT

2. Operate the joystick upwards and downwards to move the cursor to **[PRIVACY MASK],** press **[FOCUS+]** button to enter the lower menu:

PRIVACY MASK	
→1PRIVACY ZONE NO	001
2 PRIVACY ZONE SETUP	
3 ACTIVATE	OFF
4 DELETE	
IRIS+: SAVE	IRIS-: EXIT

3. **Privacy zone number configuration**: move the cursor to **[PRIVACY ZONE NO 001]**, press **[FOCUS+]** button to increase the number, press [FOCUS-] button to decrease the number. At most 8 zones can be configured in the same image.

4. **Configure privacy zone:**

A. Move the cursor to **[PRIVACY ZONE SETUP]**, press **[FOCUS+]** button to confirm, operate the joystick to move the image, move the zone that needs to be protected to the center of the shield zone;

B. Press **[FOCUS+]** button, then operate the joystick to adjust the size of the shield zone, operate the joystick upwards to decrease the height, downwards to increase the height, right to decrease the width and left to increase the width.

C. Press **[FOCUS+]** button to save the configuration. The cursor returns to **PRIVACY ZONE SETUP** interface, now you can continue to configure next zone, at the same time, the state of **ACTIVATE** changes to ON automatically.

5. **[ACTIVATE]** activate /close present privacy window, there are two options: **[ON]** means to activate the present Privacy zone, **[OFF]** means to close the present Privacy zone.

6. **[DELETE]** Clear the configuration of present privacy window, after the clearing, the state of **ACTIVATE** will automatically change to OFF.

7. Press **[IRIS+]** button to save and return.

8. Press **[IRIS-]** button to exit the menu.

7.9 Brightness control of the IR lamps

Brightness control of the IR lamps consists of auto-control and manual-control two modes. Auto-control consists of in-door mode and out-door mode. According to different using locations, users can choose and set appropriate brightness for the IR lamps, so that best monitoring image effect can be got at night.

7.9.1 Auto-control of the brightness of the IR lamps (Indoor mode)

a. input 165

b. Press PREVIEW key

This mode is the factory default mode. When monitoring at night, according to the distance of the monitoring object, the unit will automatically choose low, medium or high 3 levels brightness for the IR lamps. The detailed functions and corresponding threshold are as below:

----- within 30m, short-distance monitoring object (zooming times of the camera module is about X1~X3), the unit will turn on IR lamps for low brightness, so that the brightness is appropriate, the object is neither too dark nor too bright for monitoring.

----- 30m~60m, medium-distance monitoring object (zooming times of the camera module is about X4~X8), the unit will turn on IR lamps for medium brightness to meet the requirement of the brightness for medium distance object monitoring.

----- 70m~120m, long-distance monitoring object (zooming times of the camera module is above X9), the unit will turn on IR lamps for high brightness to meet the requirement of the brightness for long-distance object monitoring.

7.9.2 Auto-control of the brightness of the IR lamps (Outdoor mode)

a. input 166

b. Press PREVIEW key

This auto-control mode is suitable for very open outdoor monitoring environment where there is influence by other light. It is different from the auto-control described above (the indoor mode), the difference is that, in this mode, the unit will start to turn on the IR lamps for medium brightness even when the object distance is short within 30m.

7.9.3 Manual-control mode for the brightness of the IR lamps

If both of the two auto-control modes above still can not meet the requirement for actual monitoring environment and good image effect still can not be got, the unit also has brighness manual-control function. Users can manually

choose and set suitable brightness for the IR Lamps. The detailed operation as below:

a. input 167 -------- brightness manually control (Low)

168 -------- brightness manually control (Medium)

169 -------- brightness manually control (High)

b. Press PREVIEW key

Once users choose manual-control mode, when the IR lamps are turned on, the brightness will be always at the chosen state, unless users choose again or set as auto-control.

VIII. Configuration and operation of the functions directly through the keyboard.

Notice: For this IR High Speed Dome Camera with OSD menu, almost all the functions of the pan/tilt and the inside camera module can be realized through the OSD menu (for detailed operation, please refer to the descriptions in Chapter VII), well, besides this, actually, a considerable part of the functions can also be realized directly through simple operations on the keyboard. Detailed descriptions as below:

To realize convenient control through the keyboard, we converted the functions of some of the orders, generally using the method as “invoke preset position”. The correspondence functions are shown in the following table:

Invoke "preset position" No.	Keyboard operation meaning	Invoke "preset position" No.	Keyboard operation meaning
130	Set left limiting position	95	Enter OSD menu
131	Set right limiting position	147	Activate Alarm function
132	Start Left & right scan (low speed)	148	Idle Alarm function
133	Start Left & right scan (medium speed)	150	Default state restoration (resetting)
134	Start Left & right scan (high speed)	165	IR Lamps Brightness auto-control (indoor mode)
135	Start Pan/tilt 360º scan (low speed)	166	IR Lamps Brightness auto-control (outdoor mode)
136	Start Pan/tilt 360º scan (medium speed)	167	IR Lamps Brightness manual-control (low)
137	Start Pan/tilt 360º scan (high speed)	168	IR Lamps Brightness manual-control (medium)
138	Stop Pan/tilt auto-scan	169	IR Lamps Brightness manual-control (high)
140	Start tour configuration		
141	Exit tour configuration		
142	Start running a tour		

Intelligent control and some of its functions can be realized through the keyboard. Since different controlling system interfaces may differ in operation, operation details are subject to the related manufacturer's manuals. Under certain circumstances of special requirements and operations, please refer to

dealers for necessary information.

If preset position numbers larger than 128 could not be invoked on the controlling device, please choose PELCO-D1 protocol, functions operation table as below:

Invoke "preset position" No.	Keyboard operation meaning	Invoke "preset position" No.	Keyboard operation meaning
100	Set left limiting position	95	Enter OSD menu
101	Set right limiting position	117	Activate Alarm function
102	Start Left & right scan (low speed)	118	Idle Alarm function
103	Start Left & right scan (medium speed)	127	Default state restoration (resetting)
104	Start Left & right scan (high speed)	113	IR Lamps Brightness auto-control (indoor mode)
105	Start Pan/tilt 360º scan (low speed)	114	IR Lamps Brightness auto-control (outdoor mode)
106	Start Pan/tilt 360º scan (medium speed)	119	IR Lamps Brightness manual-control (low)
107	Start Pan/tilt 360º scan (high speed)	120	IR Lamps Brightness manual-control (medium)
108	Stop Pan/tilt auto-scan	121	IR Lamps Brightness manual-control (high)
110	Start tour configuration		
111	Exit tour configuration		
112	Start running a tour		

VIII. Simple Trouble Shooting Table

Problems	Possible causes	Remedies
No action, no picture, no indicator on when power is switched on.	Wrong connection of power cables	Correct
	Power supply adaptor damaged	Replace
	Fuse damaged	Replace
	Bad power cable connection	Correct
Normal self-check and image but out of control	Address or Baud rate configuration wrong	Configure again
	Protocol configuration wrong	Configure again
	RS485 bus bad connection	Check RS485 bus connection
Abnormal self-check image with motor noise	Mechanical failure	Repair
	Camera inclined	Reinstall
	Power supply not sufficient	Replace, better to place the adaptor nearby the IR High Speed Dome Camera
Unstable image	Bad connection of video cable	Correct
	Power supply not sufficient	Replace
Fuzzy image	At Manual focus state	Operate the IR High Speed Dome Camera or invoke any preset positions
	Vitreous cover dirty	Clean the vitreous cover
Some IR High Speed Dome Camera out of control or control delayed	Power supply not sufficient	Replace, better to place the adaptor nearby the IR High Speed Dome Camera
	Whether matching resistor is installed in the IR High Speed Dome Camera at the farthest end	Install matching resistor in the IR High Speed Dome Camera

	The distance is too far, the attenuation of 485 signal is too much	Thicken the controlling cable
	The driving power of the 485 converter is not sufficient	Replace with converter with separate power supply