

# HIGH SPEED DOME CAMERA

## User's Manual

Before attempting to connect or operate this product, please read these instructions completely

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## **Important Safety Instructions**

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a used, caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip over.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way,

such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or been dropped.

## **CAUTION**

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

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

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference that may cause undesired operation.

### **CAUTION:**

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

## **Introduction**

### **Function Description**

High Speed Dome Camera is an all-in-one high-tech monitoring product, which integrates high-definition color video camera, universal gear change pan-tilt and multi-function decoder, CPU processor. This product furthest reduces the processes of connection an installation between system reliability. Also the video camera is very easy to install and maintain ,has many features ,such as perfect shape, legerity and convenience ,simple operation and etc.

### **1. Integrate multi-function decoder**

Built-in decoder consists of multi-protocol and communications protocol. Communication serial baud rate is adjustable. Using the simple finger-switch inside the Dome device, the products can be compatible with kinds of systems and has very high commonality.

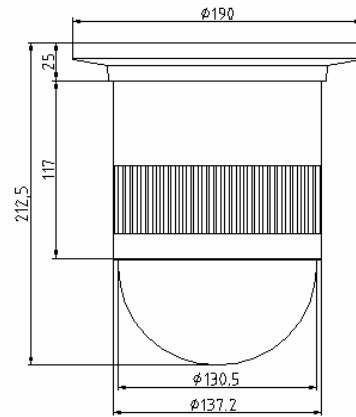
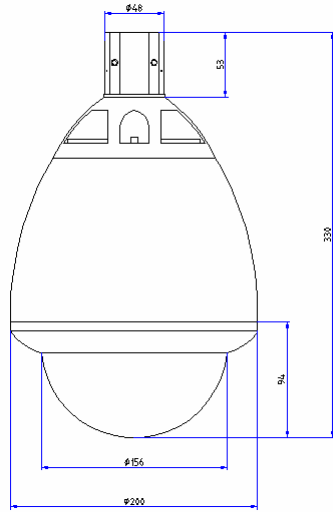
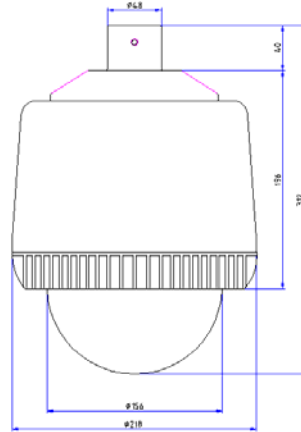
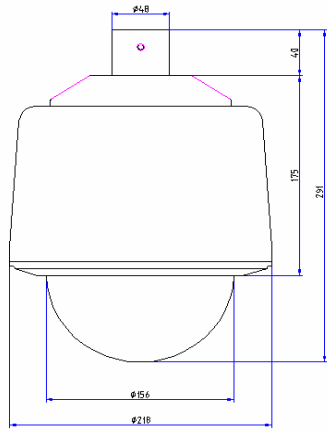
### **2.Integrate full-view rotary station**

Horizontal 360° unlimited continuous rotation and rotation rate can be adjusted from 0.5 ~250° per second continuously. Vertical rotation range is 0~90° and rotation rate can achieve 0.5~130° /s.

### **3: Intelligent power-off memory operation**

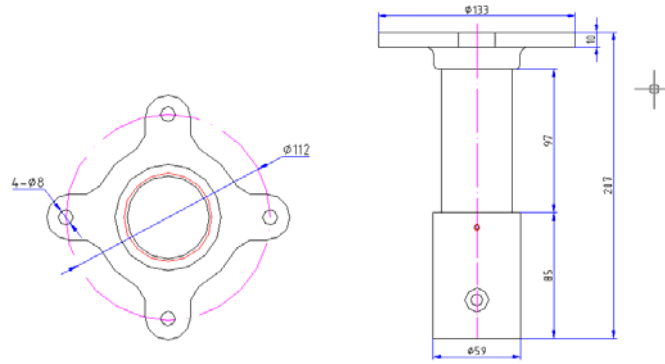
- a. Design ideally ,Auto-flip to follow object.
- b. Provides 128 preset points.
- c. Provide setting of scanning track and select scanning track function.
- d. Four groups of scanning tracks : Every group of scanning track can set Max. 16 preset positions. If camera self support OSD menu function. It can open completely when using .
- e. Integrate multiple camera protocol. Support Max.5 different Brands cameras.
- f. Integrate multiple protocol: Max. 20 kinds of communication protocol. Transmission rate Selectable from 1200bps to 38400bps
- g. Self-test can allow to store track that user edits arbitrarily and information power-off memory .
- h. RS485 serial control, address of Dome device is from 1~511.
- i. Built-in 4 alarm input, 2 output.
- j. Outdoor speed dome camera have heater and radiator. They can adjust temperature to delay dome camera 's life long.
- k. Built-in surge and lightning strike protective equipment.

# DRAWING

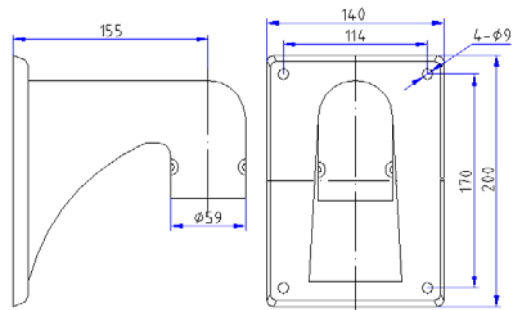


# MOUNT

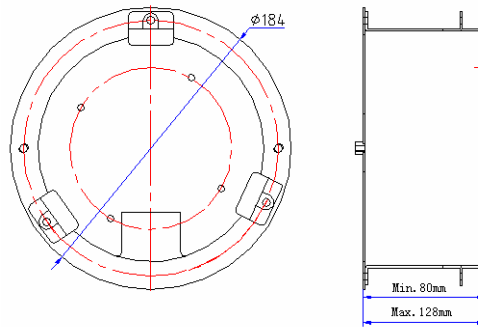
## 1. Ceiling Mount



## 2. Wall Mount



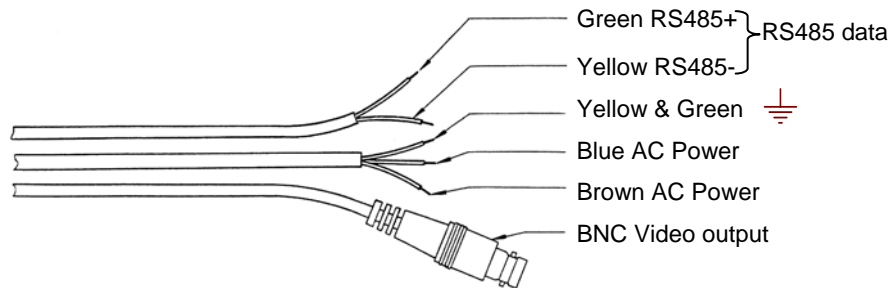
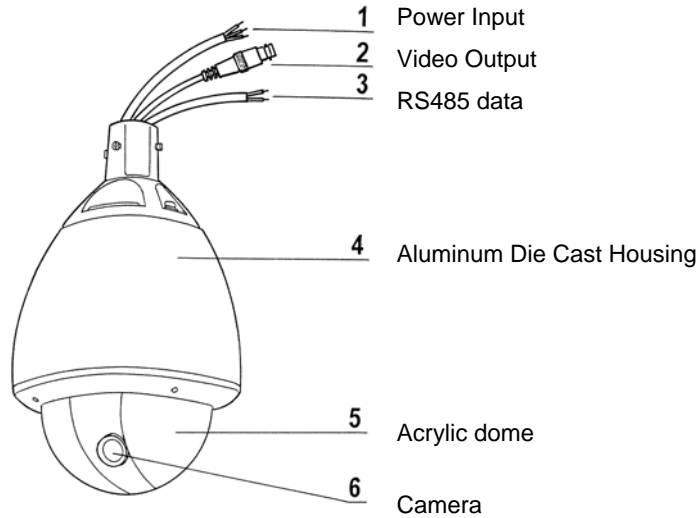
## 3. Embed In ceiling Mount



## CONNECTIONS

### Precautions

- The following connections should be made by qualified service personnel or system installers in accordance with all local codes.



**Note:** When powered up, the dome device performs a self-check (including one panning, tilting, zooming and focusing operation).

If control wire of RS485 connects by the connective box, it can connect as RS485A+ with blue wire, RS485B- with yellow wire.

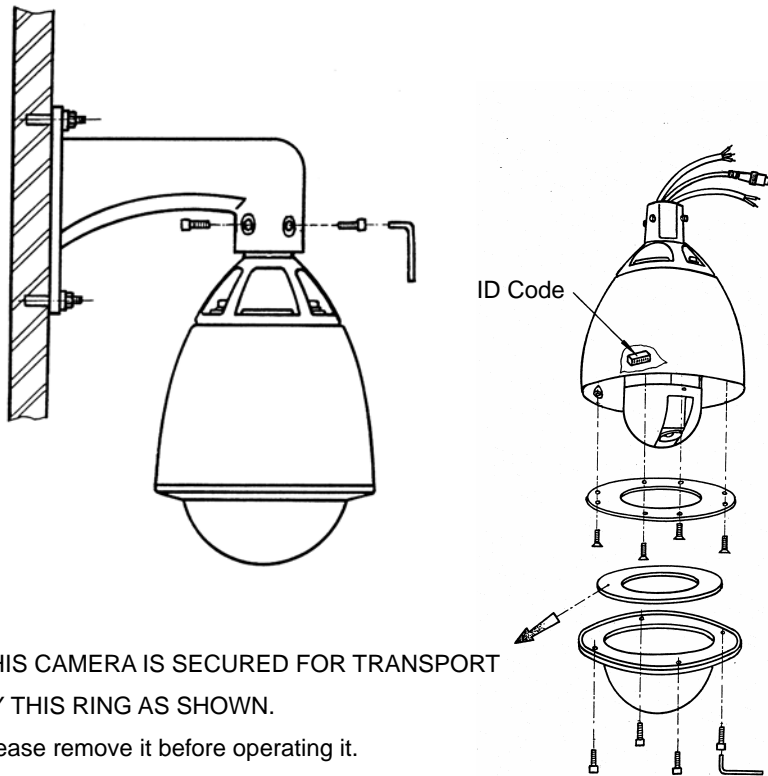


### Explanation of Alarm wire (Select)

This dome camera Built-in 4 alarm input(Red wire, Orange wire, yellow wire, green wire ), Four wires share a black wire .2 output (Pale wire, white wire). Two wires share a blue wire. Detail operation: Please refer to the attached label on wire.

## OUTDOOR INSTALLATION

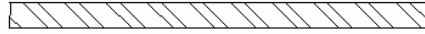
1. Installing speed dome camera to the bracket using 4-M6 Screws.
2. Installing the bracket to an existing structure.



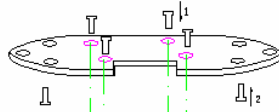
## INDOOR INSTALLATION

1. Installing speed dome camera to the bracket.
2. Installing the bracket to the ceiling.
3. Installing the decorative wreath to the bracket.

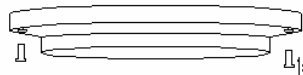
**Ceiling**



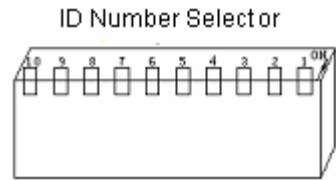
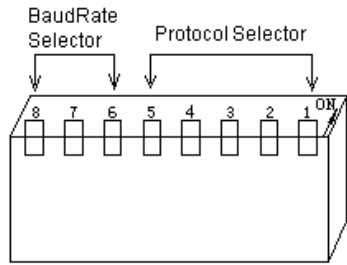
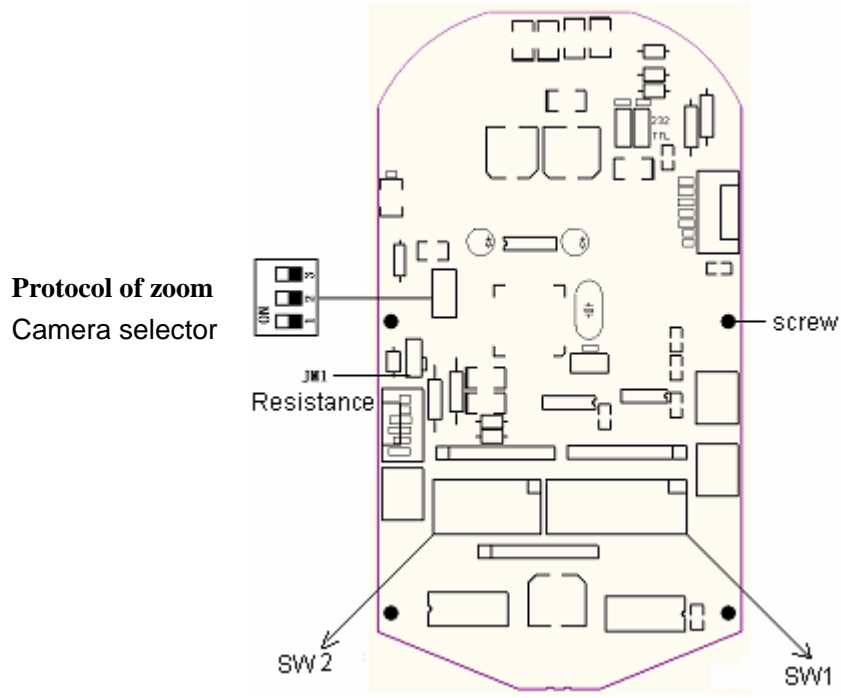
**Bracket**



**Decorative Wreath**



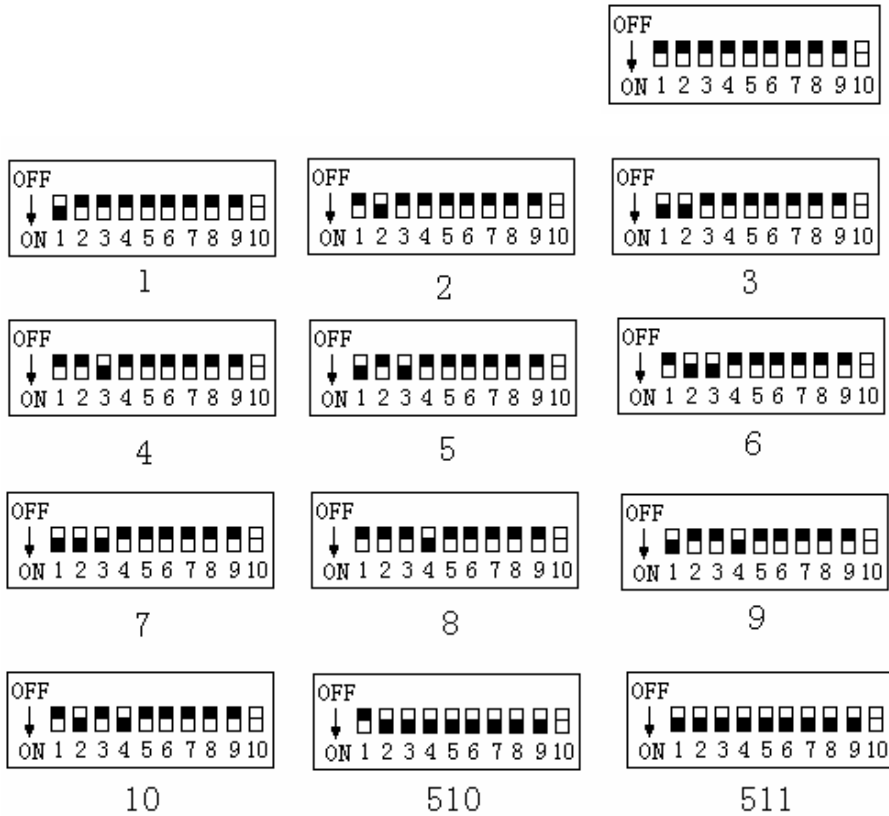
**Main Control Board (as following)**



## ID CODE SETTING

ID code of this speed dome camera setting by first 9 digits of SW1 , setting as below pictures.

(Other do as binary system)



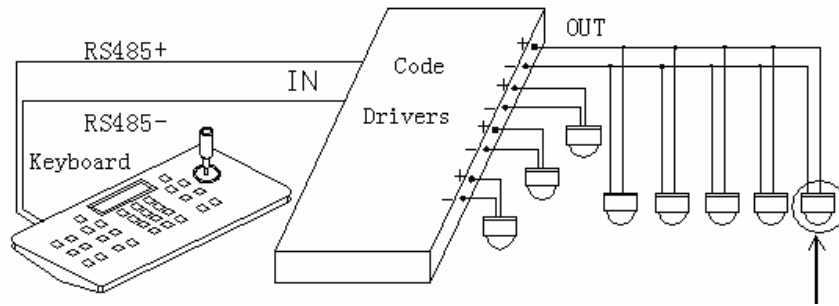
**Note: Black pane is the position of the key .Please power- off before setting .**

**For example:**

**ID code:43 As follow picture Key of No.1,No.2,No.4,No.6 are in ON**

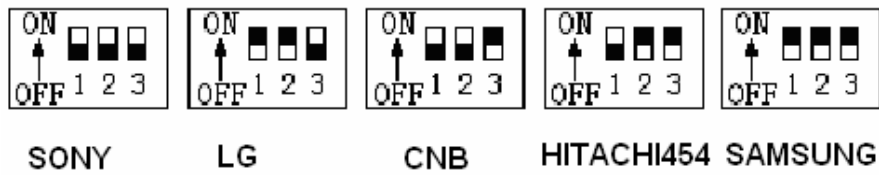


**NOTE:** If the Control Wire parallel connection many speed dome camera the fareset dome camera ,you should connect JM1 which is in RS485 interface of main control board .If the distance is very far ,you also should do as above operation .Detail connect ,according to white line on the main control board.



Connect JM1 which is in RS485 interface of main control board .

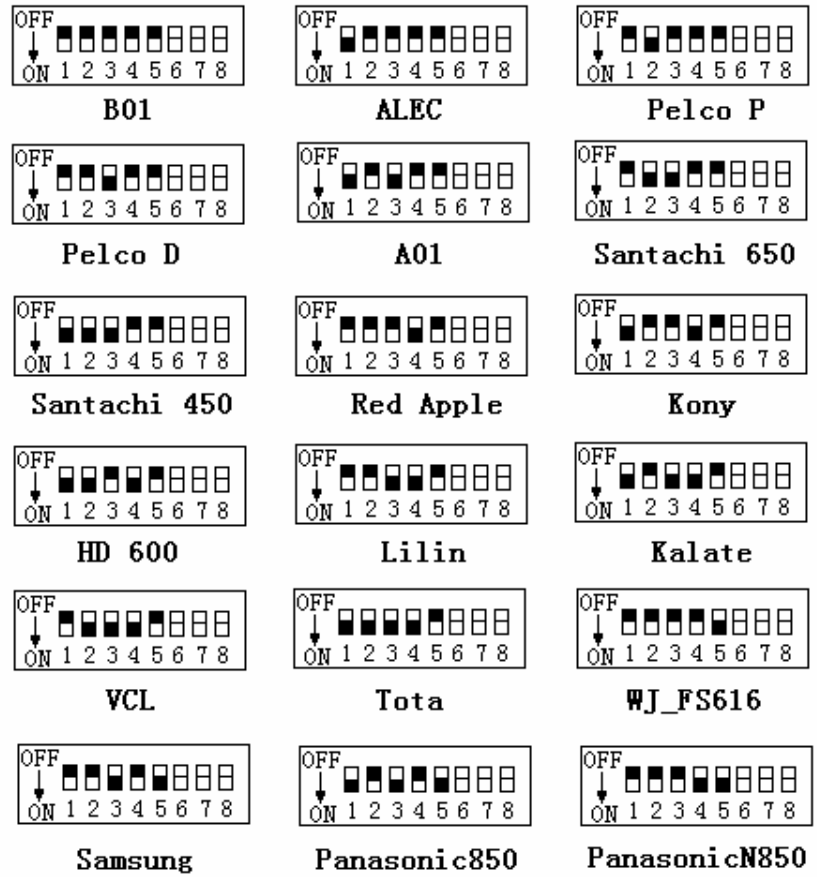
**SETTING PROTOCOL OF ZOOM CAMERA**



**Note:** The setting should be coincident the zoom camera

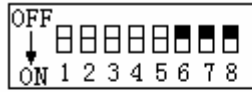
**PROTOCOL SETTING**

Protocol of this speed dome could transfer and freedom option by first 5 digits of SW2, below is the detail of setting protocol :

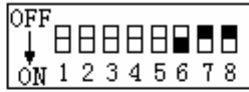


## Setting Baud Rate of Dome Camera

Baud Rate setting of this speed dome camera by last 3 digits of SW2.  
Setting as below pictures.



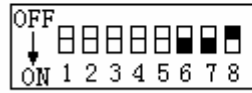
**1200bps**



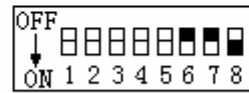
**2400bps**



**4800bps**



**9600bps**



**19.2kbps**

Common Baud Rate as below(bps): B01/9600; ALEC/4800;  
VCL/4800; Pelco P/4800/9600; Pelco D/2400; A01/4800;  
Santachi/9600.

### For Example

Protocol :Pelco D, Baud Rate :2400bps, As follow picture Key of  
No.3, No.6 are in ON



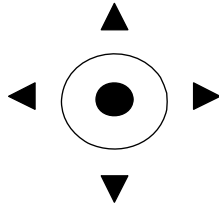
## OPERATION (Default protocol PELCO-D/2400)

The speed dome camera can be controlled remotely horizontal and vertical movement. It is used with a system controller, separately. It is controlled remotely from the controller through a serial connection to the RS-485 connector using a twisted-pair cable.

### Conventional Function

#### 1. Pan / Tilt Function

The pan function will move the camera on all horizontal plane, to surveillance position. The tilt function will move the camera on a vertical plane, to surveillance position. The speed is variable according to the angle of joystick.



#### 2. Zoom Function

2.1 The filming range can be set using the zoom function.

Press **TELE** the LCD displays Zoom Tele

Press **WIDE** the LCD displays Zoom Wide

Note: The bigger zoom is, the slower of joystick 's speed is .

#### 2.2 Iris Function

Normally, Focus is AUTO.

Focus level can be adjusted by pressing **[NEAR]** and **[FAR]**

Move the joystick , focus will be auto .

#### 3. Preset Memory

The preset memory function will memories camera positions and zoom, focus, etc. Setting up to 128 preset camera positions can be memorized. Later, you can easily recall any of the preset camera positions by entering its corresponding number, and the camera will move the memorized position with all the preset settings.



### 3.1 To set a preset position

[SET] + [N] + [ENTER]

N: the number of preset position: 1~128

### 3.2 To call a preset position

When camera positions have been set, you can enter a memorized camera position number.

[Preset] + [N] + [ENTER]

N: the number of preset position: 1~128

### 4. Delete a preset position

[PRESET]+[N]+[OFF]

N: the number of preset position: 1~128

### 5. To call cruise tracks:

[PRESET]+32+[ENTER]

This command can call the No.1cruise tracks. It can scanning preset points no.1~16.

[PRESET]+53+[ENTER]

This command can call the No.2cruise tracks. It can scanning preset points no.17~31.

[PRESET]+49+[ENTER]

This command can call the No.3cruise tracks. It can scanning preset points no.33~48.

[PRESET]+50+[ENTER]

This command can call the No.1cruise tracks. It can scanning preset points no.65~80.

**Note:** If some points are not been set or delete, it will not scanning these points when cruising. Resort 3 seconds in every preset points.

### 6. Setting scanning track

Method 1:

1. Setting begin scanning track point

[SET] + [51] + [ENTER]

Adjust the position of dome camera which you need .

Setting finish scanning track point:

[SET] + [52] + [ENTER]

Adjust the position of dome camera which you need .

3. Calling scanning:

[PRESET]+51+[ENTER]

**Note: Setting begin and finish scanning track point first .**

4. Stop scanning

[PRESET]+52+[ENTER]

(Move Joystick also can stop scanning )

**When dome device scanning, default state following**

- a. Dome device scan between two points.
- b. Scan “begin-point” and “end-point” and resort 3 seconds
- c. If “begin-point” and “end-point” superpose, dome device horizontal 360° rotation.

Method 2:

Call scanning

[AUTO]+[ON]

The speed dome camera scanning 360 degree. Need not set scanning track point .

**Note: Above operation use for our company’s suited keyboard by example, detail operation do as your keyboard menu**

## **Camera OSD menu**

**Show Menu on display and setting other parameter of zoom camera. Operation as follow:**

Call No.57 preset position { [PRESET]+57+[ENTER]} to show the main menu on display, and use [TELE]、 [WIDE] to choose item, then press [FAR]、 [NEAR] to set and confirm .If you want to set other items, you should come back main menu first. You can choose [EXIT] item, then press [FAR]、 [NEAR] to confirm .After these you will come back main menu.

**Note:** After setting item parameter, must set No.57 preset position {[SET]+57+[ENTER]} to set free the key of menu.If some camera can't be controlled by [FAR] and[NEAR].You can use [OPEN] to come true operation

**Note:**Here in before operation use for our company's suited keyboard by example, detail operation do as keyboard menu

## Operation of camera

(N)	Control object	The definition of key	
		PRESET+N+ENTER	SET+N+ENTER
54	Power supply	Come back Initial value	/
55	Backlight compensation	ON	OFF
56	Min. illumination	ON	OFF
57	Menu/ Screen Display	ON	OFF
58	Digital Zoom	ON	OFF
59	Focus	AUTO	MANUAL
60	IRIS	AUTO	MANUAL
61	White Balance	AUTO	MANUAL
62	Static image	Image congeal	Normal image
63	Mirror image	Image mirror	Normal image
64	Color/black & white	Color	B/W

**Note:** Some cameras don't support the above function of them.

### Power-off memory

Provide setting of scanning track and select scanning track function. Self-test can allow to store track that user edits arbitrarily and information power-off memory.

# PROTOCOL CODE FUNCTION

## 1. B01 PROTOCOL

### I .To set up cruise tracks:

[SHOT] + N + [ON] The LCD displays Input Tour No. N

N: The number of track

[ON] The LCD displays Track = N1 Sum = N2

N<sub>1</sub>: track number

N<sub>2</sub>: sum of preset positions

Press [TELE], the LCD displays No.N3 point

Press preset positions number

Press [TELE] the LCD displays No.N3 speed 3

Speed lever 1~8 1 stand fast speed

8 stand lowest speed

Then press [TELE] the LCD displays No.N3 time

Press first time of resorting in the cruise track

N3 the No. of current cruise track.

1. Setting 16 preset positions in this cruise track as above , repeat the steps as above .
2. [TELE] Page up [WIDE] Page down.
3. When setting the speed and time of No. n to 0 ,the preset position which are at n-1 and before n-1 are all effective, but preset position No., speed and time which are at n+1 and n change to 0 automatically .
4. Option of speed from 1 to 8 are used for confirm the speed which move this points to another point.
5. Press [OFF] to save and exit. Move the joystick to exit without saving.

## II. To call cruise track

[SHOT] + N + [ENTER] Display: Input Tour No. : 01

Note: Under B01 protocol, If you want to call other cruise tracks, you must set cruise tracks first and reserve.

## III. Accessional Function

[F1] + N + [ON] / [OFF] Display: Input No.

N.	Function	Explain	
		[F1]+N+[ON]	[F1]+N+[OFF]
0	Camera power	ON	OFF
1	BLC	ON	OFF
2	Min. illumination	ON	OFF
3	Menu/Display	ON	OFF
4	Digital zoom	ON	OFF
5	Reposition	Enantiomorphous	
6	FOCUS	Auto	Manual
7	IRIS	Auto	Manual
8	White Balance	Auto	Manual
9	Image	Enantiomorphous	Normal
10	STATIC STATE	Congeval	Normal
11	COLOR/BW	Color	BW

# General Failure Analysis Table

Problem Description	Possible Reason	Troubleshooting
After power on, no motion and no image	Power supply module is damaged or power is not enough.	Change
	Power cable is connected improperly	Correct
	Failure occurs on engineering line.	Eliminate
Self test is exceptional, there is image but with motor noise “wu”	Mechanical failure	Examine and Repair
	Video camera is slantwise	Put right
	Power supply not enough	Change power that meets requirements. It is recommended to place the power switch near the Dome device.
Self-test is normal, but have no image	Video line is connected mistakenly.	Correct
	Video line is poor contact.	Eliminate
	Video camera is damaged.	Change
Self-check ok but cannot control	Control signal line is connected mistakenly.	Correct
	Position of Dome device does not match.	Reselect
	Protocol setting is wrong	Reset and on power again
Vague image	Video line is poor contact.	Eliminate
	Power supply not enough	Change
Dome device is not controllable.	Too much load or communication distance is too long.	Confirm terminal resistance Add code distributor
	Self-test is exceptional	On power again
	Bad connection of control	Press to full connect
	Operation of Host has problem.	On power again
Iris of the Dome device is not controllable.	Iris is in manual status.	Use control command to set iris to manual status and iris can be controlled.

## **Before Installation**

**Checking the contents of the package. Be sure to check if the following items are included in the package.**

1. PZT dome camera
2. Camera Holder (Mount)
3. User's manual
4. Setscrew

## **What should be done during installation and use**

1. Do not disassemble the camera on your own.
2. Be careful when handling the camera at all times. Do not strike the camera with your fists or shake it. The camera should be stored and treated with care to avoid any damage.
3. Do not put or operate the camera in rain or wet places.
4. Do not scrub the camera body with rough sandpaper when it is stained. Please use a dry cloth at all times.
5. Put the camera in a cool area free from direct light. Otherwise, the camera may be damaged.



## SPECIFICATION

<b>Panning range</b>	<b>360°endless</b>
<b>Pan speed</b>	<b>0.5~250°/sec</b>
<b>Tilt range</b>	<b>90° (180°Reversal auto-flip )</b>
<b>Tilt speed</b>	<b>0.5~130°/sec</b>
<b>Communication</b>	<b>RS485</b>
<b>Preset position</b>	<b>128</b>
<b>Track</b>	<b>4 cruising tracks and 2scanning track</b>
<b>Baud Rate</b>	<b>1200/2400/4800/9600/19200bps</b>
<b>Power</b>	<b>AC24V/DC12V 45W(Outdoor)/ 15W (Indoor)</b>
<b>Operating temperature</b>	<b>Indoor 0 ~40 Outdoor -30 ~55</b>
<b>S/N Ratio</b>	<b>≥48dB</b>
<b>Video output</b>	<b>1.0Vp-p/75 Ω</b>