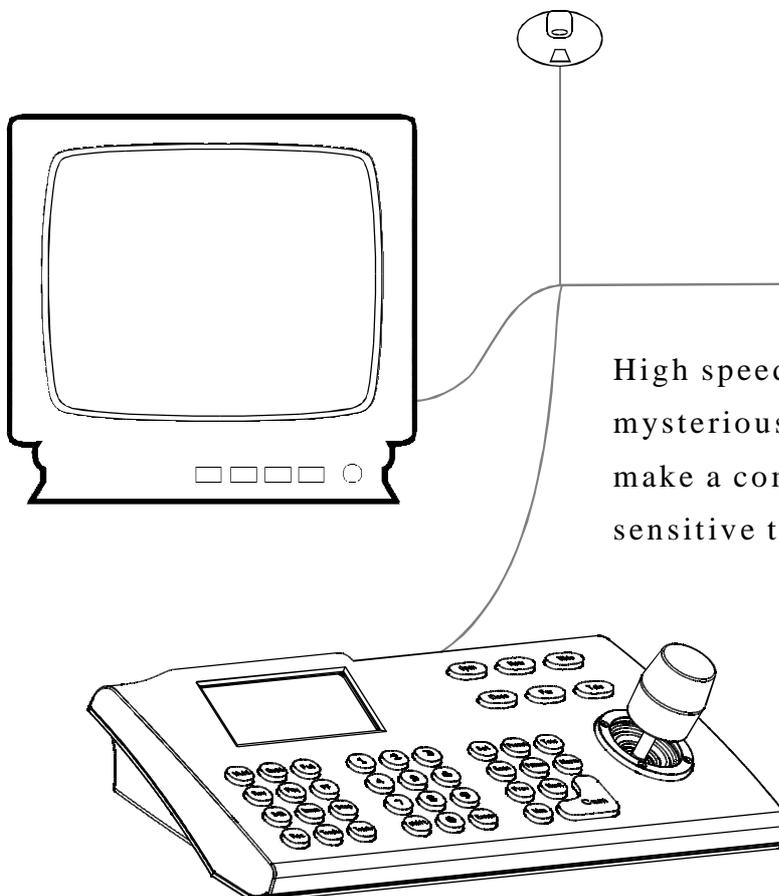


Mini-high Speed Dome Operation Manual



High speed dome looks like a mysterious owl at night, quiet, make a comprehensive, be sensitive to catch

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1. Precaution

Ø Electrical safety

Conform to country and local electrical safety standard when using or installing the product. Using local special power adapter. This dome uses DC12V/1500MADC power supply.

Ø Transportation

The dome should be protected against extremes of pressure, vibration and humidity during storage and transportation. It should be shipped in parts disassembled as the original packing did. Damage caused by improper transportation is not within the warranty.

Ø Installation of care

Do not install it in any other orientation. Do not squeezed structure parts, which may cause mechanical damage. Down cover is a precise optical product. Do not touch it directly to avoid scratches which can affect image quality.

Ø Requirements to service personnel

All the service work should be done by qualified technicians.

Ø Do not disassemble the pan/tilt module

Do not disassemble screws and open the dome cover, as there are no users serviceable parts inside. Only qualified and authorized personnel may undertake repairs.

Ø Environmental requirements

Operation environment temperature: -10°C - $+50^{\circ}\text{C}$

Humidity: $<90\%$

Air pressure: 86-106Kpa

Power supply: DC12V/1500MA

Ø Don't place the camera to be shoot by strong light objects

Don't place the camera to be shoot by strong light objects. Don't point the dome to the sun or other bright objects when in use or not. It may affect image quality.

2. Dome performance

2. 1 Dome parameter

Power supply		Setting	
Power supply	DC12V	Baud rate (RS485)	2400/4800/9600/19200bps
Cosumption	9W	Communication Protocol	Pelco-D、Pelco-P、Factory
Operational		ID setting	0-255
Decoder	Built-in	Physical	
Pan rotation	360°	Operation temperature	-10℃ — +50℃
Tilt rotation	Tilt90° , with auto-flip	Environmental humidity	0—75%(no condensation)
Rotation speed	Pan1° ~200° /S Tilt1° ~150° /S	Mount way	Ceiling mount
Preset	128	Weight	N: 1.1kg G: 1.5kg
Monitor way	Preset/tour/scan/ pattern	Material	Aluminum, iron and carbon alloy, plastic
Speed	Limitless variable-speedcontrolling		

2. 2 Camera parameter

Model	Specification/parameter
Imaging Element	1/4"CCD
Scanning System	625lines, 50field/s
White Balance	Auto/manual
Gain Control	Auto Gain Control
S/N	≥50dB
Shutter	Auto: 1/50-1/120,000 s continuously/manual
Lens	10 times optical magnified lens
Magnification	100times(10 times optical × 10 times digital)
Video Output	Multiple Video Output, 1.0Vp-p
Environmental Temperature	-10℃-50℃
Environmental Humidity	0~95%(no condensation)

2.3 Dome performance and features

This product is high-technology surveillance product with high definition and color camera, variable-speed pan/tilt and multifunction decoder. It can reduce the connection and installation process between systematic parts at a max limit, and also can improve the stability and reliability of the system. Meanwhile it is easy to install and repair, and it has the following advantages: beautiful shape, rotate lightly and neatly, little noise, simple operation and so on.

1、 Built-in digital camera

- High sensitivity, high resolution, and integrated digital processing
- Auto-focus
- Auto brightness control
- IR cut filter
- Auto slow shutter
- Auto-Iris
- Auto white balance
- Auto back light compensation

2、 Built-in high resolution color camera with pre-focus lens.

- a、 Prefocus lens 6mm, 8mm, 12mm(Optional)
- b、 Auto brightness controlling
- c、 Auto white balance
- d、 Auto back-light compensation
- e、 Auto aperture
- f、 Auto focus

3、 Integrated and multi-protocol decoder

- a. Figure design, all the data are stored in the inner of camera pan/tilt, when power off, the storage data can't be lose.
- b. Built-in decoder, Integrated and multi-protocol, include PELCO-D、 PELCO-P、 FACTORY、 and mainstream protocols; The protocols can automatically recognised by the dome, and which can choose corresponding protocol to communicate with host, it need not to be set by customers
- c. 128 presets can be stored, support auto tour (but can transfer 1-80 presets), and 1 tour can store up to 32 preset.
- d. 4 pattern tour
- e. 1 scan
- f. Built-in direction indicator
- g. Built-in temperature indicator
- h. Rs485 bus controlling in series, and dome ID; 1-255 (optional)

4. Built-in pan/tilt

- ◆ Iron and carbon alloy structure, high intensity, and good heat dissipation.
- ◆ Precise stepping motor, rotate smoothly, react sensitivity and orientate accurately.
- ◆ Exquisite mechanical drive, support pan 360° continuously and tilt 0-90° , and may rotate 180° with auto flip.
- ◆ rotate slowly at pan 1° /s, and the image doesn't jitter.

5. OSD menu

- ◆ All the menu option are displayed in English.
- ◆ Video OSD menu. It is direct and simple to revise the dome information and parameter by keyboard and menu display.
- ◆ May set park action, and set power up action or carry out appointed action.

6. Internal temperature test

- ◆ when the temperature exceeds the upper limit, the screen will display alarm information.
- ◆ According to the real-time temperature, the fan will measure if it starts or not, and prolong the life of fan.

3. Function in structure

This passage mainly describes the main function and general principle of integrated speed dome, and does not refer to the concrete operation methods. Different system platform has different operation methods, generally we should according to the system manufacturer's operation manual. Please contact dealer to get necessary information, under some conditions there are have some particular requirements and operations.

3. 1 Auto-run motion

◆ Focus/speed proportion pan

When manually adjusting, for far focus situation, the dome responds at a high-speed so that touching rocker slightly may make picture move rapidly, thus cause the picture to lose. To base on humanized design, the dome automatically adjust pan and tilt rotation according to zoom near and far, which make it is convenient to operate manually to make tracks for the object. In the menu, you may change system parameter setting proportion pan as ON, thus you may run this function.

◆ Auto flip

If user holds the joystick in the down position, the camera rotates pan 180 degrees, then the camera rotates tilts up to 90 degrees, you may directly watch the rear view to realize surveillance all processes in portrait 180 degrees . In the menu, you may set the system parameter setting AUTO FLIP as ON, thus you may run this function.

◆ Park action

By the menu “ park time” and “park action” , user may set auto-call preset or run tour, pattern, and scan, etc after pointing a few minutes if the dome doesn't run any motions.

◆ Power up action

By the menu “ power up action” , after the dome powers up or restarts, user may set auto- resume motions before power up and auto- call preset or run tour, pattern, and scan etc .

3. 2 Camera control

Ø Magnification control

The user can adjust zoom far and near of the image by keyboard controller “Wide/Tele” to obtain panoramic image or close view that you need. The speed dome support digital zoom and optical zoom.

Ø Focus control

System defaults Auto focus. When the lens changes, camera will auto-adjust focus according to the centre of the image to get legible image; user also can manually focus to get desire image by operating keyboard “FAR/NEAR” . When operating keyboard joystick, camera resumes to auto focus.

The camera cannot auto focus in the following status:

- Target is not the centre of the image
- Observation the target near and far at the same time, can not be clear at the same time..
- Target is a strong light object, such as spotlight & etc.
- Target moves too fast
- Target area such as wall
- Target is too dark or vague
- Target image is too small

Ø Iris control

System defaults Auto Iris. Camera can rapidly adjust size of Iris, through the automatically induct the changing of environment ray, and thus make the brightness of deferent image stable.

User may adjust Iris by controller keyboard “open/close” to get required brightness that you need. User also can resume auto Iris by joystick operation. When controlling the Iris manually, the dome locks current position you manually controlled; when operating joystick, the dome resume auto Iris.

Ø Auto back light compensation

Camera sub-area can carry out auto back light compensation. Under a strong light background, camera will auto compensate light for the darker object and adjust daylight to the bright background. In order to avoid making the image mess by the background is too high in luminance, and the object is unable to recognize because of darkness, thus gain legible image.

Ø Auto white balance

Camera can automatically adjust white balance in accordance with the alteration of background lightness to reach a true colour.

3. 3 Monitor function

◆Set and call preset

Preset function is that dome stores the horizontal angle, slope angle, camera lens focus position and parameters of current pan/tilt into the memory. When necessary dome can call these parameters, and adjust pan/tilt and camera to this position.

User can call presets easily and promptly by using keyboard controlling. The dome can support 128 presets.

◆Tour

Tour is the built-in function in the speed dome. It can appoint setting in advance, and make presets arranged in needful order in tour dwell. By inserting presets in tour dwell, to make the camera tour between these presets. Tour order can be programmed, each time you run tour, you can set park time. A tour can store 32 preset.

◆Scan

User can easily preset right limit and left limit by controlling menu and menu, in order to make the camera scanned between right limit and left limit at a setting speed.

◆Pattern

Pattern is built-in function in the speed dome; the dome can record the tracks that are no less than 180s, when running pattern, the dome moves repeatedly according to the recorded tracks. A dome can set up to 4 pattern tours.

◆Lens position display

The position that the speed dome has finished to self-testing as 0 point of pan rotation and tilt rotation. The pan range is 0-360°, and tilt range is 0-90°. According to the displayed information, to set the position of camera lens, and the position can display on the screen.

3. 4 Constant temperature Function

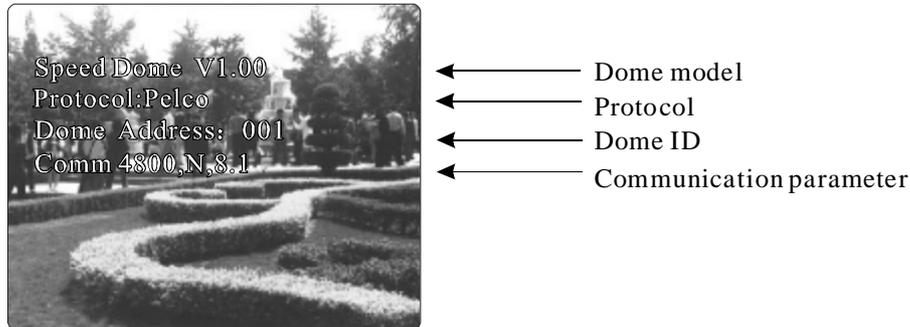
Inner temperature sensor surveille temperature inside of the dome. When the dome work in the high temperature, the dome will automatically to start-up the fan to reduce the heat, to make sure the dome work in the reliable temperature environment, increase its stability and prolong the life time of the dome.

4. System setting

4. 1 Basic operation

4. 1. 1 Current-carring to dome and self-testing

The dome conducts self-testing after current-carring, and it rotates slowly until displaying pan origin that is default setting, then moving to tilt origin, the lens will be pulled far to near and near to far, when self-testing is finished, there is relevant system information displaying on the screen, as follow:



The information will not disappear until you stop to operate the system. If you set “power up action”, the dome will automatically activate motions after self-testing. How to operate the function? We will explain detail introduction in following passages.

4.1.2 Call the main menu

The system enters into the main menu by 95 preset or twice transfer 9 preses in 3 seconds. All the menu setting must enter into the main menu at first.

4.1.3 Menu and keyboard operation

Ø Keyboard operation:

【OPEN】 when choosing pictures, it means to increase Iris; when setting menu, it means to enter into the next menu or setting, or save after finishing setting.

【Close】 when choosing pictures, it means to reduce Iris; close to cancel.

【FAR】 Focus to far

【NEAR】 Focus to near

【TELE】 Increase magnification

【WIDE】 Reduce magnification

Joystick to up: When choosing menu, it means to choose the former one; when choosing picture, it means camera tilt up.

Joystick to down: when choosing menu, it means to choose the next one; when choosing picture, it means camera tilt down.

Joystick to left: when choosing menu, it is equal with 【Close】, when choosing picture, it means camera tilt left.

Joystick to right: when choosing menu, it is equal with 【Open】, when choosing picture, it means camera tilt right.

Press 【TELE】 and 【WIDE】 at the same time, it means 3D joystick rotates joystick cap.

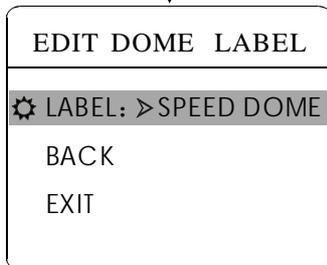
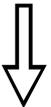
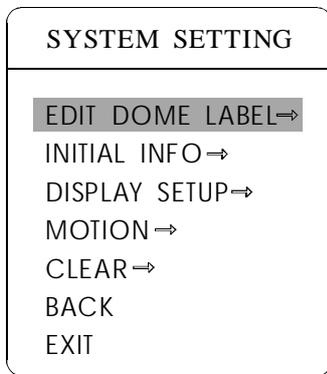
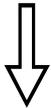
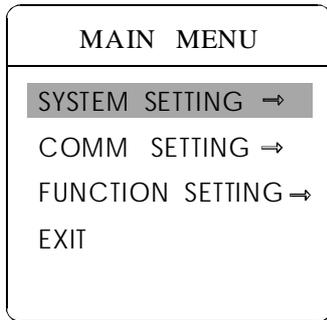
Ø Menu operation

“Back” : Back to the former menu

“Exit” : Exit to menu

“On” : Open some setting

“Off” : Close some setting



4.2 Edit dome label

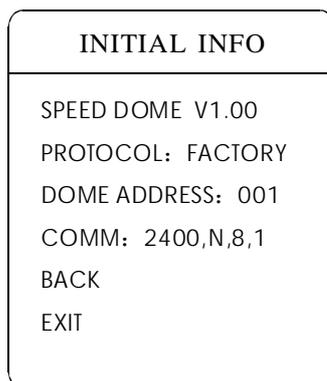
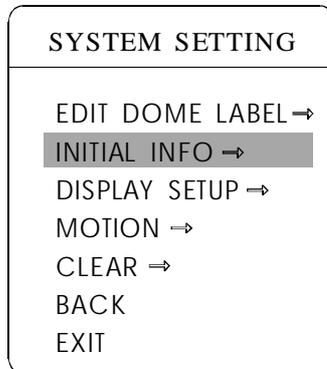
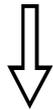
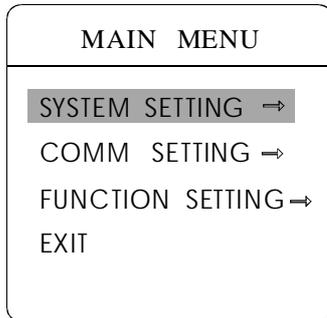
When using a lot of systems of the dome , in order to identify to each dome, the systems support title setting. The setting ways as follow:

- 1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.
- 2、 Moving joystick up and down to move the cursor to **【SYSTEM SETTING】** press **【OPEN】** to enter the next menu.
- 3、 Moving joystick up and down to move the cursor to **【EDIT DOME LABEL】** press **【OPEN】** to enter the label setting menu.
- 4、 Moving joystick up and down to move the cursor to **【LABEL】** , press **【OPEN】** to edit current label.
- 5、 When the cursor is twinkling n the first character of the label, to move joystick t choose character, after editing, Pressing **【OPEN】** to save.
- 6、 Moving joystick to **【BACK】** ,press **【OPEN】** to back to the former menu.



Notice: The label may set 16 characters, and doesn't need editing characters. Pressing **【Open】** continuously to jump over and using spacebar to replace the deleted characters. When you finish to edit a character,pressing **【Open】** to enter into the next editing character ; when you editing the last character, pressing **【 Open】** to save.

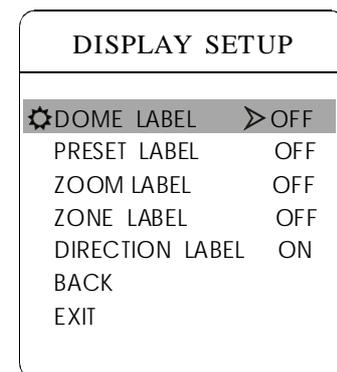
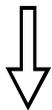
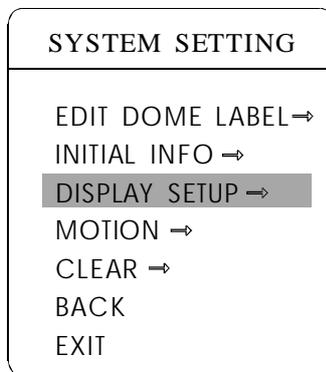
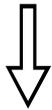
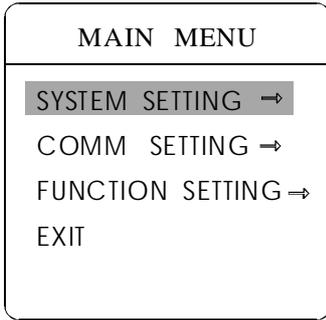
Press [Close] to exitCharacter of label is suitable for choosing as follow: 0- 9、 A-Z、 :<>-. , Space. Other labels' input ways are the same as above.



4.3 Display initial information

- 1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.
- 2、 Tilt up/down joystick to **【SYSTEM SETTING】** , press **【OPEN】** to enter submenu.
- 3、 Tilt up/down joystick to **【INITIAL INFO】** , press **【OPEN】** to display initial information, which as below the left picture shows:

Initial information includes the name of manufacturer, soft edition, camera address, communication parameter. System setting may change the numerical value of initial information.



4.4 Display setup

- 1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.
- 2、 Tilt up/down joystick to **【SYSTEM SETTING】** , press **【OPEN】** to enter submenu.
- 3、 Tilt up/down joystick to **【DISPLAY SETUP】** , press **【OPEN】** to enter display setup menu, may setting the content of the display setup as follow:

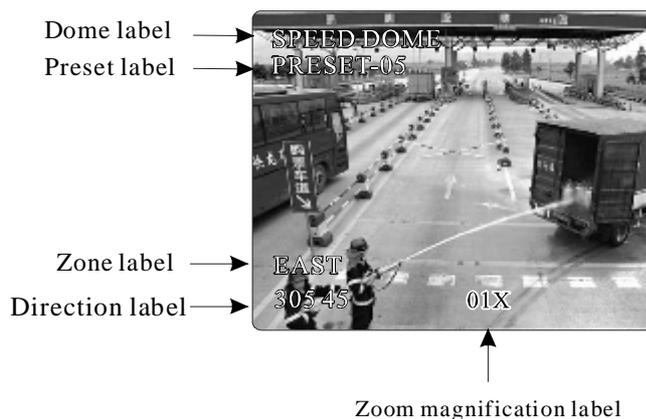
- **【DOME LABEL】** : dome label display setting
- **【PRESET LABEL】** :preset label or scan label display setting
- **【ZOOM LABEL】** : magnification display setting
- **【ZONE LABEL】** : zone label display setting
- **【DIRECTION LABEL】** :direction label display setting
- **【TEMPERATURE LABEL】** :temperature label display setting

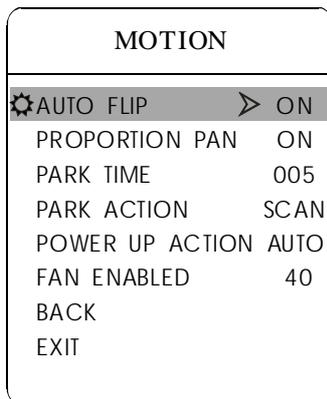
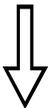
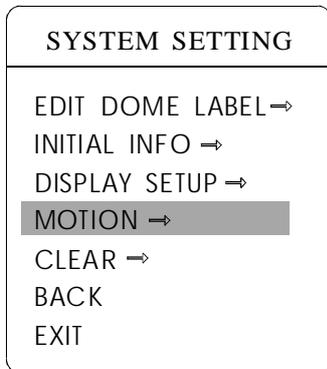
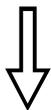
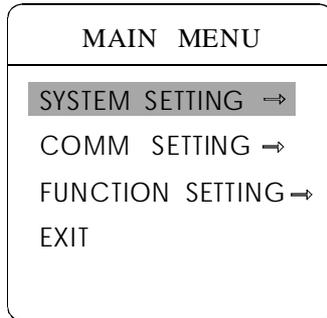
4、 Taking “display dome label” as an example to explain the operation process.

Tilt up/down joystick to move cursor to **【DOME LABEL OFF】** , press **【OPEN】** , there is a sign ⚙️ besides **【DOME LABEL】** , the cursor is twinkling besides **【OFF】** , as left picture shows:

5、 Joystick tilts up/down, setting switch between ON/OFF, when displaying **【ON】** , it means to display dome label, press **【OPEN】** , the cursor jump back to **【DOME LABEL】** , label setting is finished, move the cursor to **【EXIT】** , exit to the menu setting.

The display information on the screen will change with the dome rotation through the information on the screen, user can see current dome inside temperature, magnification, display zone etc. When all the labels are displayed, the dome works as the following picture shows: (in the picture “305” means pan angel, “45” means tilt angle.)





4. 5 Systematic motion control

Systematic motion controlling may control a series of motions of the dome, and plays an important role in controlling the image of the dome.

1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.

2、 Tilt up/down joystick to **【SYSTEM SETTING】** , press **【OPEN】** to enter submenu.

3、 Tilt up/down joystick to **【MOTION】** , press **【OPEN】** to enter systematic motion controlling menu, as left picture shows.

4. 5. 1 Auto flip

1、 Operate joystick, move the cursor to **【AUTO FLIP】** , press **【OPEN】** to enter auto flip setting, tilt up/down joystick, for example; choosing ON to open auto flip; choosing OFF to close auto flip. Press **【OPEN】** to save.

4. 5. 2 Speed proportion pan

1、 Operate joystick, move the cursor to **【PROPORTIONAL PAN】** ; press **【OPEN】** to enter “proportion pan” setting, tilt up/down joystick to choose, if choosing **【ON】** , it means to open proportion pan; if choosing **【OFF】** , it means to close proportion pan , press **【OPEN】** to save.



Operation knacks

when opening the auto flip function, user holds the joystick in the down position, the camera rotates pan 180 degrees, after the camera rotates tilts up to 90 degrees, you may directly watch the rear view to surveillance all process in portrait 180 degrees.

MOTION	
AUTO FLIP	ON
PROPORTION PAN	ON
⚙️ PARK TIME	➤ 005
PARK ACTION	SCAN
POWER UP ACTION	AUTO
FAN ENABLED	040
BACK	
EXIT	

MOTION	
AUTO FLIP	ON
PROPORTION PAN	ON
PARK TIME	005
PARK ACTION	SCAN
⚙️ POWER UP ACTION	AUTO
FAN ENABLED	040
BACK	
EXIT	

MOTION	
AUTO FLIP	ON
PROPORTION PAN	ON
PARK TIME	005
PARK ACTION	SCAN
POWER UP ACTION	AUTO
⚙️ FAN ENABLED	➤ 040
BACK	
EXIT	

4. 5. 3 Park action

This setting allows the dome to run an appointed action after it enters vacancy for a few time (1-240minutes). If default sets as 0, it means not to run this action.

1、 Operate joystick, move the cursor to **【PARK TIME】** , press **【OPEN】** to tilt up/down joystick to set park time, the range is 0-240 (minute), press **【OPEN】** to save.

【PARK ACTION】 is running action at park time, when **【PARK TIME】** sets as 0, this item can't be set.

2、 Operate joystick, move the cursor to **【PARK ACTION】** , press **【OPEN】** there will be a sign ⚙️ in the front of **【PARK ACTION】** , the cursor jump to right, after tilting up/down joystick to choose “ park action” , there are options for choosing as follow, press **【OPEN】** to save.

- **【NONE】** - (default) none action
- **【PRESET】** -use preset 1
- **【SCAN】** -run scan
- **【PAT1】** - run pattern X
- **【TOUR】** - run tour

4. 5. 4 Power up action

The dome stats to run actions after self-testing, if nobody intervenes with it , the dome will repeatedly run this action continuously ,if default sets as **【NONE】** .

1、 Operate joystick, move the cursor to **【POWER UP ACTION】** : press **【OPEN】** to jump to the following choice, tilt up/down joystick to choose “power up action” ,press **【OPEN】** to save.

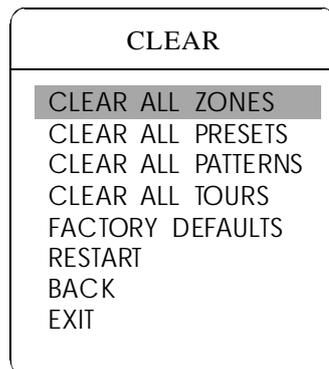
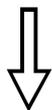
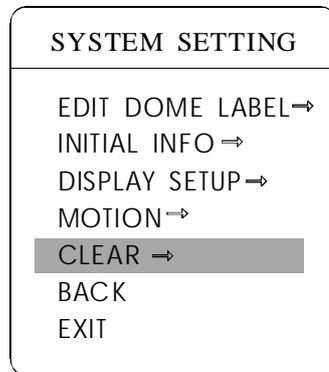
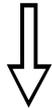
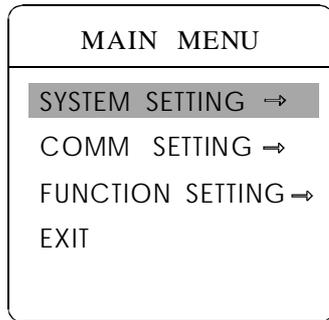
- **【NONE】** - none action
- **【AUTO】** - the dome resumes the primary action and direction before power up.
- **【PRESET】** - use preset 1
- **【SCAN】** - run scan
- **【PAT1】** - run pattern X
- **【TOUR】** - run tour

4. 5. 5 Fan startup by temperature

The temperature of the dome will rise when its environment is in high temperature. The fan will open automatically when the temperature reaches to a temperature value in order to make sure the stability of the dome.

Operate joystick, move the cursor to **【FAN ENABLED】** : press **【OPEN】** , the cursor will skip to the back option. The user can press **【OPEN】** to save it in actual condition.

The default setting temperature of the fan startup is 40°C. The user also can enter into the fan startup setting to adjust the temperature of fan startup. As picture shows: the temperature range is 0-60°C.



4.6 Clear

- 1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.
- 2、 Tilt up/down joystick to **【SYSTEM SETTING】** , press **【OPEN】** to enter submenu.
- 3、 Tilt up/down joystick to **【CLEAR】** , press **【OPEN】** to enter submenu, as left picture shows.

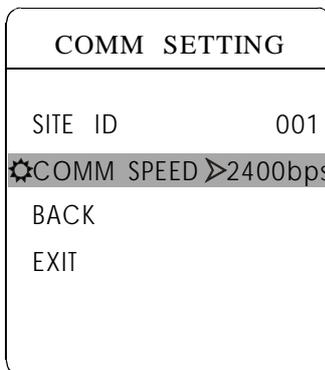
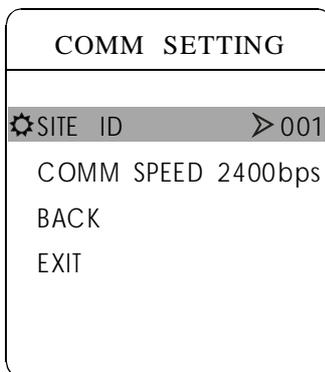
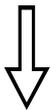
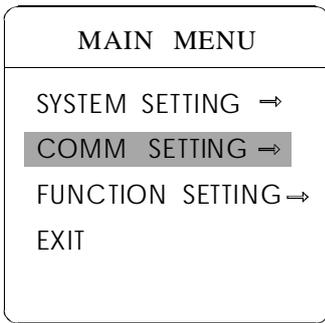
- **【CLEAR ALL ZONES】**
- **【CLEAR ALL PRESETS】**
- **【CLEAR ALL PATTERNS】**
- **【CLEAR ALL TOURS】**
- **【Factory DEFAULTS】** : resume the Factory default. Run this function, the camera parameter and system parameter will resume before production, clear all windows and alarm setting. Please be cautious to use this function.

- **【RESTART】** The dome restart.

- 4、 Set clear zone as an example to explain the process. Tilt up/down joystick to **【CLEAR ALL ZONES】** , press **【OPEN】** to clear all zones.



Notice: once clear all commands in the controlling menu, they does not resume,so please be careful of using.



5. Index Setup

5. 1 address of dome setting:

1. Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu, go to **【COMM SETTING】** as the picture, this set is aim to set the index of operation address and protocol of the dome.
2. Move the cursor up and down to **【SITE ID】** option, press **【OPEN】** enter into the address setting , the range number is 0-255.



Notice: any control order must based on the aim dome address, dome only react to the order which address is same as its.

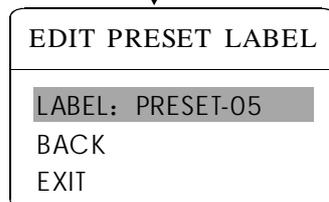
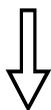
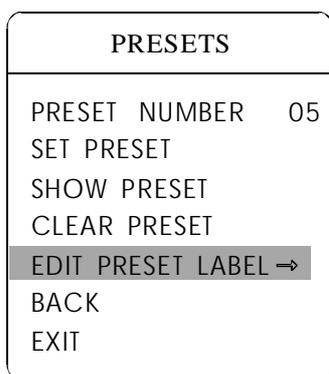
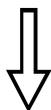
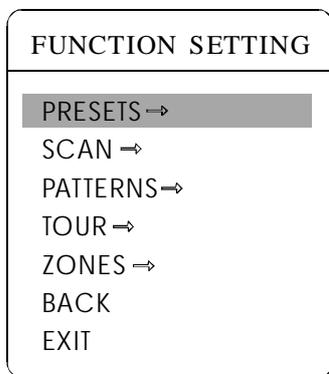
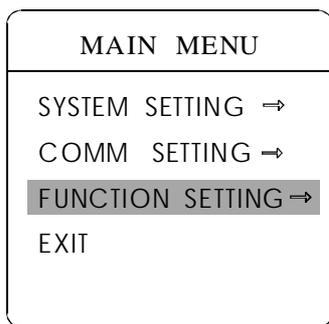
- A. Common address: the dome only react the control order to the address which as same as itself, the address range is 1- 254.
- B. Broadcast address(only protocol of Factory and PecLo can be set):if the customer use this address to control the dome, then all the domes control ed by the system will execute the same action, 255 is broadcast address.
- C. Debug address (only protocol of Factory and PecLo can be set):if the dome address is 0, then whatever which address was chosen by user can control the dome.

5. 2 Protocol rate setting

Enter into the main menu **【COMM SETTING】** , move the joystick up and down, move the cursor to **【COMM SPEED】** , press **【OPEN】** enter into the option of protocol rate of the dome, the baud rate have four options are 2400bps, 4800bps, 9600bps, 19200bps, choose the one you need, press **【OPEN】** to save it .



Notice: After all your set, the dome need re-power, after the self-test,then the setting will be effective.



6. Function setting

6.1 Preset setting

1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu. according to the order of the left picture, to click each command to enter “ presetmenu” , various functions as follow:

- **【PRESET NUMBER】** select preset number as current preset
- **【SET PRESET】**
- **【SHOW PRESET】**
- **【CLEAR PRESET】**
- **【EDIT PRESET LABEL】**

Define preset and display preset function can be set by keyboard operation, input preset number at first, then click the key “ save reset/call preset” to carry out.

2、 Define current preset number: move the cursor to **【PRESET NUMBER】** ,press **【OPEN】** to choose preset number, the range is 01-128, as the left picture shows, here chooses number 5 as current preset, the following operations aim at the current preset.

3、 Define current preset: move the cursor to **【SET PRESET】** , press **【OPEN】** , by operating joystick to adjust magnification, to choose good objective image, press **【OPEN】** to save. If the image is very near, the image is belong in digital zoom; when setting preset, the image will jump to maximal optical zoom.



Operation knacks

Preset function is that dome stores current pan/tilt angle, zoom and other position parameters into the memory. When necessary dome recalls these parameters and adjust camera to that position.

4、 Display current preset: move the cursor to **【SHOW PRESET】** , press **【OPEN】** , the screen will display the current preset;

5、 Clear current preset: move the cursor to **【CLEAR PRESET】** , press **【OPEN】** , the current preset is cleared.

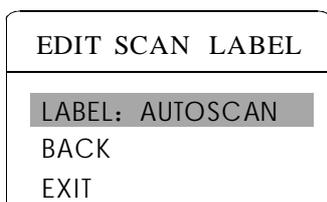
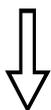
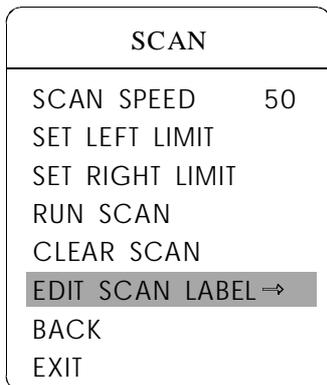
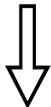
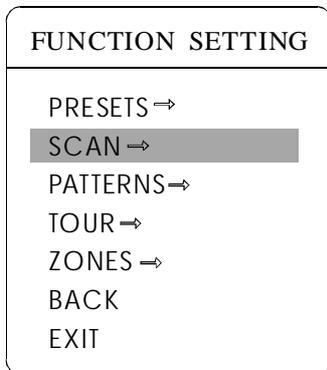
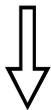
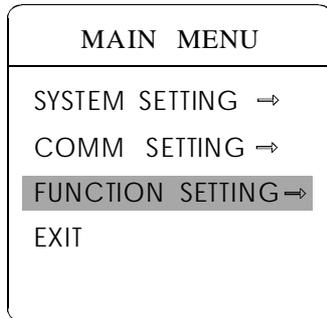
6、 Edit current preset label: move the cursor to **【EDIT PRESET LABEL】** , press **【OPEN】** to enter into editing preset submenu, system auto-sets label as PRESET-XX, press **【OPEN】** to revise label.



Notice:

1. When running to program, display, clear preset and editlabel, should choose preset number at first.
2. The label may set up to 16 characters, and doesn't need editing characters. Press **【Open】** continuously to jump over and ues spacebar to replace the deleted characters. When you finish to edit a character, press **【Open】** to enter into the next editing character; when you finish to edit the last character, pressing **【Open】** to save. Press **【Close】** to exit.

Character of label is suitable for choosing as follow: 0-9、 A-Z、 :<>., space.



6. 2 Scan

Scan is that pre-set two points , then the camera repeatedly scan between the two points at a stable speed, the same magnification and pan . A dome only has one scan tour.

1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu; click menu to enter “scan” menu, as the left picture shows.

- **【SCAN SPEED】**
- **【SET LEFT LIMIT】**
- **【SET RIGHT LIMIT】**
- **【RUN SCAN】**
- **【CLEAR SCAN】**
- **【EDIT SCAN LABEL】**

2、 Scan speed setting: operate joystick to **【SCAN SPEED】** , press **【OPEN】**, tilt up/down joystick to adjust scan speed, press **【OPEN】** to save.

3、 Left limit setting: operate joystick to **【SET LEFT LIMIT】** , press **【OPEN】**, operate joystick to choose objective image, press **【OPEN】** to save.

4、 Edit scan label: operate joystick, move the cursor to **【EDIT SCAN LABEL】** , press **【OPEN】** to enter submenu “edit label” , move the cursor to **【LABEL】** , the system will auto-set the label as AUTO SCAN, press **【OPEN】** to revise.



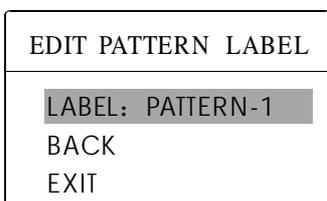
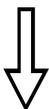
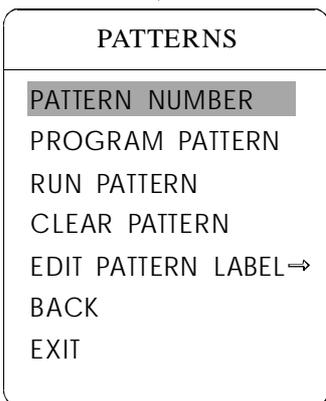
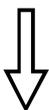
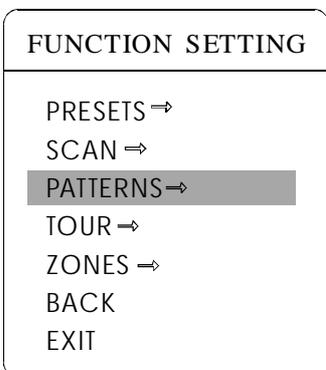
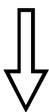
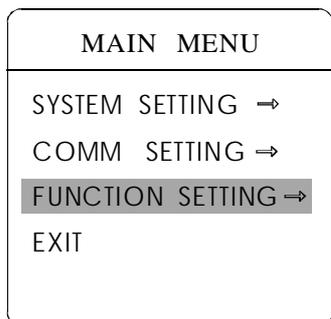
Notice: The label can set up to 16 characters, and doesn't need editing characters. Pressing **【Open】** continuously to jump over and using spacebar to replace the deleted characters. When you finish to edit a character, pressing **【Open】** to enter into the next editing character; when you finish to edit the last character, pressing **【Open】** to save. Press **【Close】** to exit.

Character of label is suitable for choosing as follow: 0-9、 A-Z、 :<>-. , space. The editing ways of other labels are the same as above.

5、 Run scan: operate joystick to **【RUN SCAN】** , press **【OPEN】** to exit the menu, and it starts to run scan.



Notice: 1. left limit and right limit of scan can't be set the same point.
2. Under scan process, speed, magnification and tilt direction won't change, if the speed, magnification and tilt direction of the two limits are inconsistent, run scan is base on left limit.



6. 3 Pattern

Pattern is built-in function in camera; the speed dome can record tracks that are no less than 180s. (A series of pan/tilt controlling and lens controlling command). A dome may set up to 4 pattern tours.

1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.

2、 Operate joystick, move the cursor to **【FUNCTION SETTING】** , press **【OPEN】** to enter submenu.

3、 Operate joystick to **【PATTERN】** ,press **【OPEN】** to enter menu “Pattern” .

- **【PATTERN NUMBER】** choose current pattern number as the current pattern.
- **【PROGRAM PATTERN】** define the track of the current pattern
- **【RUN PATTERN】** run current pattern
- **【CLEAR PATTERN】** clear current pattern
- **【EDIT PATTERN LABEL】** edit current pattern label

4、 Choose pattern number: move the cursor to **【PATTERN NUMBER】** , press **【OPEN】** , pattern you choose as current pattern, the following operations aim at the current pattern;

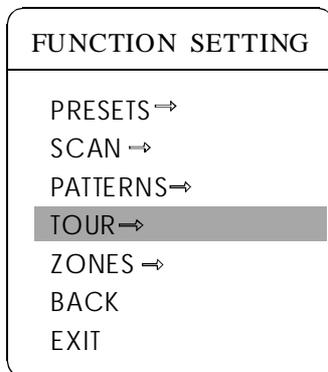
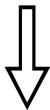
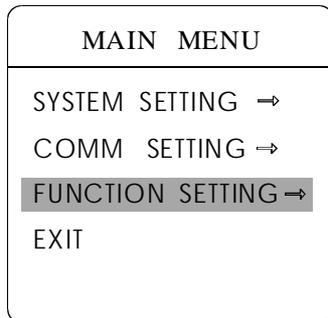
5、 Define current pattern tour: move the cursor to **【PROGRAM PATTERN】** , press **【OPEN】** to set pattern track, move the image wantonly, and draw the focus. The dome has a tour that is no less than 180s, a series of park time, magnification, focus will be recorded, press **【OPEN】** to save.

6、 Run pattern: Operate joystick to **【RUN PATTERN】** , press **【OPEN】** to run, the dome will continuously and repeatedly record the specific track.



Notice:

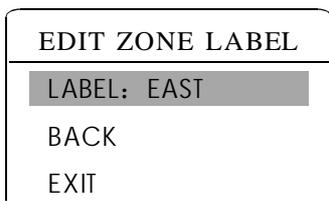
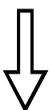
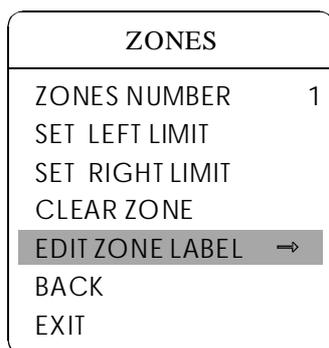
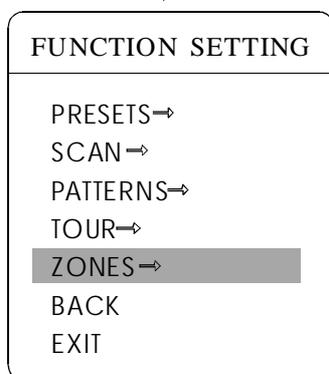
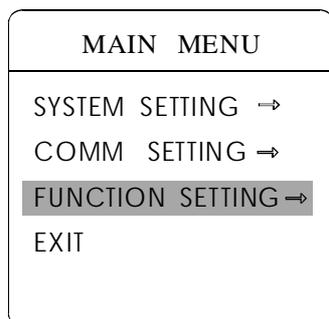
When carry out program, run, clear pattern and edit label, should choose pattern number at first.



6.4 Tour

Tour is the built-in function in the speed dome, it will arrange the presets into the queue of auto-tour, and can set how long it will park at preset. Operate auto-tour is a process of incessantly transfer each preset. One tour can store 32 presets at most.

- 1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu.
- 2、 Operate joystick, move the cursor to **【FUNCTION SETTING】** , press **【OPEN】** enter submenu.
- 3、 Operate joystick, move the cursor to **【TOUR】** , press **【OPEN】** to enter menu “tour” ;
- 4、 Set the park time of preset: Operate joystick, move the cursor to **【TOUR DWELL】** press **【OPEN】** , there will be a sign ☞ in the front of **【TOUR DWELL】** , the cursor jumps to right, tilt up/down to set park time, and the range is 000-255(s);
- 5、 Set tour: move the cursor to tour dwell **【00-00-00...00】** , press **【OPEN】** , the first dwell is activated, tilt up/down joystick to choose preset number, press **【OPEN】** , the cursor jumps to the next dwell, press **【CLOSE】** , the cursor jumps to the former dwell. After finishing the last dwell of a line, press **【CLOSE】** to save. Press **【CLOSE】** to exit. If set the presets of the second line, move the cursor to the second line, press **【OPEN】** to edit continuously. When the numerical value is 00, the following presets are invalid. A tour can set up to 32 presets.
- 6、 Run tour: Operate joystick, move the cursor to **【RUN TOUR】** , press **【OPEN】** to exit the menu, it starts to run tour.



6. 5 Zone setting

A dome may be set up to 8 zones; the regional scene can't be overlapped. User will set label for each zone. When setting **【ZONE LABEL】** as ON, the dome will display zone label as it runs some zone. It is convenient to know the zone that the camera shoots by setting zone label.

1、 Use 95 preset or transfer 9 preset twice in three seconds to enter the main menu

2、 Operate joystick, move the cursor to **【FUNCTION SETTING】**, press **【OPEN】** to enter submenu.

3、 Operate joystick, move the cursor to **【ZONES】**, press **【OPEN】** to enter submenu, as the left picture shows.

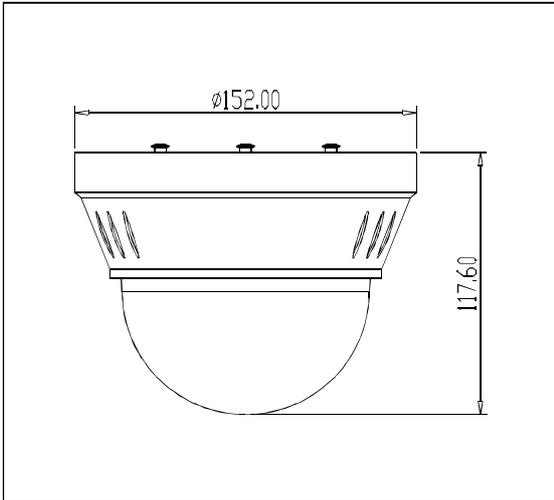
- **【ZONES NUMBER】** choose zone number as current zone, there choices in the menu aim at current zone.
- **【SET LEFT LIMIT】** set current zone's left limit
- **【SET RIGHT LIMIT】** set current zone's right limit
- **【CLEAR ZONE】** clear current zone setting
- **【EDIT ZONE LABEL】** edit current zone label, as zone number is 1. Zone label will auto-change as ZONE-1

Regard the left/right limit as the demarcation line, and set the middle part as a zone. Various operational ways are the same as other settings in the menu. Therefore we won't explain it again.

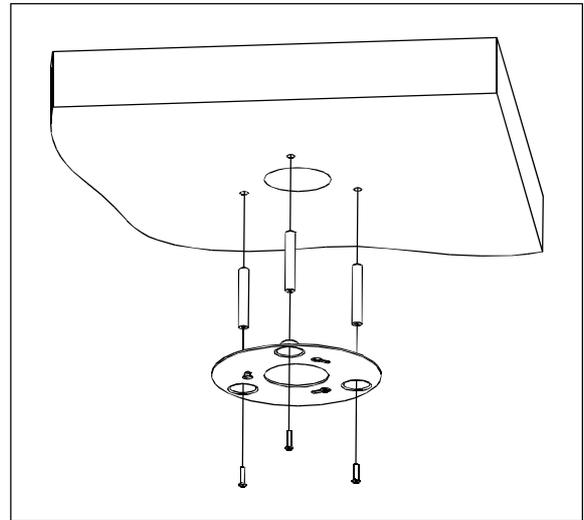
7. Installation instruction

7.1 Dimension of product

As picture below



Picture7 - 1

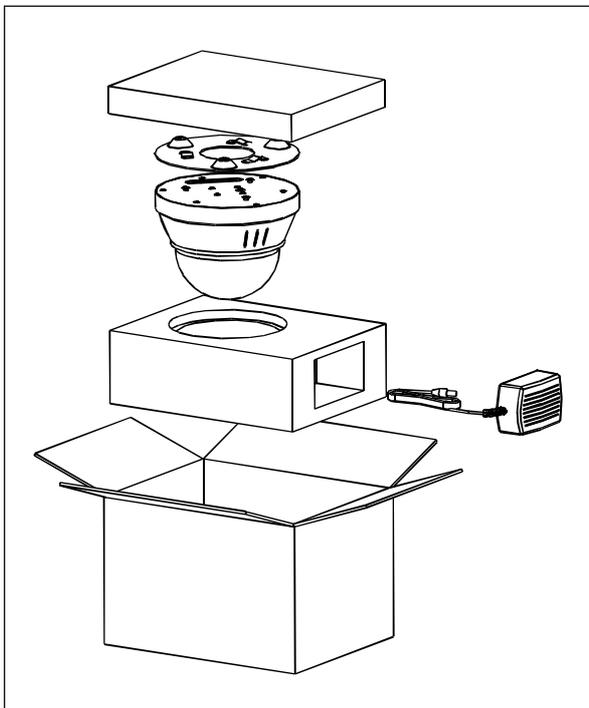


Picture7. 1 - 2

3. Insert three screw in the mini dome into the aperture on the base board, then turn 15 degrees in clockwise.

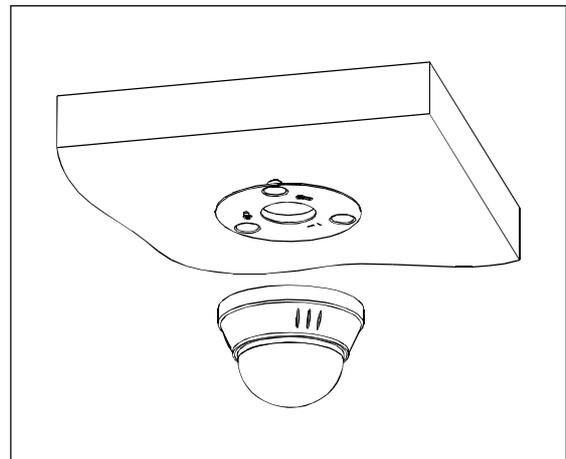
7.2 Product Installation

1. Get the product from the package



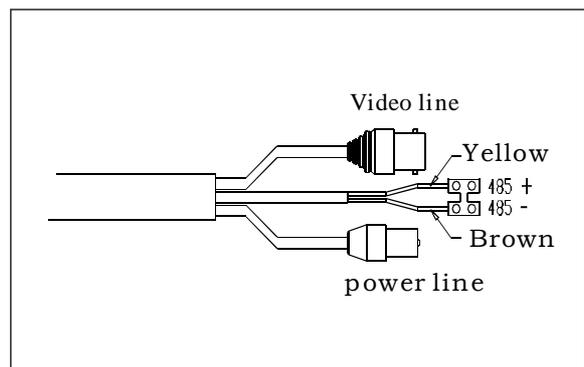
Picture7. 1 - 1

2. Get ready the installation aperture, use three M4 screws to fasten the base board on the roof. (As the picture Picture7.1-2)



Picture7. 1 - 3

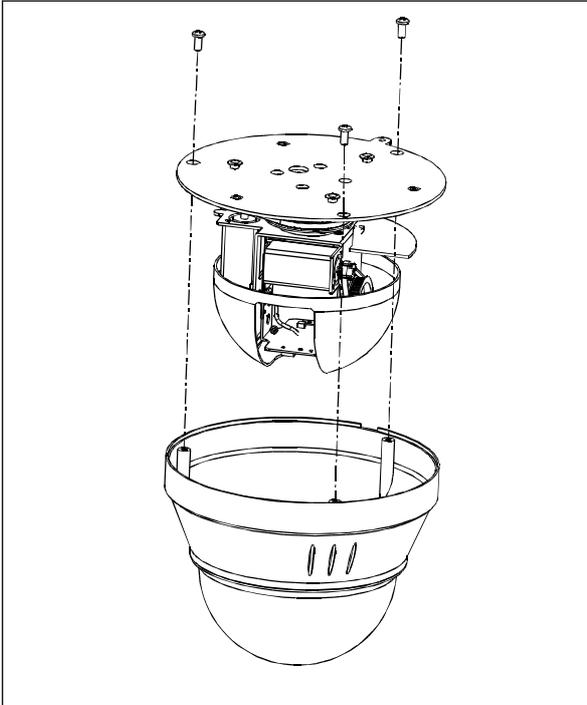
4 Connect the power line, video line and Rs485control-line. As the picture below).



Picture7. 1 - 4

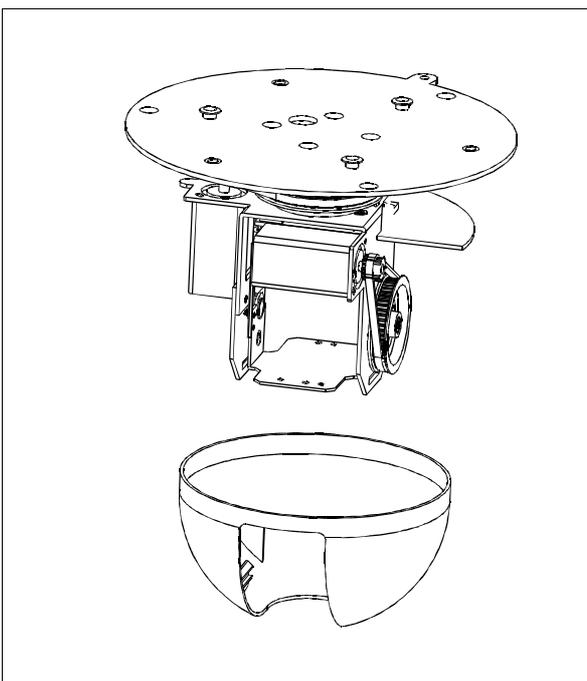
7.3 Intallation instruction

1、Dimantle three M3screw from the stator, then take the pan/tilt out.



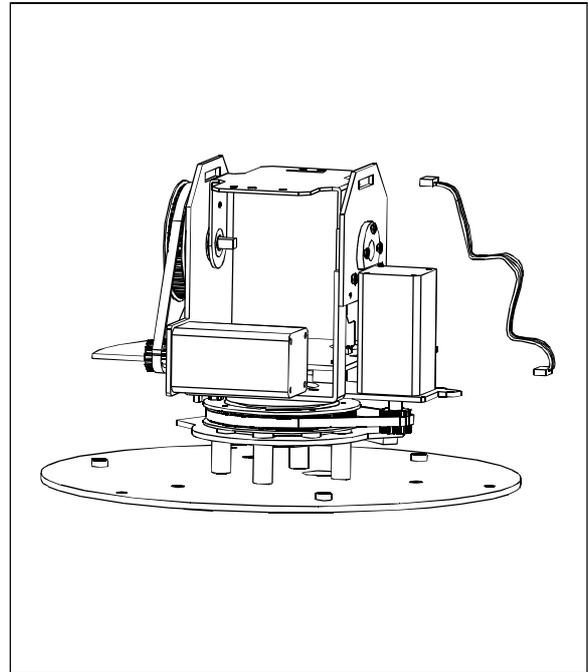
Picture7. 3-1

2、dismantle the decoration cover.



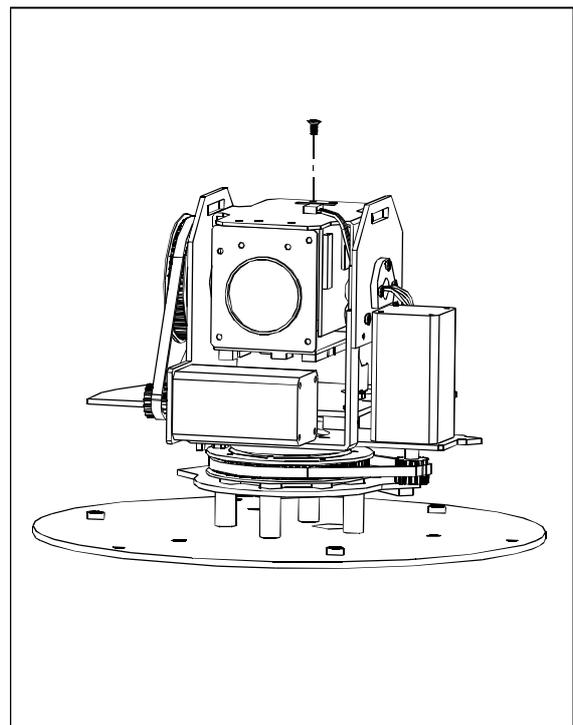
Picture7. 3-2

3、Put one side of connection line which in the accessories through the pinhole on the main rack.



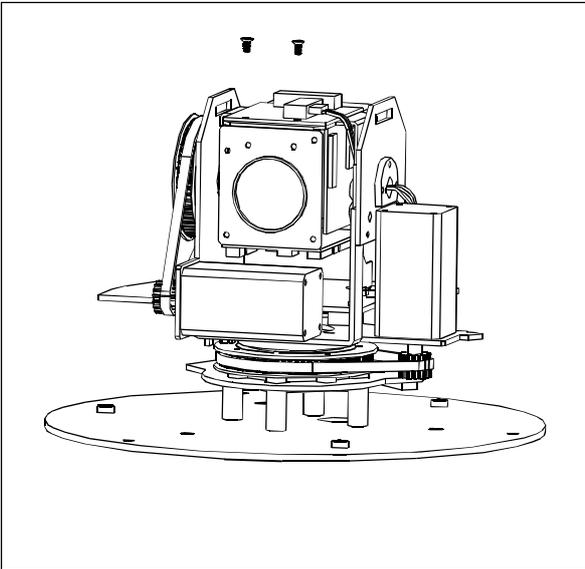
Picture7. 3-3

4、use M2 nut to firm the discreteness of camera on the stator



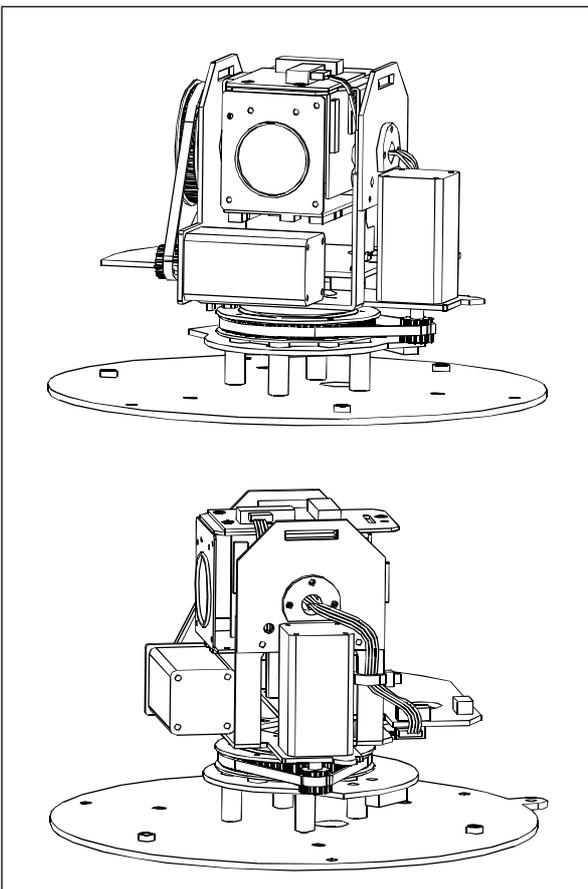
Picture7. 3-4

5、 Using 2 M2 screws through the bracket of camera to fix the end of the camera.



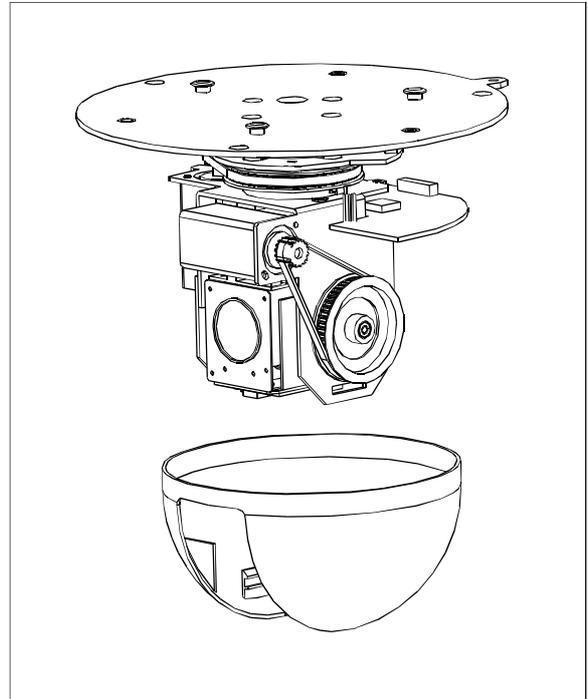
Picture7. 3-5

6、 According to the position in the picture to display the connection line of the camera in the right position and insert the connector.



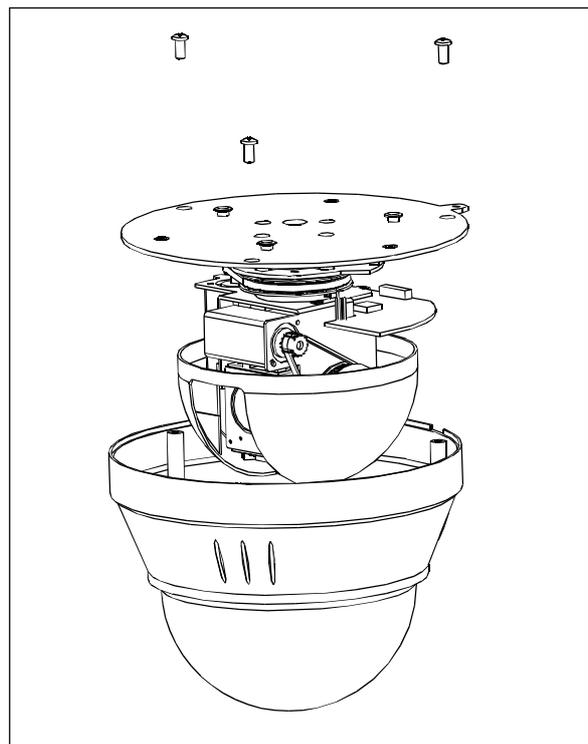
Picture7. 3-6

7、 put on decoration cover.



Picture7. 3-7

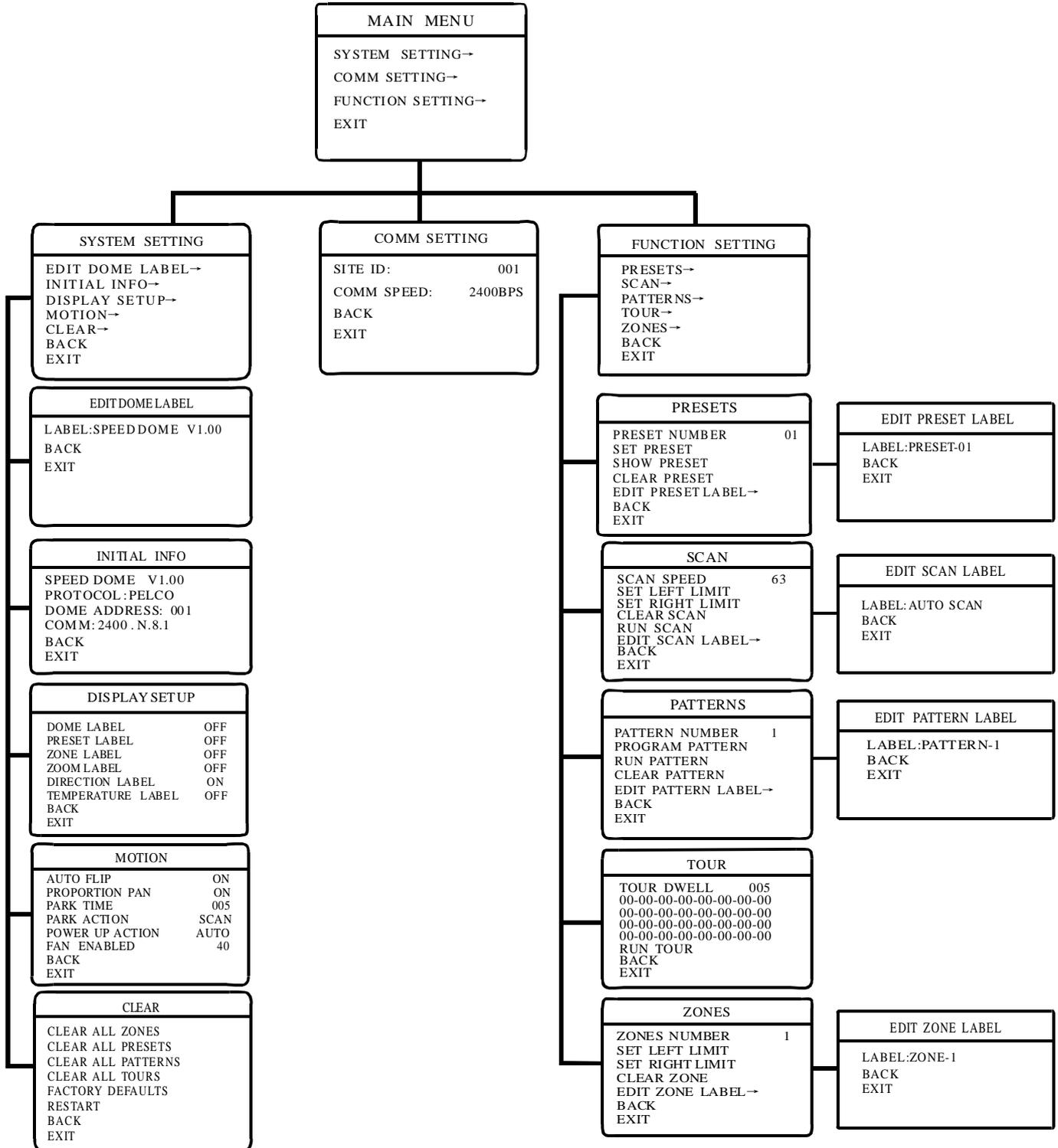
8、 put on shell



Picture7. 3-8

8. Appendix

8.1 Dome menu index



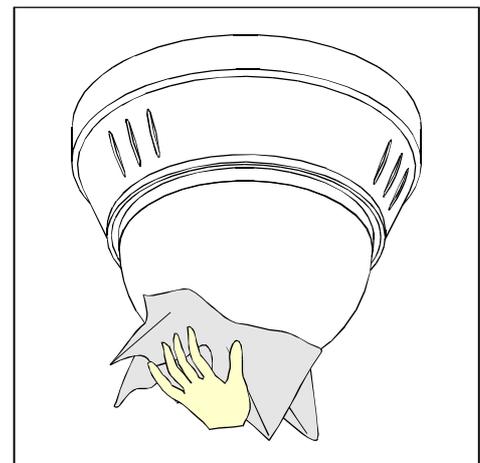
8.2 Trouble shooting

Trouble	Possible causes	Solution
No action, no video after power up	Power supply is damage or power consumption is not enough	Replace
	Power line is bad connection	Correct
	Engineering line is malfunction	Check and repair
Self-testing and image are normal but the dome is uncontrollable	The dome DIP switch setting is incorrect	Refer to switch setting, reset the switch
	Rs485 may carve out a way	Check Rs485 connection, confirm the connection is correct and good in contact
	Rs485 is in malfunction	Pls consult appendix “Rs485 Bus acknowledge”
Video image is not steady.	Video line is bad connection	Eliminate
	Power consumption is not enough	Replace right power adapter, it is better to put the switch and power adapter near the dome
Video image is not steady and the motor is malfunction	Power consumption is not enough	Replace the power
Dome controlling is not smooth.	Controlling line is bad connection Rs485 loads so many or the distance of communication is much far	1. Connect 120Ω resistance in the dome pan/tilt that is far from the controller 2. Increase distributor

8.3 The cleaning of clear down cover

To obtain constant clear videos, user should clean the down cover periodically.

- Be caution when cleaning, hold the down cover ring only to avoid direct touch to the acrylic down cover. The acid sweat mark of fingerprint will corrode the coating of down cover and scratch on down cover will cause vague image.



- Use soft dry cloth or the substitute to clean the inner and outer surfaces
- For hand contamination, use neutral detergent. Any cleanser for high grade furniture is applicable.

8.4 Rs485Bus basic knowledge

Ø Characteristics of Rs485 Bus

As specified by Rs485 standard, Rs485 Bus is of half-duplexed data transmission cables with characteristic impedance as $120\ \Omega$. The maximum load capacity is 32 unit loads (including main controller and controller equipment)

Ø Transmission distances of Rs485 Bus

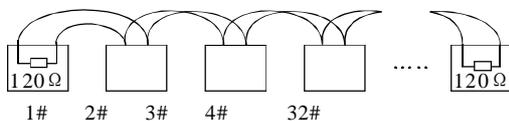
When user selects the 0.56mm(24AWG) twisted pair wires as data transmission cable, the maximum theoretical transmitting distance are as follow:

Baud rate	Max distance
2400BPS	1800m
4800BPS	1200m
9600BPS	800m
19200BPS	600m

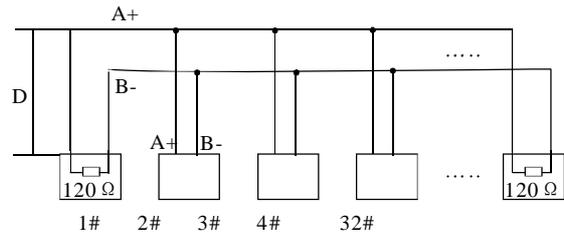
If user selects thinner cables, or installs the dome in an environment with strong electromagnetic interference, or connects lots of equipment to the Rs485Bus, the maximum transmitting distance will be decreased. To increase the maximum transmitting distance, do the contrary.

Ø Connection and termination resistor

The Rs485Bus standards require a daisy-chain connection between the equipment. There must be termination resistors with $120\ \Omega$ (as the picture8-4.1). Please refer to picture 8-4.2 for simple connection. D should not exceed 7m.



Picture8-4.1



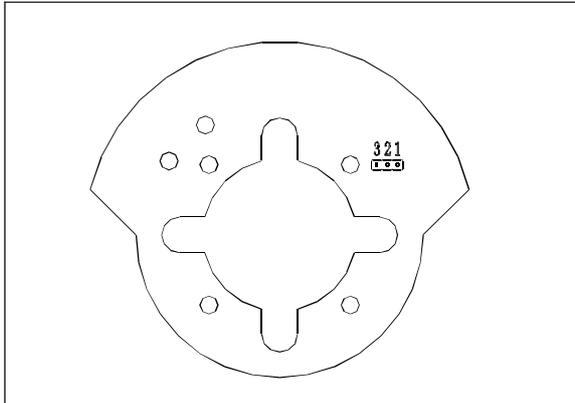
Picture8-4.2

Ø The connection of $120\ \Omega$ termination resistor:

The termination resistor is ready on the protocol PCB. There are two kinds of connection (as show 8-4.3 form). It is the factory default connection. The jumper cap of switchboard is seated on pin 2 & Pin 3 and the termination resistor $120\ \Omega$ is not connected.

When connecting the $120\ \Omega$ termination resistor, users should pull out the protocol PCB and plug the jumper on Pin 1 & pin 2. Install the PCB back and the termination resistor is connected.

(as show the picture8-4.3)



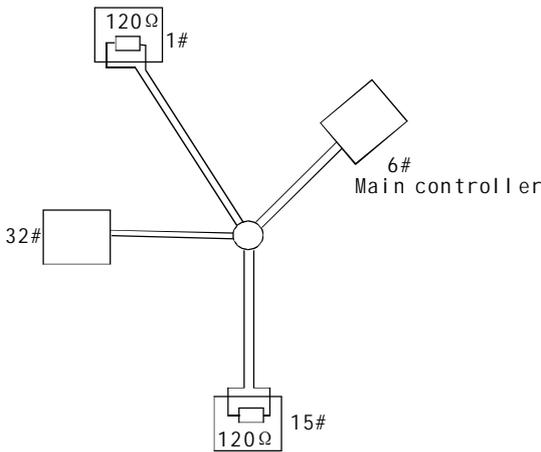
	1	2	3
Connection of $120\ \Omega$ setting	On	On	Off
Factory default setting	Off	On	On

On means insert the jumper cap

Picture8-4.3

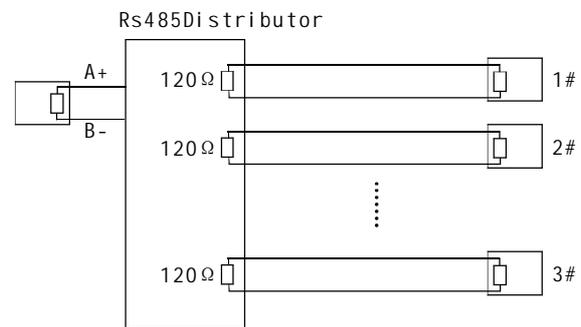
Ø Problems in practical connection

In some circumstances user adopts a star configuration in practical connection. The termination resistors must be connected to the two equipment 1# and 5# in picture 9-4.4. As the star configuration is not in conformity with the requirements of Rs485 standards, problems such as signal reflections, lower anti-interference performance arise when the cables are long in the connection. The reliability of control signals is decreased with the phenomenon that the dome does not respond to or just responds at intervals to the controller, or does continuous operation without stop.



Picture8-4.4

In such circumstances the Factory recommends the usages of Rs485 distributor. The distributor can change the star configuration connection to the mode of connection stipulated in the Rs485 standards. The new connection achieves reliable data transmission. (Refer to picture 9-4.5)



Picture8-4.5

Ø Rs485 Bus troubles shooting

Trouble	Possible cause	Solution
Dome can do self-testing but cannot be controlled	A、The address and baud rate setting of dome are not in conformity with those of controller. B、The + and - connection of Rs485 Bus is incorrect C、bad connection D、there are circuit in the Rs485 Bus.	A、Chage the address and baud rate of controller or dome B、Adjust the + and -connection of Rs485; C、Make sure the connections are fully seated; D、Change Rs485 Bus wires
The dome can be controlled but the operation is not smooth	A、the Rs485 Bus is not in good contact with the connectors B、One wire of Rs485 bus is broken C、The dome is very far from controller D、There are two many domes connected in the system	A、Secure the connection; B、Replace Rs485 bus wires C、Add termination resistors to the system D、Install Rs485 distributor