INTELLIGENT SPEED PTZ
Camera

User Manual

Contents

Attention

1. Be careful in transportation

Damages caused by stress, strong vibration and soak should be avoided during the transportation and storage process. Any damage occurs in the retranslation after

assembling is not in the warrant prepared range.

2. What should you do when the equipment fails

If smoke, strange smell are detected or function failure, you should turn off the power supply immediately and stop using it, then contact with the company or dealer.

3. Do not take the equipment apart or change its configuration

Do not open the house arbitrarily; otherwise the damages would be meeting. If the inner setting and repair are needed, please contact the company or dealer.

4. Do not put other staff in the equipment

Make sure that there are not flammable and metal staffs which will cause fire short circuit, damage in equipment. If water or other liquid flow in the equipment, turn the power supply off and cut the power line, then contact with the company or dealer.

5. Be careful to lift and let down the equipment

Be careful in lifting and letting down. Equipment should be protected from strong

vibration and attraction when put it on the ground.

6. Be far away from electric field and magnetic field

The image will be influenced by electromagnetic field when the equipment was fixed near the TV, transmitter, electromagnetic equipment, electric motor.

7. Avoid humidity, dust, high temperature

To avoid damage, please don't fix the equipment in places with smoke, high

temperature, and humidity.

8. Clean

Clean the equipment with soft cloth. Firstly, put the cloth into the detergent solution, and then wring out water before you wipe the equipment. Lastly, wipe again with dry clean cloth. Don't use gasoline, paint thinner and other chemicals to clean the shell of the equipment, otherwise, it would distortion and paint peeling.

9. Do not put the speed dome to the highlight object, otherwise the CCD would be damage

Indoor speed dome	Outdoor speed dome
Temperature: -10~ 50℃	Temperature: -40~55℃
Humidity: <90%	Humidity: <90%
Air Pressure:86-106kpa	Air Pressure: 86-106kpa
DC Power Supply: 12V/3.0A, 50/60Hz	DC Power Supply: 12V/5.0A, 50/60Hz

Product Features

1. Automatic identify zoom camera

◆ Our Intelligent speed dome can automatic indentify SONY, HITACHI, SANYO, SAMSUNG, LG, CNB, CANON etc. and some domestic zoom camera. (Other zoom cameras should provide their protocols)

2.Built-in Pan

◆ High-performance DSP design, stable performance and memory function after power off.

◆ RS485 control bus

◆ 128 presets, 5 automatic programmable tour which can store 16 presets, home place.

3. Built-in PTZ

◆ Precise stepping motor driving makes the equipment run stably, response sensitively and position accurately.

◆ Subtle motor driving equipment supports continuous rotation and no blind area.

◆ Image won't dither when pan slowly with speed of 0.1°/Sec.

4. Build-in zoom lens color camera

◆ Auto Focus.

◆ Auto backlight compensation.

◆ Auto brightness compensation.

◆ Auto White Balance.

Function Description

This chapter just mentions main functions and principle of speed dome, the detailed operation will display in other chapter.

1. Target tracking

Users can control the moving direction of lens by pushing joystick up and down, left and right to trace the target, and we can change the size of visual angle or target image by changing focus. In default of automatic focus and automatic iris, with the lens rotation, camera can automatically and rapidly adjust itself according to the change of scene and get a clear image immediately**.**

2. Focus length/rotation speed auto matching technology

In the situation that focal length is long, the image will be distorted because speed dome responses so fast that even a tender touch of joystick could make the picture shift rapidly. Base on human design, this speed dome camera can automatically adjust pan and tilt speed according to the focal length to make the manual trace operation easier.

3. Automatically flip

If operator keeps press the joystick after reaching the limitation in vertical direction, the lens would automatically flip 180°, so we can monitor the back scene.

4. Set and call preset

Preset is a function that we can store the angle of PTZ and the length of focus to the memory, and the speed dome could adjust itself to reach the angle of PTZ and the length of focus when you call the preset.

5. Tour

Automatic tour, which arranges presets in the wanted order and dwell time by programming, is a build-in function of this intelligent speed dome. With a command, the camera of speed dome would tour automatically and continuously according to the route and dwell time preprogrammed.

6. Automatically scan
This high speed dome camera can automatically and repeatedly scan 360°in both high speed and slow speed.

7. Limit scan
To set the starting point of limit scan by using the limit start command in the control keyboard, then control the joystick to move to the end point of limit scan with a certain speed. After calling the limit scan, camera will automatically scan between the start and end points with the speed which joystick moving.

8. Home point
Home place is a function that if there is no operation in a long time, dome camera would back to a certain important preset place. Waiting time before home point function starting is from 1 to 255 second.

9. Track record route
Max 4 tour routes. Each route can continuously record operator control the PTZ and camera within at least 1 minutes.

10. Privacy protected area setting（this function related with camera）
Users can use black shadow to cover at most 8 privacy protected areas through this setting.

11. Area instruction function
Users can be up to eight area title instructions by this setting. The screen will shows this area indicative title when the camera move to an area.

Note: Only the speed dome with menu can have above 9,10,11 functions.

12. Lens control

a. Zoom control：
Users would get wide picture or close-up picture by controlling the keyboard to   adjust focal length.

b. Focus control:
In the Focus status, camera will focus in the center of picture to keep the picture clear. Under special circumstances, Users can focus by manual drive.

※NOTE: Camera cannot automatically focus in the following situation:
◆ Goal is not the center of the screen.
◆ Target doesn't in the center of picture. Clear picture of both far and close target would not be sure if observe them in the same time
◆ Target can't be a strong light object such as neon light and spotlight
◆ Target moves so fast
◆ Target is too dark or blur

c. IRIS control:
System default is auto IRIS. Camera adjust IRIS according to the change of environmental light to make the stableness of image. It is advised to use auto iris.

※NOTE: When in manual control iris status, speed dome will automatically lock the position of manual status, and it would not recover auto IRIS status even the scenery changed .

d. Auto backlight compensation
Camera implement automatic backlight compensation function in 6 zones. Camera automatically implement light compensation, which can help camera get a clear image, when black target in a strong light background to avoid the situation that background is too bright while the target is very dark.

e. Auto White Balance：
Self-adjust according to the change of environmental light, reappear real color image.

Preparing for Installation

1. Basic requirement

◆ All electrical work should comply with the latest local electrical regulation, fire precautions legislation and other relative legislations and regulations.

◆ Check that whether accessories are complete or not according to packing list. If not, please contact the seller.

◆ Make sure that the applied and installed place meets the requirement of installation.

2. **Check the structure of the applied and installed place**

◆ Make sure that there is enough room to install this product and its accessories.

◆ Make sure that the ceiling, wall and bracket which would install this speed dome should be able to endure as 4 times weight as speed dome.

3. **Set DIP switch**

◆ Set DIP switch according to protocol, baud rate and speed dome IP address (Detailed information can be found in P15 and P20)

◆ RS485 jumper setting (Detailed information can be found in Appendix V)

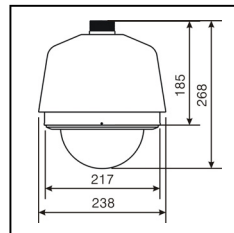**4. Please keep all the safe packing material of dome**

 Please keep the safe packing material of dome after taking apart the package. If there are some problems with the dome, please pack with the original package and send it back to manufacturer.

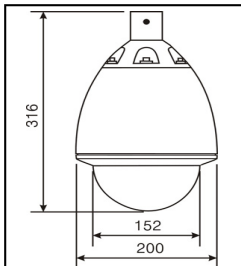※**NOTE: Non-original package will cause the unexpected damage during transportation.**
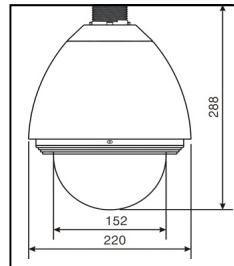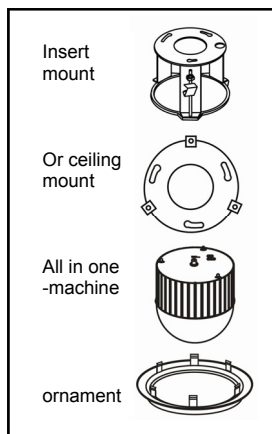
Appearance
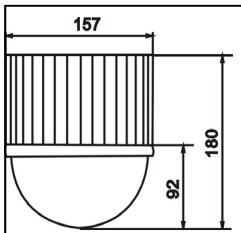
SA SHAPE

PE SHAPE

PA SHAPE

AE SHAPE

SA INSERT OR CEILING
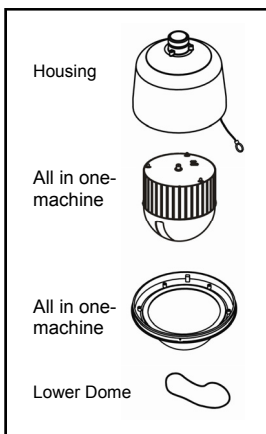
PE EASY INSTALLATION
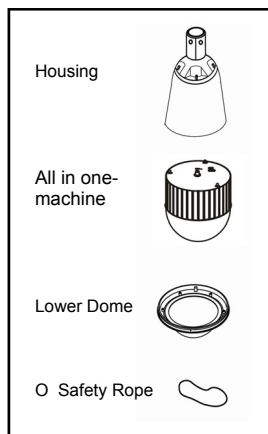
PA EASY INSTALLATION
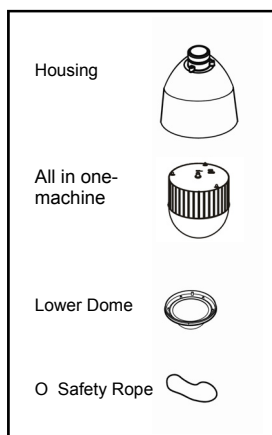
AE EASY INSTALLATION

PE FAST INSTALLATION
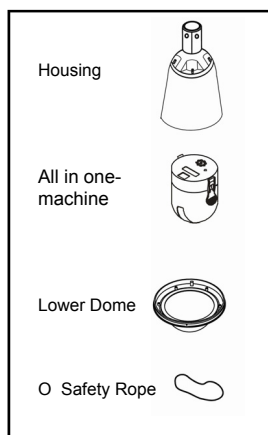
PA FAST INSTALLATION

Installation guide

Intelligent speed dome camera has three main installations:
1. Insert type； 2. Ceiling type; 3. Rack mounting
In according to installation type, there are three ways on rack mounting below :
①Wall type ②Column type ③Lifting type
Rack mounting is fit for indoor or out door. Dome camera outdoor increase a sunshade to the dome camera indoor. Dome camera IP rate is 66.
!!! Alarm: Dome camera indoor not to use outdoor.

Ceiling Mount Installation Conditions

Figure (1)

Insert dome camera is fit for ceiling setting indoor.

(1) Above ceiling 200mm's space at least

(2) Ceiling thickness is 5mm-42mm

(3) Ceiling must bear the weight of camera's 4 time at least.
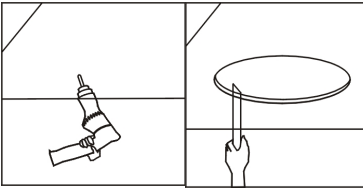
Figure (2)

Step a. drill a hole in the ceiling
(1) Use appropriate tools installation position on the ceiling of the center for the drill a hole diameter 3mm. In one side position of the hole Twist a self-drilling screw, fixed on the ceiling.
(2) Draw a circle with pencil in ceiling, and then remove the material inside the circuit.
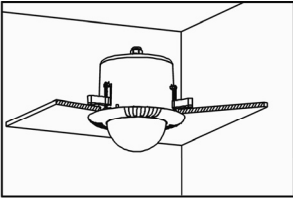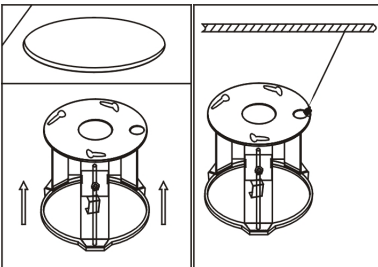

Figure (3)

Step b. Install ceiling mount

Firstly, keep pushing the ceiling mount into the hole in ceiling until the mount is totally inside the hole. Secondly, turn the three screws to expand the metal pieces on the screws. Lastly, when the metal pieces fully expanding, tighten the screws to fix the mount into ceiling firmly.

※**NOTE: There should have a steel safe belt between ceiling mount and ceiling to avoid that speed dome accidentally dropped. The safe belt should be provided by customer.**

Address   SW2

SW1

Protocol Bout Rate Terminal 120Ω

Figure (4)

Step c. Set speed dome
Set (DIP switches) SW1 and SW2 under the bottom of all-in-one machine to control protocol, baud rate, speed dome IP address. (Detailed information can be found in page 26)

Figure (5)

Step d. Connect all-in-one machine cables
Put video cable, power supply cable and control signal cable through the round hole in the ceiling mount, and connect the cables with the corresponding places in all-in-one machine.

Figure (6)

Steps e. Dome installation
Insert the three screws which are in the bottom of all-in-one machine into the waist-shape holes in ceiling mount, then turn the mount to make the screws are in the located position of the holes.

Top Mount
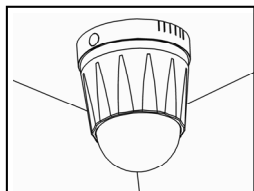
Figure (7)

Installation conditions:
This camera is fit for stiff ceiling indoor
(1) The thickness of ceiling must be enough to set up the screws
(2) Ceiling must bear the weight of camera's 4 time at least.
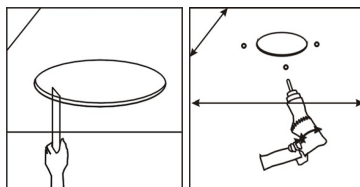
Figure (8)

Step a. drill a hole in the ceiling
(1) Draw a circle according to the size of hole whose diameter is 10.2 inches with pencil in ceiling, and then remove the material inside the circuit.
(2) Drill three holes whose diameters are 1.5 inches around the hole in the ceiling according to the corresponding position in the mount and insert expansion screw in each hole.(Expansion screws should be provided by user).
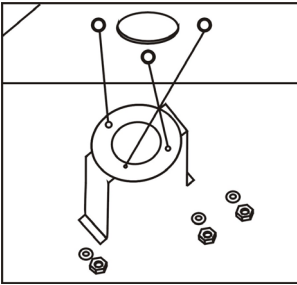
Figure (9)

Step b. fix top mount

There are two ways to thread:

From center hole. From the hole beside

(1) Be sure the installation position and the way to thread. After three screws were inserted in the holes respectively, then fasten the screws with gasket and screw cap.

(2) Put video cable, power supply cable and control signal cable through the round hole in the ceiling mount.
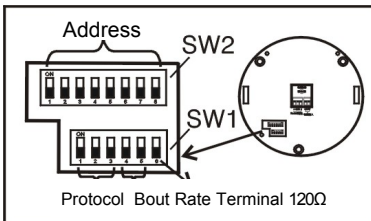

Figure (10)

Step c. Set speed dome

Set (DIP switches) SW1 and SW2 under the bottom of all-in-one machine to control protocol, baud rate, speed dome IP address. (Detailed information can be found in page 26)
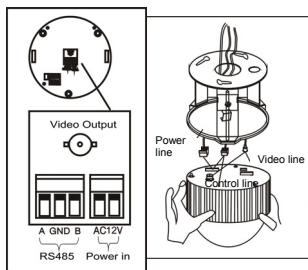

Figure (11)

Step d. Cable connection

Reference picture 11. The power supply, video/control cable plug into the socket of corresponding bottom.

※**NOTE: Be sure power is off when connecting cables**
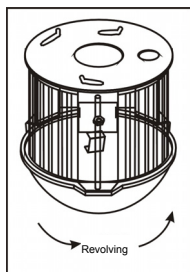

Figure (12)

Step e. install all-in-one machine

Insert three screws which are in the bottom of all-in-one machine into the waist-shape holes in top mount and turn the mount to make sure that three screws are in the located position.

Easy Type Wall Installation
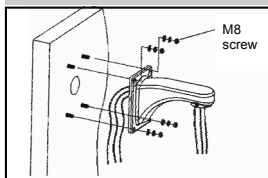
Figure (13)

Step a. Install wall bracket

Take the bracket base as a template to mark the Positions of the holes which should be drilled in the wall. Thread the cable from the bracket.
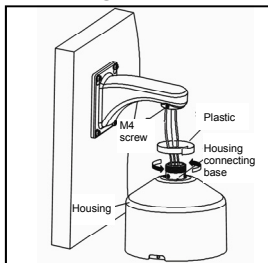
Figure (14)

Step b. Install housing

(1) Unscrew board what is in housing, open the board.

(2) Put video cable, power supply cable and control signal through the cavity of bracket. Leave cables enough long outside the bracket.

※**NOTE: If the machine is installed outside, make sure the air tightness of speed dome.**

① **Make the plastic be around the joint. then fasten.**

② **Make sure the joint with silica gel.**
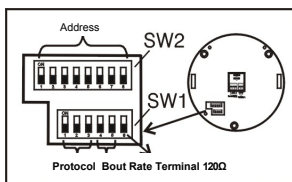
Figure (15)

Step c. set speed dome

Check all-in-one machine ,make sure that is ok. Set (DIP switches) SW1 and SW2 under the bottom of all-in-one machine to control protocol, baud rate, speed dome IP address. (Detailed information can be found in page 26）
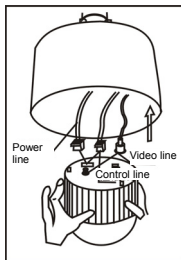
Figure (16)

Step d. Connect cable with all-in-one machine:

Put video cable, power supply cable and control signal cable through the round hole in the ceiling mount, and connect the cables with the corresponding places in all-in one machine.
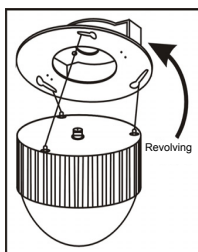
Figure (17)

Step e. install all-in-one machine

Insert three screws which are in the bottom of all-in-one machine into the waist-shape holes in top mount and turn the mount to make sure that three screws are in the located position.
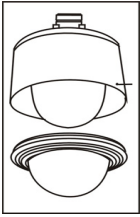
Figure (18)

Step f. Install the lower dome

Connect one end of the safety rope of lower dome with the bolt of housing. Take down the screws in the housing, and pull the lower dome into the housing until the holes in housing overlap those in lower dome, then fit the lower dome with two screws.

Fast Type Wall Installation
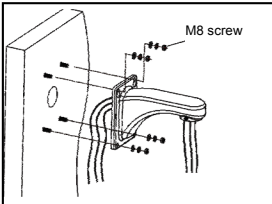
Figure (19)

Step a. Install wall bracket

Take the bracket base as a template to mark the Positions of the holes which should be drilled in the wall. Thread the cable from the bracket.
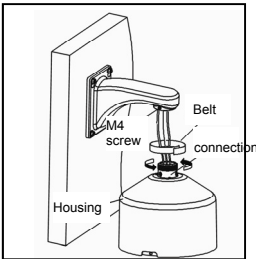
Figure (20)

Step b. Install housing

(1) Unscrew board what is in housing, open the board.

(2) Put video cable, power supply cable and control signal through the cavity of bracket. Leave cables enough long outside the bracket.

※**NOTE: If the machine is installed outside, make sure the air tightness of speed dome.**

① Make the plastic be around the joint. then fasten.

② Make sure the joint with silica gel.
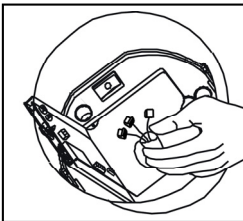
Figure (21)

Step c. Connect cable with all-in-one machine:

Put video cable, power supply cable and control signal cable through the round hole in the ceiling mount, and connect the cables with the corresponding places in all-in one machine.
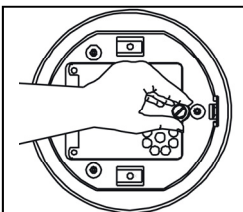
Figure (22)
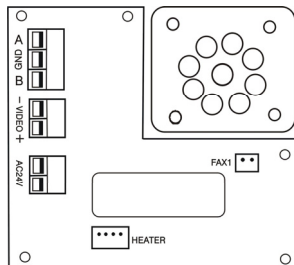
Figure (23)
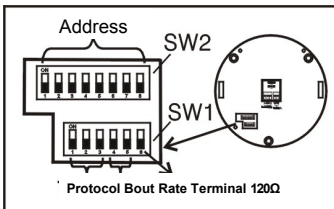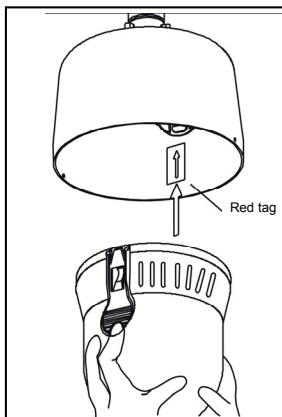
Figure (24)

Step d. set speed dome
Check all-in-one machine ,make sure that is ok. Set (DIP switches) SW1 and SW2 under the bottom of all-in-one machine to control protocol, baud rate, speed dome IP address. (Detailed information can be found in page 26)
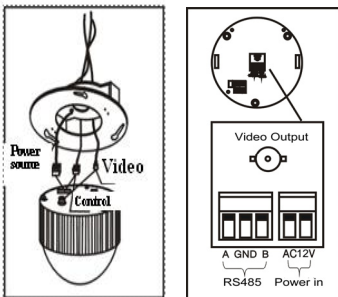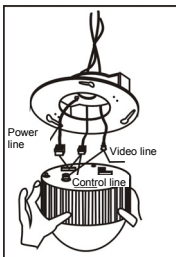
Step e. install all-in-one machine
Hold the all-in-one machine with two hands, make the red and green tags inside machine correspond with tags inside housing and push up gently. That will be completed when hear "kaka" clearly.

Attention: please give a tilt to make the machine and housing secure.

Red tag
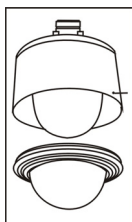
Figure (25)

Step f. Install the lower dome
(1) Take down two screws from the side of lower dome.

(2) Reference picture 25，it is better to spread grease evenly on the side sealing ring of the lower dome.

(2) The threaded hole of the lower dome side should justify with the elliptical hole of the upper dome side, then push up into the lower dome, Tighten screw.

Column Type Installation：
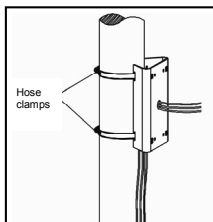
Figure (26)

Hose clamps

Step a. Install column accessory
Make the cable pass though the column accessory and secure with hose clamps.

Step b. Install wall bracket
Make the cable pass though the wall bracket and secure with column accessory together.

Figure (27)

m8screw

Bracket

m4screw
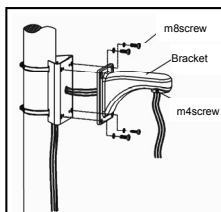
Step c. Install housing: refer to Page 12
Step d. Connect cable with all-in-one machine: refer to Page 12
Step e. Install all-in-one machine: refer to Page 13
Step f. Install the lower dome: refer to Page 13

Lifting Type Installation

Ceiling base

Figure (28)

Silica gel

Ceiling base

Figure (29)

M4 screw

Plastic

Silica gel
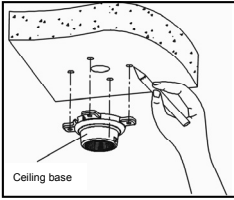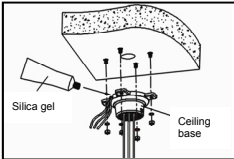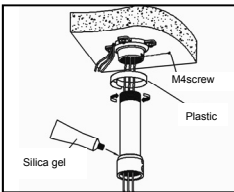
Figure (30)

Step a. Install hung ceiling base and derrick:
(1) Take the ceiling base as a template to mark the Positions of the holes which should be drilled in the wall and set screw M6.
(2) Thread the cable from center hole of the base, to secure ceiling base to the ceiling.

※**NOTE: If the machine is installed outside, make sure the air tightness of speed dome with using silica gel.**
(3) Make the cable pass through the lifting stick and to secure to ceiling base with M4 screw.

※**NOTE: If the machine is installed outside, make sure the air tightness of speed dome.**

① **Make the plastic be around the joint. then fasten.**

② **Make sure the joint with silica gel.**

Step b. Install housing: refer to Page 12

Step c. Connect cable with all-in-one machine: refer to Page 12

Step d. Install all-in-one machine: refer to Page 13

Step e. Install the lower dome: refer to Page 13

Product connection

Communication electric cable (twisted pair line)

Power Supply Cable 12V 50/60HZ

Video cable (75 ohm coaxial cable or twisted pair

Matrix

Video output

Monitoring device

Keyboard
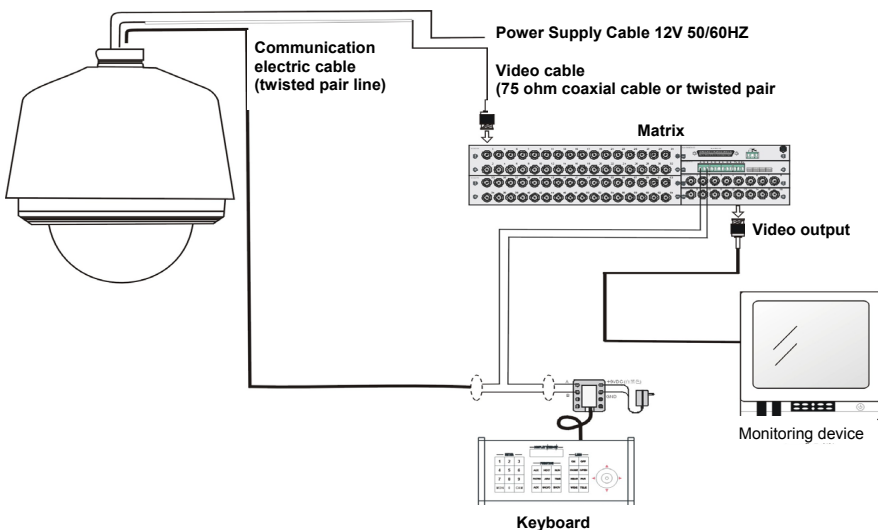
System OSD Menu Setting

1. English menu index

SYSTEM INFO
SITE ADDRESS: 001
CAMERA TYPE
PROTOCOL TYPE
BAUD RATE: 2400
VERSION: V3.4
SITE NAME:SITE0001
RETURN
EXIT

CAMERA SELECTION
SONY 9600 NO
LG-327(CANON) 9600 NO
C&B 9600 NO
SANYO 9600 NO
KVS 9600 NO
SAMSUNG 38400 ODD
LG-MULTIXE 9600 NO
HITACHI 4800 EVEN
RETURN
EXIT

CAMERA SETTINGS
ZOOM SPEED:HIGH/LOW
DIGITAL ZOOM: ON/OFF
AUTO FOCUS: ON/OFF
AUTO IRIS: ON/OFF
SLOW SHUTTER: ON/OFF
AUTO CHECK: ON/OFF
RETURN
EXIT

PRESET POS SETTINGS
NO.: 001
TITLE: POS0001
MOVE
SAVE
CLEAR
RETURN
EXIT

MAIN MENU
SYSTEM INFO
CAMERA SELECTION
CAMERA SETTINGS
PRESET POS SETTINGS
TOUR SETTINGS
DISPLAY SETTINGS
OTHER SETTINGS
RESTORE DEFAULTS
EXIT

TOUR SETTINGS
NO.(1-5): 1
INTERVAL TIME: 05
TITLE: TOUR NO1
PRESET POS NO.LIST
 XXX XXX XXX XXX
 XXX XXX XXX XXX
 XXX XXX XXX XXX
 XXX XXX XXX XXX
SAVE
RUN
RETURN

DISPLAY SETTINGS
TOUR: ON/OFF
PRESET POS: ON/OFF
ZONE IND: ON/OFF
TRACK IND: ON/OFF
ANGLE: ON/OFF
SITE NAME:ON∕OFF
RETURN
EXIT

OTHER SETTINGS
HOME POS SETTINGS
SCAN SETTINGS
OVERTURN SETTINGS
ZONE SETTINGS
PRIVACY MASKING
TRACK SETTINGS
ALARM SETTINGS
RETURN
EXIT

RESTORE DEFAULTS
1 CAMERA
RETURN
EXIT

HOME POS SETTINGS
TIME: 003
PRESET POS NO.: 001
SAVE
OPEN
CLOSE
RETURN
EXIT

SCAN SETTINGS
SET 1st POINT
SET 2nd POINT
RUN
RETURN
EXIT

OVERTURN-SETTINGS
OVERTURN SETTINGS: ON/
 OFF
RETURN

ZONE SETTINGS
NO.(1-8):1
TITLE: ZONE
SET LEFT LIMIT POS
SET RIGHT LIMIT POS
SAVE
CLEAR
RETURN
EXIT

PRIVACY MASKING
NO.(1-8):1
SET ZONE POS
SET MASK POS
SET MASK SIZE
START
CLEAR
RETURN
EXIT

TRACK SETTINGS
NO.(1-4):1
TITLE: TRACK 001
SET START POS
RECORD
SAVE
RUN
RETURN
EXIT

ALARM SETTINGS
ON. (1-4)1
DISPLAY: OFF/ON
PRESET POS NO.:005
TIME:003
ALARM:OFF/ON
SAVE
RETURN
EXIT

2. Basic operation

Instruction: In order to easy to read and understand this operation, we make agreement as follows:
A) The system will enter into OSD main menu trough invoking NO.65 present point or set up NO.95 preset point
B) When editing menu, the up and down of joystick is used to select submenu and edit numerical value. the right and left of joystick will be used to enter or exit submenu .
C) All of setup data will not be lost when power is off.
D) The showing position of the information of this equipment will be displayed are on monitor as follows:

Preset position displaying area
The angle of levelness and verticality
Machine title displaying area

356/38

Image display area

Tracking record displaying area
Alarming display area
Zone title display area
Cruising title display area
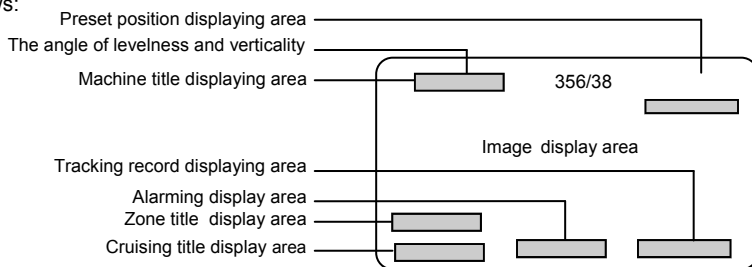
Figure 31

Introductions：

When preset position / scanning label displaying area displays PRESET XXX N/C SCAN-N N/C, it can indicate that the present point and left and right scans haven't been set up.

3. Power up and self-testing of this machine

Self-testing procedure will be started after the power is on .The equipment can automatically identify configured integrated camera (Only limit to the integrated camera of HITACHI/SONY/LG/ CNB/SANYO/SAMSUNG/CANON) then horizontal rotating to primary horizontal point of factory defaults, moving down to primary vertical point. The camera lens will be from far-focusing to close-focusing and then from close-focusing to far-focusing. After self-testing, the screen will appear the relevant infor-   mation as follows: (as shown in Figure 32)

Information
SITE ADDRESS：001
BAVD RATE：2400
PROTOCOL :PELCO-D
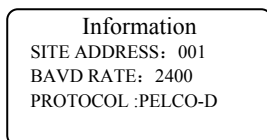
Figure 32

4. Main menu description

The system will enter into OSD main menu through invoking No.65 preset point or set up No.95 preset point. (as shown in   Figure 33)

MAIN MENU
SYSTEM INFO
CAMERA SELECTION
CAMERA SETTINGS
PRESET POS SETTINGS
TOUR SETTINGS
DISPLAY SETTINGS
OTHER SETTINGS
RESTORE DEFAULTS
EXIT

Figure 33

5.Systemic information setup

(1) Systemic information

Such as : Address code; Camera type; Communication protocol; Vision number

(2) Editing the title of this machine

A) In order to mark different speed dome camera, the system will supply the equipment with the setting function of label . when using system of many speed dome camera. The setter methods are listed as follows:

```
SYSTEM INFO
SITE ADDRESS: 001
CAMERA TYPE
PROTOCOL TYPE
BAUD RATE: 2400
VERSION: V3.4
SITE NAME:SITE0001
RETURN
EXIT
```

Figure 34

B) In Figure 34, moving up and down joystick, moving the cursor to [SYSTEM INFO], then moving right the joystick to enter into system information and set up the submenu. (shown in Figure 34)

◆ In Figure 34, moving up and down joystick, moving the cursor to [SITE NAME], then moving right the joystick to enter into title setting state [SITE0001]; the font will be shown grey when the c cursor is on the title of character ;moving up and down joystick to select the characters; moving right or left joystick to the end and auto save after finishing editing; moving the joystick to [RETURN], moving right the joystick to return to previous configuration menu.

Note: The label can be set up with 8 English character, the character don't need to edit, operating continuously the joystick to the right to jump across, the character that need to

delete can be instead of blank space, moving right the joystick to jump across and enter into the edition of the next character when finishing editing character at a time .

6. Selecting camera

[SONY 9600 NO] SONY camera   Baud rate 9600 No check digit

[LG-327(CANON) 9600 NO] LG-327 series or CANON camera Baud rate 9600 No check digit

[C&B 9600 NO] CNB camera Baud rate 9600 No check digit

[SANYO 9600 NO] SANYO camera Baud rate 9600 No check digit

[SAMSUNG 38400 ODD] Samsung 38400 odd number checking

[LG- MULTIXE 9600 NO] LG-MULTIXE series camera baud rate 9600 No check digit

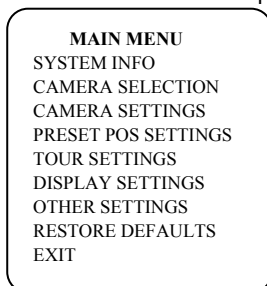[HITACHI 4800 EVEN] HITACHI camera baud rate 4800 even number checking

```
CAMERA SELECTION
SONY 9600 NO
LG-327(CANON) 9600 NO
C&B 9600 NO
SANYO 9600 NO
KVS 9600 NO
SAMSUNG 38400 ODD
LG-MULTIXE 9600 NO
HITACHI 4800 EVEN
RETURN
EXIT
```

Figure 35

◆ Defining the operation methods of the camera as follows:

The grey shows the present using camera, You can select your wanted camera by moving up and down the joystick. Confirming your selected camera by moving right the joystick. After doing it ,you will can select your selected camera .Your selected camera can use the camera protocol and save it into EEPROM at the same time. When you open the equipment next time. It will use the camera that you selected last time if the auto detect mode of the camera is off When you open the equip-ment next time. If the auto detect mode is on, it will run the auto detect mode and don't use the camera that you selected last time. The auto detect mode of the camera can be configured in camera setup menu.

7.Lens parameters setup

(1) The system will enter into OSD main menu by invoking No.65 preset point or setting up No.95 preset point. Moving up and down to let the cursor to point at [CAMERA SETTINGS], then moving right the joystick to enter into lens parameters setup (shown as Figure 36) (Note: some functions can not be effected for some machines type)

```
CAMERA SETTINGS
ZOOM SPEED:HIGH/LOW
DIGITAL ZOOM: ON/OFF
AUTO FOCUS: ON/OFF
AUTO IRIS: ON/OFF
SLOW SHUTTER: ON/OFF
AUTO CHECK: ON/OFF
RETURN
EXIT
```

[ZOOM SPEED]: The setup of push and pull speed of lens. There are types can be selected: high speed [HIGH] and low speed [LOW]

[DIGITAL ZOOM]: digital zoom open: [ON] or close: [OFF]

[AUTO FOCUS]: auto focus open:[ON] or close: [OFF]

Figure 36

[AUTO IRIS] open auto iris [ON] or close [OFF]

[SLOW SHUTTER] shutter with slow speed [ON] or close [OFF]

[AUTO CHECK] open auto check [ON] or close [OFF]

[RETURN] return to previous configuration menu.

[EXIT] exit the menu

(2) If the auto check mode of the camera is off, it will use your last selected camera. however, If it is on, it will make auto checking and do not use your last selected camera. Please note that the selection of camera will be configure in the selecting menu of camera.

(3) About other more setup of cameras parameters ,Please press iris opening [OPEN] or iris closing [CLOSE] to menu setup of camera, (A part of camera have this function).

8. Setting the preset points as follows:

(1) Storing the parameters of level angle, angle of inclination, lens focus under the present state into preset points. You can call these parameters quickly and adjust the PTZ and camera to this position when needing.

The equipment can store 1-128 preset points at most.

(2) In Figure 37, moving up and down the cursor to [PRESETS POS SETTINGS], moving right the joystick to the menu of preset point setting (shown in Figure 37)

[NO.: 001] Preset number:001

[MOVE] position setting，You need invoke No.65 or No.1 preset position to return to menu mode [TITLE:POS001] after finishing setting.

[SAVE] save the present setting

[CLEAR] clear or correct preset position

[RETURN] return to previous menu

[EXIT] exit menu

(3) Defining the operation of presets points as follows:

A) Moving the cursor to [NO.] moving right the joystick to enter into the selection of preset points. The select range 001-128. Please note that the following operations are just direct to the present preset point.

```
        PRESET POS SETTINGS
NO.: 001
TITLE: POS0001
MOVE
SAVE
CLEAR
RETURN
EXIT
```

Figure 37

B) Moving the cursor to [TITLE] moving right the joystick to enter into the setup of preset points title. The title setup of preset point is 8 characters at most, and the supported characters (0-9,A-Z,blank).

C) Moving the cursor to [MOVE] moving right the joystick and selecting the needed preset points position ，then invoking No.65 or No.1〔select' MOVE' to set up the position (the arrow will become grey) finish invoking No.65 or 1 preset position to menu mode (the arrow become white)

D) Moving the cursor to [SAVE] and then moving right the joystick, at this moment, [SAVE] end will show the present preset point code. when the displaying disappears ,it indicates that the present preset point has been saved.

E) Moving the cursor to [CLEAR] and then moving right the joystick,.

9. Preset point cruising setup

(1) Through this setup, it can arrange some scheduled preset points into cruising array in the needed order. Through a order, the equipment can automatically keep going all the time under the give period of time according the sequence of the scheduled preset point This machine can save 5 preset point cruising at most .Each preset point cruising route can save 16 preset points.

(2) The system will enter into OSD main menu by invoking No.65 preset point or setting up No.95 preset point. Moving up and down to let the cursor to point at [TOUR SETTINGS], then moving right the joystick to enter into preset point crushing setup menu (shown as Figure 38).

[NO.(1-5)] tour number (1-5)

[INTERVAL TIME: 05] staying time 5seconds

[TITLE: TOUR NO1] tour title:No.1 touring

[PRESET POS NO.LIST] setup of preset position code

[SAVE] save setup

(3) Defining the touring of preset points as follows:

A) Moving the cursor to [NO.] The setting area is shown grey when moving right the joystick. Moving up and down the joystick to set code, and then moving left and right the joystick to exit the setup.

B) Moving the cursor to [INTERVAL TIME] The setting area is

shown grey when moving right the joystick. Moving up and down

```
+---------------------------------+
|         TOUR SETTING            |
| NO.(1-5): 1                     |
| INTERVAL TIME: 05               |
| TITLE: TOUR NO1                 |
| PRESET POS NO.LIST              |
|   XXX  XXX  XXX  XXX            |
|   XXX  XXX  XXX  XXX            |
|   XXX  XXX  XXX  XXX            |
|   XXX  XXX  XXX  XXX            |
| SAVE                            |
| RUN                             |
| RETURN                          |
+---------------------------------+
```

Figure 38

the joystick to set the staying time of preset points , and then moving left and right the joystick to exit the setup. The staying time is 5-99 seconds.

C) Moving the cursor to [TITLE: TOUR NO1] The setting area is shown grey when moving right the joystick. Moving up and down the joystick to set tour title, and then moving left and right the joystick to exit the setup. The touring title setup is 8 characters at most, and the supported characters (0-9,A-Z blank)

D) Moving the cursor to [PRESET POS NO. LIST]. The setting area is shown grey when

Moving the cursor to the setup area of touring right [XXX…XXX], Moving up and down the joystick to select preset point. When Moving left and right the joystick, the cursor will jump to the last or next position. The camera will rotating through every preset points from the left to right or from up to down. If the preset point is 0, it will automatically jump to next preset point that is not 0.

E) Moving the cursor to [SAVE], When moving right the joystick, [SAVE TOUR] end shows "xxx", When "xxx" disappears, it indicates that the present operation has been completed. Note: "xxx" is made up of tour code and staying time.

F) Moving the cursor to [RUN] Moving right the joystick to start operating tour route and exit menu.

10.Display setup

Setting all kinds of title and displaying open/close on the screen trough [DISPLAY SETTINGS] The immediate effect will follow the confirmation. It will use your

configured parameters when the equipment is on next time,

Shown as Figure 39.

[TOUR]: ON/OFF Cruising title display: ON/OFF

[PRESET POS] : ON/OFF Preset position title display :ON/OFF

[ZONE IND]: ON/OFF Zone indication title display :ON/OFF

[TRACK]: ON/OFF Track title display :ON/OFF

[ANGLE]: ON/OFF Up and down ,level angle display :ON/OFF

[SITE NAME]: ON/OFF machine site name display: ON/OFF

[RETURN]: return to the previous menu

[EXIT]: exit menu

```
+---------------------------------+
|        DISPLAY SETTINGS         |
| TOUR: ON/OFF                    |
| PRESET POS: ON/OFF              |
| ZONE IND: ON/OFF                |
| TRACK IND: ON/OFF               |
| ANGLE: ON/OFF                   |
| SITE  NAME：ON／OFF              |
| RETURN                          |
| EXIT                            |
+---------------------------------+
```

Figure 39

11. Other setups

Explanation：Other menu setup must pass through invoking No.65 preset point or setting No.95 to enter into OSD main menu. No longer explain it latter. Main menu shown in Figure 2 entering into other submenu setups ,shown in Figure 40.

[HOME POS SETTINGS] Home position settings

[SCAN SETTINGS] limit scan settings

[OVERTURN SETTINGS] auto overturn settings

[ZONE SETTINGS] zone indication settings

[PRIVACY MASKING] privacy masking settings

[TRACK SETTING] track setting

[ALARM SETTING] alarm setting

[RETURN] return to the previous menu

[EXIT] exit menu

```
+---------------------------------+
|        OTHER SETTINGS           |
| HOME POS SETTINGS               |
| SCAN SETTINGS                   |
| OVERTURN SETTINGS               |
| ZONE SETTINGS                   |
| PRIVACY MASKING                 |
| TRACK SETTINGS                  |
| ALARM SETTINGS                  |
| RETURN                          |
| EXIT                            |
+---------------------------------+
```

Figure 40

12. Home point function

The home point function is that dome cameras will automatically return to the important position that the user set up it in advance when the operator don't operate this equipment for a long time.

The home point will not be started using when this equipment are in motion. You can set up home point or its waiting time (3-254 seconds), enable or disable existing through **[**TIME**]** and **[**PRESET**]** in the menu item: **[**HOME POS SETTINGS**]**

```
HOME POS SETTINGS
TIME: 003
PRESET POS NO.: 001
SAVE
OPEN
CLOSE
RETURN
EXIT
```
Figure 41

13. Auto limit scan

[SET 1ST POINT**]** Setting the first point, and invoking No.65 or No.1 back to menu after setting up well.

[SET 2ND POINT**]** Setting the second point, and invoking No.65 or No.1 back to menu after setting up well.

[RUN**]** running limit scan

The operator can set up left limit and right limit through **[**SET 1st POINT**]** and **[**SET 2nd POINT**]** in the menu item: **[**SCAN SETTINGS**]** and get to pre-setting reciprocating scan of speed level between the left and right limit of cameras.

```
SCAN SETTINGS
SET 1st POINT
SET 2nd POINT
RUN
RETURN
EXIT
```
Figure 42

14. Auto reverse

Swing up and down the joystick and moving the cursor to **[**OVERTURN SETTINGS**]**. Moving right the joystick to enter into the setup of auto reverse and swing up and down the joystick to select it. For example, selecting ON to open the auto reverse function or selecting OFF to close the auto reverse function. The set value can be converted between ON/OFF, and then moving left and right the cursor of the joystick to return to the front of **[**OVERTURN SETTINGS**]**, the auto reverse setup will be completed.

```
OVERTURN-SETTINGS
OVERTURN    SETTINGS:
ON/OFF
RETURN
```
Figure 43

Note: It can directly watch the scenery of the back and realize complete monitoring, if the operator still press the joystick after connecting the lens to the bottom when the auto reverse function is on.

15. Zone indication setup

[NO.(1-8)**]** :1 zone number(1-8):1

[TITLE**]** : ZONE 1 zone title:No.1 zone

[SET LEFT LIMIT POS**]** set left limit position. After setting, it need to invoke No.65or NO.1preset position to menu mode.

[SET RIGHT LIMIT POS**]** set right limit position. After setting, it need to invoke No.65 or NO.1preset position to menu mode.

[SAVE**]** save the setting area

[CLEAR**]** clear the zone

[RETURN**]** return to the previous menu

[EXIT**]** exit the menu

```
EXIT ZONE SETTINGS
NO.(1-8):1
TITLE: ZONE 1
SET LEFT LIMIT POS
SET   RIGHT   LIMIT
POS
SAVE
CLEAR
RETURN
```
Figure 44

Firstly, it will enter into OSD main menu through invoking No.65 preset point or setting No.95 preset point ,It realizes displaying the indicative title of this zone on the screen when the camera runs to this area when **[**DISPLAY SETINGS**]** in the main menu) **[**ZONE IND**]** is **[**ON**]**. It can set up 8 zones at most.

Defining the methods of area operation as follows:

A) Moving the cursor to [NO.] The setting area is shown grey when moving right the

joystick .Moving up and down the joystick to set code, and then moving left and right the joystick

to exit the setup.

B) Moving the cursor to [TITLE] The setting area is shown grey when moving right the joystick. Moving up and down the joystick to set area title, and then moving left and right the joystick to exit the setup. The area title setup is 8 characters at most, and the supported characters (0-9,A-Z, blank)

C) Moving the cursor to [SET LEFT LIMIT POS], The setting area is shown grey when moving right the joystick, and then moving joystick and select left border ,and latter, the cursor becomes white when invoking No.65 or No.1 preset point

D) Setting the right border of the present area (the same as the above) Note: effective area is clockwise area between the left and right border.

E) Moving the cursor to [SAVE] after finishing the above operation. and then moving right the

joystick to save the present area setup.

16.privacy protection setup

(1) The system will enter into OSD main menu through invoking NO.65 preset point or setting No.95 preset point. All of menu setup must

invoking main menu in advance. (the main menu is shown as Figure 33) The cursor will point at [PRIVACY MASKING] by moving up and down the joystick，and then enter into the menu of function setup by moving right the joystick (shown as Figure 45) You can set up privacy protection in any position of the monitored area and set up a privacy protection section for every privacy protection area. At most 8 privacy section is allowed.

[NO.] (1-8):1 privacy code (1-8):1

[SET ZONE POS] set up the position of zone

[SET MASK POS] set the position of privacy mask zone on the screen

[SET MASK SIZE] set the mask size

[START] start

[CLEAR] clear

[RETURN] return to the previous menu

[EXIT] exit the menu

Explanation: The range of setting mask zone may be different if the camera type is different .The setting method is also little different, but all should subject to the present camera.

```
PRIVACY MASKING
NO.(1-8):1
SET ZONE  POS
SET MASK POS
SET MASK SIZE
START
CLEAR
RETURN
EXIT
```

Figure 45

(2) Defining the operation methods of privacy protective zone as follows:

The setup range of HITACHI series camera shown as follows

Less than equal to 45 dagrees / can set the scope / can set the scope / Less than equal to 45 dagrees / Not set the scope

The setup range of SONNY and SANYO series camera shown as follows

Less than equal to 70 dagrees / can set the scope / can set the scope / Less than equal to 70 dagrees / Not set the scope
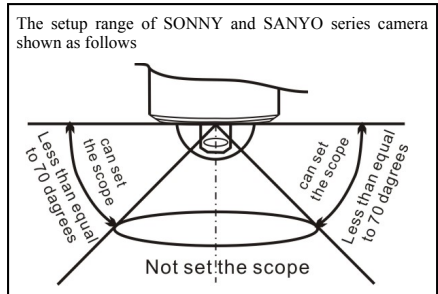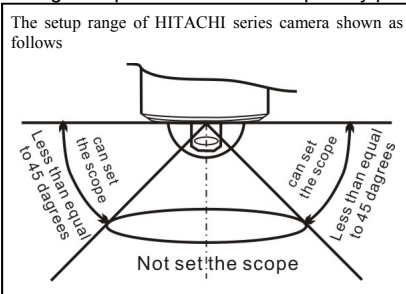
Zone code setting ,then moving left or right the joystick to exit the setup. Explanation: the ma chine will auto invoking the privacy protective section that has been set up well after finishing setting the zone numb to monitory screen ,if the corresponding privacy protection has been set well when set up privacy zone number.

B）Moving the cursor to [SET ZONE POS], and then moving right the joystick to select the privacy protection image and let it on the screen. At last, invoking No.1 preset point to confirm it.

C）Moving the cursor to [SET MASK POS], and then moving right the joystick .the privacy protection section will automatically appear on the center of the screen at that time. If this area has set up privacy protection section ,it will directly jump across of this step and continue the next operation.

D) Moving up/down/left/right the joystick to adjust the position of privacy protection on the screen. Explanation: The privacy protection section will automatically move along with the direction of the joystick after pressing on the joystick for 2 seconds. Invoking No.1 preset point after moving the position well. At this moment ,the screen will be shown as Figure 46

E) Moving the cursor to [SET MASK SIZE] and then moving right the joystick .You can move left and right the joystick to adjust the width of privacy protection sector and moving up and down the joystick to adjust the height of privacy protection sector. Explanation :the height and width of privacy protection section will automatically increase or decrease along with the direction of the joystick after pressing on the joystick for 2 seconds. Invoking the No.1 preset point to save the setup after finishing it. At this moment, the screen will be shown as Figure 47.
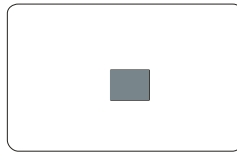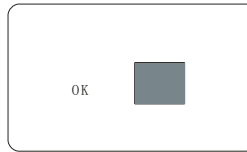

Figure 46   Figure 47

F) Moving the cursor to START] and then moving right the joystick to start the privacy protection of this area.

G) If you want to delete the privacy protection of the present area, you can move the joystick and make the cursor point at [CLEAR], and then it can be deleted by moving right the joystick.

17. Routs recorder

(1) This machine can record continuously the regular controlling of the operator to the PTZ and camera for one minutes at least. The dome camera will auto move back and forth with only one order. This machine just can save 4 rout.

[NO.] : (1-4):1 track code(1-4):

[TITLE] :TRACK001 track title :No.1 track

[SET START POS] setting the position of starting record

[RECORD] start record

[SAVE] save

[RUN] track running

[RETURN】 return to previous menu

[EXIT] exit the menu

TRACKING SETTINGS
NO.(1-4):1
TITLE: TRACK 001
SET START POS
RECORD
SAVE
RUN
RETURN
EXIT

Figure 48

(2) Defining the operation methods of tracking records as follows:

A Moving the cursor [NO.], then moving right the joystick, the content of setting zone will become grey at this time. Moving up and down the joystick to set up tracking code, and then moving left or right the joystick to exit the setup.

B) Moving the cursor [TITLE], then moving right the joystick ,the content of setting zone will become grey at this time .Moving up and down the joystick to set up tracking title, and then moving left or right the joystick to exit the setup. The tracking title can be 8 characters at most, the supported characters(0-9,A-Z,blank)

C) Moving the cursor [SET START POS], and then moving right the joystick to select the initial point that need to be recorded, then invoking No.1 preset point to confirm.

D) Moving the cursor to **[RECORD]** and moving right the joystick to start transcribing. It will appears "031" on the right .If you want to finish transcribing ,you can invoking No.1 preset point to stop transcribing and return to menu.

F) Moving the cursor to **[**SAVE**]** and moving right the joystick to save the present routs transcribing.

C) Moving the cursor to **[RUN]** and moving the joystick to the side to operate continually the present routs record .The rout record will be stopped with any operation.

18. Alarm setup

(1) The machine can connect 4 channel alarm input and 4 channel alarm output to achieve action with alarm, external alarm single send to the machine, the machine will turn to take photos (invoking preset point or start preset point c touring ,routs record etc)

[NO.] (1-4):1alarm code (1-4):1

[DISPLAY] : ON/OFF alarm display: on/off

[PRESET NO.] : 001 preset position code:001

[TIME] : 003 the alarm staying time:003,3 seconds at least

[ALARM] : ON/OFF alarm controlling: on/off

[SAVE] save

[RETURN] return to the previous menu

[EXIT] exit menu

```
ALARM SETTINGS
ON. (1-4)1
DISPLAY: OFF/ON
PRESET POS NO. :005
TIME:003
ALARM:OFF/ON
SAVE
RETURN
EXIT
```

Figure 49

(2) Defining the operation methods of rout recorder as follows:

A）Moving the cursor to **[**NO. **]** and the setting area is shown grey when moving right the joystick. then moving up and down the joystick to set alarm code.
 At last moving right or left the joystick to exit the setup.

B）Moving the cursor to **[**DISPLAY**]** and the setting area ON/OFF is shown grey when moving right the joystick. At last ,when moving up and down the joystick to give a alarm, it will show ON/OFF on the screen.

C）Moving the cursor to **[**PRESET NO. **]** and the setting area shows grey when moving right the joystick. Moving up and down the joystick to set up action with alarm input. The action of alarm can be selected as follows**:** preset point1-99 preset point touring 100-104 （correspond with 1-5

touring）routs record 130-133 （correspond with 1-4 routs record）the closing is No.0 preset point And then moving right or left the joystick to exit the setup.

D）Moving the cursor to **[**TIME**]** and the setting area shows grey when moving right the joy stick. Moving up and down the joystick to set up the preset position staying time when setting up xx channel input

E）Moving the cursor to **[**ALARM**]** and the setup area ON/OFF will be grey, when moving right the joystick .Moving up and down the joystick to correspond with the ON/OFF setup of alarm input code

F）Moving the cursor to **[**SAVE**]** and save the present setup after finishing all the above operation.

19.Restore factory defaults

[RESTORE DEFAULTS] Restore to factory defaults， this operation will lost all of users' data

[INITIALIZING CAMERA] initial camera

[RETURN] return to previous menu

[EXIT] exit menu

Note: The configuration information of clearing setting, such as: cruising, preset position ect. Restore to factory settings (the setting items are all opened including auto detect mode, cruising and preset position title display)

Non Menu Operation explained

These operating instructions cover the basic operation and features of the dome. When the dome is used with other manufacturers control system, please regard the system controller instruction as standard. In the event of special requirements exceed the scope of this document, it is advisable to contract local distributor.

1. Control the direction of camera

After select a camera, it can control the directions of the camera through the keyboard joystick. The joystick control the action of the camera. When the joystick turn to the right, the camera move to the right. Similarly, when the joystick turn to the left, the camera also move to the left. When the joystick turn to the Vertical direction, the camera also doing the same direction. The camera can doing the horizontal and vertical movement simultaneously when the joystick move according to the diagonal direction.

2. Automatical scan

Call preset 120 to start slow scan. Call preset 121 to start fast scan.

3. Set preset

Enter into the preset setting status，use the number key to input the camera number which you want to set preset，then press SHOT and ON.(See the following figure)

ACK + SHOT → PRESET → SHOT → ON → ACK + SHOT
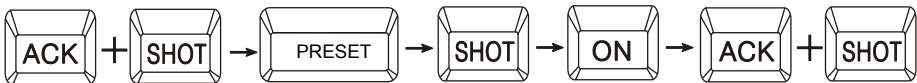
4. Call preset

Enter the preset number then press SHOT key to call the preset wanted, then the camera will immediately move to the preset position and automatically change to focal length of preset you called.

PRESET → SHOT
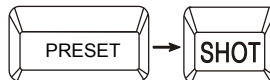
5. Program tour

◆ Five tour(100,101,102,103,104) is available in this product.

◆ Each tour have 16 presets. If the presets are less than 16, the last preset number should be set 119 ,then exit. If the presets are more than 16, system will automatically save the former 16 presets. The dwell time must be set more than 3 seconds. If the dwell time is less than 3 seconds, the system will automatically set 3 seconds as default dwell time.

◆ Detailed operation is showed in the following plan:

ACK + SHOT → TOUR → SHOT → ON → TIME → SHOT → ON →

PRESET → SHOT → ON → PRESET → SHOT + ON · · · · · ACK + SHOT
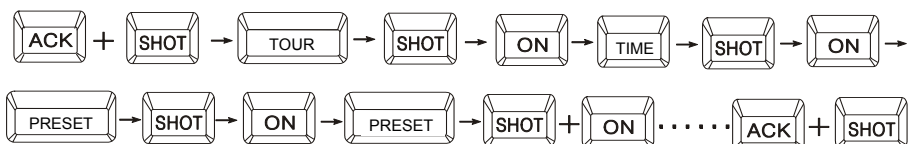
Case 1: Set the first tour which includes 5 presets. The number of the five presets are 1 → 10 → 15 → 16 → 21, dwell time is 6 seconds.
◆ Set preset 100 which corresponding to the first tour (please refer the section about how to set preset)
◆ Set preset 6 which corresponding to the dwell time.
◆ Set preset 1 (the tour consists of preset 1)
◆ Set preset 10 (the tour consists of preset 10)
◆ Set preset 15 (the tour consists of preset 15)
◆ Set preset 16 (the tour consists of preset 16)
◆ Set preset 21 (the tour consists of preset 21)
◆ Set preset 119 (exist the tour programming)

7. Call tour

Call tour 1 by calling preset 100, Call tour 2 by calling preset 101, call tour 3 by calling 102, call tour 4 by calling preset 103,call tour 5 by calling preset 104.
Case 2: The Tour 1, which have five presets in the order like 1→ 10→15 → 16 → 21, and the dwell time of ever preset is six seconds, was programmed.
◆ Call preset 100 which corresponding to tour 1 (please refer the section about how to call preset).
After calling tour1, the speed dome camera will move like this: 1 → dwell six seconds → 10 → dwell six seconds → 15 → dwell six seconds → 16 → dwell six seconds → 21 → dwell six seconds→1(repeat the tour)

8. Call horizontal scanning

Call preset 120 is Horizontal 360° low speed scan；Call preset 121 is Horizontal 360° fast speed scan.

9. Set home point

Home point is a function that speed dome camera will automatically move to a certain important preset which is set beforehand, after a period of time without any operation made by operator. The waiting time before entering into home status can be set from 1 to 255 seconds.
◆ set a preset which you want be the home point
◆ Set preset 121 to enter home point setting status：
◆ Set preset 122 to start home point
◆ Set preset 123 to delete home point
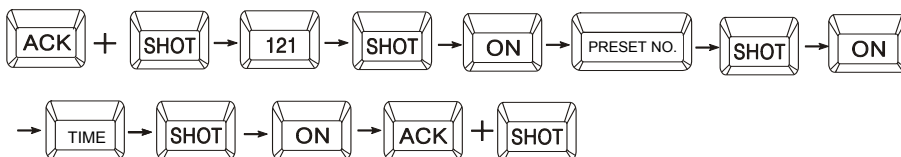
10. Left and right limit scan
◆ User could set the left scan limit and right scan limit to make speed dome scan between them.
Call the camera to monitor (Enter IP address of camera then press SHOT key)
Set preset 110 to set lift limit, then move the joystick to the position where you want to set the right limit. Then set preset 111 to set right limit. At last, move back 30 degree to avoid the speed dome camera does not pan in the right direction. Call preset 112 to start lift and right limit.

11. Restore factory default

Call preset 150 would eliminate all the function which was set by customer.

12. Speed dome command list   Note: symbol is stand for that the function is available

Preset NO.	Speed dome / camera control content	Call preset	Set preset
Menu or non menu program cruise operation: (This need according to page 16 or the menu programming)			
100	Start the first programmed tour	¤	
101	Start the second programmed tour	¤	
102	Start the third programmed tour	¤	
103	Start the fourth programmed tour	¤	
104	Start the fifth programmed tour	¤	
Easy cruise operation：			
115	Start the first programmed tour 1-16 scanning	¤	
116	Start the second programmed tour17-32 scanning	¤	
117	Start the third programmed tour 33-48scanning	¤	
118	Start the fourth programmed tour 49-64scanning	¤	
119	Start the fifth programmed tour 65-80scanning	¤	
110	Left Limit point		¤
111	Right Limit point		¤
112	Call pan limit point	¤	
113	lens/rotation auto match function	¤	
114	lens/rotation auto match function	¤	
120	Pan slowly	¤	
121	Pan quickly	¤	
121	Home point setting		¤
122	Start home point		¤
123	Disuse home point		¤
130	Start the first track record（Menu camera effectively）	¤	
131	Start the second track record（Menu camera effectively）	¤	
132	Start the third track record（Menu camera effectively）	¤	
133	Start the fourth track record（Menu camera effectively）	¤	
65	Enter into speed dome OSD main menu	¤	
95	Enter into speed dome OSD main menu		¤
111	Reset	¤	
150	Recovery factory design	¤	
Open/Close	Enter/ exist menu (some camera are available)		

6 bits of code Switch setting table

1. SW1 protocol setting table（see picture 50）

Protocol type	Switch setting		
	1	2	3
PELCO-D	OFF	OFF	OFF
PELCO-P	ON	OFF	OFF
SAMSUNG	OFF	ON	OFF
PANASONIC	ON	ON	OFF
GAT	OFF	OFF	ON
ADT	ON	OFF	ON
YAAN	OFF	ON	ON
RETAIN	ON	ON	ON

2. Baud rate setting table（see picture 50）

Baud rate	Switch setting	
	4	5
2400bps	OFF	OFF
4800bps	ON	OFF
9600bps	OFF	ON
19200bps	ON	ON

3. Connection mode of SW1 terminal 120 Ω resistance (see Figure 50)

◆ Terminal 120 Ω resistance is on SW1 (the 6th switch)

◆ If the 120Ω resistance is needed, pull the terminal 120 Ω resistance (the 6th switch in SW1) up to ON position, then the 120Ω resistance is linked in the circuit.

Figure 50
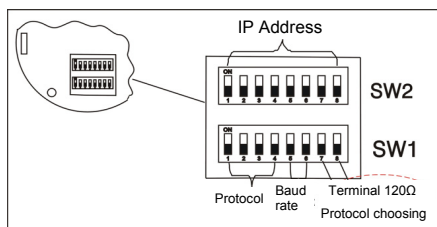
5. SW2 IP address setting table (refer to page 33)

8 bits of code Switch setting table

1. SW1 protocol setting table（see picture 51）

Protocol type	Switch setting			
	1	2	2	4
PELCO-D	OFF	OFF	OFF	OFF
PELCO-P	ON	OFF	OFF	OFF
SAMSUNG	OFF	ON	OFF	OFF
PANASONIC	ON	ON	OFF	OFF
GAT	OFF	OFF	ON	OFF
ADT	ON	OFF	ON	OFF
YAAN	OFF	ON	ON	OFF
KEEP	ON	ON	ON	OFF
KEEP	OFF	OFF	OFF	ON
KEEP	ON	OFF	OFF	ON

2. Baud rate setting table（see picture 51）

Baud rate	Switch setting			
	5	6	7	8
2400bps	OFF	OFF	Protocol select switch	RS485 Terminal
4800bps	ON	OFF		
9600bps	OFF	ON		
19200bps	ON	ON		

3. the 7th of sw1 is protocol choosing（see picture 51）
Off means LG protocol; On means SONY protocol;
Both of them can be identified automatically.

4.Connection mode of SW1 terminal 120 Ω resistance (see picture 51)
◆ Terminal 120 Ω resistance is on SW1 (the 8th switch)
◆ If the 120Ω resistance is needed, pull the terminal 120 Ω resistance (the 8th switch in SW1) up to ON position, then the 120Ω resistance is linked in the circuit.

Figure 51
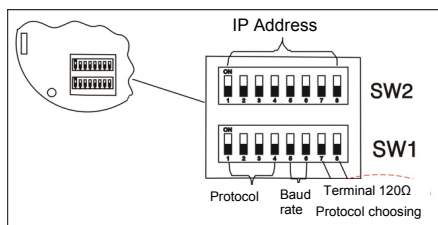
5. SW2 IP address setting table (refer to page 33)

Technical parameters

Power supply	DC12V，50/60Hz
Power consumption	Indoor speed dome: 15W Outdoor speed dome: 55W
PTZ	Built-in
Synchronous mode	Inner synchronization
Preset	128 Presets
Tour	5
Auto scan	2
Left or right limitation scan	359°adjustable
Automatically control focal length speed	Control speed adjust automatically according to the length of focal length
Auto flip	After tilt 90° camera will automatically flip 180°
Pan range	360°Back and forth rotating
Manual pan speed	Medium speed dome series 0.1°-120°/s (selectable)
Home point	1-300s (adjustable)
Tilt range	Vertical 90°
Tilt speed	Medium speed dome series 0.5-50°/s High speed dome series 0.1-150°/s
Control mode	RS485
Correspondence baud rate	2400/4800/9600/19200bps
Ambient temperature	Indoor: - 10 +50℃, outdoor: - 40 +55℃
Weight of top mount	1. 5kg
Weight of ceiling mount	1.7kg
Single-layer aluminum alloy housing weight	3.0kg
Double-layer aluminum alloy housing	3.7kg

FAQ

Breakdown phenomenon	Possible reasons	Solution
Speed dome have no action and there is no picture in monitor after power is on .	1. The end of 12V AC power supply didn't connect with speed dome in right way. 2. Power failure or transformer breakdown.	1. Check whether speed dome connect to 12V AC power supply. Make sure that the well connection between speed dome and 12V AC power supply. 2. Check whether the power supply is in working order and whether 12V AC transformer work normally.
After self testing, keyboard can't control Speed dome.	1. IP address Switch of speed dome set incorrectly. 2. Reverse connection and open circuit of RS485 control bus. 3. RS485 control bus breakdown.	1. Reset DIP switches according to DIP switch setting table. And make sure that the IP address speed dome is the same with that of keyboard. 2. Check connection of RS485 control bus, guarantee well and correct connection. 3. Refer to common sense of RS485 control bus .
Fan don't work	1. Poor fan connection. 2. Ambient temperature is below -10℃ .	1. Make sure the well connection. If fan don't work when connection is well, please contact supplier. 2. Make sure that speed dome work in proper temperature.
The picture is fuzzy	1. Speed dome is in the manual focus status. 2. Transparent lower dome is not clean.	1. Change the manual focus status to auto focus status. 2. Clean transparent lower dome.

Common sense about RS485 control bus

1. Basic characteristic of RS485 control bus：

◆ RS485 control bus is a half duplex communication bus whose impedance is 120Ω. Its carrying capacity is different because the different connection interface, IC is 32-128 actual load (including master equipment and slaves equipments).

2. RS485 control bus transmitting distance：

◆ When 0.56mm(24AWG) twisted pair line is used as the communication electric cable, there are different transmission distance according to different Baud rate setting. Maximum transmission distance and corresponding Baud rate are show in following table:

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

◆ The max transmission distance would be shortened in conditions as: when this product uses a slim communication electric cable or the speed dome is used in the environment with strong electromagnetic interference or there are many equipments connected to control bus, vice versa.

3. Connect mode and terminal impedance

◆ The RS485 industry control bus requires daisy-chain connection mode, and two 120Ω terminal impedances should be connected. The mode was showed as figure 52. Simplified connection mode shows in figure 53, make sure that the distance of D can't be more than 23 feet (7 meters).
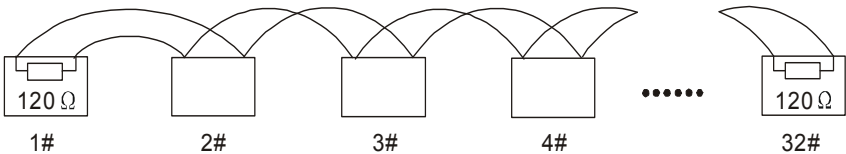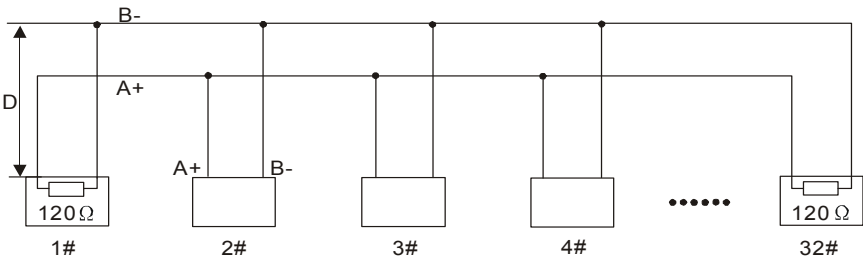

Figure52

Figure53

4. question In actual use :

◆ In the actual construction, user often adopts y-junction connection mode whose terminal impedance are connected with the furthest two equipments (as B and D in figure 21). But it doesn't comply with the use requirement of RS485 industrial standard, so it would lower the reliability of control signal by causing the problems such as signal reflection and a weaker anti-interference ability in the situation that there is long distance among every equipment. Its reflecting phenomenon is that speed dome isn't under the control completely or under control off and on or can't stop from automatically running. We advise to use RS485 allotter which can avoid problems and increase the communication reliability in the situation mentioned above by change y-junction mode to the connection mode complying with RS485 industrial standard.
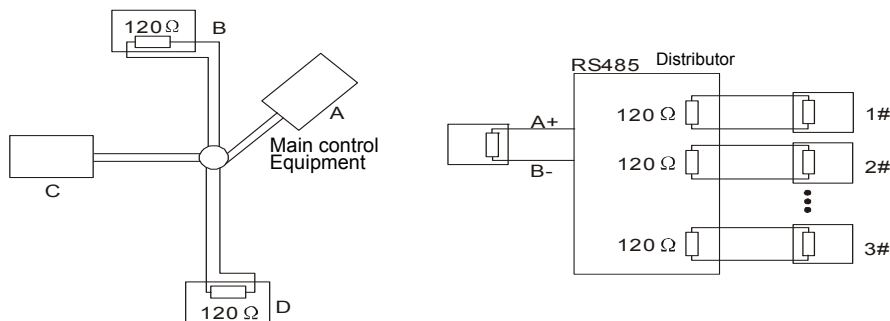
Suggestion using line material

1. 12V power supply connection distance and cable material requirement：

Power supply cable diameter	$0.5mm^2$ ($20^{\#}$)	$1.0mm^2$ ($18^{\#}$)	$1.5mm^2$ ($16^{\#}$)	$2.5mm^2$ ($14^{\#}$)
Indoor speed dome 72W power supply	25m (94ft)	45m (150ft)	70m(238ft)	110m (380ft)
Outdoor speed dome 72W power source	10m (37ft)	18m(60ft)	28m(95ft)	45m (152ft)

2. Requirement of video cable：

Model	Max transmitting distance	Model	Max transmitting distance
75-5	370M	75-2	150M
75-7	500M	75-3	200M
75-9	680M	75-4	270M

NOTE：There are some differences in the same mode cable produced by different manufacturer. The table above just mention the average reference distance of video cable transmitting distance.

4. SW2 setting—IP address setting B.f.27/28pages〔see photos（50 and 51）〕

In the following table "1" stand for "ON" position in IP address switch.

"0" stand for "OFF" position in IP address switch.

Address Code	Address Switch 1 2 3 4 5 6 7 8	Address Code	Address Switch 1 2 3 4 5 6 7 8
1	1 0 0 0 0 0 0 0	33	1 0 0 0 0 1 0 0
2	0 1 0 0 0 0 0 0	34	0 1 0 0 0 1 0 0
3	1 1 0 0 0 0 0 0	35	1 1 0 0 0 1 0 0
4	0 0 1 0 0 0 0 0	36	0 0 1 0 0 1 0 0
5	1 0 1 0 0 0 0 0	37	1 0 1 0 0 1 0 0
6	0 1 1 0 0 0 0 0	38	0 1 1 0 0 1 0 0
7	1 1 1 0 0 0 0 0	39	1 1 1 0 0 1 0 0
8	0 0 0 1 0 0 0 0	40	0 0 0 1 0 1 0 0
9	1 0 0 1 0 0 0 0	41	1 0 0 1 0 1 0 0
10	0 1 0 1 0 0 0 0	42	0 1 0 1 0 1 0 0
11	1 1 0 1 0 0 0 0	43	1 1 0 1 0 1 0 0
12	0 0 1 1 0 0 0 0	44	0 0 1 1 0 1 0 0
13	1 0 1 1 0 0 0 0	45	1 0 1 1 0 1 0 0
14	0 1 1 1 0 0 0 0	46	0 1 1 1 0 1 0 0
15	1 1 1 1 0 0 0 0	47	1 1 1 1 0 1 0 0
16	0 0 0 0 1 0 0 0	48	0 0 0 0 1 1 0 0
17	1 0 0 0 1 0 0 0	49	1 0 0 0 1 1 0 0
18	0 1 0 0 1 0 0 0	50	0 1 0 0 1 1 0 0
19	1 1 0 0 1 0 0 0	51	1 1 0 0 1 1 0 0
20	0 0 1 0 1 0 0 0	52	0 0 1 0 1 1 0 0
21	1 0 1 0 1 0 0 0	53	1 0 1 0 1 1 0 0
22	0 1 1 0 1 0 0 0	54	0 1 1 0 1 1 0 0
23	1 1 1 0 1 0 0 0	55	1 1 1 0 1 1 0 0
24	0 0 0 1 1 0 0 0	56	0 0 0 1 1 1 0 0
25	1 0 0 1 1 0 0 0	57	1 0 0 1 1 1 0 0
26	0 1 0 1 1 0 0 0	58	0 1 0 1 1 1 0 0
27	1 1 0 1 1 0 0 0	59	1 1 0 1 1 1 0 0
28	0 0 1 1 1 0 0 0	60	0 0 1 1 1 1 0 0
29	1 0 1 1 1 0 0 0	61	1 0 1 1 1 1 0 0
30	0 1 1 1 1 0 0 0	62	0 1 1 1 1 1 0 0
31	1 1 1 1 1 0 0 0	63	1 1 1 1 1 1 0 0
32	0 0 0 0 0 1 0 0	64	0 0 0 0 0 0 1 0

Address Code	Address Switch 1 2 3 4 5 6 7 8	Address Code	Address Switch 1 2 3 4 5 6 7 8
65	1 0 0 0 0 0 1 0	101	1 0 1 0 0 1 1 0
66	0 1 0 0 0 0 1 0	102	0 1 1 0 0 1 1 0
67	1 1 0 0 0 0 1 0	103	1 1 1 0 0 1 1 0
68	0 0 1 0 0 0 1 0	104	0 0 0 1 0 1 1 0
69	1 0 1 0 0 0 1 0	105	1 0 0 1 0 1 1 0
70	0 1 1 0 0 0 1 0	106	0 1 0 1 0 1 1 0
71	1 1 1 0 0 0 1 0	107	1 1 0 1 0 1 1 0
72	0 0 0 1 0 0 1 0	108	0 0 1 1 0 1 1 0
73	1 0 0 1 0 0 1 0	109	1 0 1 1 0 1 1 0
74	0 1 0 1 0 0 1 0	110	0 1 1 1 0 1 1 0
75	1 1 0 1 0 0 1 0	111	1 1 1 1 0 1 1 0
76	0 0 1 1 0 0 1 0	112	0 0 0 0 1 1 1 0
77	1 0 1 1 0 0 1 0	113	1 0 0 0 1 1 1 0
78	0 1 1 1 0 0 1 0	114	0 1 0 0 1 1 1 0
79	1 1 1 1 0 0 1 0	115	1 1 0 0 1 1 1 0
80	0 0 0 0 1 0 1 0	116	0 0 1 0 1 1 1 0
81	1 0 0 0 1 0 1 0	117	1 0 1 0 1 1 1 0
82	0 1 0 0 1 0 1 0	118	0 1 1 0 1 1 1 0
83	1 1 0 0 1 0 1 0	119	1 1 1 0 1 1 1 0
84	0 0 1 0 1 0 1 0	120	0 0 0 1 1 1 1 0
85	1 0 1 0 1 0 1 0	121	1 0 0 1 1 1 1 0
86	0 1 1 0 1 0 1 0	122	0 1 0 1 1 1 1 0
87	1 1 1 0 1 0 1 0	123	1 1 0 1 1 1 1 0
88	0 0 0 1 1 0 1 0	124	0 0 1 1 1 1 1 0
89	1 0 0 1 1 0 1 0	125	1 0 1 1 1 1 1 0
90	0 1 0 1 1 0 1 0	126	0 1 1 1 1 1 1 0
91	1 1 0 1 1 0 1 0	127	1 1 1 1 1 1 1 0
92	0 0 1 1 1 0 1 0	128	0 0 0 0 0 0 0 1
93	1 0 1 1 1 0 1 0	129	1 0 0 0 0 0 0 1
94	0 1 1 1 1 0 1 0	130	0 1 0 0 0 0 0 1
95	1 1 1 1 1 0 1 0	131	1 1 0 0 0 0 0 1
96	0 0 0 0 0 1 1 0	132	0 0 1 0 0 0 0 1
97	1 0 0 0 0 1 1 0	133	1 0 1 0 0 0 0 1
98	0 1 0 0 0 1 1 0	134	0 1 1 0 0 0 0 1
99	1 1 0 0 0 1 1 0	135	1 1 1 0 0 0 0 1
100	0 0 1 0 0 1 1 0	136	0 0 0 1 0 0 0 1

Address Code	Address Switch	Address Code	Address Switch
	1 2 3 4 5 6 7 8		1 2 3 4 5 6 7 8
137	1 0 0 1 0 0 0 1	173	1 0 1 1 0 1 0 1
138	0 1 0 1 0 0 0 1	174	0 1 1 1 0 1 0 1
139	1 1 0 1 0 0 0 1	175	1 1 1 1 0 1 0 1
140	0 0 1 1 0 0 0 1	176	0 0 0 0 1 1 0 1
141	1 0 1 1 0 0 0 1	177	1 0 0 0 1 1 0 1
142	0 1 1 1 0 0 0 1	178	0 1 0 0 1 1 0 1
143	1 1 1 1 0 0 0 1	179	1 1 0 0 1 1 0 1
144	0 0 0 0 1 0 0 1	180	0 0 1 0 1 1 0 1
145	1 0 0 0 1 0 0 1	181	1 0 1 0 1 1 0 1
146	0 1 0 0 1 0 0 1	182	0 1 1 0 1 1 0 1
147	1 1 0 0 1 0 0 1	183	1 1 1 0 1 1 0 1
148	0 0 1 0 1 0 0 1	184	0 0 0 1 1 1 0 1
149	1 0 1 0 1 0 0 1	185	1 0 0 1 1 1 0 1
150	0 1 1 0 1 0 0 1	186	0 1 0 1 1 1 0 1
151	1 1 1 0 1 0 0 1	187	1 1 0 1 1 1 0 1
152	0 0 0 1 1 0 0 1	188	0 0 1 1 1 1 0 1
153	1 0 0 1 1 0 0 1	189	1 0 1 1 1 1 0 1
154	0 1 0 1 1 0 0 1	190	0 1 1 1 1 1 0 1
155	1 1 0 1 1 0 0 1	191	1 1 1 1 1 1 0 1
156	0 0 1 1 1 0 0 1	192	0 0 0 0 0 0 1 1
157	1 0 1 1 1 0 0 1	193	1 0 0 0 0 0 1 1
158	0 1 1 1 1 0 0 1	194	0 1 0 0 0 0 1 1
159	1 1 1 1 1 0 0 1	195	1 1 0 0 0 0 1 1
160	0 0 0 0 0 1 0 1	196	0 0 1 0 0 0 1 1
161	1 0 0 0 0 1 0 1	197	1 0 1 0 0 0 1 1
162	0 1 0 0 0 1 0 1	198	0 1 1 0 0 0 1 1
163	1 1 0 0 0 1 0 1	199	1 1 1 0 0 0 1 1
164	0 0 1 0 0 1 0 1	200	0 0 0 1 0 0 1 1
165	1 0 1 0 0 1 0 1	201	1 0 0 1 0 0 1 1
166	0 1 1 0 0 1 0 1	202	0 1 0 1 0 0 1 1
167	1 1 1 0 0 1 0 1	203	1 1 0 1 0 0 1 1
168	0 0 0 1 0 1 0 1	204	0 0 1 1 0 0 1 1
169	1 0 0 1 0 1 0 1	205	1 0 1 1 0 0 1 1
170	0 1 0 1 0 1 0 1	206	0 1 1 1 0 0 1 1
171	1 1 0 1 0 1 0 1	207	1 1 1 1 0 0 1 1
172	0 0 1 1 0 1 0 1	208	0 0 0 0 1 0 1 1

Address Code	Address Switch	Address Code	Address Switch
	1 2 3 4 5 6 7 8		1 2 3 4 5 6 7 8
209	1 0 0 0 1 0 1 1	233	1 0 0 1 0 1 1 1
210	0 1 0 0 1 0 1 1	234	0 1 0 1 0 1 1 1
211	1 1 0 0 1 0 1 1	235	1 1 0 1 0 1 1 1
212	0 0 1 0 1 0 1 1	236	0 0 1 1 0 1 1 1
213	1 0 1 0 1 0 1 1	237	1 0 1 1 0 1 1 1
214	0 1 1 0 1 0 1 1	238	0 1 1 1 0 1 1 1
215	1 1 1 0 1 0 1 1	239	1 1 1 1 0 1 1 1
216	0 0 0 1 1 0 1 1	240	0 0 0 0 1 1 1 1
217	1 0 0 1 1 0 1 1	241	1 0 0 0 1 1 1 1
218	0 1 0 1 1 0 1 1	242	0 1 0 0 1 1 1 1
219	1 1 0 1 1 0 1 1	243	1 1 0 0 1 1 1 1
220	0 0 1 1 1 0 1 1	244	0 0 1 0 1 1 1 1
221	1 0 1 1 1 0 1 1	245	1 0 1 0 1 1 1 1
222	0 1 1 1 1 0 1 1	246	0 1 1 0 1 1 1 1
223	1 1 1 1 1 0 1 1	247	1 1 1 0 1 1 1 1
224	0 0 0 0 0 1 1 1	248	0 0 0 1 1 1 1 1
225	1 0 0 0 0 1 1 1	249	1 0 0 1 1 1 1 1
226	0 1 0 0 0 1 1 1	250	0 1 0 1 1 1 1 1
227	1 1 0 0 0 1 1 1	251	1 1 0 1 1 1 1 1
228	0 0 1 0 0 1 1 1	252	0 0 1 1 1 1 1 1
229	1 0 1 0 0 1 1 1	253	1 0 1 1 1 1 1 1
230	0 1 1 0 0 1 1 1	254	0 1 1 1 1 1 1 1
231	1 1 1 0 0 1 1 1	255	1 1 1 1 1 1 1 1
232	0 0 0 1 0 1 1 1		

Remarks:

Dome camera with SW1 dial witch: when the position 1,2,3 of SWI is "ON", the SW1 and SW2 protocol, baud rate, address code switch shall be in an invalid state, such dome camera is in the state of soft address, protocol and baud rate; enter the menu" communication setting" to modify the address, protocol and baud rate.

Dome camera without SW1 dial witch: protocol and baud rate are automatically identified, the address code shall be available through SW2, and dome camera communication shall be also available through above soft address, protocol and baud rate. Please refer to Page 24 for details.

SOLEMNLY   STATEMENT

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