



Economic Series
Intelligent High Speed Dome Camera
User's Manual

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BRIEF INTRODUCTION

	Notice Do not dismantle the machine to avoid electric shock	
Notice: To avoid electric shock, do not remove the dome cover. Users are not capable of fixing any internal components. Only qualified person is allowed to do the repair.		



This label indicates that there is uninsulated dangerous voltage which has risk of electric shock.



This label reminds there are important operating and maintenance instructions.

Notes:

- To prevent fire or damage caused by electric shock, do not put the speed dome into water.
- To prevent personal injury, the speed dome must be installed on a solid wall or ceiling bracket. Please refer to installation instructions.
- Please read these instructions before using the speed dome, follow all instructions and pay attention to all the warnings.

Warning:

- 1 Please do not install near any heat sources such as radiators, stoves or other heating device.
- 2 Please use specified adapters. Use other adapters may cause fire, electric shock or product damage. Wrong power connection may cause fire, electric shock or product damage.
- 3 Do not destroy the safety effect the polarized or grounding-type plug. Polarized plug has two lugs, and one is wider than the other. Grounding type plug has two ground sheets and a grounding pin. Wide line or grounding-type pin lugs are used to protect personal safety.
- 4 Do not step on or squeeze the power cord, and please pay special attention to protect plugs, convenience outlets and equipment contact position.
- 5 Please use the manufacturer's recommended additional equipment or accessories.
- 6 Prohibition of simultaneous connections of multiple cameras to a single adapter, and capacity overload of the adapter may cause abnormal heat and fire.
- 7 Power cord should be firmly plugged into a power socket (connection is not secure may

cause a fire)

- 8 The speed dome should be installed firmly on the wall or ceiling. Falling camera may cause personal injury.
- 9 Do not put the conductor (such as: screwdrivers, coins or metal objects) or a container with full of water on top of the camera.
- 10 If the speed dome has abnormal smell or smoke, please stop using it, please shut down the power to avoid fire or electric shock.
- 11 If the product working improperly, please contact the dealer or the nearest service center. Do not disassemble or in any way to change the product. (Problem caused by disassemble or repair from unauthorized user are not covered in warranty)
- 12 please clean the machine with a dry cloth and do not splash water directly on the product.
- 13 Do not put the product opposite the air flow position. Otherwise, the temperature difference between inside and outside will cause moisture condensation on it.
- 14 When the speed dome installed in cold area (such as cold storage room), please make sure it is sealed with silicone wire leads to prevent outside air come into it. Otherwise, high humidity air outside may flow into the machine case, and internal and external temperature differences cause the product to moisture or water vapor inside.
- 15 Do not drop objects on the product or hit the product. Keep it away from vibration or magnetic interference.
- 16 Do not install the product at places with high temperature (over 50 ° C), low temperature (below -50 ° C), or high humidity.
- 17 When moving the product assembled, please make sure to turn off the power.
- 18 Do not keep the camera watching at the sun, otherwise it will damage the CCD sensor.
- 19 After stored in high humidity environments, there may have moisture inside the dome cover. Please clean with soft and dry cloth before reuse.
- 20 Please use the products in the working environment requirement:

Power supply AC24V/2.0A

Communication Interface RS-485

Ambient temperature - 35°C ~ 55°C

Environment Humidity <95%

Atmospheric pressure 86 ~ 106KPa

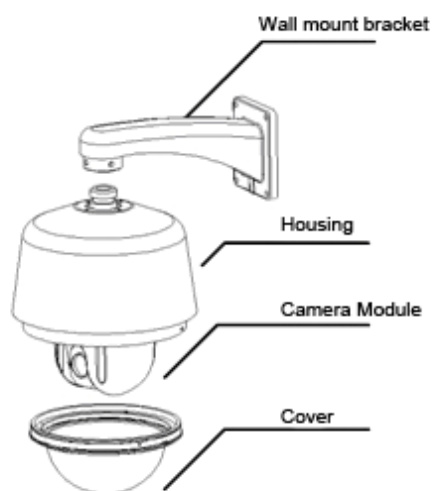
Chapter 1 Introduction

1.1 Introduction

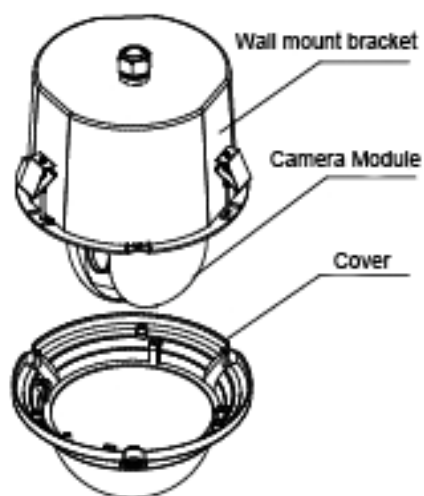
E series speed dome is a strong tool to improve your security effect. It has the highest speed in the market: 0.05~600°/s to catch any target objects, with elevation angle of -8° and auto flip to ensure all outdoor monitoring area. 220 presets, 8 auto scanning, 8 cruising tracks and 4 pattern tours, which meet all the security running operation requirements. The soft address function will give you a new experience for address setting, which will save a lot of time. Remote update function will provide you quick response in maintainance job.

1.2 Pictures

Wall-mount Installation



In-ceiling Mount Installation



1.3 Features

OSD Menu

Display the speed dome information and status, setting for speed dome functions and features.

Soft Address

With Soft address function, users do not have to set on the speed dome dip switch and remember those complicate octal address. It can be set in OSD menu from keyboard or PC software which make setup job easy and efficient.

Focus/Rotation speed auto match

Support automatically adjusts PTZ's horizontal and vertical speed according to the focus close/far, which will make it easier for manual subject tracking.

Dome address setup

Support 255 camera hardware address.

Set and call preset position

Preset position is to store the present PTZ horizontal angle, vertical angle and camera focus, which enable the speed dome go back to the memorized position quickly when needed. Use DVR or keyboard to call preset positions and there are 220 preset positions available.

Auto Scan

The speed dome will run between set left and right border, watching on a specified area. The speed dome supports 8 auto scan.

Auto Cruising

The speed dome support 8 cruising tracks, each cruising has max 32 preset positions. It enables the speed dome to switch between different preset position to have quick views on different areas.

Pattern Tour (PATTERN)

Pattern tour function is to record all the running operation of the speed dome in a time section, including Pan/Tilt running, zooming and focus. The speed dome support 4 group Pattern tours and each has up to 60 seconds record.

Privacy Mask

Draw a black shield on the screen to protect confidential area in monitoring.

Guard Location Function

With Guard Location function, the speed dome will go back to set preset position after a period of vacancy. Vacancy time is adjustable for users.

Running Direction Display

Set True North direction to display the rotating direction of the speed dome accurately.

Set area indication, when speed dome run to special area, it will show the area title on screen.

Password Protection Function

To secure speed dome setting from authorized users.

Note:

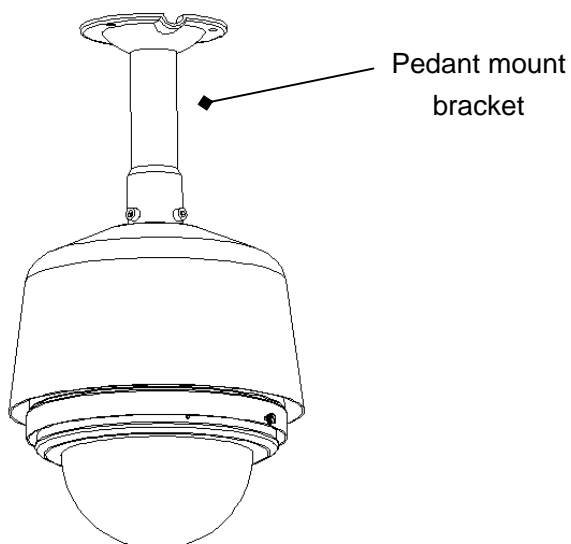
Camera is not able to focus clearly in following cases:

Target object is not at the middle of the image; Watching at two objects at the same time, one near and the other is far away, camera is not able to focus on both objects; Target object with high light; Target object move too fast; Target object is dark or fuzzy; Target object behind unclear glass.

Chapter 2 Installation and Connection

2.1 Optional parts for installation

Pedant mount bracket (TC-DF12) for ceiling mounting

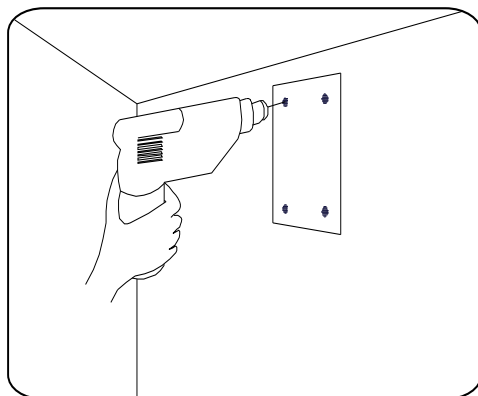


2.2 Warning

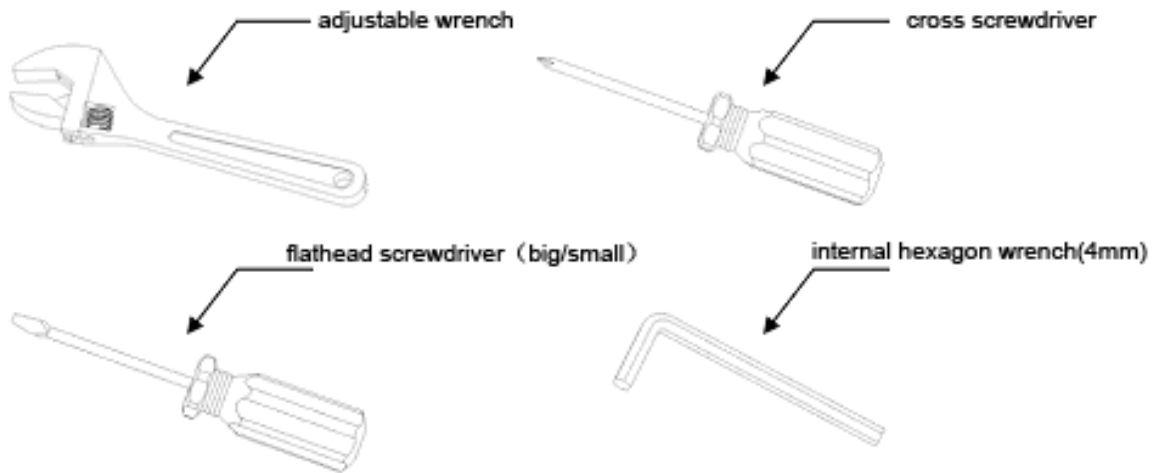
- 1 Make sure the installation place is able to afford 4 times weight of the speed dome.
- 2 Power supply is AC220V, make sure the grounding is correct and do not take live action.

2.3 Preparation

1. Fix the drill position sticker on wall, drill 4 holes according to the indication on the sticker and then install the expansion bolts.

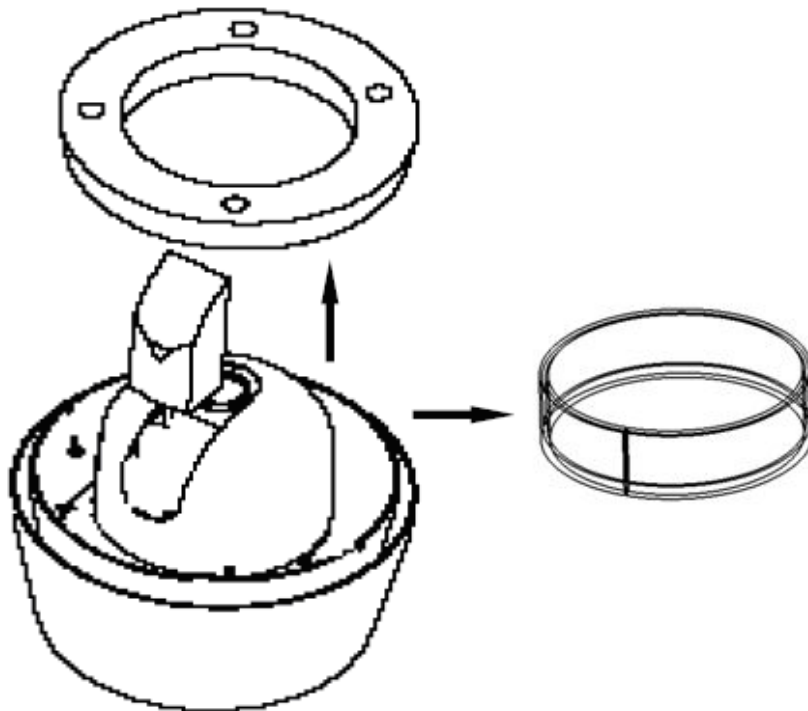


2. Please prepare the necessary tools according to specific situations.



2.4 Installation

1. Get the foam out of the carton.

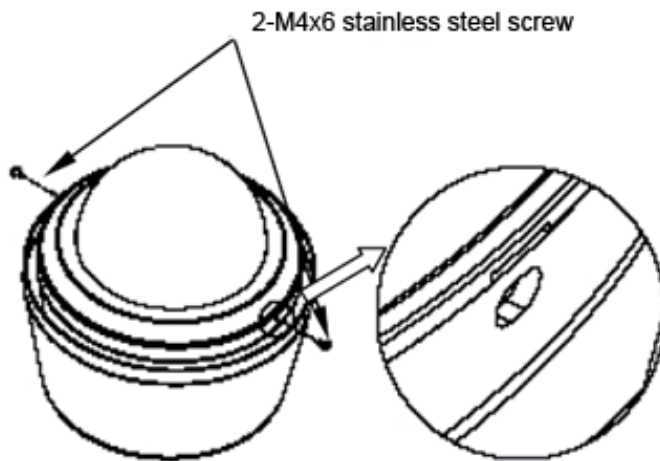


Note: Please protect camera and dome base, make sure the foam is removed from the carton vertically and slowly, otherwise it may lead to damage on camera.

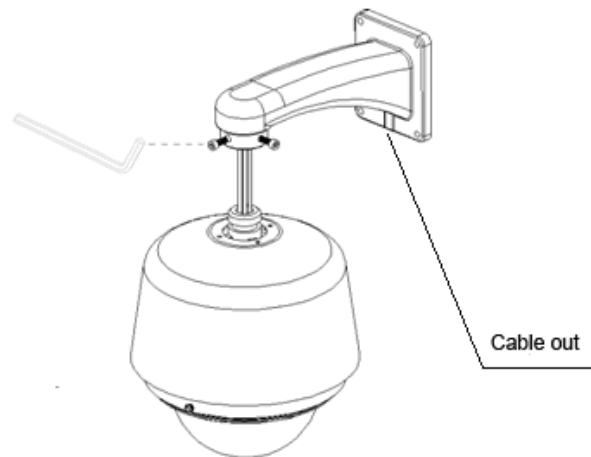
2. Please refer to chapter 2.5<Initial Settings> for Dip Switch Settings.

3. Point the gap at the waist-hole, and then use a cross screwdriver to install two stainless steel screws M4 × 6.

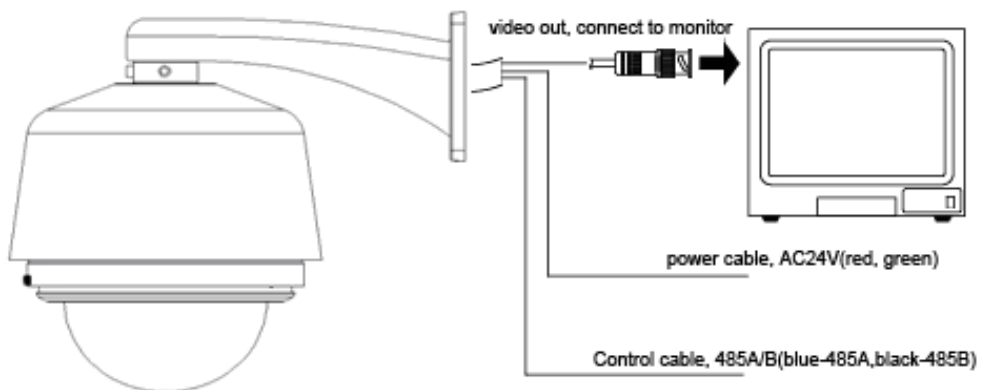
Note: Please protect the transparent cover.



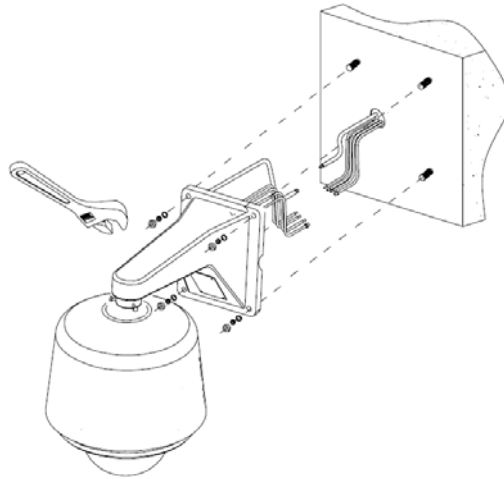
4. Thread the power cable, video cable,RS-485data cable through the bracket, fix the speed dome with bracket, and tighten 3 internal hexagon screws.



5. Cable Connection

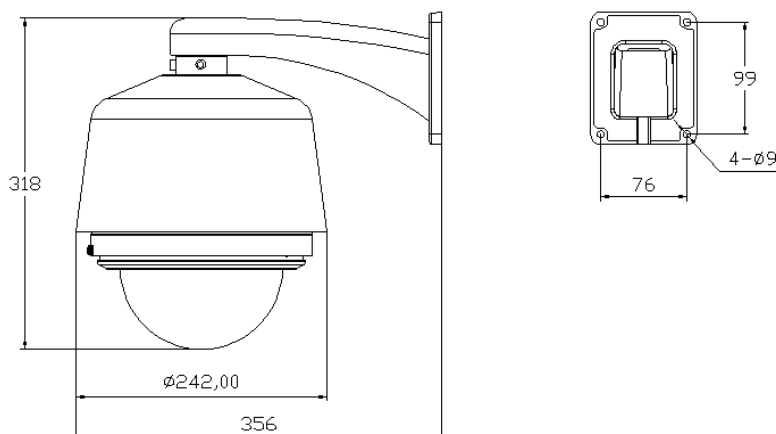


- Put the cables (including power, video cable, RS 485 and ground line) through the bracket. Then fix the speed dome base and the bracket with 4 screws and lock with $\varnothing 8$ plain cushion and nut.

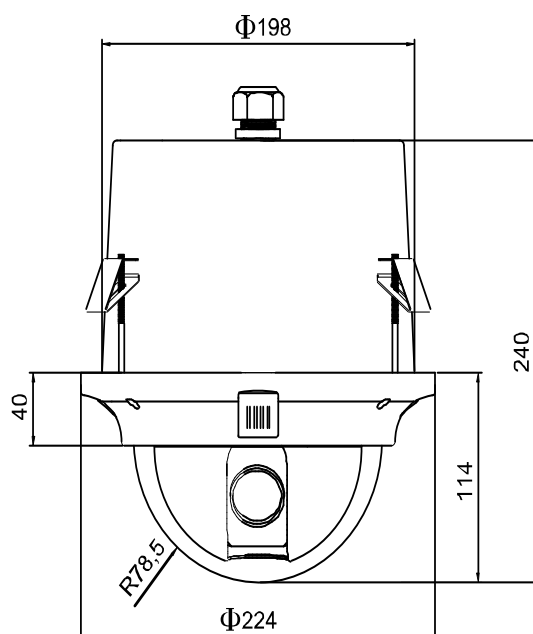


Note: The speed dome must be fully tighten, otherwise it may fall down and cause personal injury. For outdoor use, please pay attention on veneer cracks and cable hole sealing to ensure waterproof.

Size of wall mount:



Size of in-ceiling mount:



Note: The thickness of ceiling should be between 4.2cm to 0.8cm. And the ceiling should support 20kg within 225mm diameter.

2.5 Initial Setting

Address Setting

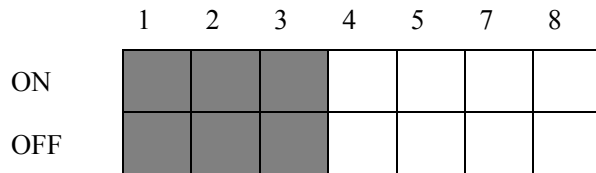
E series speed dome support protocol self-adaptation function, it is no need to set the protocol dip switch. Please make sure the 8th bit of SW2 is set to “1” in all cases.

Use SW1 to set speed dome address. Address setting adopts binary system, the 8th bit is the highest, the 1st bit is the lowest. Total 255 dome addresses could be set.

Note:

1. Put the dial to “ON”, and “1” means “on” status and “0” means “off” status.
2. Dip switch for protocol PELCO-P supports maximum 255 dome addresses; protocol PELCO-D supports maximum 254 dome addresses.
3. Protocol setting

The speed dome support protocols: PELCO-P and PELCO-D, and 3 baud rate: 9600BPS, 4800BPS, 2400BPS. Protocol dip switch is bit 1~3 of SW2.

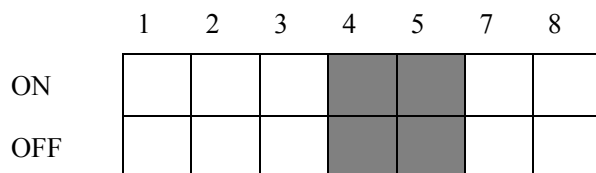


Agreement	1 bit	2 bit	3 bit
TIANDY	0	0	0
PELCO-P	1	0	0
PELCO-D	0	1	0
Reserved

***Notice: The factory default protocol is PELCO_D**

Baud Rate Setting

Baud rate setting dip switch is bit 4~5 of SW2, and factory default is 2400bps.



Baud Rate	4bit	5bit
9600bps	0	0
4800bps	1	0
2400bps	0	1
Preset	1	1

Dome address code table under protocol TIANDY/PELCO-P:

Address	PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7	PIN8
1	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0
4	1	1	0	0	0	0	0	0
5	0	0	1	0	0	0	0	0
6	1	0	1	0	0	0	0	0
7	0	1	1	0	0	0	0	0
8	1	1	1	0	0	0	0	0
9	0	0	0	1	0	0	0	0
10	1	0	0	1	0	0	0	0
11	0	1	0	1	0	0	0	0
12	1	1	0	1	0	0	0	0
13	0	0	1	1	0	0	0	0
14	1	0	1	1	0	0	0	0
15	0	1	1	1	0	0	0	0
16	1	1	1	1	0	0	0	0
17	0	0	0	0	1	0	0	0
18	1	0	0	0	1	0	0	0
19	0	1	0	0	1	0	0	0
20	1	1	0	0	1	0	0	0
21	0	0	1	0	1	0	0	0
22	1	0	1	0	1	0	0	0
23	0	1	1	0	1	0	0	0
24	1	1	1	0	1	0	0	0
25	0	0	0	1	1	0	0	0
26	1	0	0	1	1	0	0	0
27	0	1	0	1	1	0	0	0
28	1	1	0	1	1	0	0	0
29	0	0	1	1	1	0	0	0
30	1	0	1	1	1	0	0	0
31	0	1	1	1	1	0	0	0
32	1	1	1	1	1	0	0	0
...
254	1	0	1	1	1	1	1	1
255	0	1	1	1	1	1	1	1

Comparison chart of the PELCO-D protocol address.

Address	PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7	PIN8
1	1	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0
3	1	1	0	0	0	0	0	0
4	0	0	1	0	0	0	0	0
5	1	0	1	0	0	0	0	0
6	0	1	1	0	0	0	0	0
7	1	1	1	0	0	0	0	0
8	0	0	0	1	0	0	0	0
9	1	0	0	1	0	0	0	0
10	0	1	0	1	0	0	0	0
11	1	1	0	1	0	0	0	0
12	0	0	1	1	0	0	0	0
13	1	0	1	1	0	0	0	0
14	0	1	1	1	0	0	0	0
15	1	1	1	1	0	0	0	0
16	0	0	0	0	1	0	0	0
17	1	0	0	0	1	0	0	0
18	0	1	0	0	1	0	0	0
19	1	1	0	0	1	0	0	0
20	0	0	1	0	1	0	0	0
21	1	0	1	0	1	0	0	0
22	0	1	1	0	1	0	0	0
23	1	1	1	0	1	0	0	0
24	0	0	0	1	1	0	0	0
25	1	0	0	1	1	0	0	0
26	0	1	0	1	1	0	0	0
27	1	1	0	1	1	0	0	0
28	0	0	1	1	1	0	0	0
29	1	0	1	1	1	0	0	0
30	0	1	1	1	1	0	0	0
31	1	1	1	1	1	0	0	0
32	0	0	0	0	0	1	0	0
...
253	1	0	1	1	1	1	1	1
254	0	1	1	1	1	1	1	1

Chapter 3 Setups

Connect the speed dome to control device (keyboard controller/DVR) or software to adjust setting.

3.1 How to use the keyboard controller

Follow the steps below to do the setting:

- 1 Call the preset position No.95, open the speed dome OSD.
- 2 Use the joystick to set in the menu.
- 3 Press to open the menu.
- 4 Use the joystick to change chosen parameters.
- 5 Press to save all the changes on setting.

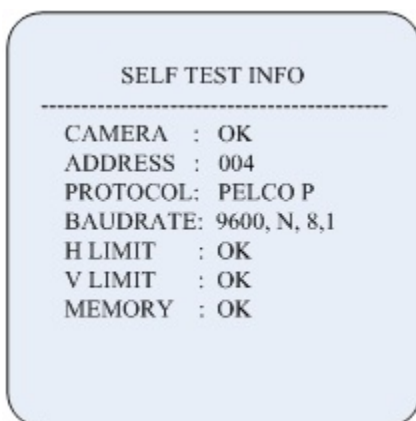
3.2 Self-Checking Information

The speed dome camera will launch self-checking operation after power on. It will do horizontal movement first, then vertical movement and finally camera block operations. The starting up image will show self-checking result information on the screen and last for 30 seconds.

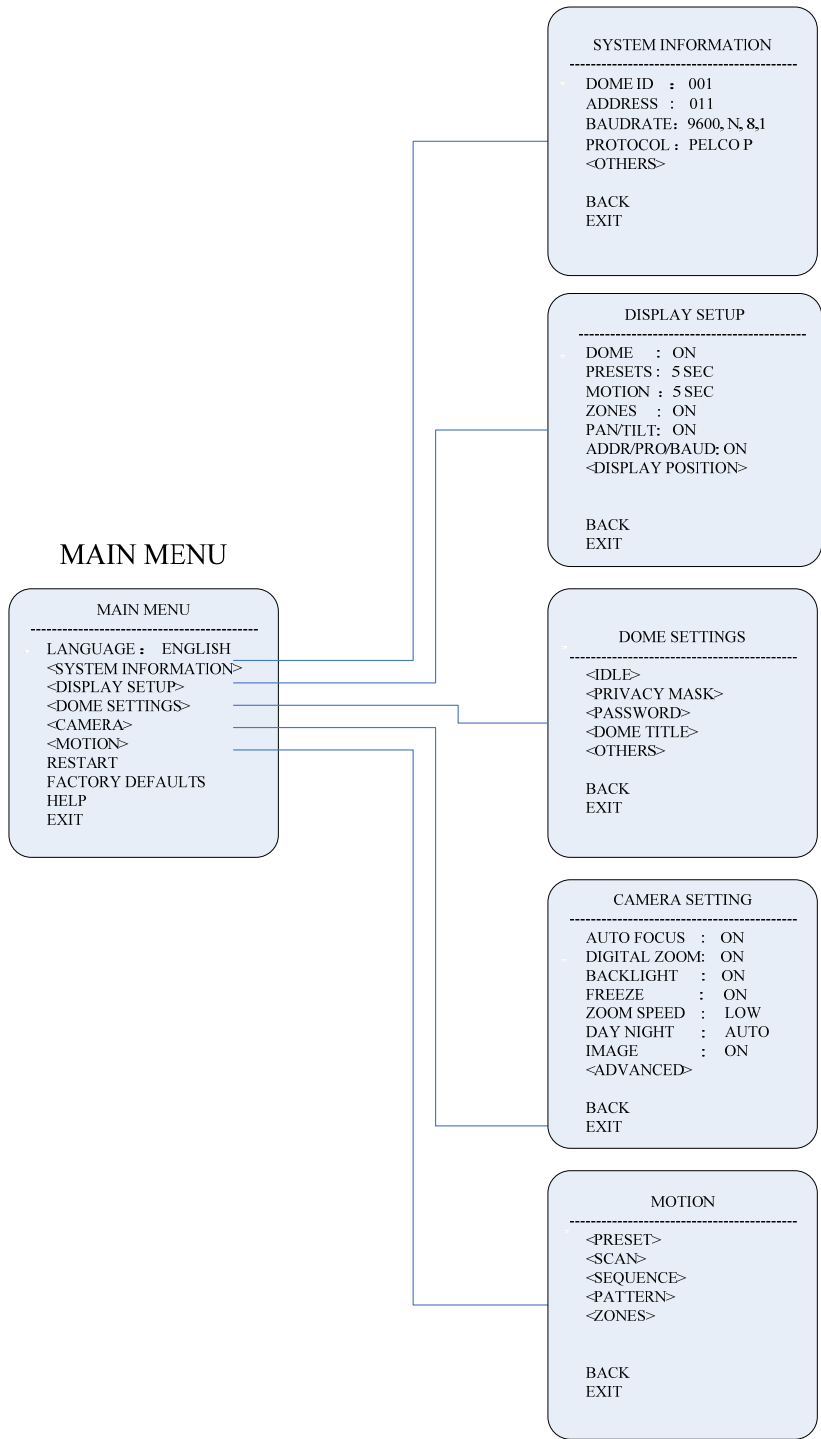
Horizontal Movement: The speed dome camera rotate in counterclockwise direction to the 0° position, then continuous to go to the original position before power on.

Vertical Movement: The speed dome camera moves downwards to 90° position of the horizontal direction, then go upwards to the original vertical position before power on.

Camera Operation: The camera block zoom in to the max distant then go back to the original zooming position.



3.3 OSD Menu Tree



Menu Item Description

LANGUAGE:

English/Chinese optional.

SYSTEM INFORMATION:

Display system info: Address, Protocol, Baud Rate, Temperature, Video Format.

DISPLAY SETUP:

Set the overlay characters on screen to show time and position information.

DOME SETTING:

Standby Operation, Privacy Mask, Clock, Manual Limit, Password, Title, Soft address.

CAMERA:

Set parameters for camera block.

MOTION:

Set Preset position, Auto Scan, Cruising Tour, Pattern Tour, Guard,
Auto-tracking(special camera block)

RESTART:

Reboot the speed dome.

FACTORY DEFAULTS:

Recover to factory default, all setting will be lost!

HELP:

Display speed dome operation help information.

EXIT:

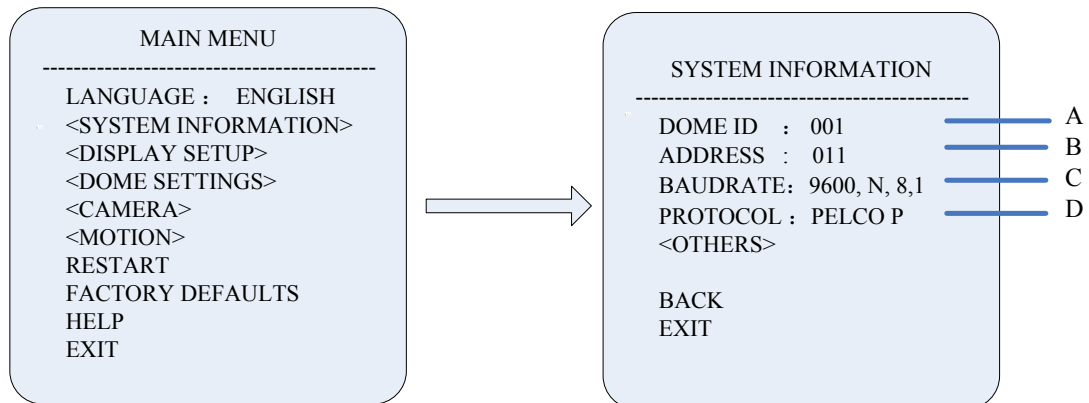
Exit speed dome menu.

NOTES: The following operations in speed dome menu will be supposed to use keyboard controller. It is similar if users are using DVR or other devices.

LANGUAGE

There are English/Chinese for selection. Use Command: call+95 to open speed dome menu, move the cursor to <LANGUAGE>, press to enter setting, use the joystick of keyboard to select one language then confirm and exit.

SYSTEM INFORMATION



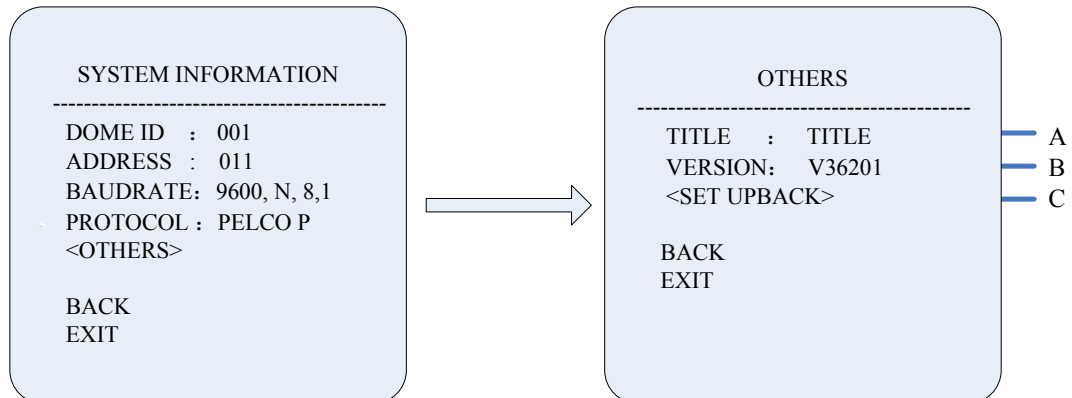
A: DOME ID

B: ADDRESS

C: BAUDRATE

D: PROTOCOL

<OTHERS>

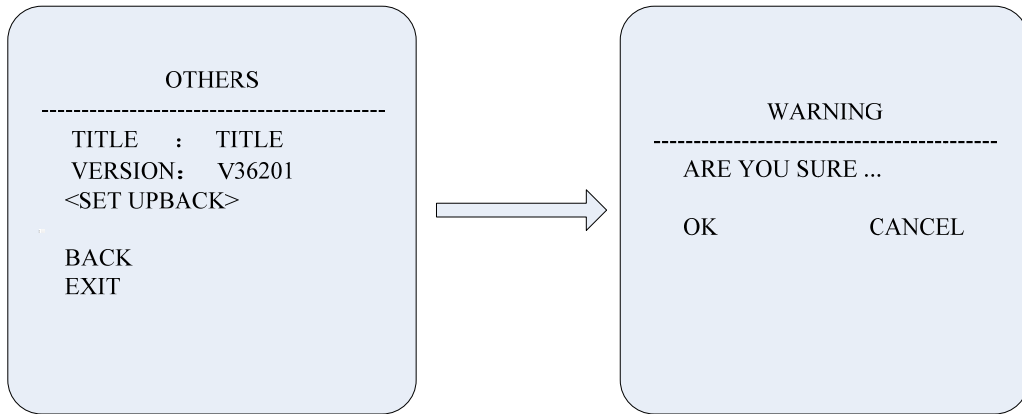


A: TITLE

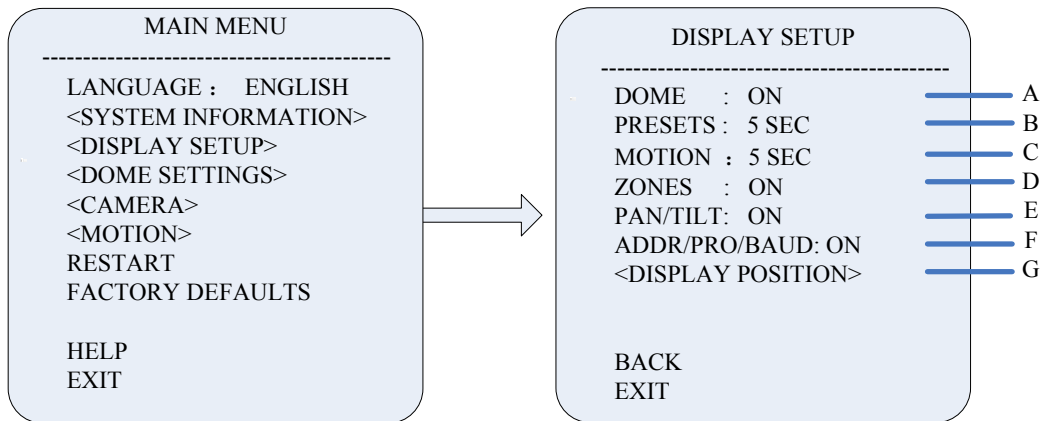
B: VERSION

C: <SET UPBACK>

The function is designed for external EEP storage. If external EEP is failed, the program will use backup information to keep the speed dome working properly. Press "OK" to backup. It will not affect normal use of the speed dome.



DISPLAY SETUP



A: DOME

On/off

B: PRESETS

Off/on /2 seconds/5seconds/10seconds

C: MOTION

Off/on/2 seconds/5seconds/10seconds

D: ZONES

Off/on/2 seconds/5seconds/10seconds

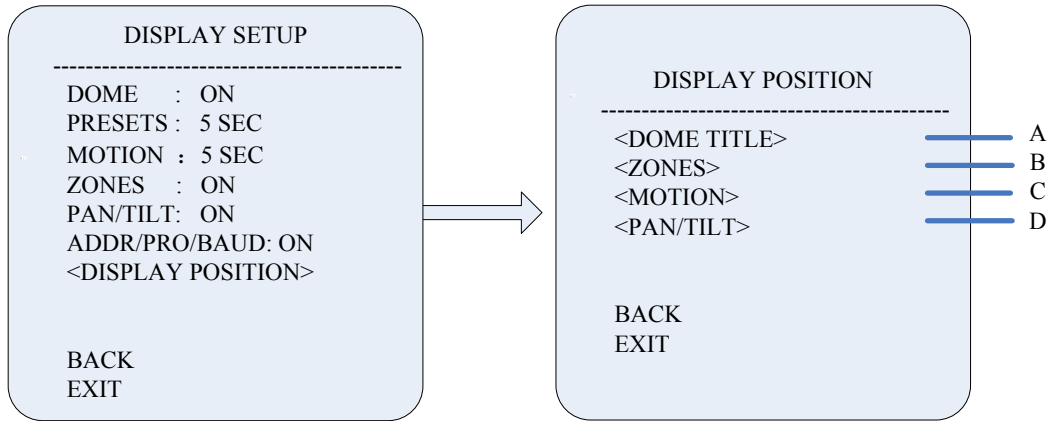
E: PAN/TILT

Off/on/2 seconds/5seconds/10seconds

F: ADDR/PRO/BAUD

On/off. (address/protocol/baudrate)

G: <DISPLAY POSITION >



A: DOME TITLE

Use the joystick of the keyboard to move the “dome title: to the specified position on screen.

B: ZONES

Use the joystick of the keyboard to move the “area information” to the specified position on screen.

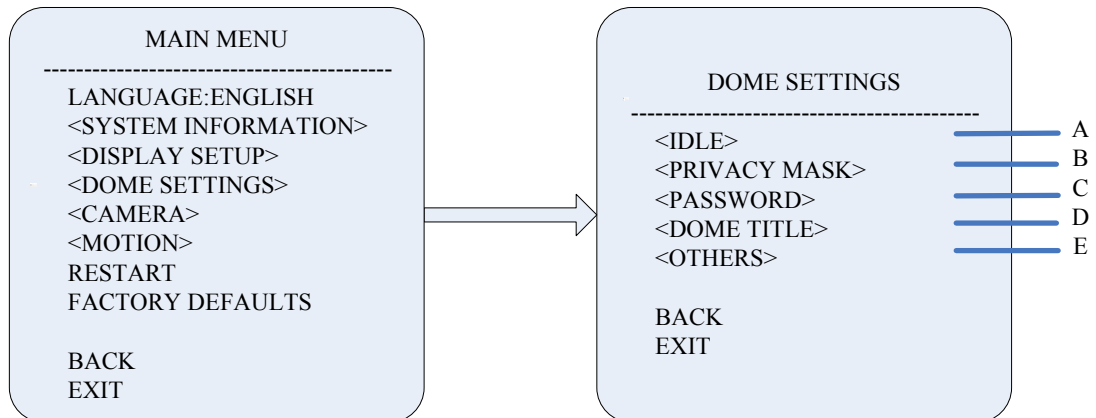
C: MOTION

Use the joystick of the keyboard to move the “Auto Function Title” to the specified position on screen.

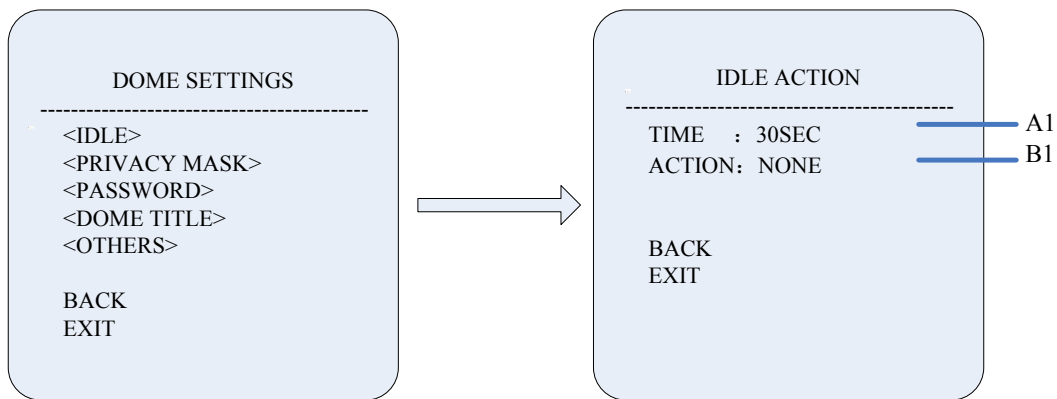
D: PAN/TILT

Use the joystick of the keyboard to move the “Coordinate Indication” to the specified position on screen.

DOMESTTING



A. IDLE



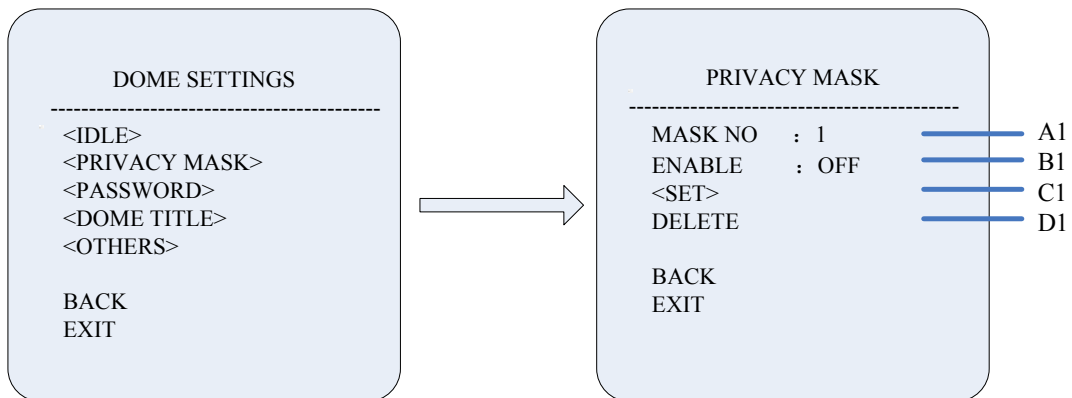
A1: TIME

Move the cursor to “Time” to set the idle action launching time. 30seconds/1 minute/5 minutes/10 minutes/30 minutes in the menu for selection, press to confirm.

B1: ACTION

Move the cursor to “ACTION” to set the idle actions: Preset position/Scan/sequence/Pattern/None.

B. PRIVACY MASK



A1. MASK NO.

Move the cursor to “MASK NO.” to set the number of privacy mask zone.

B1.ENABLE

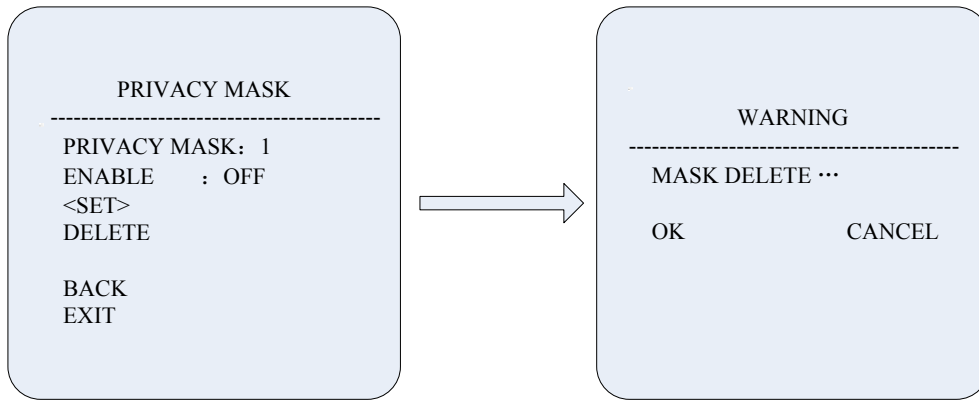
Enable/Disable.

C1. <SET>

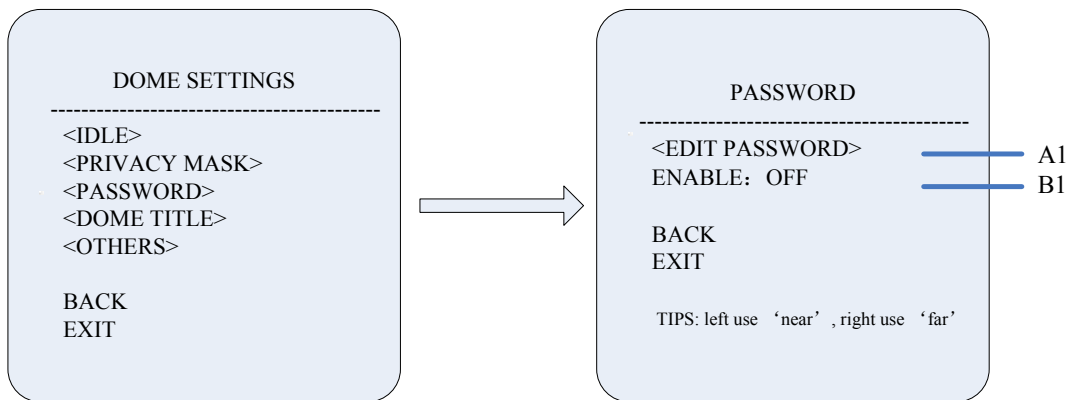
To set the position on the screen of the privacy mask. Use joystick to move the mask square to the specified position.

D1. DELETE

Press to delete the current privacy zone.

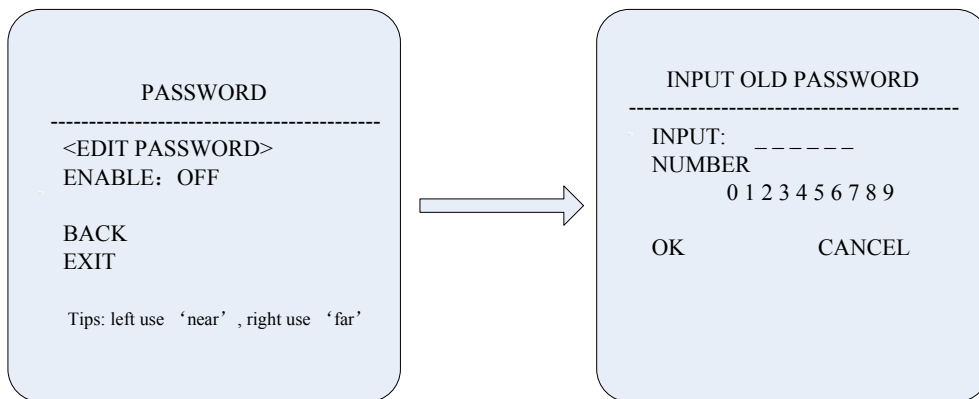


C. PASSWORD



A1.EDIT PASSWORD

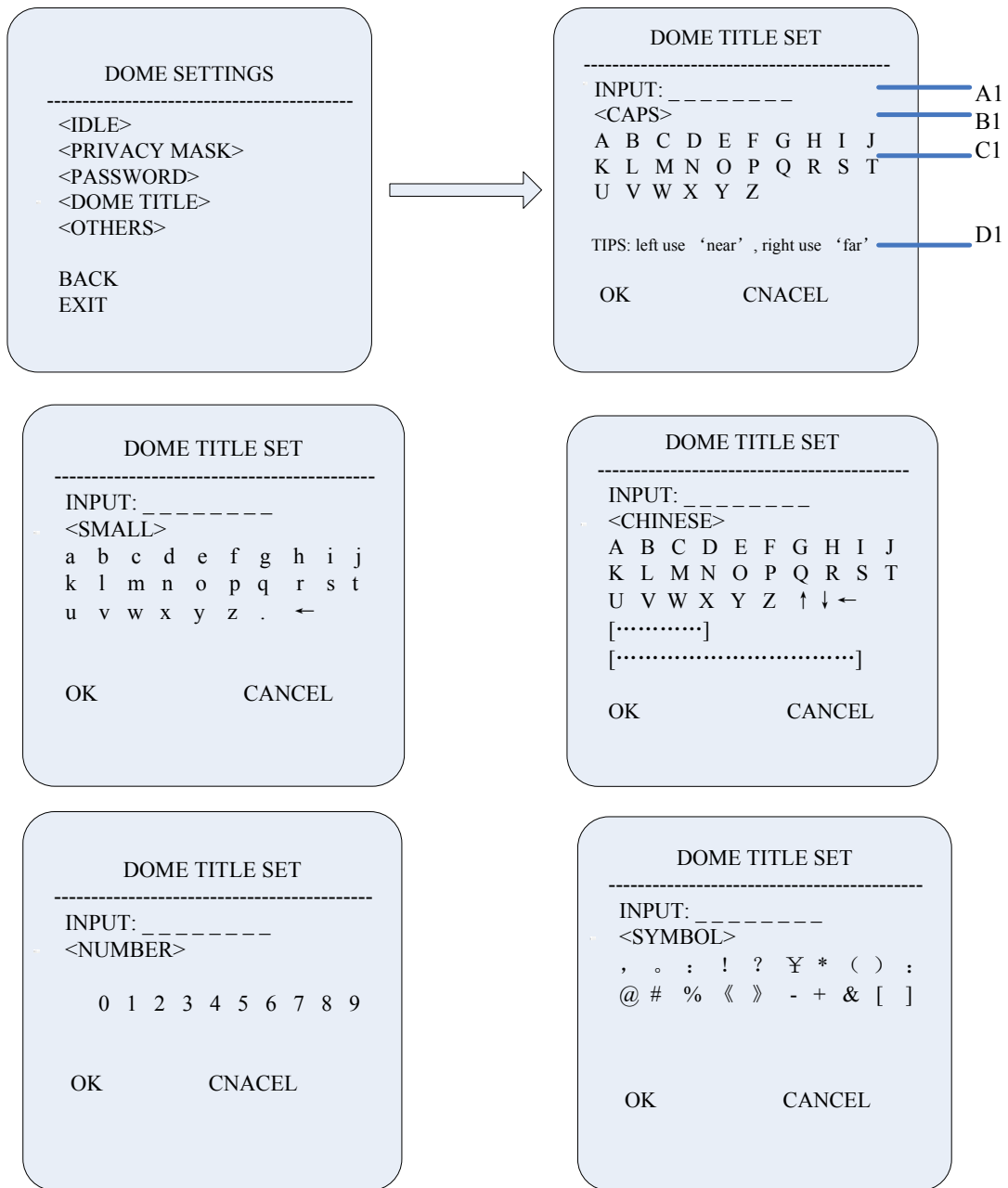
The factory default password is 111111.



B1.ENABLE

Enable/disable the password protection for OSD menu

D. DOME TITLE



A1. INPUT

Move the cursor to INPUT and press to enter the title setting mode.

B1. < CAPS>

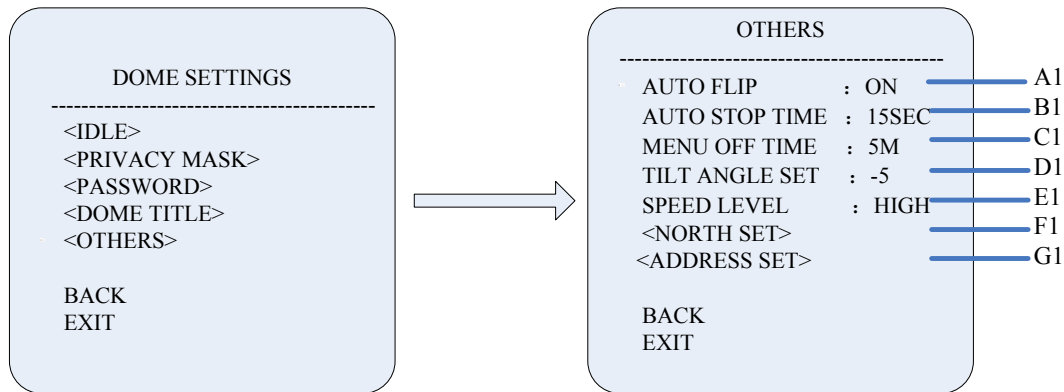
Press and move the joystick upward and downward to select capital or lower letters.

C1. ALPHABET

Move the cursor to alphabet and press to select letters.

D1. OK/Cancel

H. OTHERS



A1: AUTO FLIP

The speed dome will rotate 180° in horizontal direction after 2 seconds if it moves to 90° in the vertical direction. Choose “Open/Close” in the menu to enable/disable the function.

B1: AUTO STOP TIME

Set the stop time for speed dome when there is no stop command, 5 seconds/15 seconds/ 30 seconds/ 60 seconds for selection.

C1: MENU OFF TIME

Automatically close the menu, 1 minute/2 minutes/ 5 minutes/10 minutes for selection.

D1. TILT ANGLE SET

Default angle is -3°, the adjust range is from 0°~ -8°.

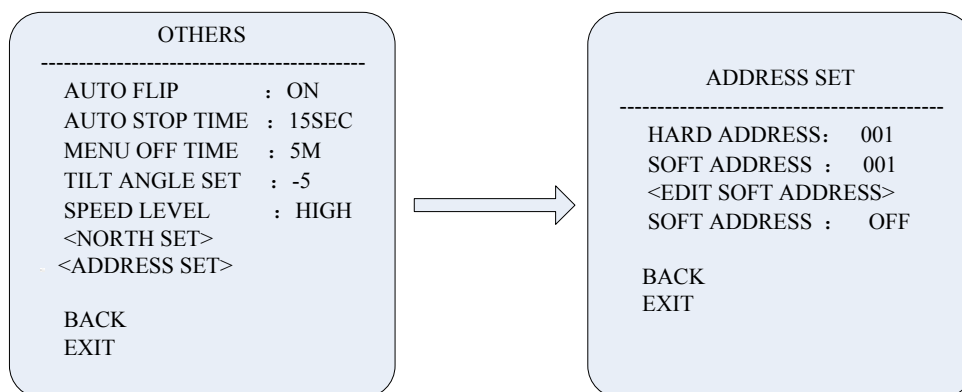
E1. SPEED LEVEL

High/Mid/Low.

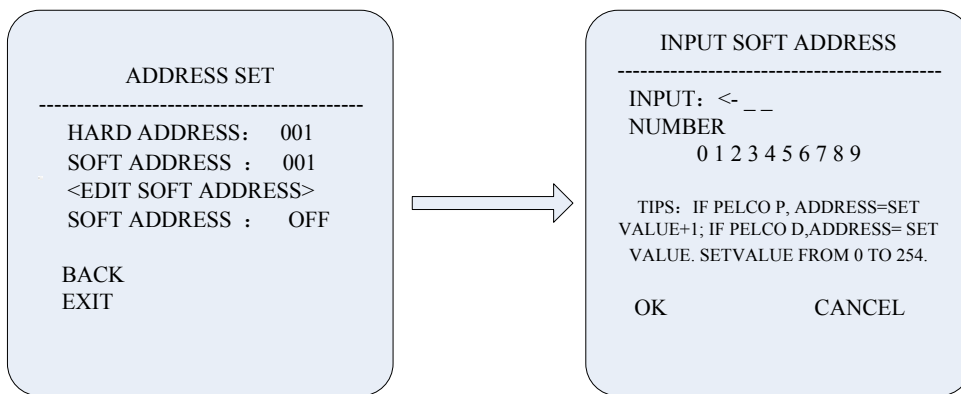
F1. <NORTH SET>

Set the true north direction for the speed dome. Enter the menu and use the joystick of keyboard to move the speed dome to the true north direction in horizontal direction, and then confirm to set.

G1. < ADDRESS SET>

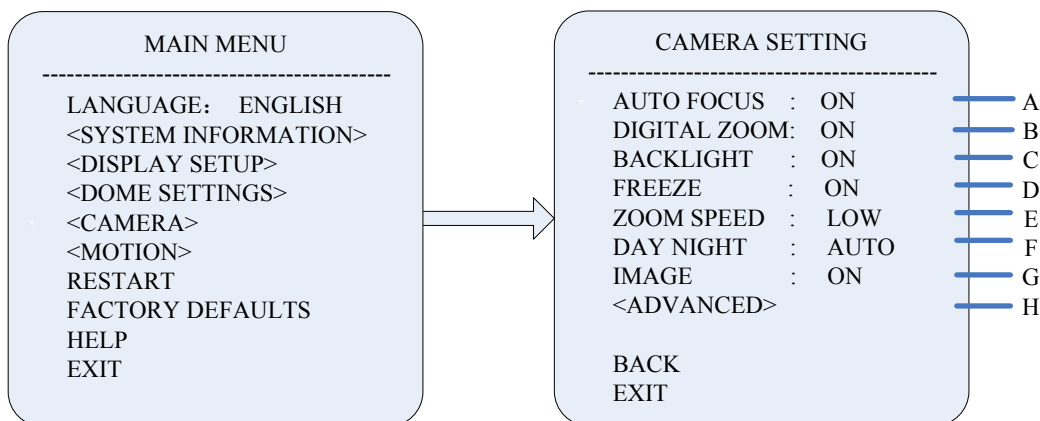


1. Hardware address has to be set in dip switch on the speed dome board.
2. Software address is a new function for easy address setup, it is recommended to use it for installation.
3. Edit soft dip switch



- <1> Input address in 3 bits
- <2> Tiandy/Pelco_P address range: 1~255, Pelco_D address range: 1~254
- <3> Reboot the speed dome after setting to enable the software address function.

CAMERA



The speed dome integrate Sony camera block OSD into the speed dome OSD, for other brands of camera block, it will call up its own OSD menu for setting.

A. AUTO FOCUS

Switch Auto/ML/trigger function.

B.DIGITAL ZOOM

On/off

C.BACKLIGHT

When the light is dim, please open the backlight compensation to make the image bright

D.FREEZE

On/off

E.ZOOM SPEED:

LOW/NORMAL/HIGH

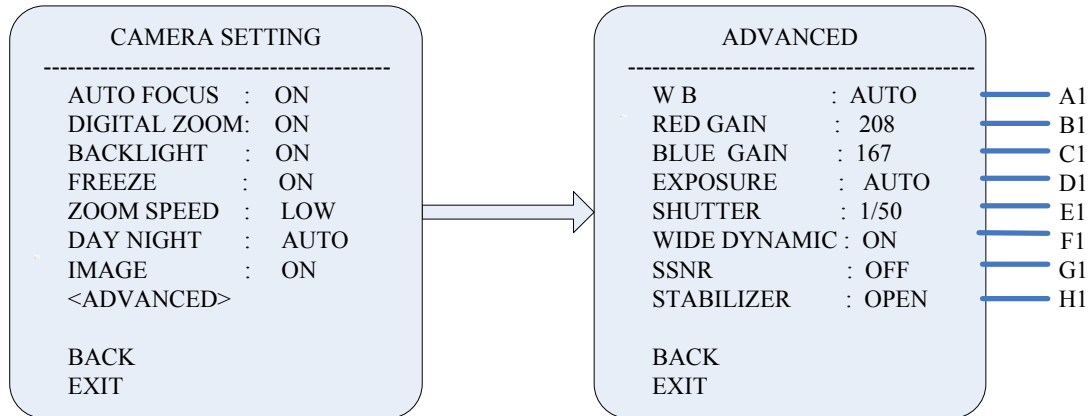
F: DAY/NIGHT

Auto/BW/Color

G: IMAGE

On/off

H. <ADVANCED>



A1. WB

AUTO/MANUAL/ATW/INDOOR/OUTDOOR

B1. RED GAIN

0-255

C1. BLUE GAIN

0-255

D1.EXPOSURE

Auto/iris/shut/menu

Choose “shut” to adjust shutter parameter; choose “iris” to adjust Iris parameter; choose “manu”

to set both shutter and iris, shutter and iris parameters are as below:

Shutter:1/2 1/6 1/12 1/50 1/100 1/600 1/1000 1/10000

Iris:F1.6 F2.4 F4.0 F6.0 F8.0 F14.0

E1: SHUTTER

1/2 1/6 1/12 1/50 1/100 1/600 1/1000 1/10000

F1: WIDE DYNAMIC

ON/OFF

***NOTICE: This item is only for the camera module with WDR function.**

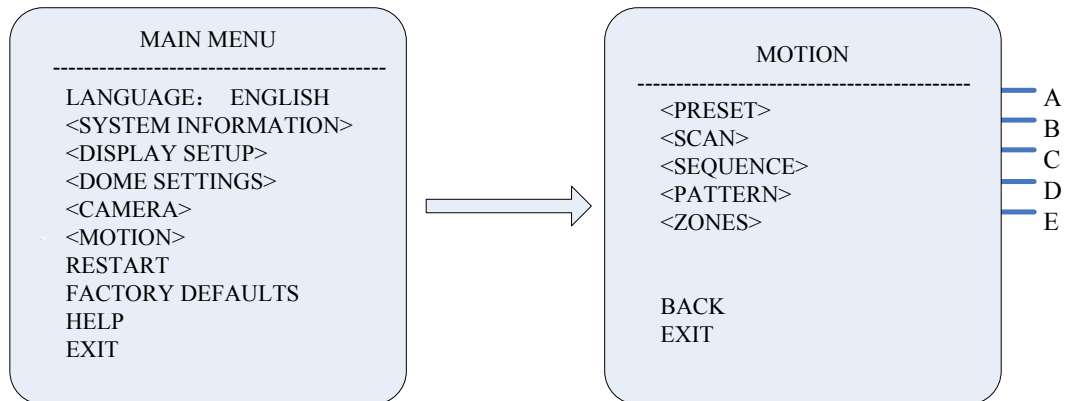
G1: SSNR

off/low/mid/high

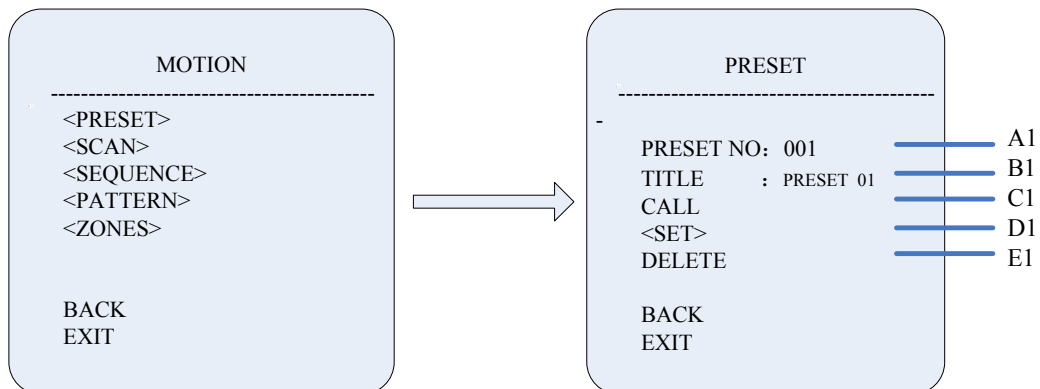
H1: STABILIZER

Off/open/hold

MOTION



A.PRESET



A1: PRESET NO

Move the cursor to <Preset Position Number>, press to select preset number. The dome cameras support 220 preset positions.

B1: TITLE

Move the cursor to <Title Setup>, press to enter the sub-menu of title setup for the preset positions.

C1: CALL

Move the cursor to <Call>, press to call the corresponding preset positions.

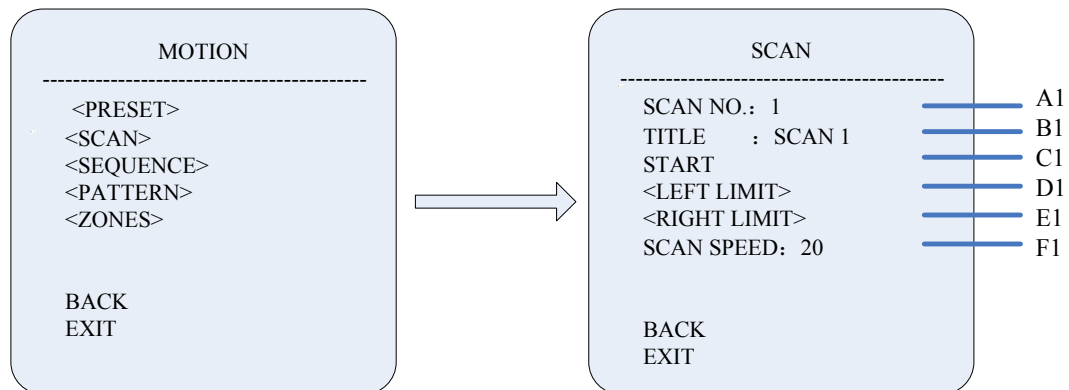
D1: <SET>

Press to enter setting mode, when “Press the icon to confirm” shown on the screen, it is available to operate the camera, then press to save the new position.

E1: DELETE

Move the cursor to “Delete”, press the icon of “Iris On” to delete the set preset positions.

B. SCAN

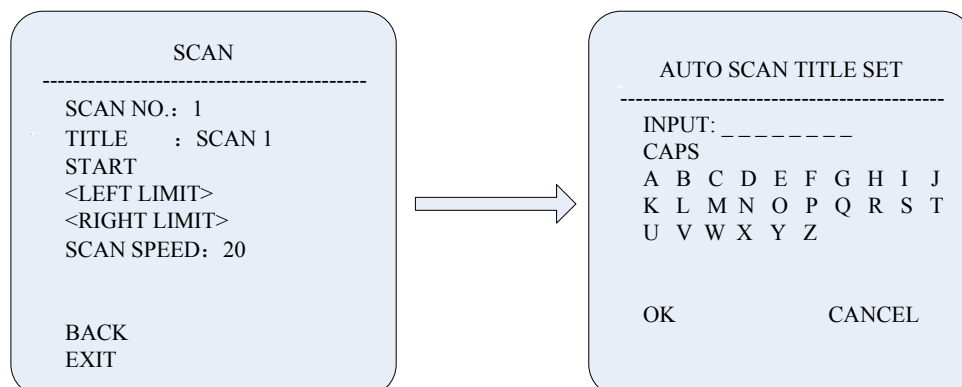


A1. SCAN NO.

Move the cursor to <SCAN NO>. to enter the setting mode of “scan No.”, use the joystick of keyboard to select digit number. Then confirm and exit. Each speed dome supports 8 scan paths..

B1. TITLE

Move the cursor to <TITLE> to enter the setting mode of sub-menu for title setting of scan path.



C1.START

Move the cursor to <START> to start the current scan.

D1. <LEFT LIMIT>

Move the cursor to <LEFT LIMIT> and confirm to start setting the left margin of the current scan. Then “PRESS TO CONFIRM” will appear on the screen. Move the joystick and press to confirm.

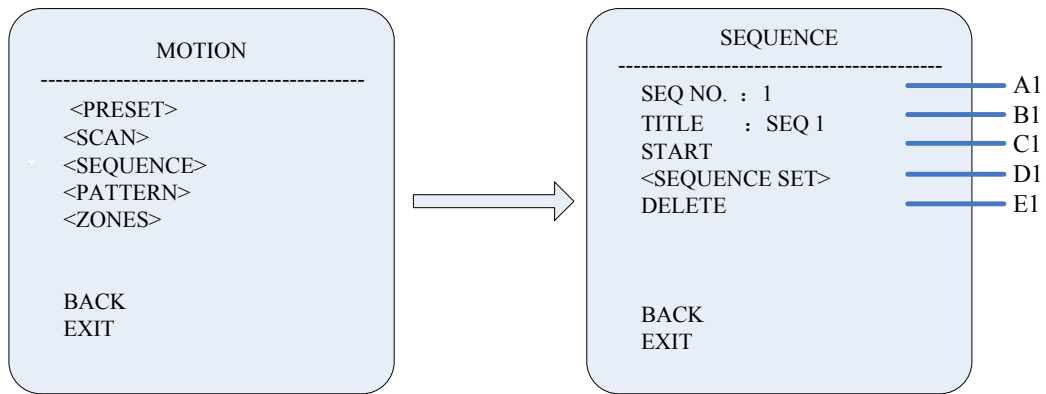
E1. <RIGHT LIMIT>

Move the cursor to <RIGHT LIMIT> and press confirm to start setting the right margin of the current scan. Then “PRESS TO CONFIRM” will appear on the screen. Move the joystick to press confirm.

F1. SCAN SPEED

Move the cursor to <SCAN SPEED> and press to enter the setting mode of scan speed. Move the joystick upward and downward to select the speed scale, press to confirm. The speed scale ranges is between 1~30.

C. SEQUENCE



A1. SEQ NO.

Move the cursor to <SEQ NO.> and press to enter the setting mode of “Sequence No.”, move the joystick upward and downward to select number. Then press to confirm.

B1. TITLE

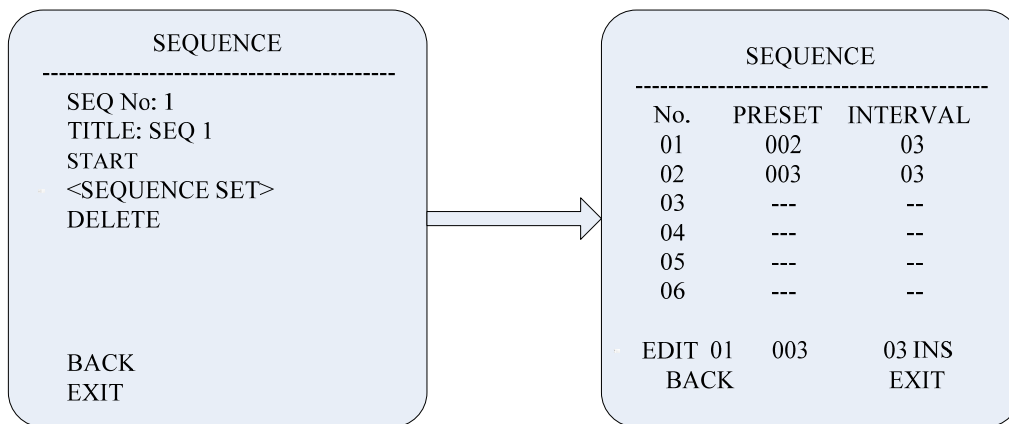
Move the cursor to <TITLE> and press to enter the setting mode of sequence title.

C1.START

MOVE the cursor to <START> and press to start the current sequence.

D1. <SEQUENCE SET>

Press to enter the sequence setting



Move the cursor to <SEQUENCE SET> and press to enter <EDIT> mode. Move the joystick rightward or leftward to select item.

a. When the icon of “<>” is on the item NO., move joystick upward or downward to select one preset position for a sequence. One single sequence supports 32 presets.

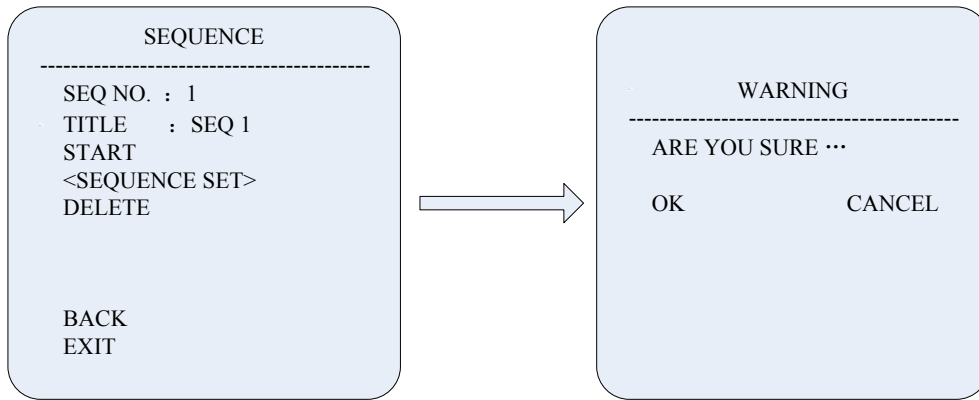
b. When the icon of “<>” is on the item “PRESET”, move the joystick upward or downward to select a specified preset to add in the sequence. “INTERVAL” is the time interval between two presets in one sequence.

c. When the icon of “<>” is on the item: “INS”, move the joystick upward or downward to select setting mode as “insert”, “ok” and “delete”.

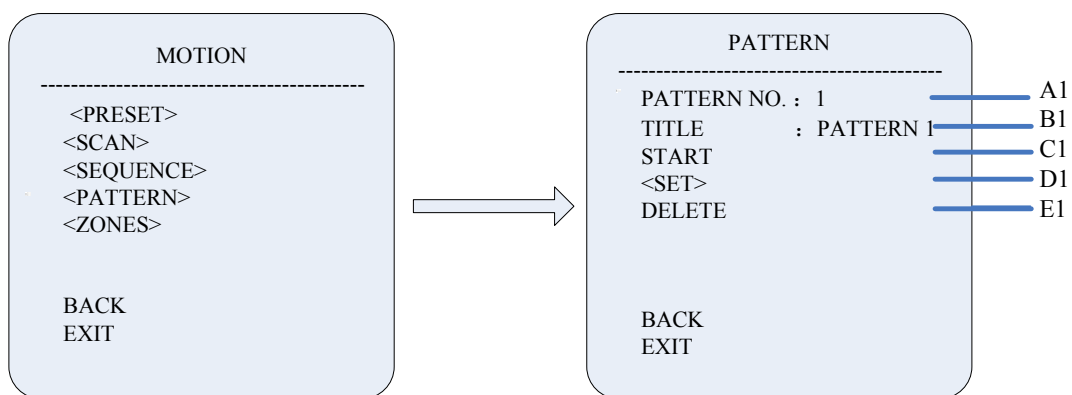
d. Move the cursor to “BACK” or ”EXIT” and press to quit the setting.

E1: DELETE

Move the cursor to <DELETE> and press to delete the current sequence.



D. PATTERN



A1.PATTERN NO.

Move the cursor to <PATTERN NO.> and press to enter the setting mode of pattern number, move the joystick upward or downward to select number, then press to confirm.

B1. TITLE

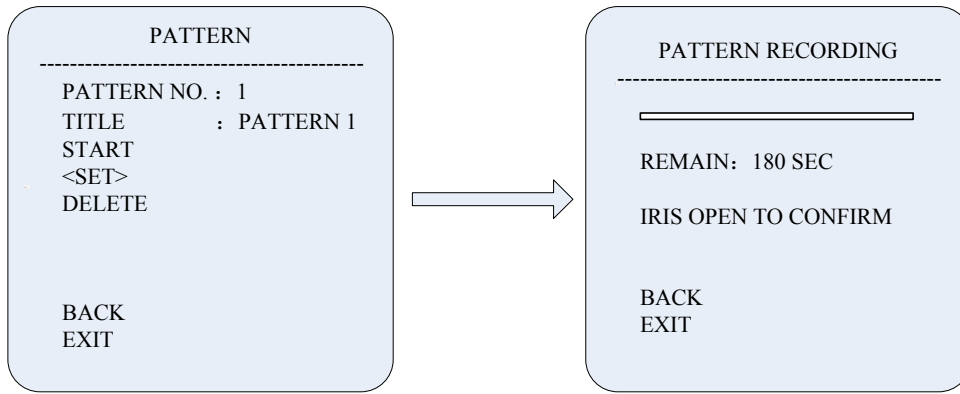
Move the cursor to <TITLE> and press to enter the setting mode of PATTEN title.

C1.START

MOVE the cursor to <START> and press to start the current Pattern.

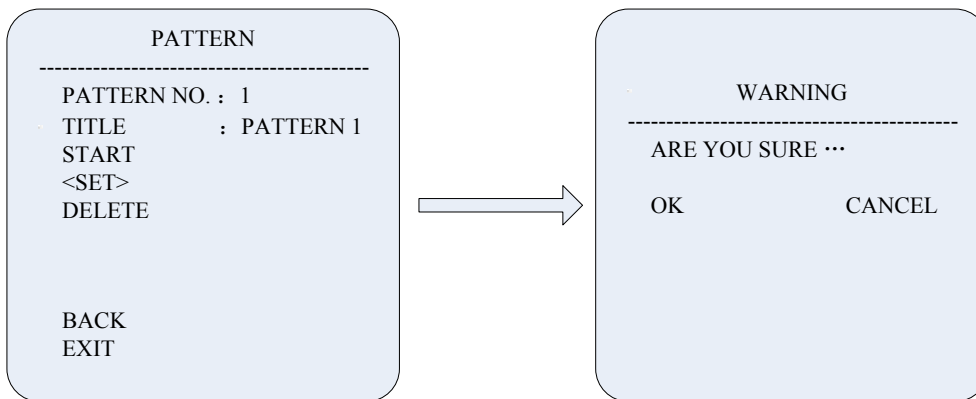
D1. <SET>

Move the cursor to <SET> and press to enter pattern setting mode. Then "PRESS IRIS ON TO CONFIRM" will appear on the screen. Use the keyboard to do PTZ operation and press to confirm.

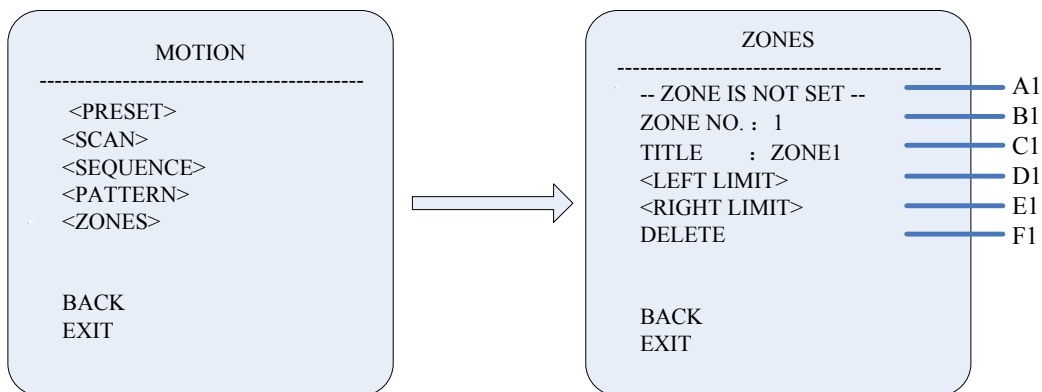


E1.DELETE

Move the cursor to <DELETE> and press to delete the current pattern.



E.ZONES



A1. ZONE INFORMATION

Show the status of zone. Zones function is used to show zone information when the speed dome run to the preset zone area.

B1. ZONE NO.

Move the cursor to <ZONE NO.> and press to enter the setting mode of zone number, move the joystick upward or downward to select number, then press to confirm.

C1. TITLE

Move the cursor to <TITLE> and press to enter the setting mode of zone title.

D1. <LEFT LIMIT>

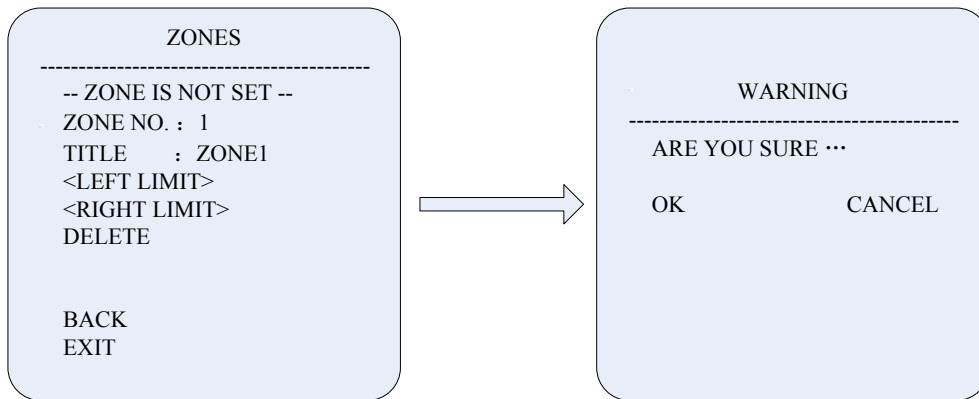
Move the cursor to <LEFT LIMIT> and press to start setting the left margin of the current zone. Then “PRESS IRIS ON TO CONFIRM” will appear on the screen. Use the joystick to press confirm.

E1. <RIGHT LIMIT>

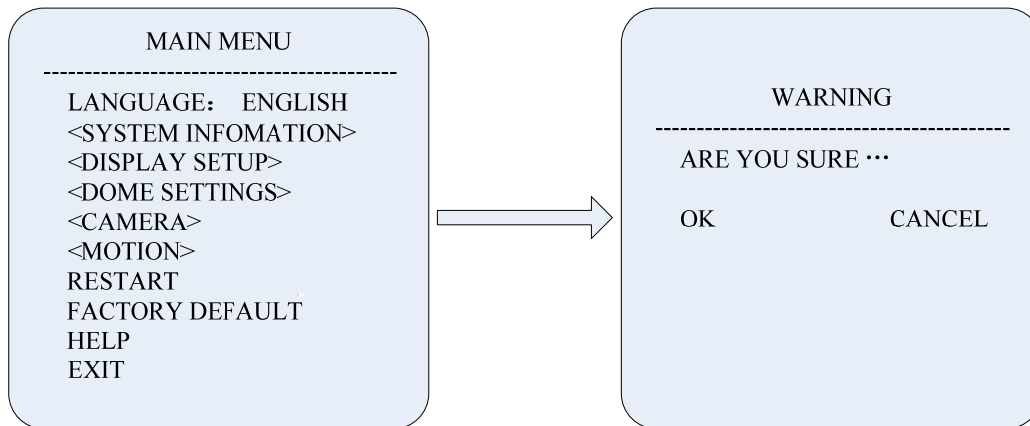
Move the cursor to <RIGHT LIMIT> and press to start setting the left margin of the current zone. Then “PRESS IRIS ON TO CONFIRM” will appear on the screen. Use the joystick to press confirm.

F1.DELETE

Press to delete the current zone.

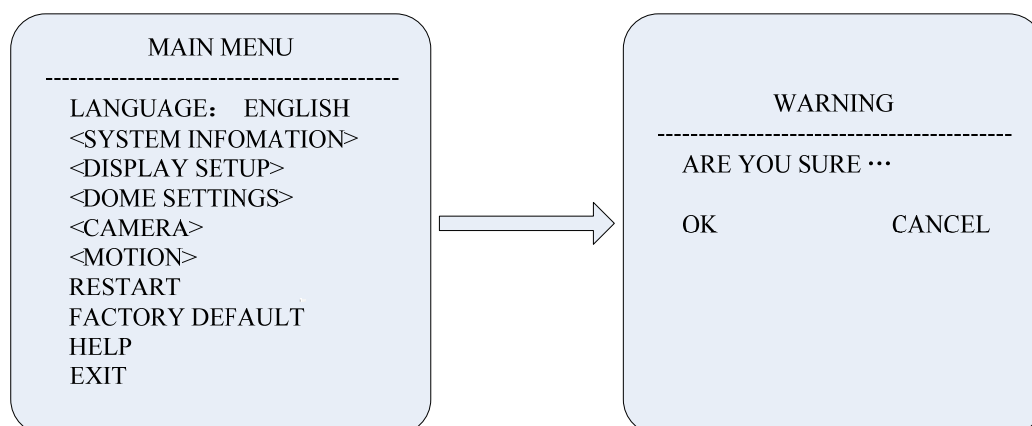


RESTART



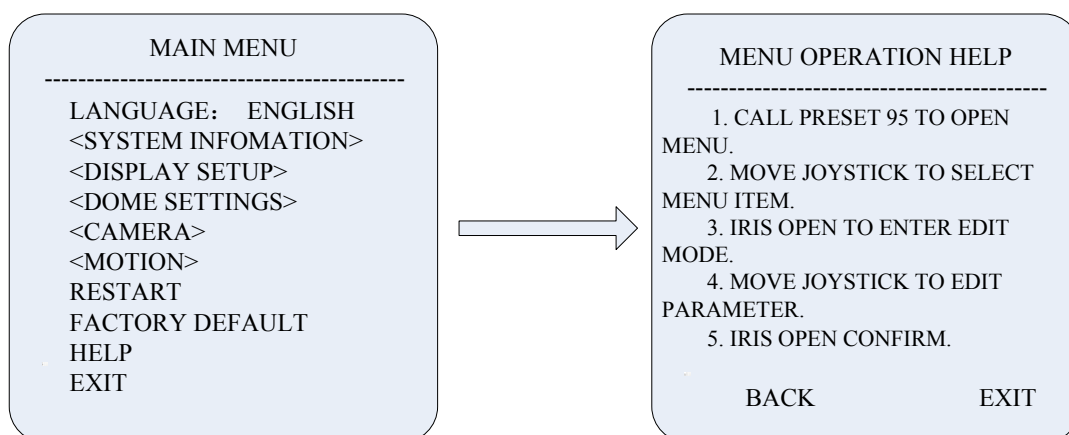
Press to reboot the speed dome camera.

FACTORY DEFAULTS



Press to recover all the settings to the factory default.

Help and Exit



Click to get the help information of shortcut.

Move the cursor to “Exit”, press to exit from the menu.

Remark:

1. The camera block, such as Sony, LG, Samsung has their own OSD. To its own OSD, please click the “Exit” of the OSD or use command: “call+ 96” to exit the OSD menu. Command: call+96 is unavailable for Samsung camera block.

2. To support shortcuts, the operation mode of joystick will be changed, right direction means “confirm”, left direction means ”cancel”. “Focus near” and “Focus Far” on the keyboard indicate the left and right shifting on menu.

Appendix

Appendix 1 : Lightning and surge protection

The outdoor speed dome need to have the function of lightning and surge protection, in order to make sure that electronic components are safe, please take the following measures:

- The transmission cable must be keep 50 meters away from the high-tension apparatus and high-voltage cable;
- It's better to arrange the outside cable under the eave;
- In the open area, the wire must be sealed by the steel tube, and connect the earth by one end, the way of overhead wire arrangement is forbidden;
- In the strong lightening storm or high voltage areas, the extra high-power lightening protection device and lightning rod are needed.
- The design of lightning protection must be matched with the building's lightning protection requirement and it needs to correspond requirement of the country and/or industry standard.
- The system must connect to the earth at ISO-Electrical level. The earth connection device must meet the requirement of anti-interference and electrical safety and can't be short circuit or hybrid junction with the strong current. When the system connects the earth, the resistance is no more than 4Ω , the cross sectional area is no less than 25mm^2 .

The resistance of Video Lightning arrester, Communication Lightning arrester, Power Lightning arrester and Earth conductor is no more than 4Ω , Steel jacket, Lightning arrester, Speed dome must be installed under the lightning arrester within 45 degrees.

Appendix 2 : RS485 General Knowledge

1. RS485 Basic Features

According to the RS485 industry standard, the resistance is 120Ω , the maximal load capacity is 32 valid loads.

2. RS485 transmission distance

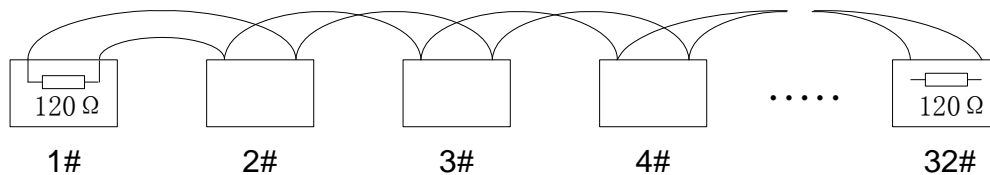
When using the FTP of 0.56mm (24AWG) as cable, according to the baud rate's difference, the maximal transmission distance is as following:

Baud Rate	Max. Distance
2400Bps	1800m
4800Bps	1200m
9600Bps	800m

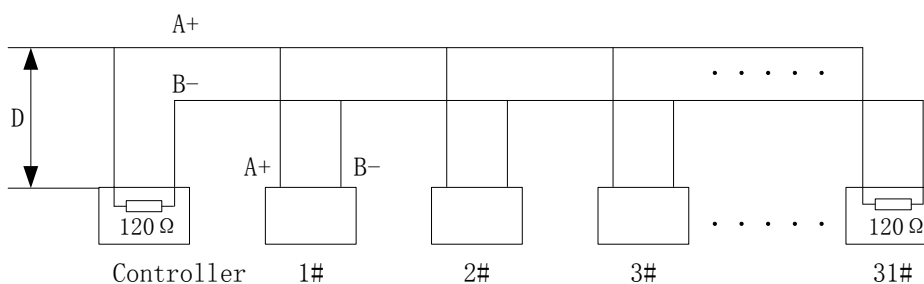
When the cable is thin or EMI is strong or there are too many other devices, the transmission distance will be shortened.

3. Connection and terminal resistance

When arranging the wires, the way of connection use the way of snakelike, both of the ends must connect 120Ω terminal resistance, the simple connection is as the Chart 7, the distance is no longer than 7 meters.



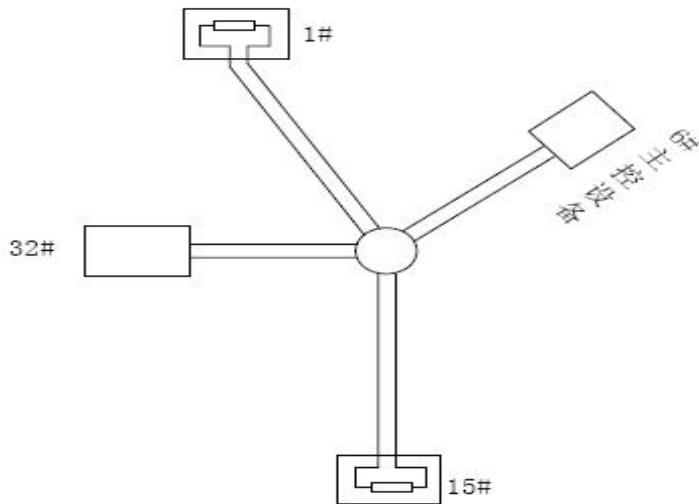
Picture 2



Picture 3

4. Problems in the practical application

In the practical application, most of the clients use the star-type as a connection mode, however the terminal resistance must connect the two devices in a longest distance, such as 1 # and 15 #, as this kind of connection doesn't meet the requirement of RS485 industry standard, it will cause the problems of signal reflex, weaken the ability of anti-interference and signal control. In this case, the RS485 divider is recommended, it can change the star-type to a new connection that can meet RS485 industry standard and improve the reliability of communication.



Picture 4

Picture 5

RS485 common faults solution

Phenomenon	Possible reason	Solution
Speed dome can take self-checking, but can't be controlled	1.Host machine, speed dome's address and baud rate is not matching	1.Change the host machine, speed dome's address and baud rate to be the same
	2.RS485's+.- pole is reversed	2.Conversion the +.- pole
	3.Cable loosen	3.Fasten the cable
	4.RS485 is damaged	4.Use a new RS485 cable
Speed dome can't be controlled well	1.RS485's contact is poor	1.Reconnect the RS485 cable
	2.One RS485 is damaged	2.Use a new RS485 cable
	3.The distance between host machine and speed dome is too far	3.Install terminal resistance
	4.Too many speed domes	4.Install RS485 divider