8890X series
Infrared High Speed Dome Camera
（Fourth-generation / IV）

Operating manual

Version: V2.0

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Safety Caution

1. Before using the camera, please read the attached manual carefully to ensure the correct operation.

2. Wall installation power supply box is with dangerous high voltage, and there is no any replaceable parts, Laypeople please don't open shielding cover. When wiring, must abide by the electrical safety standards, please don't choose other power adapter to supply electricity to the camera.

3. The camera video signal cable and RS-485 wiring mouth of control line used ceramic gas discharge tube, TVS tube instant discharge lightning technology, which can prevent the lightning under 500W power, surge and other kinds of pulse of high voltage to damage the interior of the camera.

4. In order to protect the camera not to be damaged by lightning stroke, please use marked the ground wire ports of preventing lightning plate to access the earth. If no, lightning protection performance will be greatly reduced.

5. The interior of the camera has high precision structural element, please transport properly.Please do not leave the camera on the unstable desk or scaffolds to test, insure installation is firm before operation.

6. The camera video signal cable and RS485 control line must be far from high voltage lines as possible, to avoid touch lines.

7. no matter not in use or be in use, prohibit putting the camera aiming at the sun or other high light objects. If no, it will cause permanent damage of the CCD in camera interior.

8. When the camera malfunction, with reference to the manual to find fault, if can not find out the fault cause , contact professional maintenance persons to maintain. About relevant maintenance work, that must be maintained by maintenance persons who authorized by our company.
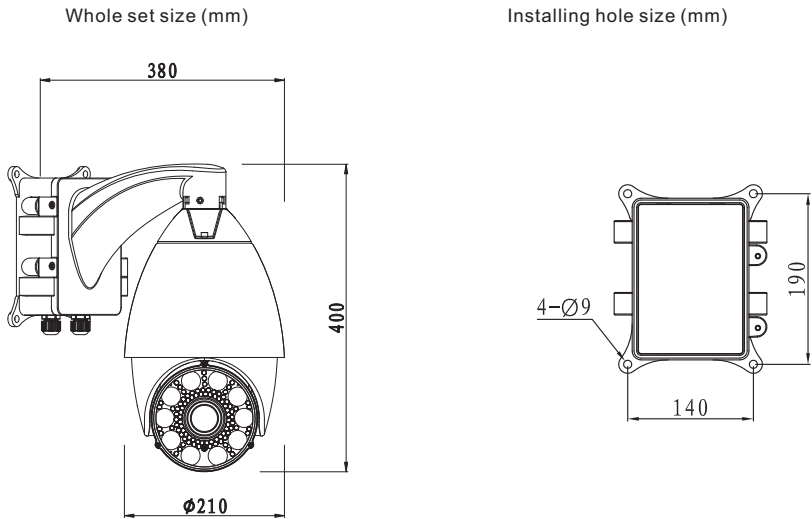
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1.1. Infrared high-speed component name

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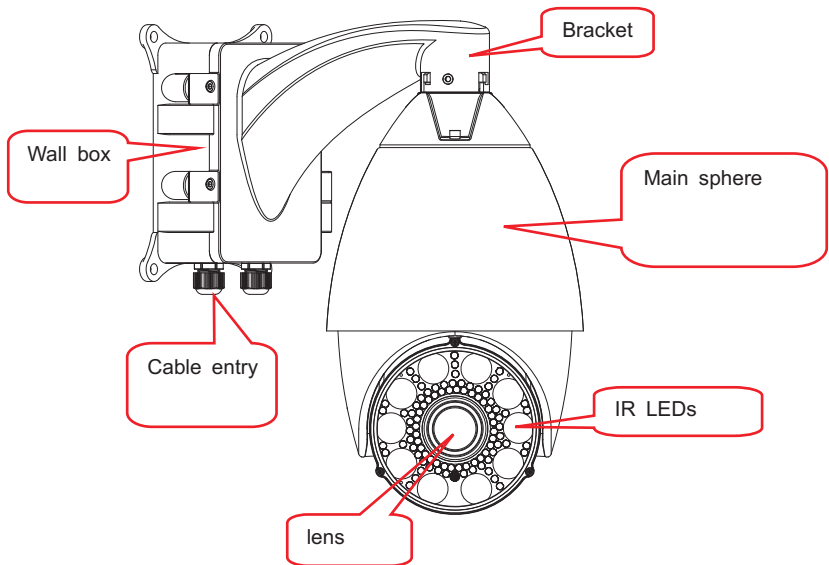
1.2. Installing hole size figure

Whole set size (mm)   Installing hole size (mm)

380

400

⌀210

4-∅9

190

140

1.3. Installation and debugging

1.3.1、Take out the main dome, wall bracket, wall boxing and other components.

1.3.2、Affix the wall boxing to the wall, according to the wall boxing size to drill corresponding hole, then install the expansion bolts.

1.3.3、Connect the main dome with the wall bracket, and tighten the positioning screws.

1.3.4、Hang the wall bracket on the rotation door.

Rotation door

Locate screw

Install the location hole

Fix screw
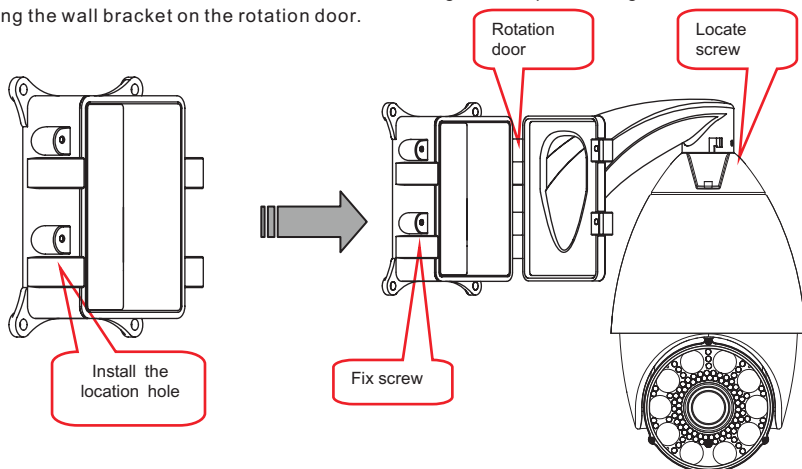
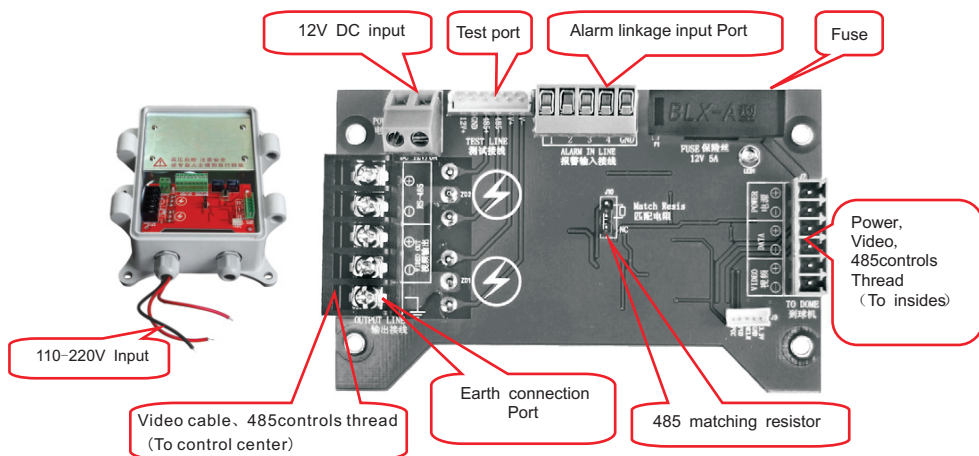1.3.5、Plug the cable row into the socket signed "TO DOME" on the right of prevent lighting plate.

1.3.6、penetrate the video cable and 485 controls thread from waterproof screw, and contact to the corresponding outlet signed "OUTPUT LINE" on the left of prevent lighting plate.

1.3.7、if the distance between the machine and control equipment over 500 meters, connect 485 matching resistor jumpers on the prevent lighting plate to the two pins marked resistance.

1.3.8、The main dome has alarm linkage output function. According to the receiving equipment, toggle switch S1 to choose two states normally open or normally closed.

1.3.9、Finally, tighten the two mounting screws. Access to 220V AC power supply must pay attention to color -coded. (Blue and brown zero line and FireWire, yellow is earth wire)

1.3.10、These are wall mounting bracket installation method. If the choice of lifting brackets, installation is also basically the same.

12V DC input

Test port

Alarm linkage input Port

Fuse

Power, Video, 485controls Thread （To insides）

110-220V Input

Video cable、485controls thread （To control center）

Earth connection Port

485 matching resistor

Video cable、485controls thread （To control center）

2、infrared high-speed dome camera setting and operation
2.1．technology parameter table

Power Supply	AC220V/50Hz or AC110V/60Hz
Video Output	1.0V p-p 75Ω
Communication	RS485
Dome Address	1-255(Support software rewriting address)
Communication Protocol	Pelco-D/Pelco-P / SANTACHI 650 / FACTORY
Baud Rate	2400/4800/9600/19200 bps
Horizontal Rotation Speed	220º/s （1-64 Grade speed change）
Horizontal Rotation Range	360º unlimited
Vertical Rotation Speed	90º/s
Vertical Rotation Range	0-90º
Manual Control Speed	180º/S
One Machine Set	Compatible with SONY,HITACHI,SAMSUNG,LG,SANYO.CNB etc
Infrared light(Spec x pcs)	LED Array lights x10pcs / Ø5x90pcs
IR Distance	100-120m
Preset Points	220 points
A-B Scan Speed	4 groups(1-64 grade speed available)
Cruise scanning	4 groups(at most 32 preset points each group)
Pattern scanning	4 groups(at most 100 continuous action each group)
Idle Running	After setting idle 5-255S,it scans automatically
Timing of operation	4 groups(can operate at any setted time the whole day)
Privacy protection	Can be set to 8 protected areas
Password protection	Can be set to 6 numbers password
Information Display	Date,time positon,temperature,etc
Alarm Linkage	Support 4ways output,2ways input, colse/open optional
Working Temperature/ Humidity	-40℃—+60℃，≤95% (no condensation)
Automatic thermostat indicator	<-5℃ Heating，＞48℃ Cooling
Waterproof	IP65
Dimension	400×380×210mm
Net Weight	7.9kg

2.2．Common Functions Glossary

Preset setup : Save some locations that need to be usually monitored,so that can find these locations easily.

Call preset : To run the machine quickly and accurately to a pre-stored location, or execute a specify function.

Left-right scan setup : Set the machine scan back and forth between two points in a certain area. Also known as A-B Scan.

Cruise setup : Set the machine scan between some preset points, and each preset dwell time between the points can be set freely.

Pattern Setup : record the scanned line and store it into the machine, easy to play back or run the line at any time.

Time action : Set the machine to run a certain function at a specific time.

Wait action : After a period of time without any operation, the ball automatically run to the specified preset point guard, or run a preset function.

Alarm Linkage : When an alarm signal is input, the machine immediately execute pre-configured functions, and can be linked to other output devices.

Power-off memory : When the machine restart after power failure, it will automatically revert to the last stop position or the last working state.

High zoom low speed : with manual zoom lens value increases, the manual control speed in proportion to slow down.

Far and Near conversion : In night mode, far/near-infrared light automatically converted according to the lens multiplier. When the lens multiplier nearly 13 times, the near lights on. When above 13 times, the far light on.

Day/Night conversion : the machine identify the current ambient light through photosensitive Resistance, turn on the infrared lights, and convert black and white images automatically.

Automatic Focus : If the product is set to auto-focus mode, When the user control PTZ, the camera always follow the auto-focus.

## 2.3. Address, protocol, baud rate setting

After machine installed, be sure the ball machine set DIP switch address code, protocol, baud rate is fully consistent with the control equipment. Our High speed Demo camera default address is 1, communication Protocol Pelco-D, Baud Rate 2400bps. Corresponding DIP switch status is as follows :

SW 2

Camera Address Setup

SW 1

Empty
Empty
Empty
Baud Rate setup
Communication Protocol Setup
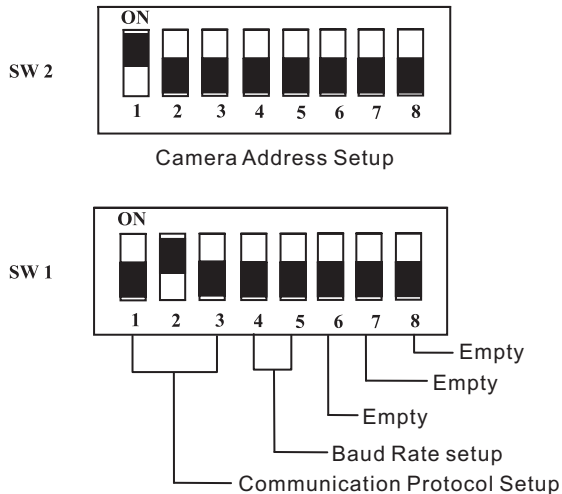
If you need to change the protocol setting, please refer to the following diagram to set the DIP :

PELCO–D   PELCO–P   SANTACHI 650   FACTORY
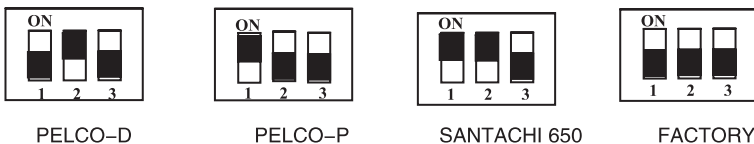
If you need to change the baud rate setting, please refer to the following diagram to set the DIP :

2400bps   4800bps   9600bps   19200bps
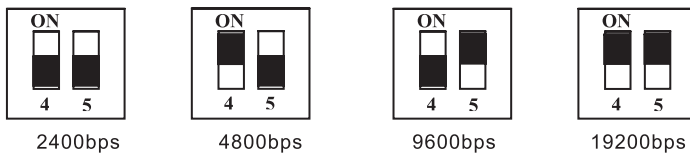
2.4. Infrared light sensitivity adjustment

DIP board with an adjustable resistor, the user can adjust the sensitivity of the infrared light according to ambient light intensity. As belows :

The Infrared setup
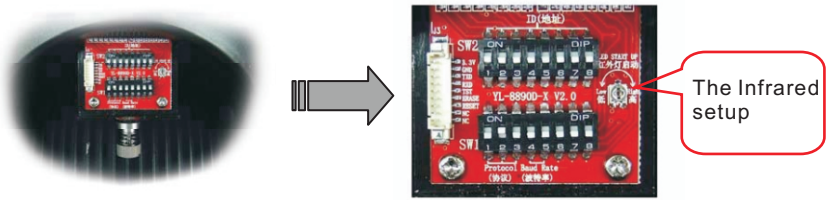
2.5. Address DIP table（1 means ON，0 means OFF）

Binary code	Address	Binary code	Address	Binary code	Address	Binary code	Address
10000000	1	01000000	2	11000000	3	00100000	4
10100000	5	01100000	6	11100000	7	00010000	8
10010000	9	01010000	10	11010000	11	00110000	12
10110000	13	01110000	14	11110000	15	00001000	16
10001000	17	01001000	18	11001000	19	00101000	20
10101000	21	01101000	22	11101000	23	00011000	24
10011000	25	01011000	26	11011000	27	00111000	28
10111000	29	01111000	30	11111000	31	00000100	32
10000100	33	01000100	34	11000100	35	00100100	36
10100100	37	01100100	38	11100100	39	00010100	40
10010100	41	01010100	42	11010100	43	00110100	44
10110100	45	01110100	46	11110100	47	00001100	48
10001100	49	01001100	50	11001100	51	00101100	52
10101100	53	01101100	54	11101100	55	00011100	56
10011100	57	01011100	58	11011100	59	00111100	60
10111100	61	01111100	62	11111100	63	00000010	64
10000010	65	01000010	66	11000010	67	00100010	68
10100010	69	01100010	70	11100010	71	00010010	72
10010010	73	01010010	74	11010010	75	00110010	76
10110010	77	01110010	78	11110010	79	00001010	80
10001010	81	01001010	82	11001010	83	00101010	84
10101010	85	01101010	86	11101010	87	00011010	88
10011010	89	01011010	90	11011010	91	00111010	92
10111010	93	01111010	94	11111010	95	00000110	96
10000110	97	01000110	98	11000110	99	00100110	100
10100110	101	01100110	102	11100110	103	00010110	104
10010110	105	01010110	106	11010110	107	00110110	108
10110110	109	01110110	110	11110110	111	00001110	112
10001110	113	01001110	114	11001110	115	00101110	116
10101110	117	01101110	118	11101110	119	00011110	120
10011110	121	01011110	122	11011110	123	00111110	124
10111110	125	01111110	126	11111110	127	00000001	128
10000001	129	01000001	130	11000001	131	00100001	132
10100001	133	01100001	134	11100001	135	00010001	136
10010001	137	01010001	138	11010001	139	00110001	140
10110001	141	01110001	142	11110001	143	00001001	144
10001001	145	01001001	146	11001001	147	00101001	148
10101001	149	01101001	150	11101001	151	00011001	152

Binary code	Address	Binary code	Address	Binary code	Address	Binary code	Address
10011001	153	01011001	154	11011001	155	00111001	156
10111001	157	01111001	158	11111001	159	00000101	160
10000101	161	01000101	162	11000101	163	00100101	164
10100101	165	01100101	166	11100101	167	00010101	168
10010101	169	01010101	170	11010101	171	00110101	172
10110101	173	01110101	174	11110101	175	00001101	176
10001101	177	01001101	178	11001101	179	00101101	180
10101101	181	01101101	182	11101101	183	00011101	184
10011101	185	01011101	186	11011101	187	00111101	188
10111101	189	01111101	190	11111101	191	00000011	192
10000011	193	01000011	194	11000011	195	00100011	196
10100011	197	01100011	198	11100011	199	00010011	200
10010011	201	01010011	202	11010011	203	00110011	204
10110011	205	01110011	206	11110011	207	00001011	208
10001011	209	01001110	210	11001011	211	00101011	212
10101011	213	01101011	214	11101011	215	00011011	216
10011011	217	01011011	218	11011011	219	00111011	220
10111011	221	01111011	222	11111011	223	00000111	224
10000111	225	01000111	226	11000111	227	00100111	228
10100111	229	01100111	230	11100111	231	00010111	232
10010111	233	01010111	234	11010111	235	00110111	236
10110111	237	01110111	238	11110111	239	00001111	240
10001111	241	01001111	242	11001111	243	00101111	244
10101111	245	01101111	246	11101111	247	00011111	248
10011111	249	01011111	250	11011111	251	00111111	252
10111111	253	01111111	254	11111111	255	00000000	1 （Software modify）

2.6 Control equipment

According to users' need, below are the equipments normally used：

Control borad
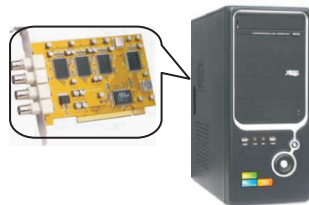
PC（Video capture card）

DVR

tester（specially for project）

> **Operation instructions:** As the specific operation ways are different for Variety of controlling equipments, please refer to the referring manual. IR high speed dome camera advise all users collocate special controlling board, more using convenient. All the operation ways of this manual are taking controlling board operating as example.

2.7. Boot initialization

Connect the video line and 485 controlling line to the monitor or DVR, ensuring that the connection is right then catch 220V power to the power case of camera.

The ir high speed dome camera outpour signal to the screen and start searching varity of collocating information, about after 10 seconds, the screen will show the list of the camera's initialization, as picture 1.

At the mean while, the PTZ starts check up, down, left and right, after checking will show" system initialization success". Then it will standby（picture 2） or get back to the status as the last time off power.

Picture1 checking information when start up:
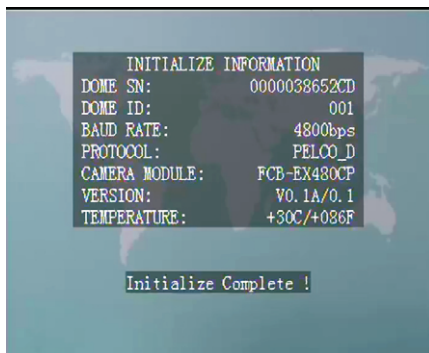
Picture 2 standby status:
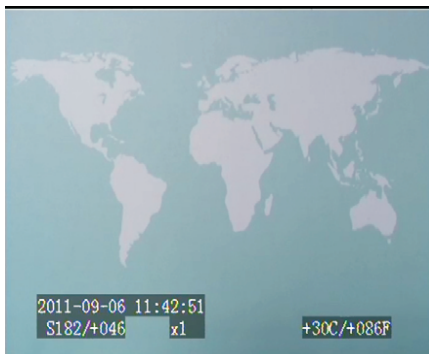
When at standby status, it will show varieties of operating stuffs' name on the left-up the screen, such as: camera name, preset name, A to B scanning name, cruise scanning name and pattern scanning name. Current date,time,surveillance direction,ptz location,lens multiple,temperature and so on. If no need to show,p.l.s enter the menu<showing information setting> and set:close.

2.8. Basic operation

Frame: select surveillance area.user can operate the rocker up,down,left,right to move the holder to find the surveillance direction. By operating the keyboard "zoom+" or "zoom-",zoom the image. Press"focus+" or "focus-",to adjust lens focus manually.

Set presets: We can set the often monitored location as presets and save in the camera,use number for saving,the camera's maximum quantity of preset is 220. When it shows preset setting successfully,the screen will point out "preset saved". Showed by picture 3:

Picture 3 set preset:

Call presets : run the preseted presets in advance quickly and precisely. And for easy operation, we can call the presets to realize some common use functions. As these calling commands will be occupied by speedy functions, so cant be called solely.

Common function calling preset comparing table:

Call preset	function	explanation
71、72、73、74	Start 1-4 group cruise scan	Start cruise scan
95 or 64	Open main menu	Open camera main menu
98	Start the first group L-R scan	
99	Oblige transerring day-night mode(automatical mode, night mode,day mode)	Day and night mode transfer
101、102、103、104	Start 1-4 group pattern scan	Playback pattern scan

3.< AUTOMATIC OPERATION SETTING >menu operation

Attention:the manual explanation sequences are based on the practicability of camera function,not based on
the menu. Please choose the sections you need.
Enter camera main menu:
Under the standby status,call"95",enter the camera main menu. There are 6 groups. As picture 4:

Picture 4 open main menu:
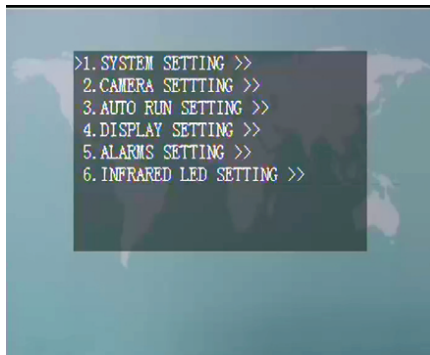
Apply explanation:
1.After entering the menu, cursor flicker position is the current chosen menu item, operate the joystick up and down can move the cursor to choose other items. Press "iris+" or "zoom+", enter submenu, press "iris-" or "zoom-",back to the former menu. If no operation in 60 seconds, then it will quit the menu.
2.Menu back will with">>",means with submenu,"…"means call the command.
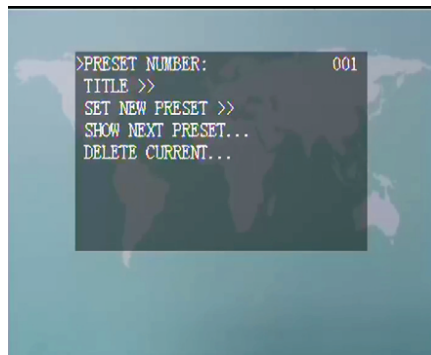
3.1. **<PRESET> setting**

Move the cursor to <AUTOMATICALLY OPERATE SETTING>, press"iris+" then enter the submenu. Showed as picture 5:

Picture 5 auto run:
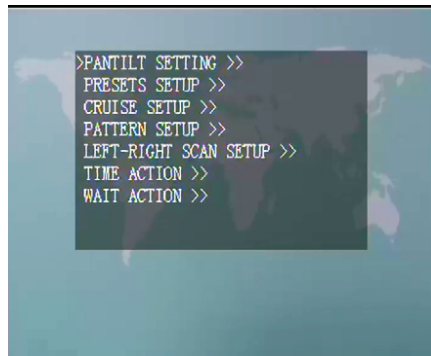
Move the cursor to "Presets Setup", press "Iris +"to enter into the submenu. See Picture 6.

Picture 6 preset point setting:

Detail Operation:
1. **Preset Number:** Press "Iris +" to enter and select the preset number, up or down the joystick to select 1-220 preset point number
2. Title: Press "Iris +" to enter and edit the title, up or down the joysticks to choose numbers, letters, or characters. Left or right the joystick to move the location or correct the letters. Editing is completed by "Iris +" to save and return;
3.Set new preset: Press the "Iris +" to enter into setting preset points state, Pan/Tilt/Zoom to select a desired position, press the "Iris +" to determine the location, the system will prompt "edit preset title". if no need the title, press "iris +" to exit and return;
4.Show Next preset: When you press "Iris +", the camera will immediately run to the next preset position, then you can modify the preset point. If the next preset point is not set, it will prompt "the preset is not set";
**5.Delete Current Preset Point:** press "Iris +" to delete the current preset point

Application explain:
1. Setting preset point also can be in standby state, just change to set preset point mode, then type setting preset point Numbers, confirm, the system can display "preset point has save".
2. About Numbers and name of the preset is different . Numbers is the only identity number for camera storage , name is to set by the user.

3.2. 〈**LEFT-RIGHT SCAN> setting**
Move the cursor to the < LEFT-RIGHT SCAN >, press " IRIS +" to enter submenu. See Picture 7:

Picture7<LEFT-RIGHT SCAN> setting:
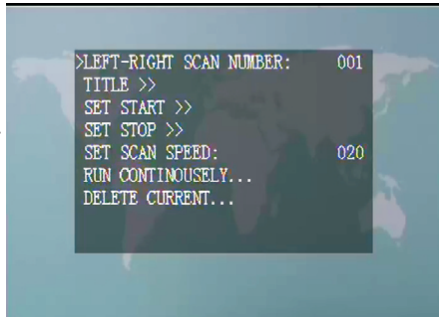
Operation:
1. **LEFT-RIGHT SCAN Number:** press"IRIS +"to enter and choose scan nubmer,control lever up and down to choose scan number group1-4.
2.Title setting: press"IRIS +"to edit title, control lever up and down to choose number,letter and other characters.left and right to edit position and modify characters,press"IRIS +"to save after edit then return.
3.Set start: press"IRIS +"to set scan start, move PTZ to choose the start on the left, press"IRIS +"again to confirm and return.
4. Set stop: press"IRIS +"to set scan stop, move PTZ to choose the stop on the right, press"IRIS +"again to confirm and return.
5. **Set scan speed:** press"IRIS +"to set scan speed,control lever up and down to increase and decrease speed number (1-64)
6.Run continousely: press"IRIS +"to run current LEFT-RIGHT SCAN.
7.Delete current: press"IRIS +"to delete current LEFT-RIGHT SCAN.Quick command of LEFT-RIGHT SCAN: using No.98 preset point, (click "preset" botton, then input number "98", click "Enter"), the high speed dome will scan with the speed we have presetted

3.3.<CRUISE SCAN> setting
Move the cursor to the <CRUISE SCAN >, press " IRIS +" to enter submenu. See Picture 8:

Picture8 < CRUISE SCAN> setting:
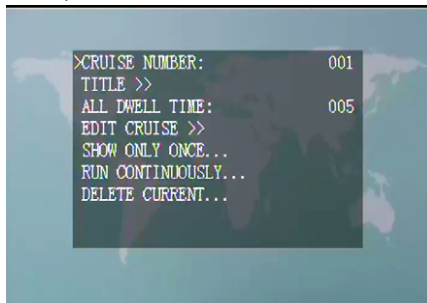
Detail Operation:

1. CRUISE SCAN Number: press"IRIS +"to enter and choose scan nubmer,control lever up and down to choose scan number group1-4 .

2.Title setting: press"IRIS +"to edit title, control lever up and down to choose number,letter and other characters.left and right to edit position and modify characters,press"IRIS +"to save after edit then return.

3.DWELL TIME: press"IRIS +"to set the dwell time of every preset point.the default is 5 seconds.control lever up and down to choose the number of second(1-255), press"IRIS +"to save after edit then return.

4.EDIT CRUISE: press"IRIS +"to enter edit cruise interface.move the cursor to the right"0000"set preset point number 1, control lever up and down to choose one preset point of the number (1-220), move to the right and then selecting"005"set dwell time of the first preset point. control lever up and down to choose second(1-255),every group can up to set 32 preset point,same with other preset points setting.press"IRIS +"to save after edit then return. Picture 9 shows:

Picture9edit cruise scan:
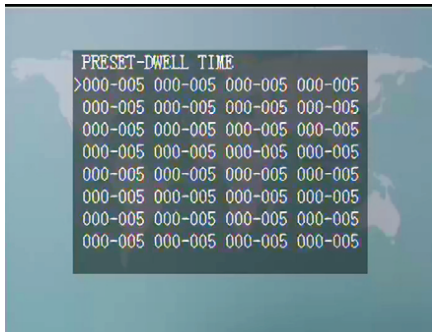
Application Note:
1.List in the order of from left to right, a line move to the next line when it is end;
2. A group cruise can up to 32 preset points position, each position of the preset point can not follow the order of present

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5.SHOW ONLY ONCE: press"IRIS +"to start current cruise scan once. the demonstration is over then back automatically.

6.RUN CONTINUOUSLY: press"IRIS +"to run current cruise scan.

7.DELETE CONTINUOUSLY: delete the setted current cruise scan.Quick command of CRUISE SCAN: using No.71-74 preset point to run the group(1-4) cruise scan respectively in the standby mode.

3.4. <PATTERN SCAN> setting
Move the cursor to the <PATTERN SCAN >, press " IRIS +" to enter submenu. See Picture 10:
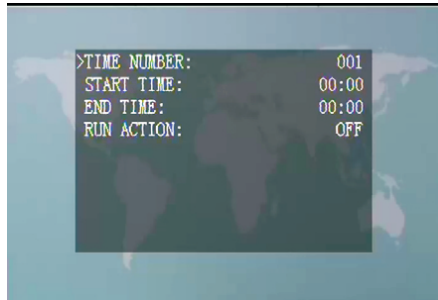
Picture10<PATTERN SCAN >setting :
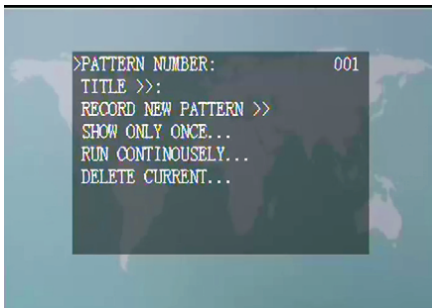
Detail Operation:

1.PATTERN SCAN Number: press"IRIS +"to enter and choose scan nubmer,control lever up and down to choose scan number group1-4.

2.Title setting: press"IRIS +"to edit title, control lever up and down to choose number, letter and other characters.left and right to edit position and modify characters, press"IRIS +"to save after edit then return.

3. Record NEW Pattern: Press "Iris +" to enter the pattern scan recording state, once again press the "Iris +" to start recording the scan path, then control lever up, down, left, right, zoom and other command and control high speed dome camera freely recording a track, each track can store up to 100 action command, recording is complete press the "Iris +" to confirm and return;

4.SHOW ONLY ONCE: press"IRIS +"to replay current pattern scan once. the demonstration is over then back automatically.

5.RUN CONTINUOUSLY: press"IRIS +"to playback current recording pattern scan.

6.DELETE CONTINUOUSLY: delete the setted current pattern scan.

Quick command of PATTERN SCAN: using No101-104 preset point to run the group(1-4) pattern scan respectively in the standby mode.

3.5.〈TIME ACTION > setting
move the cursor to<TIME ACTION>，click "IRIS+" to enter submenu. The monitor shows as Picture11 :

Picture11<TIME
 ACTION>setting :

```
>TIME NUMBER:              001
 START TIME:             00:00
 END TIME:               00:00
 RUN ACTION:               OFF
```

Detail operations :

1. Time number : click "IRIS+" to choose time number，move joystick up or down to choose 1-4 number；

2. Start-time : click"IRIS+"to set start- time. Dome camera can set time in 24 hours. Move joystick up or down to set 00-23 hour number, and move joystick right to minute setting. Then move up or down to set 00-59 minute number. Click "IRIS +"to save the setting and return.

3. End-time : click"IRIS+"to set end-time. Move joystick up or down to set 00-23 hour number, and move joystick right to minute setting. Then move up or down to set 00-59 minute number.Click"IRIS +"to save the setting and return. ；

4. Run action : click"IRIS+"to run one action. The actions include: cruise number 1-4、left- right soan number 1-4、pattern number 1-4、1-220 preset and"close"。Move joystick up or down to choose one of them."close"means don't run any actions. click "IRIS+" to save and return；


Auto-running instructions :
1.the priority of auto-running(from high to low) is：1 user temporary operation、2alarm action、3time action、4wait action；

example : in standby mode if set "wait action", dome camera runs "wait action"; if also set "time action", then dome camera runs "time action" in priority; if also received alarm signals, then dome camera runs "alarm action" in priority; if user operates, then dome camera run user'order；

3.6. **<WAIT ACTION > setting**

Move the cursor to <WAIT ACTION>, click "IRIS+" to enter submenu. The monitor shows as Picture12 :

Picture 12<WAIT ACTION>setting:
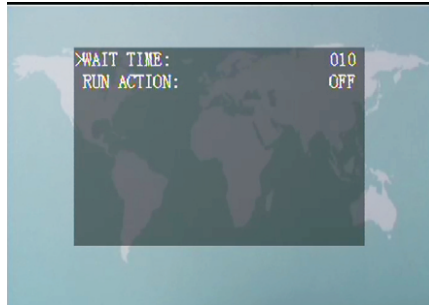
operations :
1. **Wait time** : click "IRIS+" to enter and set wait time, move joystick up or down to set wait time from 1 to 255seconds, default time is 5s. for example it is 10s, then dome camera will run action if no operation in 10s.
2. **Run action** : click "IRIS+" to run one action. The actions include: cruise number 1-4、left- right soan number 1-4、pattern number 1-4、1-220 preset and"close"。Move joystick up or down to choose one of them. "close"means don't run any actions. click "IRIS+" to save and return ;

3.7. **<PANTILT SETTING > setting**

Move the cursor to <PAN TILT SETTING>, click "IRIS+" to enter submenu. The monitor shows as Picture13 :

Picture13<PANTILT> setting:
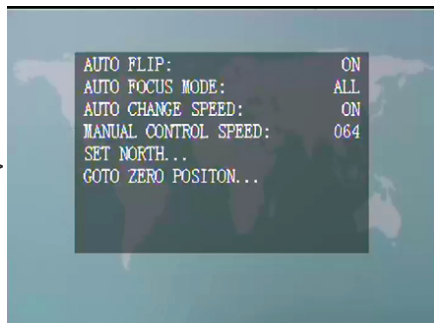
Detail operations :
1. **Auto-flip** : click "IRIS+" to enter, move joystick up or down to choose open or close. If set "open", dome camera will auto-flip 180 degree horizontally when pan tilt run to 90 degree vertically.
2. **Auto focus mode** : click "IRIS+" to enter, move joystick up or down to choose iris 、focus、close、all. For example choose "iris", then lens focus will not change when pan tilt move. And the lens will auto-focus when operate iris. If choose "all", then the lens will auto-focus when any operations ;
3. **Auto change speed** : click "IRIS+" set whether the speed matches lens zoom. The bigger the zoon is, the lower the speed is;
4. **Manual control speed:** click "IRIS+" to enter. Move joystick up or down to set 1-128 level. But must set <auto change speed> "close", then this set works. Click "IRIS+" to save and return.
5. **Setting north:** dome camera can show east、south、west、north、northeast、southeast、northwest、southwest. When the dome camera installation finished, the direction is incorrect, so should set right direction of north. Click "IRIS+" to set and move joystick left or right ti find the right north. Click "IRIS+" to save and return.
**6**. **Go to zero position:** click "IRIS+" to make pan tilt go to zero position.

4、<CAMERA SETTING>menu operation

Enter<CAMERA SETTING>menu

instructions：about the camera function inside，different camera have different functions, only small difference。take SONY EX480CP for example below 。

type the number in standby model "preview+95+enter"，move the cursor to<camera setting>,click "iris+"to enter submenu. the monitor show as Picture 14.
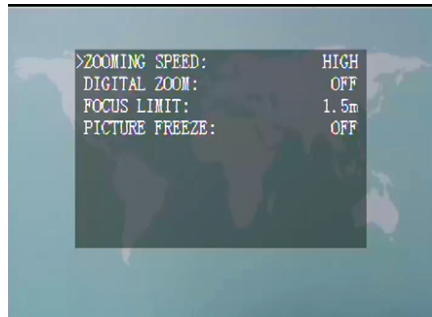
Picture14<CAMERA SETTING> setting:
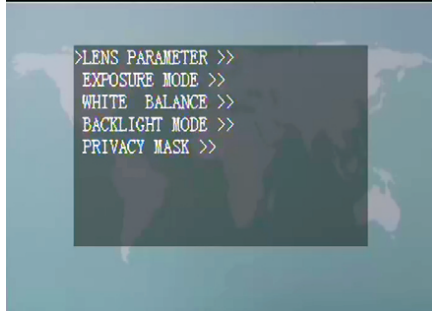
4.1．<LENS PARAMETER> setting

Move the cursor to<LENS PARAMETER>，click "IRIS+"to enter the submenu。Show as Picture15 :

Picture15<LENS PARAMETER>setting：

Detail operations：

1．Zooming speed：click"IRIS+" to set zooming speed . Move the joystick up or down to choose high or low speed. Click "IRIS-" to save and return

2．Digital zoom：click"IRIS+" to set digital zoom . Move the joystick up or down to open or close digital zoom function；

3．Focus limit：click"IRIS+"to set focus distance. Move the joystick up or down to set proper focus distance based on the target distance；

4．Picture freeze：click"IRIS+"to set picture freeze. if the setting is "open", the scanning process from one point to another point will be frozen when you preview. Click "IRIS+" to save and return.

4.2．<EXPOSURE MODE> setting

Move the cursor to<EXPOSURE MODE>，click"IRIS+"to enter submenu, show as Picture16 :

Picture16<EXPOSURE MODE>setting:
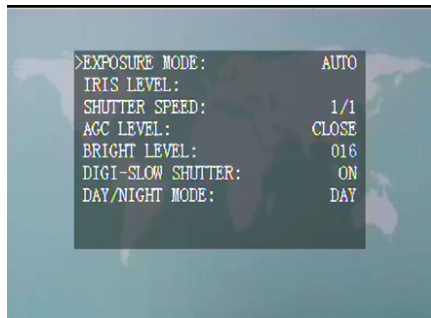
Details operation：
1. **Exposure mode**：click"IRIS+"to enter setting，move the joystick up or down to choose AUTO、MANUAL、AGC LEVEL、SHUTTER、IRIS. in "AUTO" mode ,IRIS LEVEL、SHUTTER SPEED、AGC LEVEL、BRIGHT LEVEL below can not be changed. but in "MANUAL" mode , they can be changed on request；
2. **Iris level**：when "exposure mode"is set as "IRIS"mode，then set lens F level(the higher, the darker the image is）；
3. **Shutter speed**：when"exposure mode"is set as"shutter"mode，then set1/1-1/10000 shutter（the higher, the darker the image is）；
4. **AGC level**：when"exposure mode"is set as"MANUAL"mode，then set0-28db AGC level（the higher, the brighter the image is）；
5. **Bright level**：when"exposure mode"is set as "AGC LEVEL" mode，then set 0-31 brighter level（the higher, the brighter the image is）；
6. **Digi-slow shutter**：set digital shutter to open or close；
7. **Day/night mode**：make the camera and IR led change day/night mode by force to three modes: auto , night and day；

4.3．**<WHITE BALANCE> setting**
Move the cursor to<WHITE BALANCE>，click"IRIS+"to enter the submenu, show as Picture17：
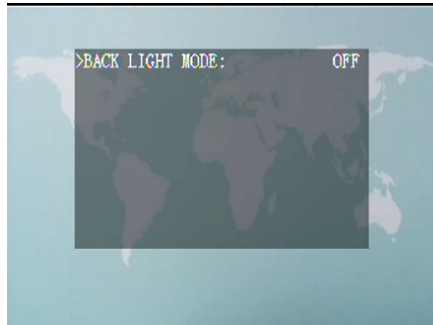

Picture17<WHITE BALANCE>setting:
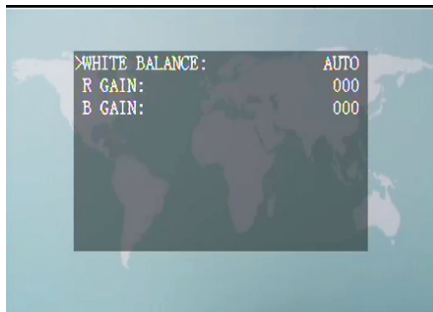
Detail operations：
1. **White balance**：click"IRIS+"to set，move the joystick up or down to choose auto，outdoor, indoor, auto tracking, one time aviating, manual mode.When only choose"manual"， "R.gian" and "G.gain" level below can be changed；
2. **R.gain**：when"white balance"is set as"Manual"mode，then set000-255 level of R.gain；
3. **G.gain**：when"white balance"is set as"Manual"mode，then set000-255 level of G.gain；

4.4．**<BACKLIGHT MODE> setting**
Move the cursor to<BACKLIGHT MODE>，click"IRIS+"to enter submenu. show as Picture18：

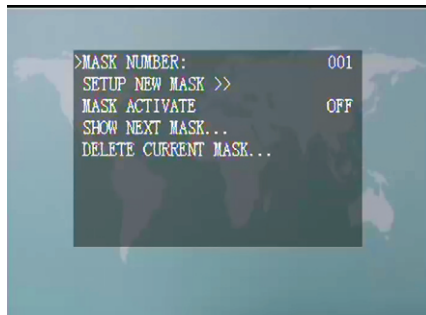Picture18<BACKLIGHT MODE>setting:

Operations :
1. **Backlight mode** : click "IRIS+" to enter ,move the joystick up or down to open or close backlight mode ;

4.5. **<PRIVACY MASK > setting**
move the cursor to<PRIVACY>, click"IRIS+" to enter submenu. Show as Picture19 :


Picture19<PRIVACY> setting:

Detail operations :
1. **Masking number** : click "IRIS+"to choose masking number. move the joystick up or down to choose 1-8 masking number ;
2. **Setup new mask** : click"IRIS+"to setup new mask. Move the PTZ or zoom to choose the object needed to cover and be sure the object is in the middle of the monitor, again click"IRIS+"to set the size of the area. It appears a black rectangular area in the middle. At this moment moving up means reducing the area vertically and moving down means increasing. Moving left means reducing the area horizontally and moving right means increasing. Click "IRIS+" to finish setting and return. show as Picture20-21 :

Picture20Choose protection place:
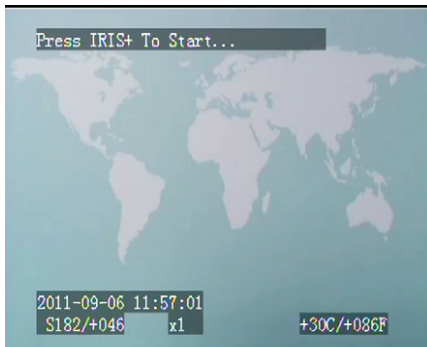

Picture 21set the size:

—18—
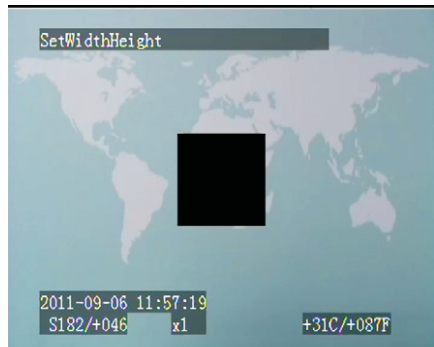
3. **Mask active**：click"IRIS+"to enter. Move the joystick to choose "open" or "close" the privacy masking；

4. **Show next mask**：when click"IRIS+"， the dome will operate to next privacy masking at this moment you can change this privacy masking. if you don't setup next privacy masking ,it will show "this privacy is not set"；

5. **Delete current mask**：click "IRIS+"to delete current mask；

5、<DISPLAY SETTING>menu
Enter<DISPLAY SETTING>menu
type the number in standby mode"preview+95+enter"to enter the main menu. Move the cursor to<DISPLAY SETTING>, then click "IRIS+" to enter submenu. Show as Picture 22：
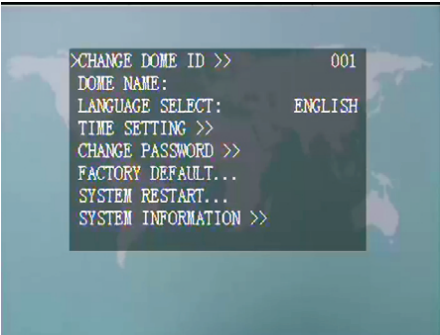
Picture22 <DISPLAY SETTING>：
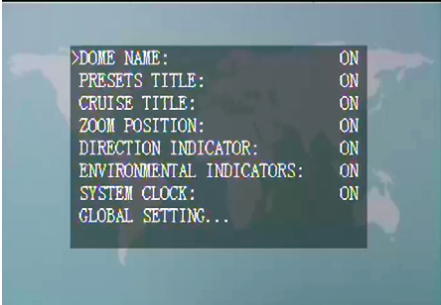
Detail operations：

1. **Dome name**：click"IRIS+"to enter setting， move the joystick up or down to change the display. there are open、60s、30s、15s、10s、5s、2s、close optional.choosing "close"means not display.if choose the seconds, it means it will close after the time you choose；The others have the same setting as above.

Global Settings: click"IRIS+"can to modify all project consistently, click"IRIS+"one time,it change a new number.

6、<SYSTEM SETTING>menu
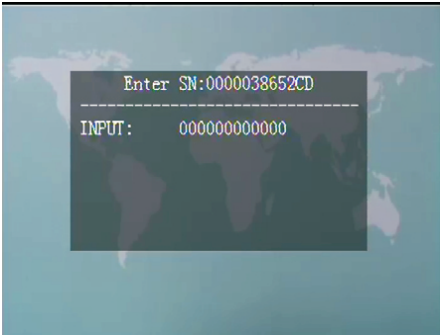### Enter<SYSTEM SETTING>menu
 type the number in standby mode "preview+95+enter"to enter the main menu. move the cursor to<system setting>, then click "IRIS+"to enter submenu. Show as Picture23-24：

Picture 23system setting：

Picture 24Change camera address：

Detailed Operating：

1. CHANGE DOME ID: Press "Iris+" enter the software for CHANGE DOME ID. If the current one is hardware DIP address, there will be a reminder that "please set it to be 0 for hardware address first!", it means 8pcs address DIP need to be moved down on DIP switch board. You need to input correct camera series no when enter Soft modification address ,then press "Iris+", and next the address DIP twinkled, then you could choose the 1-255

address via move the rocker up and down. After choose pls press"Iris+"for preserving and return. At this time you also need to do a same change for address on control device, otherwise maybe you can't go on operating.

2.Camera name: press "IRIS+"to enter the name set interface, shaking the rocker up or down to choose figure, character and so on; shaking to left or right can change the edited area or revise the character. After the edition please press the "IRIS+"to save and return.

3. Language selection: Press"IRIS+"to enter the language set system, and choose the "Chinese" or "English" by shaking the rocker up or down.

4.Time setting: Press "IRIS+"to enter the time setting system. Can set year, month, date, minute and second. However, the date can be set between 2000-2099.Shaking the rocker up or down can be set the last two figure of the year, left or right can change the looking area. It is the same setting method for month and date. Change the time by sharking the rocker. See Picture 25:

Picture 25time setting:
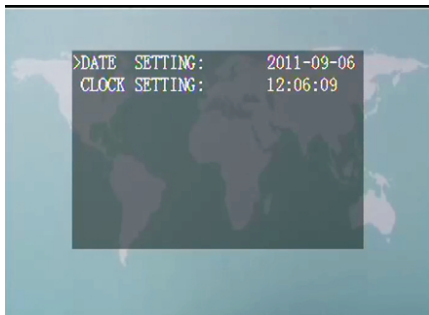
5.Reset the password: Press"IRIS+"to enter password setting, which made into 6pcs character. Remind "entry the new password", shaking the rocker up or down can select the figure, letter in small or capital, symbol and so on to make as your password. Shacking by left or right can change the edited area. After setting it will remind you automatically for "confirm the new password", then entry again, which must be the same password as last time you entries. Otherwise it will told you"password error". After setting password, you need to entry it every time when you login into the menu. Ref picture 26:

picture 26Pin code seting:
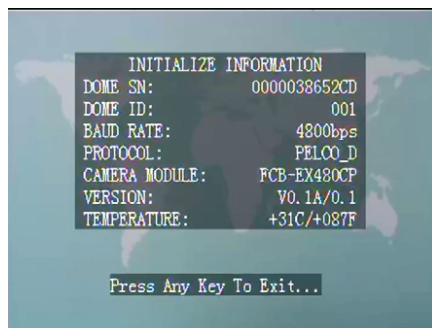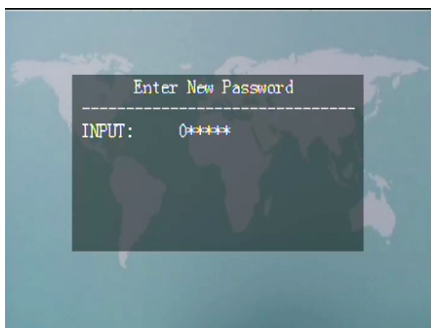
picture 27Camera information:

Attention :
Setting the password can avoid to the parameter being revised illegally.Once you set the password,you can't set the preset when it's in standby.

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6. FACTORY DEFAULT: Press"IRIS+"to entry the restore factory setting, all the parameter which users set will recover the original one. However, the system setting, pantilt setting, alarm setting will not change.

7.System restart: Pressing"IRIS+"will turn off the system and self-checking.
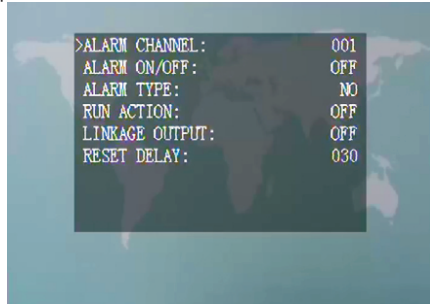
8.System information: Pressing"IRIS+"can check the current configuration information of the camera, operate anyone command can return. Ref picture 27;

7.<ALARM SETTING> menu operating
Entry <ALARM SETTING> menu
In the standby situation, calling"95",it will entry the main Manu. Move the cursor to <ALARM SETTING>,press "IRIS+"to entry the submenu.Ref picture 28 :

picture 28<ALARM SETTING>:

Operation details:
1.Alarm Channel: Press "IRIS+"to entry and select alarm channel number, it can select 1-4 alarm channel number by shaking the rocker up or down.

2.Alarm Action: Press "IRIS+"to entry current channel set, select"yes" or "no" by shaking the rocker up or down.

3. Alarm Mode: Press "IRIS+"to entry the current channel, which is "always open" or"always close" mode (set according by the alarm);

4.Output Linkage: Press "IRIS+"to entry setting for current channel connecting the alarm signal, which include:1-4group cruise setup,1-4 group left-right scan setup,1-4 group pattern setup, 1-220pcs preset and "close", shaking the rocker up or down could select one of them, "close"means don't operate anything. After setting press "IRIS+"for saving and return.

5.Linkage output: Press "IRIS+"to entry the linkage output setting, by shacking the rocker up or down can select "output 1"or "output 2".Linkage output function can offer the alarm signal to DVR or other device. Set"close" means don't operate linkage output.

6. Reset delay: Setting the interval is 1-255 second between two alarm signal receiving. For example, set the time for 10 second, it means it will reset delay automatically when received a alarm signal longer than 10 second in the same alarm channel. After reset delay than could receive the next alarm signal.

8. <IR LED SETTING> menu operation
Enter <IR LED SETTING> menu
In the standby situation, calling"95",it will entry the camera main Manu. Move the cursor to <IR LED SETTING>, press"IRIS+"to entry the submenu.Ref picture 29 :

picture 29<IR LED SETTING>:

Detail operations：

1．**WT led switch**：click "IRIS+" to set WT led switch. Move joystick up or down to choose "open" or "close". If set "open", WT led switch automatically according to zoom. If set "close", WT led open together；

2．**Day night mode**：click "IRIS+" to set day night mode. Move joystick up or down to choose "auto mode"、"night mode"、"day mode".when set "night mode" then show black and white image eternally with IR on. When set "day mode" then show colorful image eternally with IR off. When set "auto mode" then camera auto-change day or night mode according to light change;In standby mode, use preset "99"continuously to change among "auto mode" "night mode" "day mode"

9. Simple troubleshooting table

appearance	Possible reason	solutions
No action and image when power on	Power connection is wrong or receptacle connection is not good	Check and correct
	Power supplier or fuse is broken	change
	Power cable in short circuit or open circuit	Check and correct
Auto checking, having image but can not control when power on	Address code、protocol、baud rate setting is incorrect	Check and correct
	RS485 length is more than 500m	Connect the "matching resistor" jumper
	RS485 connection is not good	Check RS485 connection
With image, without auto-checking and noise from the motor	Power is not strong enough	change
	Belt is loose or slips	Contact professional men to check and repair
	Object stops camera or motor fault	Contact professional men to check and repair
Image has wave interference	Video cable connection is not good	Check video cable connection
	There is interference near the video cable	Change video cable or add anti-interference device
Cant go to menu	Confirm the right operations of control device	Change another control devices

Before using the camera,please read the factory settings of the user manual carefully:

■ Power AC200V/50HZ   ■ Address1

■ Protocol PELCO-D   ■ Baut Rate 2400bps