

Intelligence IR high speed dome camera

Manual

SF-900C

**Before operating this product, please read this instruction manual carefully.
Default setting: Protocol(PELCO-D), Baud rate(2400bps), Input power:DC12V**

Notes on Safety

- ©Please read the instructions & quick setting guide thoroughly before installing or operating the unit.
- ©Please do not mount the machine on an unstable surface or bracket.
- ©Please prevent all liquids or other material from entering the dome housing.
- ©When connecting the power source, please follow all electric safety standards and only use the power supply designated for this device. The speed dome's RS-485 and video signal uses TVS technology to protect it from strong electrical surges. This technology prevents damage to the device resulting from impulse signals such as lightning strikes or surges of power. Allow for enough distance between the RS-485 and video signals and high-voltage equipment or cables during the transmission process. Please do not power the unit until all connections are secure and installation is complete.
- ©Avoid shooting very bright objects directly into the camera's CCD (such as the sun or light fittings).
- ©When the machine is not operating properly, please refer to the instructions for information about how to service or repair your speed dome.
- ©Please protect the unit against extremes of vibration, pressure or dampness while transporting unit. Damage can occur from improperly packaging the unit while shipping.
- ©The outdoor dome camera system is designed to be installed in outdoor environments only.

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* indicates the functions with default protocol, it might not function by using other protocols.

indicates the optional functions, only with certain models.

I . Introduction

Congratulations on purchasing our speed dome, an intelligent, IR high-speed dome with a high-performance DSP camera and sophisticated zoom lens. It is an advanced technological surveillance product combining an all-direction variable speed dome and digital decoder all in one unit. It can aim quickly and scan continuously, making omni-directional and non-blind-spot monitoring into reality. Additionally, it can quickly adapt to changing environments with its 18x optical and 12x digital zoom with precise stepping motors. The advanced stepping motor technologies enable the dome to rotate smoothly, respond sensitively and aim precisely. The IR speed dome camera has a memory function so when the power cuts off it can auto resume to previous working status. Use our high-performance speed dome "When it Counts."

All of the features make the intelligent IR high-speed dome camera fit for a wide range of applications such as intelligent building, bank, street of city, airport, station etc..

II . Technical Data

Technical Parameters of the Intelligent IR High-speed Dome

Model	Outdoor Day/Night Speed Dome	Indoor Speed Dome
Power Supply	DC12V±0.5V	
Operating temperature	- 40℃~+60℃	0℃~+40℃
Operating moisture	≤95%	
Power consumption	≤20W	
IR shoot control	Low than 0.7 Lux auto on	
Communication	RS-485 bus	
Protocol	PELCO-D/PELCO-P DH-SD1 SAFER AUTOMATIC RECOGNITION	
Communication transmission speed	1200bps / 2400bps / 4800bps / 9600bps	
Horizontal rotation speed	0.1° - 1 80°/s (1-64 grade shift gears)	
Horizontal rotation range	360°	
Tilt rotation range	90°	
Auto flip	2 grades (Horizontal 180° for 1 st grade, Vertical 90° for 2 nd grade)	
Auto zoom speed control	Control speed auto-adjusted according to zoom length changing	
A-B points scan *	Can set freely	
A-B points scan speed *	1- 64 grade available	
Dwell time at preset position *	1 - 60s available	
Preset Positions *	128 pcs	
Running to preset speed *	1 - 64 grade available	
Cruise Tour *	8 group	
Cruise Points Qty per cruise group *	16 preset positions	
OSD (On Screen Display)	English OSD	
Privacy zone	2(function selectable)	
Cruise memory route (PATTERN)	88 sec	
Fan & Heater #	Temperature auto-controlled	

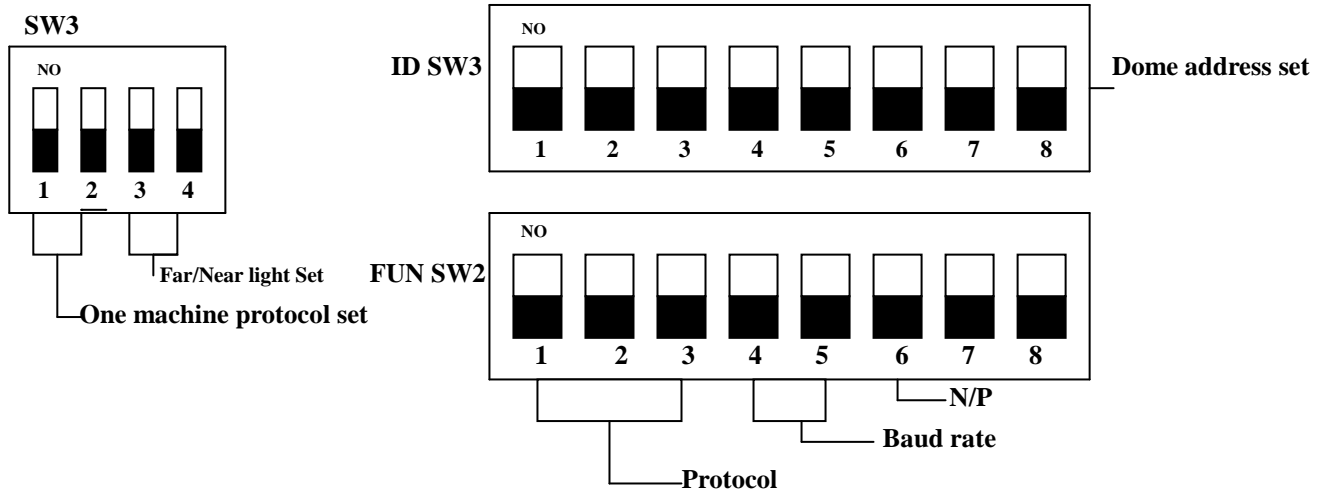
* indicates the functions with default protocol, it might not function by using other protocols.

indicates the optional functions, only with certain models.

III. Settings

3.1 Dome Address, Transmission Speed, Protocol Setting

Before the dome is installed, the communication protocol, baud rate and dome address, should be confirmed. Set the code switch, keeping the setting consistent with the control system. The relative code switch site and connecting wires are diagramed below for reference.

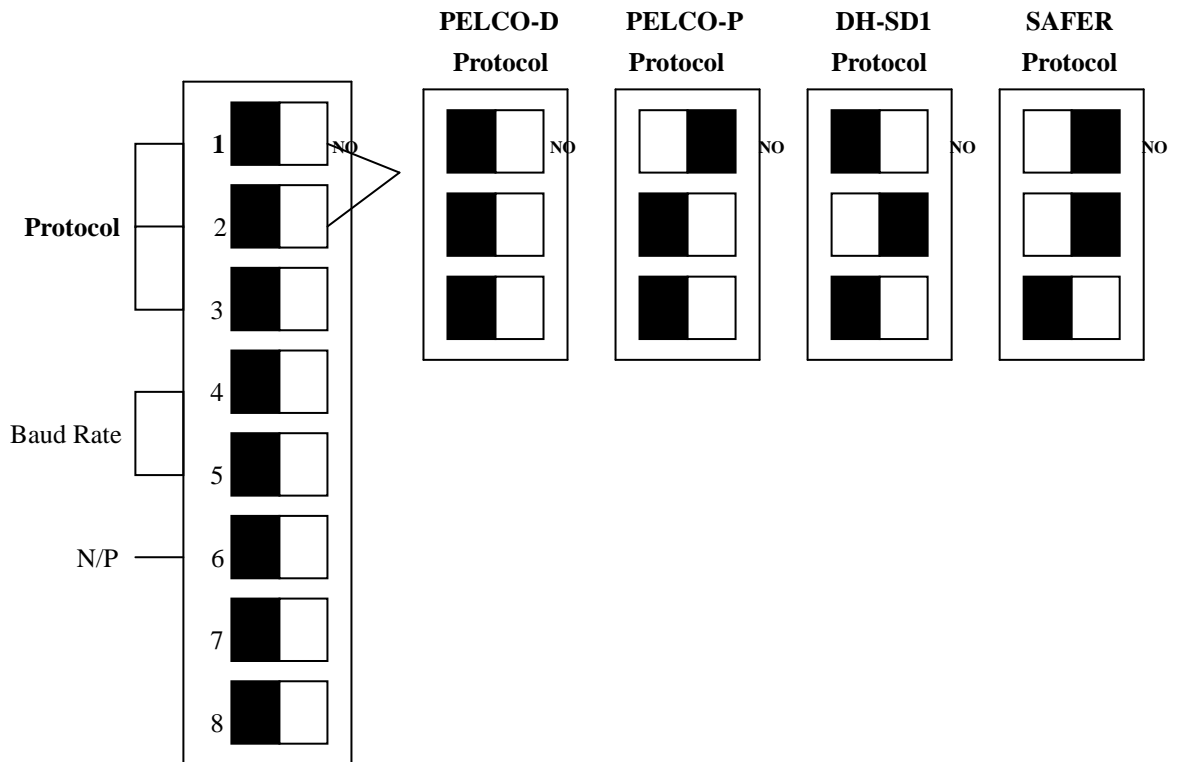



3.1.1 IR Speed Dome Camera Communication Address Setting

The communication address code for the speed dome should be properly set before use to ensure accurate addressing of the dome at the control center and to control several dome cameras. The address code is made up of SW3 (8 bits) on PCB board. The 8 bit switch uses the 8421 binary coded decimal system. The largest value is 256. 1 means ON status and 0 means OFF status.

3.1.2 IR Speed Dome Camera Communication Protocol Setting

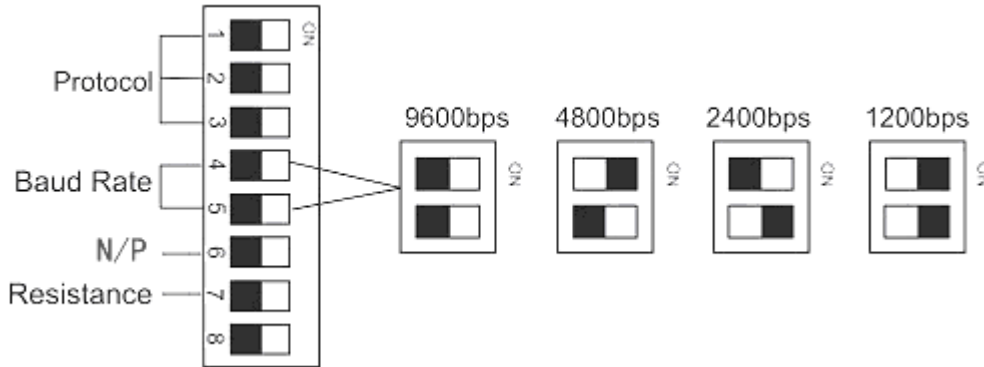
The 1st, 2nd and 3rd bits in SW2 are used to set communication protocol (see following figure)



 After establishing the communication protocol, please restart the unit to save changes.

3.1.3 IR Speed Dome Camera Transmission Speed Setting (Baud Rate Setting)

The 4th and 5th bits of SW2 on the PCB board are used to set the baud rate (see following figure). The default baud rate setting is 9600 bps.



Baud Rate Options: 1200bps 、 2400bps 、 4800bps、 9600bps

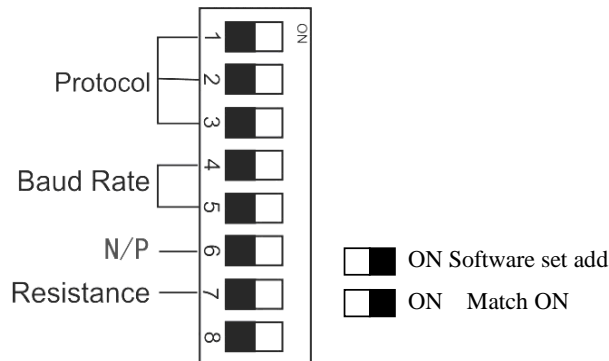
Please refer to the controlling device and protocol for baud rate requirement.



After establishing the transmission speed , please restart the unit to save changes.

3.2 RS-485 Bus Matching Resistance

For better centralized control, a matching resistance should be connected in a parallel way at the connecting port where the RS-485 is connected into the device which is the furthest away from the center controller. By doing this, reflection and interference from the RS-485 signal and the like can be cleared up. There is a switcher for controlling of the matching resistance in SW2. And the matching resistance is connected to the RS-485 cable when the “No. 7” switcher is set to “ON” status (see following figure).



When dome is out of control or doesn't work under RS-485 BUS control status, please set switch of matching resistance as ON status so that we can clear up bad phenomenon.



If dome address, baud rate and communication protocol is required to be reset after finish installation, please ensure dome is under power off status.

IV. Basic Function of Dome Camera

Use the keyboard controller to utilize the complete potential of the speed dome. (The keyboard control protocol is set as the default protocol for the speed dome.)

4.1 Objective Tracking

A user can rotate the camera lens up, down, left and right to view objects through the field of vision using the control keyboard. In addition, a user can adjust focal length to change the angle of view or the size of the objects. When in auto-iris and auto-zoom mode, the camera adjusts automatically to get a clear picture with changing image environments.

4.2 Preset Position Setting / Adjusting *

The Preset function is the dome's default level angle, lean angle and camera focal length in EMS memory. By using this saved parameter, the dome and camera can run to the preset positions when it is required. The operator can set and adjust preset positions by using the control keyboard; the speed dome can support 128 preset positions. (Note: It might not support 128 preset positions by using other protocols.)

4.3 Dome Pattern Tours *

Before using the control keyboard to setup a speed dome pattern tour, please set the parameters of preset positions first. If not, the speed dome will run according to default setup.

4.3.1 Preset Position Parameter Setting

The speed dome camera has the capacity to set preset positions through the keyboard. It can program the running speed to each preset position from 0.1 %s to 280 %s (1-64 grades) and dwell time from (1-60seconds).



The speed dome can rotate at low speeds and at fast speeds. Its speed can be divided into 64 levels. 1 is the lowest speed and 64 is the fastest speed.

4.3.2 Pattern Tours Setting

- 4.3.2.1. The Speed dome camera has the capacity to set up to 8 pattern tours each of which can have up to 16 preset positions.
- 4.3.2.2. Add preset positions in the pattern tours.
- 4.3.2.3. Set dwell time (1-60 seconds) and the rotational speed (1-64 grades) of each preset positions.
- 4.3.2.4. Start pattern tours: Cruise scanning

4.4 Auto Scanning

4.4.1 Point A to B Scanning

The camera can also run a simple auto point A to B scan. By using the speed dome control keyboard, you can set the parameter of location and running speed at points A and B.

4.4.2 360° Scanning *

The camera can also start an auto cruise scan. This scan will rotate 360° from the desired position. By using the speed dome control keyboard, you can set the running speed. (We suggest you do not use this function for too long time.)

* indicates the functions with default protocol, it might not function by using other protocols.



When speed dome camera is under the auto scanning, point A to B scanning or 360° scanning status, you can use the joystick if you want it to stop scanning.

4.5 Operating Speed / Focus Auto Match Technology

When adjusting manually, and in the case of having a very long focus, the speed dome's rapid reaction enables a slight touch of the joystick to result in a large movement of screen, and cause the loss of picture. Our speed dome camera automatically adjusts the rotation and tilting speed according to the distance of the focus, enabling manual objective tracking to be more simple and effective.

4.6 Auto-Flip

When the speed dome camera is at vertical 90°, it flips automatically.

4.7 Camera Control

4.7.1 Zoom Control

The user can adjust the advanced zoom feature to acquire a needed image through the control keyboard.

4.7.2 Focus Control

The speed dome's default setting is for auto-adjust focusing. Under special conditions, a user can adjust the focus manually to acquire the required image.



The speed dome will not auto-focus the target object under the following conditions:

- a. The object is not in the center of the picture;
- b. Attempting to view images that are far and near at the same time;
- c. Object is strongly lighted object, such as neon lamp, etc.;
- d. Objects behind glass covered with dust;
- e. Objects moving quickly;
- f. Objects within large area and single color such as wall;
- g. Objects that are too dark or faint.

4.7.3 Iris Control

- The speed dome's default setting is for auto-adjust iris. It can make an adjustment quickly through auto detecting the beam change.
- User can adjust iris size manually through control keyboard to get required image brightness.
- User can renew auto iris after moving the joystick or sending additional commands through the controller (Attn: We suggest you use auto iris).



When controlling the iris manually, the dome locks in its current control position and will not reset the auto-iris even if current object changes. You need to move the joystick or send a control order to reset the auto iris.

4.8 Memory Function As Power off

While power off, the speed dome will automatically save the previous operating status into it's memory.

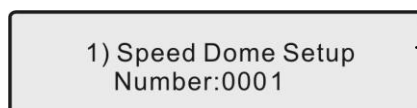
4.9 Auto-reposition

Auto-reposition is for an important viewing point that the speed dome camera should focus automatically when there is no operation after a defined period of time. User can set the auto-reposition location also the duration time (1-60 seconds) to start or stop this function.

V. Camera Menu (OSD Menu) Setting

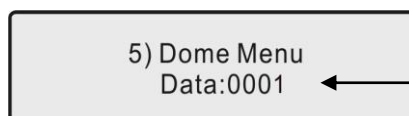
By using speed dome control keyboard, you can enter into the speed dome camera menu (OSD Menu) for setting. The menu functions will be various according to different zoom camera models.

5. 1. 1. Enter camera menu with Default protocol, Press FUN once, control keyboard displays:



Press Enter key

5. 1. 2. Press FUN four times, control keyboard displays:



Press CLR to clear the old data, then enter the dome address and press ENTER.

The key functions are as bellow:

5. 2. 1 **OSD Operation**

OSD menu provides a friendly man-machine interface. User can simply operate the dome and obtain any information from the dome, no need of memory of so many commands.

The method of opening the menu: OSD menu will appear on the screen for the first time of set or setting of 95 preset at any time.

After entering into the OSD menu, joystick up, joystick down, joystick left and joystick right will be used to operate the menu item. When exiting the menu and back to the normal work mode, the function of the joystick will turn back to their original function.

As long as OSD menu is turned on, the function of the joystick is described as following.

Joystick up: Cursor move up

Joystick down: Cursor move down

Joystick left: The values of the item decrease 1, or select another option.

Joystick right: The values of the item increases 1, or select another option, or confirm the function selected, just like a ENTER key of a PC keyboard.

5.2.2 Menu that shows the state. ">>", Show that press Enter after entering the lower-level menu. "<<"

Said the press Enter after the sub-menu from which to enter the higher menu.

↑ → and that the cursor, all operations are on the current cursor to the column effectively.

In the following notes, X, or on behalf of the show amend the figure of 0 to 9.

In the following description, the underlined part of that can change.

In the following description, italic characters in the shadow of that in the light of current circumstances, show that the content is also different.

5.2.3 OSD described.

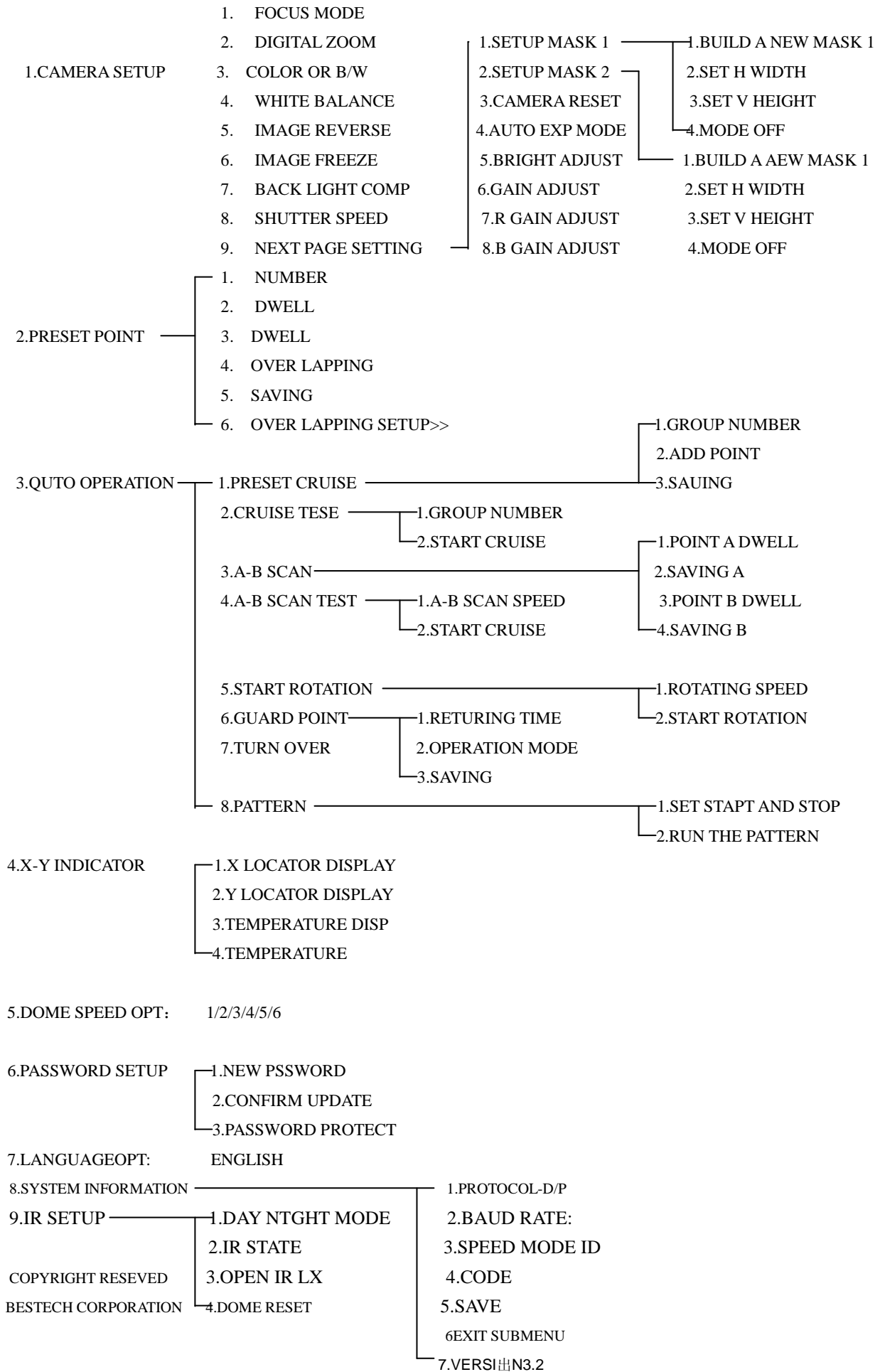
5.2.3.1 First entering menu:

1. PASSWORD: 0000 Entering Password

2. EXIT << Exit OSD menu

need to enter the 4 - digit password, when the password when automatically enter the main menu.

OSD menu throughout the frame structure as follows



5.2.3.2 Main OSD

1. CAMERA SETUP >> Entering camera function setting;
2. PRESET POINT >> Entering preset point setting;
3. AUTO OPERATION >> Entering auto operation setting;
4. X-Y INDICATOR >> Entering X-Y indicator setting;
5. DOME SPEED OPT >> Not support; *
6. PASSWORD SETUP >> Entering password setting;
7. LANGUAGE OPT >> Not support; *
8. SYSTEM INFORMATION SET >> Entering system information setting;
9. EXIT MENU << Exit OSD menu;

5.2.3.3 CAMERA SET >>

1. ICON DISPLAY: AUTO AUTO and MANUAL mode ;
2. DIGITAL ZOOM: OFF OFF/ON;
3. COLOR OR B/W: COLOR color/B/W;
4. WHITE BALANCE: ATW AUTO/INDOOR/OUTDOOR/ATW;
5. IMAGE REVERSE: OFF OFF/ON *;
6. CMA & EXP ICR: OFF OFF/ON;
7. BACK LIGHT COMP: OFF OFF/ON;
8. SHUTTER SPEED: AOTU
9. PRIVACY MASK >> privacy setting;
10. EXIT SUBMENU << exit submenu;

5.2.3.4 PRIVACY MASK >>

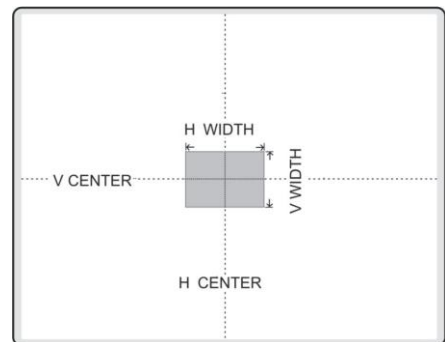
1. SETUP MASK 1 >> privacy setting 1;
2. SETUP MASK 2 >> privacy setting 2;
3. EXIT SUBMENU << exit submenu;

5.2.3.4.1 SETUP MASK 1 >>

1. BUILD A NEW MASK 1
2. SET H WIDTH
3. SET V HEIGHT
4. MODE: ON OFF/ON
5. EXIT SUBMENU

5.2.3.4.2 SETUP MASK 2 >>

1. BUILD A NEW MASK 2
2. SET H WIDTH
3. SET V HEIGHT
4. MODE: ON OFF/ON
5. EXIT SUBMENU



5.2.3.5 PRESET POINT >>

1. NUMBER: XXX (USED)

Pre-selected number of points (001 to 128 optional), if the preset point has been set, the show (USED), high-speed ball at the same time will be automatically moved to the preset, user-friendly to confirm the preset points. 2, 3 and 4 are shown in the pre-point information, including the movement to the point of the preset speed, preset points in the residence time, and whether the pre-show at the characters of information. If the pre-use point yet, the show (NOT USED);

2. SPEED: XX (1--64) speed value;

3. DWELL: XX (1--60) dwell time;

4. OVER LAPPING: OFF OFF/ON;

5. SAVING All the changes only after the selection of an effective and keep the ball in the high-speed in-house, even after power, this information will not disappear. Note that in the past click Save, it is necessary to use the keyboard on the rocker (to be released first rocker, according to the IRIS CLOSE) cameras will be moved to the right location, and ZOOM to adjust to the appropriate size;

6. OVER LAPPING SETUP>>

7. EXIT SUBMENU <<

5.2.3.6 AUTO OPERATION >>

1. PRESET CRUISE >>

2. CRUISE TEST >>

3. A——B SCAN >>

4. A——B SCAN TEST >>

5. START ROTATION >>

6. GUARD POINT >>

7. TURN OVER >>

8. PATTERN >>

9. EXIT SUBMENU <<

5.2.3.7 PRESET CRUISE >>

1. GROUP NUMBER: X X is 1~8.

2. ADD POINT:

(01) XXX (02) XXX (03) XXX (04) XXX

(05) XXX (06) XXX (07) XXX (08) XXX

(09) XXX (10) XXX (11) XXX (12) XXX

(13) XXX (14) XXX (15) XXX (16) XXX

XXX preset point that, if empty, said the point of no pre-set point. For example: (02) 005, said the inspection teams in the second inspection point to 5 preset point. If the show: (02), said the second inspection point of no pre-set point number;

The column display or modify the inspection teams, corresponding to the 16-point inspection.

Users can move the cursor to the corresponding number of inspection points, binding on the preset point, be amended. If (X), it appears as a blank, said the point of no binding pre-inspection points;

3. SAVING... ;

4. EXIT SUBMENU <<

5.2.3.8 CRUIST TEST >>

1. GROUP NUMBER: X X is 1~8;

2. START CRUISE

3. EXIT SUBMENU <<

5.2.3.9 A—B SCAN >>

1. POINT A DWELL: XX dwell time is 0~60;

2. SAVING...

3. POINT B DWELL: XX

4. SAVING ...

5. EXIT SUBMENU <<

5.2.3.10 A—B SCAN TEST >>

1. A—B SCAN SPEED: XX

2. START A—B SCAN

3. EXIT SUBMENU <<

5.2.3.11 START ROTATION >>

1. ROTATION SPEED: XX

2. START ROTATION

3. EXIT SUBMENU <<

5.2.3.12 GUARD POINT >>

1. RETURNING TIME: XXX

2. OPERATION MODE: 0V

3. SAVING...

4. EXIT SUBMENU <<

5.2.3.13 TURN OVER >>

TURN OVER: 0V

5.2.3.14 PATTERN >>

1. SET START AND STOP:

2. RUN THE PATTERN:

3. EXIT SUBMENU <<

5.2.3.15 X—Y INDICATOR >>

1. X LOCATOR DISPLAY: 0V

2. Y LOCATOR DISPLAY: 0V

3. TEMPTURE DISP: Not support※

4. TEMPTURE: XXX Not support※

5. EXIT SUBMENU <<

5.2.3.15 DETE&TIME SETUP >>

Not support.

5.2.3.19 PASSWORD SETUP >>

1. NEW PASSWORD: XXXX
2. CONFIRM UPDATE
3. PASSWORD PROTECT : OFF
4. EXIT SUBMENU <<

5.2.3.20 LANGUAGE OPT : ENGLISH

Not support.

5.2.3.21 SYSTEM INFORMATION SET >> ※

SYSTEM INFORMATION:

1. PROTOCOL: PELCO
2. BAUD RATE: 9600BPS
3. SPEED DOME ID: 0001
4. .CODE: XXXXXX>000000
5. SAVE
6. EXIT SUBMENU<<

Note: new address must be modified in 0001-0150 within the framework of choice, or beyond the scope of this system, the default address for 0150. ※

5.2.3.22. If users use PELCO protocol has no relative order in control protocol because of part special function. In order to control some special function of dome, we make function shift to usual function. Usually adopt "adjust preset position/set preset position order" to make shift. Order shift chart see as below:

Chart 1 Camera Functions by Adjusting Preset Position

number	Keyboard Operations	number	Keyboard Operations
	Set preset position		Call preset position
		33	Run 180 degree
90	Set start pattern	90	Start pattern
91	Stop set pattern	91	Cursor (Up)
92	Set start location of line scan	92	Cursor(down)
93	Set end location of line scan	93	Cursor(left)
94	Delete All	94	Cursor(right)
95	Into Menu	95	Start auto-cruise (1 preset position)
96	Set Guard Position	96	Stop all funtion
97	Guard position open	97	Start random scan
98	Guard position close	98	Start 360 degree scan
99	Day/Night Mode Switch	99	Start line scan (mid- speed)

a. The menu functions will be various according to different zoom camera models.

(Please read the attachment "Camera Parameter & OSD Menu" for the exact menu setting of different camera models.)

VI. Camera Optional Functions

6.1 Alarm Linkage Function

Speed dome camera supports a 4 alarm input. Every alarm input end matches a preset position No.: 29, 30, 31, 32.

When speed dome camera detects an alarm input, the camera will automatically turn to the preset position that has been set. When detecting several alarm inputs, the camera will automatically turn to the corresponding preset positions that have been set. Press down Shift+CLR key to clear alarm status under the default protocol. Adjust preset position No. 60 to clear alarm status under other protocols. Then the speed dome camera will come back to the previous status.

6.2 Present Position Char Overlap Function

Through RS-232/RS-485 adapter, speed dome camera can transfer the PC deferent 232 signal to RS-485 signal which speed dome can recognize and can be communicated by the attached software. This enables the speed dome display multi-language and images in every preset position. More detail operation please refers to speed dome control software and operation manual.

VII. Protocol Order

The PELCO protocol has no relative order of control protocols for some special functions. In order to control these functions, we make function shift to usual function. Usually adopt "adjust preset position/set preset position order" to make shift. Order shift chart see as above chart 1 and 2.

If another control device is used to control the speed dome camera, Some of the special functions of Intelligent high speed dome can't be realized because of protocol limitation.

When another control device is used to control the speed dome camera, you will need to set the protocol, address and baud rate correctly. When you set the address, please set the speed dome to an address different from the control device.

For example: DVR address is 1, dome camera address should be set as 2 for normal control.

indicates the optional functions, only with certain models.

VIII. Address-Binary Code Chart

Binary System Code	Default Protocol	PELCO-D	PELCO-P
00000000	1	1	1
00000001	2	2	2
00000010	3	3	3
00000011	4	4	4
00000100	5	5	5
00000101	6	6	6
00000110	7	7	7
00000111	8	8	8
00001000	9	9	9
00001001	10	10	10
00001010	11	11	11
00001011	12	12	12
00001100	13	13	13

00001101	14	14	14
00001110	15	15	15
00001111	16	16	16
00010000	17	17	17
00010001	18	18	18
00010010	19	19	19
00010011	20	20	20
00010100	21	21	21
00010101	22	22	22
00010110	23	23	23
00010111	24	24	24
00011000	25	25	25
00011001	26	26	26
00011010	27	27	27
00011011	28	28	28
00011100	29	29	29
00011101	30	30	30
00011110	31	31	31
00011111	32	32	32
00100000	33	33	33
00100001	34	34	34
00100010	35	35	35
00100011	36	36	36
00100100	37	37	37
00100101	38	38	38
00100110	39	39	39
00100111	40	40	40
00101000	41	41	41
00101001	42	42	42
00101010	43	43	43
00101011	44	44	44
00101100	45	45	45
00101101	46	46	46
Binary System Code	Default Protocol	PELCO-D	PELCO-P
00101110	47	47	47
00101111	48	48	48
00110000	49	49	49
00110001	50	50	50
00110010	51	51	51
00110011	52	52	52
00110100	53	53	53
00110101	54	54	54
00110110	55	55	55
00110111	56	56	56
00111000	57	57	57
00111001	58	58	58
00111010	59	59	59
00111011	60	60	60
00111100	61	61	61

00111101	62	62	62
00111110	63	63	63
00111111	64	64	64
01000000	65	65	65
01000001	66	66	66
01000010	67	67	67
01000011	68	68	68
01000100	69	69	69
01000101	70	70	70
01000110	71	71	71
01000111	72	72	72
01001000	73	73	73
01001001	74	74	74
01001010	75	75	75
01001011	76	76	76
01001100	77	77	77
01001101	78	78	78
01001110	79	79	79
01001111	80	80	80
01010000	81	81	81
01010001	82	82	82
01010010	83	83	83
01010011	84	84	84
01010100	85	85	85
01010101	86	86	86
01010110	87	87	87
01010111	88	88	88
01011000	89	89	89
01011001	90	90	90
01011010	91	91	91
01011011	92	92	92
01011100	93	93	93
Binary System Code	Default Protocol	PELCO-D	PELCO-P
01011101	94	94	94
01011110	95	95	95
01011111	96	96	96
01100000	97	97	97
01100001	98	98	98
01100010	99	99	99
01100011	100	100	100
01100100	101	101	101
01100101	102	102	102
01100110	103	103	103
01100111	104	104	104
01101000	105	105	105
01101001	106	106	106
01101010	107	107	107
01101011	108	108	108
01101100	109	109	109

01101101	110	110	110
01101110	111	111	111
01101111	112	112	112
01110000	113	113	113
01110001	114	114	114
01110010	115	115	115
01110011	116	116	116
01110100	117	117	117
01110101	118	118	118
01110110	119	119	119
01110111	120	120	120
01111000	121	121	121
01111001	122	122	122
01111010	123	123	123
01111011	124	124	124
01111100	125	125	125
01111101	126	126	126
01111110	127	127	127
01111111	128	128	128
10000000	129		129
10000001	130		130
10000010	131		131
10000011	132		132
10000100	133		133
10000101	134		134
10000110	135		135
10000111	136		136
10001000	137		137
10001001	138		138
10001010	139		139
10001011	140		140
10001100	141		141
Binary System Code	Default Protocol	PELCO-D	PELCO-P
10001101	142		142
10001110	143		143
10001111	144		144
10010000	145		145
10010001	146		146
10010010	147		147
10010011	148		148
10010100	149		149
10010101	150		150
10010110	151		151
10010111	152		152
10011000	153		153
10011001	154		154
10011010	155		155
10011011	156		156
10011100	157		157

10011101	158		158
10011110	159		159
10011111	160		160
10100000	161		161
10100001	162		162
10100010	163		163
10100011	164		164
10100100	165		165
10100101	166		166
10100110	167		167
10100111	168		168
10101000	169		169
10101001	170		170
10101010	171		171
10101011	172		172
10101100	173		173
10101101	174		174
10101110	175		175
10101111	176		176
10110000	177		177
10110001	178		178
10110010	179		179
10110011	180		180
10110100	181		181
10110101	182		182
10110110	183		183
10110111	184		184
10111000	185		185
10111001	186		186
10111010	187		187
10111011	188		188
10111100	189		189
Binary System Code	Default Protocol	PELCO-D	PELCO-P
10111101	190		190
10111110	191		191
10111111	192		192
11000000	193		193
11000001	194		194
11000010	195		195
11000011	196		196
11000100	197		197
11000101	198		198
11000110	199		199
11000111	200		200
11001000	201		201
11001001	202		202
11001010	203		203
11001011	204		204
11001100	205		205

11001101	206		206
11001110	207		207
11001111	208		208
11010000	209		209
11010001	210		210
11010010	211		211
11010011	212		212
11010100	213		213
11010101	214		214
11010110	215		215
11010111	216		216
11011000	217		217
11011001	218		218
11011010	219		219
11011011	220		220
11011100	221		221
11011101	222		222
11011110	223		223
11011111	224		224
11100000	225		225
11100001	226		226
11100010	227		227
11100011	228		228
11100100	229		229
11100101	230		230
11100110	231		231
11100111	232		232
11101000	233		233
11101001	234		234
11101010	235		235
11101011	236		236
11101100	237		237
Binary System Code	Default Protocol	PELCO-D	PELCO-P
11101101	238		238
11101110	239		239
11101111	240		240
11110000	241		241
11110001	242		242
11110010	243		243
11110011	244		244
11110100	245		245
11110101	246		246
11110110	247		247
11110111	248		248
11111000	249		249
11111001	250		250
11111010	251		251
11111011	252		252
11111100	253		253

11111101	254		254
11111110	255		255
11111111	256		256

X. Exception Handling

Issue	Possible Reason	Solution
Power on, no movement, no image, indicator light does not light	Power line connected wrong	Correct it
	Power damaged	Replace
	Blowout	Replace
	Power line be connected bad	Check it
Power on, self check, has image, can't control, indicator light does not flicker	The machine's address code or baud rate is wrong	Reset
	Protocol wrong	Correct it
	RS485 bus be connected wrong	Check it
Camera can't reposition itself. (camera can no longer move)	Mechanical failure	Repair it
	Camera incline	Correct it
	Power is not enough	Replace
Image is not stable	Video line connected bad	Check it
	Power is not enough	Replace
Image is dim	Focus in manual state	Operate the machine or adjust a preset position
	Dome is dirty	Clean it
Control is not stable	Power supply is not enough	Change a certified power supply
	The matching resistance of the furthest speed dome is not working	Makes the matching resistance work
	Camera can not control resulting from incorrect operation	Reboot the machine