

**XtendLan**

**SPEED DOME**

**USER**

**MANUAL**

**Please read the manual carefully before operation**

## ***Safety Attention Notes***

---

- Please read the instructions thoroughly before installing or operating the unit.
- Please do not put the machine on an unstable table or mounting bracket.
- Please prevent all liquids or other contaminating material from entering into the dome housing.
- When connecting to 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 electric surges. This technology prevents damage to the device resulting from impulse signals such as lightning strikes or surges under 500W 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, do not casually repair it. Refer to the instructions for trouble, if you couldn't find the trouble; please turn to the professional engineer for help. Our company's engineers will provide you with the repairing service.

## INDEX

<b>I) Production Introduction</b>	-----4
<b>II) Technical Data</b>	-----4
2□1. Speed Dome Technical Parameter	-----4
2□2. Speed Dome Camera Technical Parameter	-----5
2□3. Lens Technical Parameter	-----5
<b>III) Dome Camera Installation and Setting</b>	-----6
3□1. Dome Camera Setting	-----6
3□2. SW1 Switch Setting	-----6
3□3. SW2 Switch Setting	-----6
<b>IV) Wall Mount Installation Connection</b>	-----13
4□1. Dome Camera Wall Mount Installation	-----13
4.1.1 Wall Mount Bracket and Cover Installation	-----13
4.1.2 Wire Connection	-----14
4.1.3 Core Mounting	-----14
4.1.4 Electricity	-----15
4.1.5 Dome Mount	-----15
4□2. Dome Camera Ceiling Installation	-----15
4.2.1 Holing on The Ceiling	-----15
4.2.2 Housing Installation	-----16
4.2.3 Wire Connection	-----16
4.2.4 Core Mounting	-----12
4.2.5 Electricity	-----12
4.2.6 Dome Mounting	-----12
<b>V) Functions and Operations</b>	-----17
5□1. Object Tracking	-----17
5□2. Setting and Calling Preset Position	-----18
5□3. Dome Pattern Tours	-----18
5□4. Auto Scan	-----19

5.4.1 2 Points Scan	-----19
5.4.2 360° Scan	-----19
<b>5□5. Guard Location</b>	-----19
5.5.1 Setting the Guard Location	-----20
5.5.2 Switches of Guard Location	-----20
<b>5□6. Camera Control</b>	-----20
5.6.1 Zoom Control	-----21
5.6.2 Focus Control	-----21
5.6.3 Iris Control	-----21
5.6.4 Auto Backlight Compensation	-----21
5.6.5 Auto White Balance	-----22
<b>5□7. Camera Menu Setting</b>	-----22
<b>VI) Trouble Shooting Chart</b>	-----24
<b>VII) PELCO-D/PELCO-P Protocol Order</b>	-----25

## I Production Introduction

Congratulations on purchasing our speed dome, an intelligent, high-speed dome camera 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 memorizing function when the power cuts off, can auto resume to previous working status before the power cuts off. Use the high-performance speed dome "When it counts."

All of the features make the intelligent 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

### 2.1. Speed Dome Technical Parameter

Power Supply	AC24V ±5%
Operating Temperature	Indoor □ 0℃--+40℃ □ Outdoor □ +40 □--+60 □ □
Operating Humidity	≤95% Non Considering
Power Consumption	20W
Communication	RS485
Baud Rate	1200/ 2400 □ 4800 □ 9600 bps
Horizontal Rotation Speed	0.5°/280°
Horizontal Rotation Range	360°unlimited
Tilt Rotation Range	90°
Auto Flip	Rotates 180°when camera tilts to the vertical position
Auto Zoom Speed Control	Control speed auto-adjusted according to zoom length changing

2 Points Scan	Set Freely
2 Points Scan Speed	1 □ 64 grade available
Dwell Time(2 Points scan)	1 □ 60s Available
Preset Positions	128
Running to Preset Speed:	0.5°/280°
Cruise Tour:	4Group(Pelco with temporary 1 group)
Cruise Points Per Cruise Group	16 Preset Positions
Fan and Heater	Auto start 24VAC

### 2.2. Speed Dome Camera Technical Parameter

Synchronism	Internal/ External
Scan	2:1 Interlace
Resolution	>480 lines
Minimum Illumination	0.7Lux/0.01 Lux
Backlight Compensation	Yes
White Balance	Auto
Gain	Auto
Signal	NTSC/PAL
S/N Ratio	□ 55dB
Video Signal Output	1.0±0.2Vp-p

### 2.3. Lens Technical Parameter

Optical Zoom	X18 X 22 X23
Electronic Zoom	10
Focus/Horizontal Angle	Visual X18(f=4.1-73.8mm);4.1mm visual angle 43° 73.8mm visual angle 2.5° X22(f=4-88mm);4m visual angle 43° 88mm visual angle 2° X23(f=3.6-82.8mm); 3.6mm visual angle 45° 82.8mm visual angle 2.1°
Focus	Auto/Manual
Iris Control	Auto/Manual

### III Dome Camera Installation and Setting

#### 3.1. Dome Camera Controlling

**Notice:** To assure the normal signal communication, a 120 ohm R should be connected to the farthest dome when one control bus control more than two domes.

#### 3.2.SW1 Switch Setting

Note: SW1 switch is used for setting communication protocol.

ON=1/OFF=0

Protocol	Switch Setting							
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5	SW1-6	SW1-7	SW1-8
Matri Protocol	0	0	0	0	0	0	0	0
PELCO-P Protocol	1	0	0	0	0	0	0	0
PELCO-D Protocol	0	1	0	0	0	0	0	0

#### 3.3.SW2 Switch Setting (PELCO-P/PELCO-D)

**Note:** SW2 switch is used for setting the receiving address and baud rate.

It is effective only in PELCO-P/PELCO-D protocol

ON=1/OFF=0

Baud Rate	SW2-6	SW2-7	SW2-8
2400	0	0	0
4800	1	0	0
9600	0	1	0

### Matri Code Address Setting:

**Note**  Matri code baud rate: 9600B

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
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
33	0	0	0	0	0	1	0	0
34	1	0	0	0	0	1	0	0
35	0	1	0	0	0	1	0	0
36	1	1	0	0	0	1	0	0
37	0	0	1	0	0	1	0	0
38	1	0	1	0	0	1	0	0
39	0	1	1	0	0	1	0	0
40	1	1	1	0	0	1	0	0
41	0	0	0	1	0	1	0	0
42	1	0	0	1	0	1	0	0
43	0	1	0	1	0	1	0	0
44	1	1	0	1	0	1	0	0

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
45	0	0	1	1	0	1	0	0
46	1	0	1	1	0	1	0	0
47	0	1	1	1	0	1	0	0
48	1	1	1	1	0	1	0	0
49	0	0	0	0	1	1	0	0
50	1	0	0	0	1	1	0	0
51	0	1	0	0	1	1	0	0
52	1	1	0	0	1	1	0	0
53	0	0	1	0	1	1	0	0
54	1	0	1	0	1	1	0	0
55	0	1	1	0	1	1	0	0
56	1	1	1	0	1	1	0	0
57	0	0	0	1	1	1	0	0
58	1	0	0	1	1	1	0	0
59	0	1	0	1	1	1	0	0
60	1	1	0	1	1	1	0	0
61	0	0	1	1	1	1	0	0
62	1	0	1	1	1	1	0	0
63	0	1	1	1	1	1	0	0
64	1	1	1	1	1	1	0	0
65	0	0	0	0	0	0	1	0
66	1	0	0	0	0	0	1	0
67	0	1	0	0	0	0	1	0
68	1	1	0	0	0	0	1	0
69	0	0	1	0	0	0	1	0
70	1	0	1	0	0	0	1	0
71	0	1	1	0	0	0	1	0
72	1	1	1	0	0	0	1	0
73	0	0	0	1	0	0	1	0
74	1	0	0	1	0	0	1	0
75	0	1	0	1	0	0	1	0
76	1	1	0	1	0	0	1	0
77	0	0	1	1	0	0	1	0
78	1	0	1	1	0	0	1	0
79	0	1	1	1	0	0	1	0
80	1	1	1	1	0	0	1	0
81	0	0	0	0	1	0	1	0
82	1	0	0	0	1	0	1	0
83	0	1	0	0	1	0	1	0
84	1	1	0	0	1	0	1	0
85	0	0	1	0	1	0	1	0
86	1	0	1	0	1	0	1	0
87	0	1	1	0	1	0	1	0
88	1	1	1	0	1	0	1	0





Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
	1	1	0	1	1	0	0	1
	0	0	1	1	1	0	0	1
	1	0	1	1	1	0	0	1
	0	1	1	1	1	0	0	1
	1	1	1	1	1	0	0	1
	0	0	0	0	0	1	0	1
161	1	0	0	0	0	1	0	1
162	0	1	0	0	0	1	0	1
163	1	1	0	0	0	1	0	1
164	0	0	1	0	0	1	0	1
165	1	0	1	0	0	1	0	1
66	0	1	1	0	0	1	0	1
167	1	1	1	0	0	1	0	1
16	0	0	0	1	0	1	0	1
169	1	0	0	1	0	1	0	1
170	0	1	0	1	0	1	0	1
11	1	1	0	1	0	1	0	1
	0	0	1	1	0	1	0	1
173	1	0	1	1	0	1	0	1
174	0	1	1	1	0	1	0	1
	1	1	1	1	0	1	0	1
	0	0	0	0	1	1	0	1
	1	0	0	0	1	1	0	1
	0	1	0	0	1	1	0	1
	1	1	0	0	1	1	0	1
	0	0	1	0	1	1	0	1
	1	0	1	0	1	1	0	1
	1	1	1	0	1	1	0	1
184	0	0	0	1	1	1	0	1
5	1	0	0	1	1	1	0	1
16	0	1	0	1	1	1	0	1
17	1	1	0	1	1	1	0	1
1	0	0	1	1	1	1	0	1
19	1	0	1	1	1	1	0	1
190	0	1	1	1	1	1	0	1
191	1	1	1	1	1	1	0	1
9	0	0	0	0	0	0	1	1
193	1	0	0	0	0	0	1	1
194	0	1	0	0	0	0	1	1
195	1	1	0	0	0	0	1	1
196	0	0	1	0	0	0	1	1
	1	0	1	0	0	0	1	1
	0	1	1	0	0	0	1	1
	1	1	1	0	0	0	1	1
	0	0	0	1	0	0	1	1
	1	0	0	1	0	0	1	1
	0	1	0	1	0	0	1	1
	1	1	0	1	0	0	1	1
	0	0	1	1	0	0	1	1
	1	0	1	1	0	0	1	1

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
	0	1	1	1	0	0	1	1
	1	1	1	1	0	0	1	1
	0	0	0	0	1	0	1	1
	1	0	0	0	1	0	1	1
	0	1	0	0	1	0	1	1
	1	1	0	0	1	0	1	1
	0	0	1	0	1	0	1	1
	1	0	1	0	1	0	1	1
	1	0	1	0	1	0	1	1
	0	1	1	0	1	0	1	1
	0	1	1	0	1	0	1	1
215	1	1	1	0	1	0	1	1
216	0	0	0	1	1	0	1	1
21	1	0	0	1	1	0	1	1
8	0	1	0	1	1	0	1	1
219	1	1	0	1	1	0	1	1
220	0	0	1	1	1	0	1	1
221	1	0	1	1	1	0	1	1
	0	1	1	1	1	0	1	1
223	1	1	1	1	1	0	1	1
224	0	0	0	0	0	1	1	1
22	1	0	0	0	0	1	1	1
226	0	1	0	0	0	1	1	1
227	1	1	0	0	0	1	1	1
	0	0	1	0	0	1	1	1
	1	0	1	0	0	1	1	1
	0	1	1	0	0	1	1	1
	1	1	1	0	0	1	1	1
	0	0	0	1	0	1	1	1
	1	0	0	1	0	1	1	1
	0	1	0	1	0	1	1	1
	0	1	0	1	0	1	1	1
	1	1	0	1	0	1	1	1
	0	0	1	1	0	1	1	1
	0	0	1	1	0	1	1	1
	1	0	1	1	0	1	1	1
	0	0	1	1	0	1	1	1
	1	0	1	1	0	1	1	1
	0	1	1	1	0	1	1	1
	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1
	0	0	1	1	0	1	1	1
	1	0	1	1	0	1	1	1
239	1	1	1	1	0	1	1	1
240	0	0	0	0	1	1	1	1
241	1	0	0	0	1	1	1	1
242	0	1	0	0	1	1	1	1
243	1	1	0	0	1	1	1	1
244	0	0	1	0	1	1	1	1
24	1	0	1	0	1	1	1	1
246	0	1	1	0	1	1	1	1
247	1	1	1	0	1	1	1	1
248	0	0	0	1	1	1	1	1
249	1	0	0	1	1	1	1	1
250	0	1	0	1	1	1	1	1
251	1	1	0	1	1	1	1	1
252	0	0	1	1	1	1	1	1
3	1	0	1	1	1	1	1	1
	0	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1

## IV. Wall Mount Installation Connection

### Notice:

1. Installation should be made by a qualified technician.
2. For detailed connection information, please refer to silk-screen print instruction on PCB and installation guide or manuals.
3. Because the dome is a high-grade optical unit, please never touch any of the optical components, avoid scratching the dome, for fear that affect the image definition quality.
4. For a clear image, the dome cover should be cleaned periodically. When cleaning, position your hand to hold dome's outer loop to prevent finger sweat acidity from corrupting the surface of the dome. If the dome is scratched, it will affect image quality. Therefore please use a soft dry cloth or similar products to clean its outer surface. If the dust is heavy, you can use a neutral cleanser. Any advanced furniture cleanser can be used to clean the dome exterior.
5. Please keep complete air proof in outdoor installation, avoiding moisture.

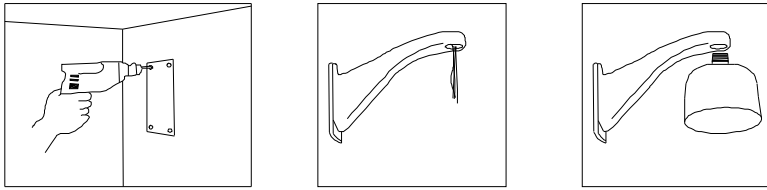
### 4.1 Dome Camera Wall Mount Installation

#### 4.1.1 Wall Mount Bracket and Cover Installation

**Note:** Installation locations should endure 5 times weight of total weight (dome camera, mounting bracket and mounting base) to avoid shaken images.

- a. Set wall mounting bracket on the wall. Draw out mount holes on the wall against bracket sample.
- b. Use drill to make 4 holes at the designated location. Screw in M8 bolt for mounting.
- c. Cut power, communication and video lines through bracket hole, leaving enough wire length.
- d. Fix the bracket to the wall with 4 M8 bolts and mounting gasket.



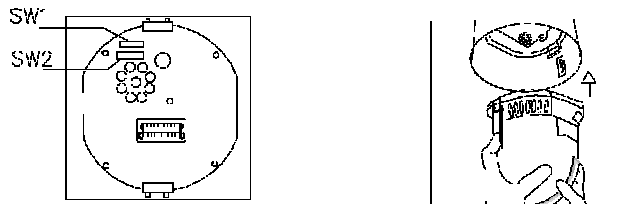


#### 4.1.2 Wire Connection

- a. Loosen the screws on the dome cover and open the cover.
- b. Connect BNC video interface of speed dome camera with video wire (BNC). Connect the power supply interface with the ready power supply line. Connect the RS485 interface with the ready RS485 control line. Then replace the cover after examination.

**Notice:** Do not connect positive and negative polarity of RS485 contrarily. (A: RS485 positive, B: RS485 negative polarity.) If RS485 is connected contrarily, the dome cannot be controlled.

#### 4.1.3 Core Mounting



- a. Set the DIP switches for SW1 and SW2 on the bottom of the dome drive for the appropriate receiver address.
- b. Line up the green and red tabs with the green and the red labels. Push in on the tabs. Insert the side with the green tab, then the side with red tab. Continue pushing on the ends of the tabs until both sides click into the place.

#### 4.1.4 Electricity

- a. Apply the power after checking the wire connection and polarity of the plug and outlet.
- b. Domes enter self-inspection, and carry out a default program when powered on, making a horizontal 360° and tilt 90° rotation. After the dome stops completely, the self-inspection is completed and dome is ready to be controlled.

#### 4.1.5 Dome Mounting

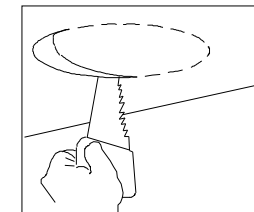
- a. Use soft cloth to wipe off dust and smudges of transparent dome, avoid scratching the dome.
- b. Loosen the two screws of the dome cover.
- c. Push the dome into the case, aim at the mounting hole of screw, then fit on two screws.



### 4.2 Dome Camera Ceiling Installation

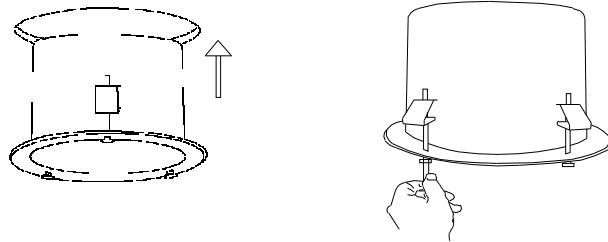
#### 4.2.1 Holing On the Ceiling

- a. Draw a circle on the ceiling according to the size of the speed dome
- b. Use drill to cut a circle on the ceiling



#### 4.2.2 Housing Installation

- a. Take out the housing from the carton and install the upper housing in the round hole of the ceiling.
- b. Use screwdriver to rotate the bolt of the ring, making the ring stick to the ceiling in order to connecting flange edge with the ceiling surface closely.

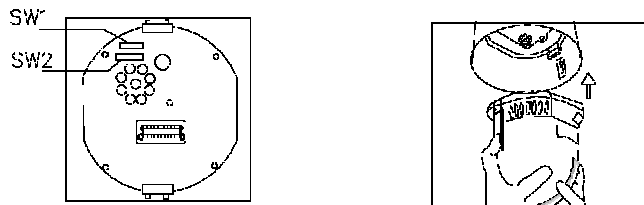


#### 4.2.3 Wire Connection

- a. Loosen the screws on the out dome cover and open the cover.
- b. Connect BNC video interface of speed dome camera with video wire (BNC). Connect the power supply interface with the ready power supply line. Connect the RS485 interface with the ready RS485 control line. Then replace the cover after examination.

**Notice:** Do not connect positive and negative polarity of RS485 contrarily (A: RS485 positive, B: RS 485 negative polarity). If RS485 is connected contrarily, cannot be controlled.

#### 4.2.4 Core Mounting



- a. Set the DIP switches for SW1 and SW2 on the bottom of the dome drive for the appropriate receiver address.
- b. Line up the green and red tabs with the green and the red labels. Push in on the

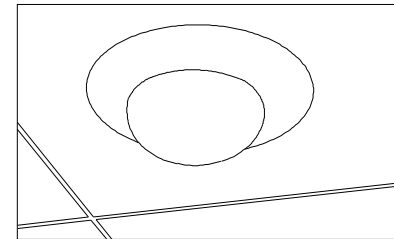
tabs. Insert the side with the green tab, then the side with red tab. Continue pushing on the ends of the tabs until both sides click into the place.

#### 4.2.5 Electricity

- a. Apply the power after checking the wire connection and polarity of the plug and outlet.
- b. Domes enter self-inspection, and carry out a default program when first powered on, making a horizontal 360° and tilt 90° rotation. After the dome stops completely, the self-inspection is completed and dome is ready to be controlled.

#### 4.2.6 Dome Mounting

- a. Use soft cloth to wipe off dust and smudges of transparent dome, avoid scratching the dome.
- b. Push the dome into the case, aim at the ceiling hole, and then turn the dome in the same direction clockwise in order to connect the dome with the ceiling surface closely.



### V Functions and Operations

This section briefly introduces the main functions and common operation principles without dwelling on details. Operation methods vary from different systems following the manufacturer's manual. When unusual operations require sometimes, please turn to the distributor.

#### 5.1. Object Tracking

A user can rotate the camera lens up, down, left and right to track moving objects within the vision by the joystick. In addition, a user can adjust focus to

change the vision angle or the size of the image. In auto-iris or auto-zoom mode, the camera adjusts automatically to get a clear image with changing environments.

**Focus/Rotation Speed Auto Controls**

When manually adjust with long focus, a typical PTZ dome may move too quickly to lose important images. The out door speed dome is specially designed to adjust the sensitivity of the Pan and Tilt controls, navigation easy and convenient.

**Auto Flip**

The speed dome makes 180° horizontal rotation and 90° vertical rotation when the camera tilts to the vertical position. This feature enables continuous surveillance in the whole process.

**5.2. Setting and Calling Preset Position**

The Preset function is of the parameters of the dome’s default level angle, tilt angle and camera focus saved in memory. By using these data, the dome and camera can run to the preset positions when needed. Operator can save and call preset positions promptly by using the control keyboard. The speed dome supports 64 preset positions.

**5.3. Dome Pattern Tours**

Pattern Touring is a key function of the speed dome camera. You can layout the preset position order to the pattern tours through our advanced program. Only an outer command unit can affect a pattern tour route.

- 1) This dome can set 4 cruise groups, Max 16 cruise points/group (1-64 points at any preset position. Pelco has one cruise group temporarily, Max. 16 cruise points/group.
- 2) Add desired preset position to the cruise group
- 3) Dwell time of each preset position can be different (1-60 seconds); the speed also varies (1-64 grades).
- 4) If one cruise group is start, auto scans by points from No.1 to No.8 preset.

Two pattern tours styles can be used:

a □ To-and-from scanning

1→2→.....→8→1→2→.....→8→1.....Auto circle scanning by points.

b □ Cruise scanning

1→2→.....→7→8→7→.....→2→1→2.....→7→8→7→.....Auto cruise scanning

**Points without preset or deleted will be neglected.**

**5.4. Auto Scan (2 points scan, 360° scan)**

The operator can also run a simple point-to-point scan (also called back-and-forth scanning). To do this, set Preset Point A first (at the same time set the dwell time at Point A), and then set Present Point B (at the same time set the dwell time at Point B). Finally execute an outer command to scan between points A and B. When auto scan starts, input the grade Speed (1-64).

**5.4.1 2 Points Scan**

Input the grade Speed (1-64) and press AUTO.

Example: Set dwell time of Point A as 2 seconds, dwell time of Point B as 3 seconds. Make the scanning at 32-grade speed between the two points.

- 1) Move control joystick to Point A of scanning
- 2) Input 02, then press Pan-A on the keyboard after two seconds
- 3) Move control joystick to Point B of scanning
- 4) Input 03, then press SHIFT+PAN-A on the keyboard after three seconds
- 5) Input 32-grade, then press AUTO

**5.4.2 360° Scan**

Move the joystick to desired position; Input the running speed (1-64) and then press SHIFT+ AUTO.

Note: When speed dome camera is auto scanning, you can just use the joystick to stop it.

**5.5. Guard Location**

The guard location is an important preset position that the speed dome will come back automatically when there is no operation for a defined period.

The user can set such a location, control the interval (1-255S) to the location, enable and disable.

### 5.5.1 Setting the Guard Location

The control keyboard can set guard location and intervals of the dome.

Press MPX or Auto until LCD displays:

1.Speed dome setup  
Number:0001

Input the Speed Dome address □ 1-1024 □, press ENTER to Setup Menu.

Press MPX or Auto until LCD displays:

3.Press ENTER to  
Setup Watch Position

Press ENTER. The guard position is set.

### 5.5.2 Switches of Guard Location:

Press MPX or Auto until LCD displays:

4.Watch Position  
Time:000 Switch

Time:000: Set the interval

Switch: Set the guard location; ON: Enable OFF: Disable

Input interval figure, press ENTER:

Press SHIFT+MON Start the guard location

Press SHIFT+CAM Stop the guard location

The dome turns to Setup automatically without any command in XX seconds.

**Note:** Both of the Control keyboard and the Dome should adopt Sapling protocol in the above settings. If the keyboard is set as PELCO-D or PELCO-P protocol, the Dome should be set the same. Calling and setting preset should also follow. Other functions refer to PELCO protocol menu to setup.

## 5.6. Camera Control

### 5.6.1 Zoom Control

The user can adjust the advanced zoom control to acquire desired image through the keyboard.

### 5.6.2 Focus Control

The default setting is auto focus. In special conditions, a user can adjust the focus manually to meet the required image effect.

- 1) Make manual focus by keyboard or matrix (referring to respective manual).
- 2) When in manual mode, operate the focus control to focus desired object automatically.

**Note:** The Speed dome will not do auto focus on the target object under the following conditions:

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

### 5.6.3 Iris Control

- 1) The speed dome's default setting is for auto iris. It adjusts quickly through detecting the beam change.
- 2) User can adjust iris size manually through control keyboard to get required image brightness.
- 3) User can reset auto iris by keyboard. (Auto iris recommended)

**Note:** In manual iris, the dome stays in its current control position and will not do auto-iris even if current object changes. You need to move the joystick or send control command to reset the auto iris.

### 5.6.4 Auto Backlight Compensation

The camera is divided into six areas to realize auto backlight compensation. In lighting conditions where a strong backlight exists, the speed dome will

adjust the light levels relative to the foreground and background objects in order to achieve highest resolution image.

### 5.6.5 Auto White Balance

The speed dome will automatically adjust the white balance in accordance with the changing background lighting conditions to achieve life mage.

## 5.7 Camera Menu Setting (Sony camera only)

Through keyboard control, you can enter the speed dome camera menu setting.

Press SHIFT+EXIT to enter the main menu, control keyboard displays:

1.Speed dome setup

Number:0001

→ Press ENTER

Press MPX or AUTO, control keyboard displays:

5.Dome Menu

Press ENTER to menu

Press ENTER to the Dome Menu/LCD displays:

5.Dome Menu

Data:0001

Use MPX  Page up  and AUTO (Page down) to select camera OSD. Press DVR (Confirmation) and Pan A (Select).

PELCO-D)PELCO-P protocol  Call preset position No.55 and enter menu.

Please refer to VI.

- 1) CAM ID  Camera Identification
- 2) DZOOM: OFF  Digital zoom switch

Press down PAN\_A key/status changes between OFF /ON

3) FOCUS: AUTO  Auto Focus

Press down PAN\_A key, status changes between AUTO (auto)/ MAN (Manual)

4) MIRROR: OFF  Right-Left shift

Press down PAN\_A key/status changes between OFF /ON

5) NEGATIVE: OFF

Press down PAN\_A key/status changes between OFF /ON

6) ICR: AUTO  B/W –color auto shift

Press down PAN\_A key, status changes between AUTO (auto)/ON

Select AUTO status, the image will shift to B/W when the illumination is low. Select OFF, the image will not shift to B/W.

The function is only available to these specific models.

7) COLOR: OFF  Color display

Press down PAN\_A key/status changes between OFF /ON

8) FREEZE: ON  Picture Freeze

Press down PAN\_A key/status changes between OFF /ON

9) DISPAY: OFF  Screen display

Press down PAN\_A key/status changes between OFF /ON

When OFF (Default) is set, Icons of zoom, focus and iris will not display on the screen; when ON, the opposite.

10) BACKLIGHT: ON

Press down PAN\_A key/status changes between OFF /ON

11) WBC MODE: AUTO  white balance

Press down PAN\_A key, status changes between AUTO/INDOOR/ OUTDOOR/MAN

12) BRIGHT: (Brightness)

Press down PAN\_A key to decrease

13) RGAIN: (Red gain)

Press PAN\_A key to increase

14) BGAIN: (Blue gain)

**15) LOST POWER SAVE** □ Save setup □

Press down DVR key to save setup. Setup will be invalid without pressing the key if the menu setup should be changed.

**16) EXIT**

Press down DVR key and exit.

**17) SET PRIVACY ZONE**

Press down DVR key to enter this item when opening the privacy line.

Press PAN\_A key to display or delete the frame.

**VI Trouble Shooting**

Issue	Possible Reason	Solution
No movement, no image and indicator off after power on	Wrong connection of power line	Correction
	Power damaged	Replacement
	Blowout	Replacement
	Bad contact of power line	Check
Self-inspection after power on, image available, but no flickering indicator, out of control	Improper address code or baud rate	Correction
	Improper protocol	Correction
	Wrong connection of RS485 bus	Check
Self-inspection halt, buzz after image appears	Mechanical failure	Repair
	Camera incline	Correction
	Power shortage	Replacement
Unstable image	Bad contact of video line	Correction
	Power shortage	Replacement
Image Vague	Focus in manual state	Operate the dome or call a preset
	Dome is dirty.	Clean

**VII PELCO-D/PELCO-P Protocol Order Chart**

PELCO protocol has no relative order of some special functions. Thus, we make functional shifts between ‘Call preset position’ and ‘Set preset position’ order to effect some usual order. See the shifts chart below:

N Number	Keyboard (DVR Key) Operations	
	Call Preset NO. N (NO. + call)	Set Preset No. N (NO. + shift + call)
80	Start Preset Scan Group 2 (Preset No.17-32)	Guard Position Open
81	Start Preset Scan Group 3 (Preset No.33-48)	Guard Position Close
82	Start Preset Scan Group 4 (Preset No.49-64)	Set Guard Time as 5 seconds
83		Set Guard Time as 10 seconds
84		Digital Zoom Open
85		Digital Zoom Close
86		Auto Flip Open
87		Auto Flip Close
88		
89	Start 2 Points Scan 359 <sup>○</sup>	
90		
91		
92	Set Start-point of 2 Points Scan	
93	Set End-point of 2 Points Scan	
95		
96		
97		
98	Start Preset Scan Group 1 (Preset No.1-16)	
99	Start Auto Scan 360 <sup>○</sup> (High Speed)	