

# SS-C4457AV2 Series PTZ High Speed Dome

## User Manual



## ***Safety Attention Notes***

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- 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.

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## ***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, 26x, 36x 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°C-+40°C ) 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 TV 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	18X	26X	36X
Digital Zoom	12x ( 216x in total )	12x ( 312x in total )	12x ( 432x in total )
Lens	f=4.1 mm (Wide) to 73.8 mm (Tele), F1.4 to F3.0	f=3.5 mm (Wide) to 91.0 mm (Tele), F1.6 to F3.8	f=3.4 mm (wide) to 122.4 mm (tele), F1.6 to F4.5
Viewing angle (H)	48.0° (Wide end) to 2.8° (Tele end)	54.2° (Wide end) to 2.2° (Tele end)	57.8° (wide end) to 1.7° (tele end)
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
Matrix Protocol ( 9600 )	0	0	0	0	0	0	0	0
PELCO-P Protocol	1	0	0	0	0	0	0	0
PELCO-D Protocol ( 2400 )	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

<b>Baud Rate</b>	<b>SW2-6</b>	<b>SW2-7</b>	<b>SW2-8</b>
1200	1	1	
2400	0	1	
4800	1	0	
9600	0	0	

**Matrix Code Address Setting:**

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

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-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							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-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							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
89	0	0	0	1	1	0	1	0
90	1	0	0	1	1	0	1	0
91	0	1	0	1	1	0	1	0
92	1	1	0	1	1	0	1	0
93	0	0	1	1	1	0	1	0
94	1	0	1	1	1	0	1	0
95	0	1	1	1	1	0	1	0
96	1	1	1	1	1	0	1	0
97	0	0	0	0	0	1	1	0
98	1	0	0	0	0	1	1	0
99	0	1	0	0	0	1	1	0
100	1	1	0	0	0	1	1	0
101	0	0	1	0	0	1	1	0
102	1	0	1	0	0	1	1	0
103	0	1	1	0	0	1	1	0
104	1	1	1	0	0	1	1	0
105	0	0	0	1	0	1	1	0
106	1	0	0	1	0	1	1	0
107	0	1	0	1	0	1	1	0
108	1	1	0	1	0	1	1	0
109	0	0	1	1	0	1	1	0
110	1	0	1	1	0	1	1	0
111	0	1	1	1	0	1	1	0
112	1	1	1	1	0	1	1	0
113	0	0	0	0	1	1	1	0
114	1	0	0	0	1	1	1	0
115	0	1	0	0	1	1	1	0
116	1	1	0	0	1	1	1	0
117	0	0	1	0	1	1	1	0
118	1	0	1	0	1	1	1	0
119	0	1	1	0	1	1	1	0
120	1	1	1	0	1	1	1	0
121	0	0	0	1	1	1	1	0
122	1	0	0	1	1	1	1	0
123	0	1	0	1	1	1	1	0
124	1	1	0	1	1	1	1	0
125	0	0	1	1	1	1	1	0
126	1	0	1	1	1	1	1	0
127	0	1	1	1	1	1	1	0
128	1	1	1	1	1	1	1	0
129	0	0	0	0	0	0	0	1
130	1	0	0	0	0	0	0	1
131	0	1	0	0	0	0	0	1
132	1	1	0	0	0	0	0	1
133	0	0	1	0	0	0	0	1
134	1	0	1	0	0	0	0	1
135	0	1	1	0	0	0	0	1
136	1	1	1	0	0	0	0	1
137	0	0	0	1	0	0	0	1
138	1	0	0	1	0	0	0	1

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
139	0	1	0	1	0	0	0	1
140	1	1	0	1	0	0	0	1
141	0	0	1	1	0	0	0	1
142	1	0	1	1	0	0	0	1
143	0	1	1	1	0	0	0	1
144	1	1	1	1	0	0	0	1
145	0	0	0	0	1	0	0	1
146	1	0	0	0	1	0	0	1
147	0	1	0	0	1	0	0	1
148	1	1	0	0	1	0	0	1
149	0	0	1	0	1	0	0	1
150	1	0	1	0	1	0	0	1
151	0	1	1	0	1	0	0	1
152	1	1	1	0	1	0	0	1
153	0	0	0	1	1	0	0	1
154	1	0	0	1	1	0	0	1
155	0	1	0	1	1	0	0	1
156	1	1	0	1	1	0	0	1
157	0	0	1	1	1	0	0	1
158	1	0	1	1	1	0	0	1
159	0	1	1	1	1	0	0	1
160	1	1	1	1	1	0	0	1
161	0	0	0	0	0	1	0	1
162	1	0	0	0	0	1	0	1
163	0	1	0	0	0	1	0	1
164	1	1	0	0	0	1	0	1
165	0	0	1	0	0	1	0	1
166	1	0	1	0	0	1	0	1
167	0	1	1	0	0	1	0	1
168	1	1	1	0	0	1	0	1
169	0	0	0	1	0	1	0	1
170	1	0	0	1	0	1	0	1
171	0	1	0	1	0	1	0	1
172	1	1	0	1	0	1	0	1
173	0	0	1	1	0	1	0	1
174	1	0	1	1	0	1	0	1
175	0	1	1	1	0	1	0	1
176	1	1	1	1	0	1	0	1
177	0	0	0	0	1	1	0	1
178	1	0	0	0	1	1	0	1
179	0	1	0	0	1	1	0	1
180	1	1	0	0	1	1	0	1
181	0	0	1	0	1	1	0	1
182	1	0	1	0	1	1	0	1
183	0	1	1	0	1	1	0	1
184	1	1	1	0	1	1	0	1
185	0	0	0	1	1	1	0	1
186	1	0	0	1	1	1	0	1
187	0	1	0	1	1	1	0	1
188	1	1	0	1	1	1	0	1

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
189	0	0	1	1	1	1	0	1
190	1	0	1	1	1	1	0	1
191	0	1	1	1	1	1	0	1
192	1	1	1	1	1	1	0	1
193	0	0	0	0	0	0	1	1
194	1	0	0	0	0	0	1	1
195	0	1	0	0	0	0	1	1
196	1	1	0	0	0	0	1	1
197	0	0	1	0	0	0	1	1
198	1	0	1	0	0	0	1	1
199	0	1	1	0	0	0	1	1
200	1	1	1	0	0	0	1	1
201	0	0	0	1	0	0	1	1
202	1	0	0	1	0	0	1	1
203	0	1	0	1	0	0	1	1
204	1	1	0	1	0	0	1	1
205	0	0	1	1	0	0	1	1
206	1	0	1	1	0	0	1	1
207	0	1	1	1	0	0	1	1
208	1	1	1	1	0	0	1	1
209	0	0	0	0	1	0	1	1
210	1	0	0	0	1	0	1	1
211	0	1	0	0	1	0	1	1
212	1	1	0	0	1	0	1	1
213	0	0	1	0	1	0	1	1
214	1	0	1	0	1	0	1	1
215	0	1	1	0	1	0	1	1
216	1	1	1	0	1	0	1	1
217	0	0	0	1	1	0	1	1
218	1	0	0	1	1	0	1	1
219	0	1	0	1	1	0	1	1
220	1	1	0	1	1	0	1	1
221	0	0	1	1	1	0	1	1
222	1	0	1	1	1	0	1	1

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
223	0	1	1	1	1	0	1	1
224	1	1	1	1	1	0	1	1
225	0	0	0	0	0	1	1	1
226	1	0	0	0	0	1	1	1
227	0	1	0	0	0	1	1	1
228	1	1	0	0	0	1	1	1
229	0	0	1	0	0	1	1	1
230	1	0	1	0	0	1	1	1
231	0	1	1	0	0	1	1	1
232	1	1	1	0	0	1	1	1
233	0	0	0	1	0	1	1	1
234	1	0	0	1	0	1	1	1
235	0	1	0	1	0	1	1	1
236	1	1	0	1	0	1	1	1
237	0	0	1	1	0	1	1	1
238	1	0	1	1	0	1	1	1
239	0	1	1	1	0	1	1	1
240	1	1	1	1	0	1	1	1
241	0	0	0	0	1	1	1	1
242	1	0	0	0	1	1	1	1
243	0	1	0	0	1	1	1	1
244	1	1	0	0	1	1	1	1
245	0	0	1	0	1	1	1	1
246	1	0	1	0	1	1	1	1
247	0	1	1	0	1	1	1	1
248	1	1	1	0	1	1	1	1
249	0	0	0	1	1	1	1	1
250	1	0	0	1	1	1	1	1
251	0	1	0	1	1	1	1	1
252	1	1	0	1	1	1	1	1
253	0	0	1	1	1	1	1	1
254	1	0	1	1	1	1	1	1
255	0	1	1	1	1	1	1	1
256	1	1	1	1	1	1	1	1

**PELCO- P Code Baud Rate Setting :**

Receiving Address	Switch Setting				
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5
1	0	0	0	0	0
2	1	0	0	0	0
3	0	1	0	0	0
4	1	1	0	0	0
5	0	0	1	0	0
6	1	0	1	0	0
7	0	1	1	0	0
8	1	1	1	0	0
9	0	0	0	1	0
10	1	0	0	1	0
11	0	1	0	1	0
12	1	1	0	1	0
13	0	0	1	1	0
14	1	0	1	1	0
15	0	1	1	1	0
16	1	1	1	1	0

Receiving Address	Switch Setting				
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5
17	0	0	0	0	1
18	1	0	0	0	1
19	0	1	0	0	1
20	1	1	0	0	1
21	0	0	1	0	1
22	1	0	1	0	1
23	0	1	1	0	1
24	1	1	1	0	1
25	0	0	0	1	1
26	1	0	0	1	1
27	0	1	0	1	1
28	1	1	0	1	1
29	0	0	1	1	1
30	1	0	1	1	1
31	0	1	1	1	1
32	1	1	1	1	1

**PELCO-D Code Address Setting:**

Note : PELCO-D code baud rate: 2400B

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
1	1	0	0	0	0	0	0	0
2	0	1	0	0	0	0	0	0
3	1	1	0	0	0	0	0	0
4	0	0	1	0	0	0	0	0
5	1	0	1	0	0	0	0	0
6	0	1	1	0	0	0	0	0
7	1	1	1	0	0	0	0	0
8	0	0	0	1	0	0	0	0
9	1	0	0	1	0	0	0	0
10	0	1	0	1	0	0	0	0
11	1	1	0	1	0	0	0	0
12	0	0	1	1	0	0	0	0
13	1	0	1	1	0	0	0	0
14	0	1	1	1	0	0	0	0
15	1	1	1	1	0	0	0	0
16	0	0	0	0	1	0	0	0
17	1	0	0	0	1	0	0	0
18	0	1	0	0	1	0	0	0
19	1	1	0	0	1	0	0	0
20	0	0	1	0	1	0	0	0
21	1	0	1	0	1	0	0	0
22	0	1	1	0	1	0	0	0
23	1	1	1	0	1	0	0	0
24	0	0	0	1	1	0	0	0
25	1	0	0	1	1	0	0	0
26	0	1	0	1	1	0	0	0

Receiving Address	Switch Setting							
	S/W-1	S/W-2	S/W-3	S/W-4	S/W-5	S/W-6	S/W-7	S/W-8
27	1	1	0	1	1	0	0	0
28	0	0	1	1	1	0	0	0
29	1	0	1	1	1	0	0	0
30	0	1	1	1	1	0	0	0
31	1	1	1	1	1	0	0	0
32	0	0	0	0	0	1	0	0
33	1	0	0	0	0	1	0	0
34	0	1	0	0	0	1	0	0
35	1	1	0	0	0	1	0	0
36	0	0	1	0	0	1	0	0
37	1	0	1	0	0	1	0	0
38	0	1	1	0	0	1	0	0
39	1	1	1	0	0	1	0	0
40	0	0	0	1	0	1	0	0
41	1	0	0	1	0	1	0	0
42	0	1	0	1	0	1	0	0
43	1	1	0	1	0	1	0	0
44	0	0	1	1	0	1	0	0
45	1	0	1	1	0	1	0	0
46	0	1	1	1	0	1	0	0
47	1	1	1	1	0	1	0	0
48	0	0	0	0	1	1	0	0
49	1	0	0	0	1	1	0	0
50	0	1	0	0	1	1	0	0
51	1	1	0	0	1	1	0	0
52	0	0	1	0	1	1	0	0

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
53	1	0	1	0	1	1	0	0
54	0	1	1	0	1	1	0	0
55	1	1	1	0	1	1	0	0
56	0	0	0	1	1	1	0	0
57	1	0	0	1	1	1	0	0
58	0	1	0	1	1	1	0	0
59	1	1	0	1	1	1	0	0
60	0	0	1	1	1	1	0	0
61	1	0	1	1	1	1	0	0
62	0	1	1	1	1	1	0	0
63	1	1	1	1	1	1	0	0
64	0	0	0	0	0	0	1	0
65	1	0	0	0	0	0	1	0
66	0	1	0	0	0	0	1	0
67	1	1	0	0	0	0	1	0
68	0	0	1	0	0	0	1	0
69	1	0	1	0	0	0	1	0
70	0	1	1	0	0	0	1	0
71	1	1	1	0	0	0	1	0
72	0	0	0	1	0	0	1	0
73	1	0	0	1	0	0	1	0
74	0	1	0	1	0	0	1	0
75	1	1	0	1	0	0	1	0
76	0	0	1	1	0	0	1	0
77	1	0	1	1	0	0	1	0
78	0	1	1	1	0	0	1	0
79	1	1	1	1	0	0	1	0
80	0	0	0	0	1	0	1	0
81	1	0	0	0	1	0	1	0
82	0	1	0	0	1	0	1	0
83	1	1	0	0	1	0	1	0
84	0	0	1	0	1	0	1	0
85	1	0	1	0	1	0	1	0
86	0	1	1	0	1	0	1	0
87	1	1	1	0	1	0	1	0
88	0	0	0	1	1	0	1	0
89	1	0	0	1	1	0	1	0
90	0	1	0	1	1	0	1	0
91	1	1	0	1	1	0	1	0
92	0	0	1	1	1	0	1	0
93	1	0	1	1	1	0	1	0
94	0	1	1	1	1	0	1	0
95	1	1	1	1	1	0	1	0
96	0	0	0	0	0	1	1	0
97	1	0	0	0	0	1	1	0
98	0	1	0	0	0	1	1	0
99	1	1	0	0	0	1	1	0
100	0	0	1	0	0	1	1	0
101	1	0	1	0	0	1	1	0
102	0	1	1	0	0	1	1	0
103	1	1	1	0	0	1	1	0

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
104	0	0	0	1	0	1	1	0
105	1	0	0	1	0	1	1	0
106	0	1	0	1	0	1	1	0
107	1	1	0	1	0	1	1	0
108	0	0	1	1	0	1	1	0
109	1	0	1	1	0	1	1	0
110	0	1	1	1	0	1	1	0
111	1	1	1	1	0	1	1	0
112	0	0	0	0	1	1	1	0
113	1	0	0	0	1	1	1	0
114	0	1	0	0	1	1	1	0
115	1	1	0	0	1	1	1	0
116	0	0	1	0	1	1	1	0
117	1	0	1	0	1	1	1	0
118	0	1	1	0	1	1	1	0
119	1	1	1	0	1	1	1	0
120	0	0	0	1	1	1	1	0
121	1	0	0	1	1	1	1	0
122	0	1	0	1	1	1	1	0
123	1	1	0	1	1	1	1	0
124	0	0	1	1	1	1	1	0
125	1	0	1	1	1	1	1	0
126	0	1	1	1	1	1	1	0
127	1	1	1	1	1	1	1	0
128	0	0	0	0	0	0	0	1
129	1	0	0	0	0	0	0	1
130	0	1	0	0	0	0	0	1
131	1	1	0	0	0	0	0	1
132	0	0	1	0	0	0	0	1
133	1	0	1	0	0	0	0	1
134	0	1	1	0	0	0	0	1
135	1	1	1	0	0	0	0	1
136	0	0	0	1	0	0	0	1
137	1	0	0	1	0	0	0	1
138	0	1	0	1	0	0	0	1
139	1	1	0	1	0	0	0	1
140	0	0	1	1	0	0	0	1
141	1	0	1	1	0	0	0	1
142	0	1	1	1	0	0	0	1
143	1	1	1	1	0	0	0	1
144	0	0	0	0	1	0	0	1
145	1	0	0	0	1	0	0	1
146	0	1	0	0	1	0	0	1
147	1	1	0	0	1	0	0	1
148	0	0	1	0	1	0	0	1
149	1	0	1	0	1	0	0	1
150	0	1	1	0	1	0	0	1
151	1	1	1	0	1	0	0	1
152	0	0	0	1	1	0	0	1
153	1	0	0	1	1	0	0	1
154	0	1	0	1	1	0	0	1

Receiving Address	Switch Setting							
	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
155	1	1	0	1	1	0	0	1
156	0	0	1	1	1	0	0	1
157	1	0	1	1	1	0	0	1
158	0	1	1	1	1	0	0	1
159	1	1	1	1	1	0	0	1
160	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
166	0	1	1	0	0	1	0	1
167	1	1	1	0	0	1	0	1
168	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
171	1	1	0	1	0	1	0	1
172	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
175	1	1	1	1	0	1	0	1
176	0	0	0	0	1	1	0	1
177	1	0	0	0	1	1	0	1
178	0	1	0	0	1	1	0	1
179	1	1	0	0	1	1	0	1
180	0	0	1	0	1	1	0	1
181	1	0	1	0	1	1	0	1
182	0	1	1	0	1	1	0	1
183	1	1	1	0	1	1	0	1
184	0	0	0	1	1	1	0	1
185	1	0	0	1	1	1	0	1
186	0	1	0	1	1	1	0	1
187	1	1	0	1	1	1	0	1
188	0	0	1	1	1	1	0	1
189	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
192	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
197	1	0	1	0	0	0	1	1
198	0	1	1	0	0	0	1	1
199	1	1	1	0	0	0	1	1
200	0	0	0	1	0	0	1	1
201	1	0	0	1	0	0	1	1
202	0	1	0	1	0	0	1	1
203	1	1	0	1	0	0	1	1
204	0	0	1	1	0	0	1	1
205	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
206	0	1	1	1	0	0	1	1
207	1	1	1	1	0	0	1	1
208	0	0	0	0	1	0	1	1
209	1	0	0	0	1	0	1	1
210	0	1	0	0	1	0	1	1
211	1	1	0	0	1	0	1	1
212	0	0	1	0	1	0	1	1
213	1	0	1	0	1	0	1	1
214	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
217	1	0	0	1	1	0	1	1
218	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
222	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
225	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
228	0	0	1	0	0	1	1	1
229	1	0	1	0	0	1	1	1
230	0	1	1	0	0	1	1	1
231	1	1	1	0	0	1	1	1
232	0	0	0	1	0	1	1	1
233	1	0	0	1	0	1	1	1
234	0	1	0	1	0	1	1	1
235	1	1	0	1	0	1	1	1
236	0	0	1	1	0	1	1	1
237	1	0	1	1	0	1	1	1
238	0	1	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
245	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
253	1	0	1	1	1	1	1	1
254	0	1	1	1	1	1	1	1
255	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.

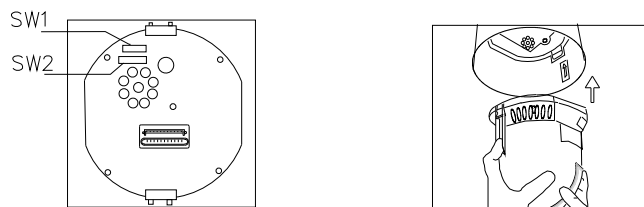
- a. Set wall mounting bracket on the wall. Draw out mount holes on the wall against bracket sample.
- b. Use drill to make 4 holes at the designated location. Screw in M8 bolt for mounting.
- c. Cut power, communication and video lines through bracket hole, leaving enough wire length.
- d. Fix the bracket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

#### 4.1.2 Wire Connection

- a. Loose 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: RS 485 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

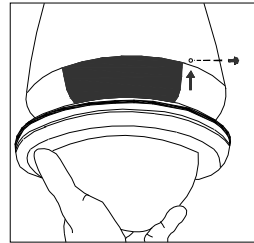
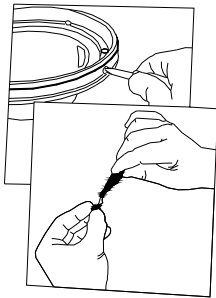
with the green tab, then the side with red tab. Continue pushing on the ends of the tabs until both sides click into the place.

#### **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**

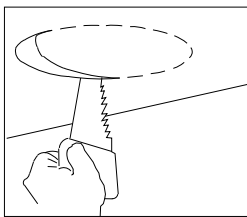
- a. Use soft cloth to wipe off dust and smudges of transparent dome, avoid scratching the dome.
- b. Loose the two screws of the dome cover.
- c. Push the dome into the case, aim at the mounting hole of screw, then fit on two screws.



## **4.2 Dome Camera Ceiling Installation**

### **4.2.1 Holing On the Ceiling**

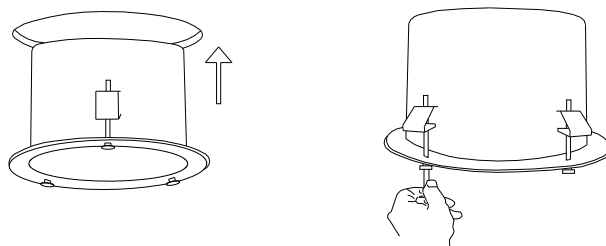
- a. Draw a circle on the ceiling according to the size of the speed dome
- b. Use drill to cut a circle on the ceiling



### **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.



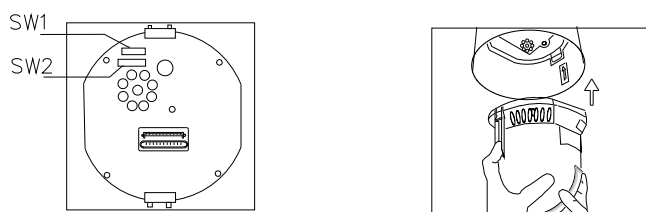


#### 4.2.3 Wire Connection

- 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



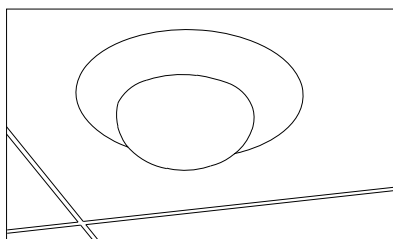
- a. Set the DIP switches for SW1 and SW2 on the bottom of the dome drive for the appropriate receiver address.
- b. Line up the green and red tabs with the green and the red labels. Push in on the tabs. Insert the side with the green tab, then the side with red tab. Continue pushing on the ends of the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

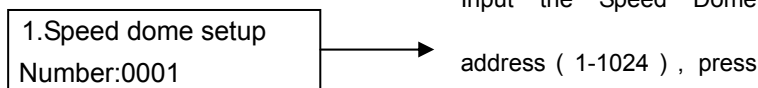
The guard location is an important preset position that the speed dome will come back automatically when there is no operation for a defined period.

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:



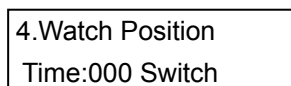
Press MPX or Auto until LCD displays:



Press ENTER. The guard position is set.

#### 5.5.2 Switches of Guard Location:

Press MPX or Auto until LCD displays:



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	Improper address code or baud rate	Correction

flickering indicator, out of control	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 affect some usual order. See the shifts chart below:

N Code	Keyboard Operations	
	Adjust preset position: No. N	Set No. N preset position
80	Start the second group preset (17-32preset )	Set watch preset on
81	Start the third group preset (33-48preset )	Set watch preset off
82	Start the four group preset (49-64preset )	Set watch preset wait time five sec.
83	Start the five group preset (65-79preset )	Set watch preset wait time ten sec.
84	Start the six group preset (81-96preset )	Digital zoom ON
85	Start the seven group preset (100-112preset )	Digital zoom OFF
86	Start the eight group preset (113-128preset )	Auto turn ON
87	Start Two point Scan slow speed	Auto turn OFF
88	Start Two point Scan middle speed	

89	Start Two point Scan high speed	
92	Set two point scan start point	Clear Alarm
93	Set two point scan end point	
95		Enter into amera menu
96	360°Scan slow speed	Cursor(up)
97	360° Scan middle speed	Cursor(down)
98	Start the second group preset (1-16preset )	Menu Data Select
99	360°Scan high speed	Menudata confirm