SDOMEOAT-57030SD

INSTALLATION & USER MANUAL

for Object Auto Tracking Speed Dome

and Analog High Speed Dome

Thank You for Choosing This Intel igent High Speed Dome!

This manual is the Instal ation Guide and Operation Instruction for our Object Auto-Tracking Speed Dome and analog High Speed Dome.

The description of tracking features and operations is applied to Object Auto-Tracking Speed Dome only. The normal analog High Speed Dome DOES NOT has tracking features.

Note: The information contained in the document is subject to change without notice.

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1. SAFETY NOTES --- IMPORTANT!!!

The following important notes must be followed carefully to run the PTZ camera and respective accessories in total safety. The camera and relative accessories are called *video system* in this section.

Use the instructions correctly and fully

Read all safety rules and instructions carefully before starting to run the video system.

Follow the instructions in the instruction manual. Pay attention to all warnings on the camera and in the instruction manual. Keep the safety notes and instructions for use for future reference.

Attachments & Accessories

Do not use attachments other than those recommended in the instruction manual because this could cause risks to the products. Only use the recommended accessories for the camera for installation and operation.

Protect the video system

To protect the camera, avoid installing and using it in direct sunlight or any source of bright light. Bright light, like that from a spotlight, can cause dimming and blurs. A vertical line may appear on the screen. This does not indicate a problem.

Keep it away from rain and dust. Do not touch the zoom lens with your fingers. If needed, use a soft cloth and methylated spirit to remove traces of dust. Apply a specific cap to protect the zoom lens when the camera is not in use.

Install the camera away from video interference. The pictures could present interference if the leads are arranged near a TV set or other device. Either move the leads or re-install the device to solve the problem.

Do not use any part of the video system near water, i.e. bathtubs, wash basins, sinks, tubs, on damp surfaces, near swimming pools, etc. Do not insert objects of any kind through the camera openings to avoid touch live parts: fire and electrocution risk. Do not pour any kind of liquid on the device.

A switch for performing maintenance operations on the camera must be included. Connect the camera only to the electrical power supply shown on the ratings plate. Contact your retailer if in doubt.

Lay the power wires keeping them from being trodden on or squeezed by objects placed on top of them. Pay particular attention to leads near plugs, screws and the product outlet.

Disconnect the power lead and the wiring to protect the camera during electrical storms or when it is left unattended and not used for a long time. This will prevent damage to the video system in the event of lightening or electrical line overload.

Do not overload the electrical power and the extensions to prevent the risk of fire or electrocution.

Do not place the camera near or over radiators or sources of heat. Check that the area is suitably ventilated before installing the camera inside partially closed areas (such as recesses, bookshelves and shelves).

Do not position the camera on unsteady trolleys, stands, brackets or tables. The camera could fall and severely injury adults and children in addition to seriously damaging the product.

Maintenance & Repairs

Always contact a qualified service technician to repair the camera (or any other part of the video system). Unauthorized opening or removing the lids may cause fire and electrocution risk and other dangers.

Disconnect all electrical parts from the mains before cleaning.

Uses spare parts specified by the manufacturer or spare parts with equivalent characteristics when replacements required. Unauthorized replacements can cause fires, electrical shocks and other dangers.

After any servicing intervention or repair to the video system, ask the technician to run a safety check to ensure that everything is working safely.

Damage requiring professional assistance

Disconnect the video system from the power mains and call qualified service personnel in the following cases:

If the power lead or plug is damaged.

If liquid or foreign objects accidental y penetrate inside the device.

If the device was exposed to rain or water.

If the device was dropped, subjected to heavy shocks or if the camera packaging was damaged.

If the device performance changes considerably.

2. ABOUT THE PRODUCT

The tracking PTZ is based on our unique motion tracking technology with high position resolution, high speed, low price and selectable communication protocols. It is widely used in surveillance system as unattended CCTV device.

2.1. FEATURES

Auto tracking of moving object (auto PTZ) based on our motion tracking technology.

Max 36X optical, 0.0Lux of module specifications.

360º horizontal rotation at maximum speed of 240º /sec.

Vertical rotation from -5º to 92º with maximum speed of 160º/sec.

Auto panning function with 256 preset positions.

Built-in OSD Menu, to change dome parameter, save or call preset, and achieve auto scan, pattern etc.

Features password protection to prevent unauthorized changes to the dome setting.

Windows blanking and tracking boundary for privacy purpose

EasyClip instal ation features

The feature of defining specific activity when the dome parks.

Integrated design with high reliability.

RS-485 data communication.

Auto-flip to follow object and surveillance of any subject that is constant and continuous.

The speed can be adjusted automatically according to zooming times.

Auto focus lens and auto white balance, BLC function.

Multi protocol compatible (Pelco-P, Pelco-D, KALATEL, etc).

Alarm input, Alarm output, Alarm action.

2.2. FUNCTIONS

Object Tracking
The camera can be manually controlled from the control system by using the controller to pan, tilt and zoom the camera up and down, right and left to follow objects under observation.

In auto tracking mode, the camera can tracking a moving object in the target area with auto pan, tilt and zoom which realizes smart unattended surveillance.

Proportional Pan
Proportional pan automatically reduces or increases the pan and tilt speeds in proportion to the zooming times. At telephoto zoom settings, the pan and tilt speeds will be slower for a given amount of joystick deflection then at wide zoom settings. This keeps the image from moving too fast on the monitor when there is a large amount of zoom.

Auto Flip
When the camera tilts downward and goes just beyond the vertical angle, the camera rotates 180º. When the camera rotates (flips), the camera starts moving upward as you continue to hold joystick in the down position. Once you let go of the joystick after the dome rotates, joystick control returns to normal operation. The auto-flip feature is useful for following a person who passes directly beneath the camera.

Save/Call Preset
Preset function is that dome saves current horizontal angle and title angle of pan/tilt, zoom and position parameters into memory. When necessary dome calls these parameters and adjusts Pan/Tilt and camera to that position. User can save and call presets easily and promptly by using keyboard controller or infrared controller. The camera supports up to 256 presets.

Lens Control
1) Zoom control
User can adjust zoom wide or near by controller and get desired image.

2) Focus control
System defaults Auto Focus mode, that is, the lens and camera will automatically adjust the focus to get the best image.

Focus can also be controlled manually from the controller if required. Press Focus Near or Focus Far key to manually focus. Focus can be manual via keyboard or matrix, please refer to control keyboard or matrix operation manual for

detailed operation. When adjusting position is set with focus status, it goes back to auto focus.

The camera will NOT auto focus in the following status.

Target is not in the center of image.

Targets are in near and far at the same time.

Target is of strong light object. Such as spotlight etc.

Target is behind the glass with water drop or dust.

Target moves too fast.

Large area target such as wall.

Target is too dark or vague.

3)   IRIS control
System defaults Auto IRIS. Camera can adjust immediately according to the alteration of back ground il umination so that a lightness steady image can be achieved.

You may adjust IRIS by controller to get required image brightness.
You can call back Auto IRIS by controlling the joystick.

Auto Back Light Compensation
Lens has been divided to six areas for back light compensation (BLC). In a strong light background camera will auto compensate the darker object and adjust light input from the lighter area to avoid a mass image that usually presents a sharp contrast of brightness and darkness.

Auto White Balance
Camera can automatically adjust white balance (WB) according to the alteration of background lightness to give a true color image.

Back Light Compensation (BLC)
If a bright backlight presents, the subjects in the picture may appear dark or as a silhouette. Backlight compensation enhances objects in the center of the picture. The camera uses the center of the picture to adjust the IRIS. If there is a bright light source outside this area, it will wash out to white. The camera will adjust the IRIS so that the object in the sensitive area is properly exposed.

Day/Night Function
The IR cut filter of camera module inside the camera can be removed by sending special command, so that the camera can change from color to mono. The picture is clear even if the illumination is as low as 0.01Lux.

This is based on the relative modules. Please refer to technical parameters.

Auto Cruise
The preset position is programmed to be recalled in sequence. This feature is called auto cruise. Up to 54 presets can be saved in each cruise tour.

Patterns
A pattern is a saved, repeating, series of pan, tilt, zoom and preset functions that can be recalled with a command from a controller or automatically by a programmed function (alarm action or park action or power-up action).

Auto, Random and Frame Scan
Auto Scan: Make the camera scan 360º ranging from the current position.
Random Scan: Make the camera random scan 360º ranging from the current position.
Frame Scan: This feature freezes the scene on the monitor when going to a preset. This allows for smooth transition from one preset scene to another.

Zones Setting
A zone is a pan area, defined by a left and right limit, on the 360º pan plane. The camera has eight zones, each with a 6-character label.

Alarms Input
The camera has four alarm inputs, which can be programmed as high, medium or low priority. When an alarm is received, an input signal to the camera triggers the user-defined action (go to preset, run pattern, etc.) programmed for the alarm.

Auxiliary Output
An auxiliary output is a programmable signal from the camera back box that can trigger another device to operate. An auxiliary output is programmable to trigger from an alarm or from a controller.

3. INSTALLATION

This section contains detailed instructions for installing the camera. These instructions assume that the installer has a good knowledge of installation techniques and is capable of adopting safe installation methods.

3.1. DIP SWITCH SETTING

Before installing the camera drive, check the DIP switches; configure the receiver address, communication protocol, and baud rate setting. Pic. 1 shows switches position and default settings. SW1 switches (1bit) and SW2 switches (1, 2, and 7 bit) are set to the ON position. For normal user, setting switches to default position is enough.

Pic. 1 Switch Position

The camera can be controlled via various communication protocols by setting SW1 switches(1, 2, 3,and 4) and operate at 1200bps, 2400bps, 4800bps, 9600bps and 19200bps baud rate by setting SW1 switches(5, 6, 7, and 8). Refer to Table 3: SWITCH1 SETTING for communication protocol and baud rate settings, do not set the switches to reserved position. Pic. 2 shows the default settings for the DIP switches.

Pic. 2 Default settings of DIP switches

Please refer to the following tables to set baud rate, and communication protocol type and camera address.

POS	1	2	3	4	DESCRIPTION			
COMM PTOL	ON	OFF	OFF	OFF	NANWANG			
	OFF	ON	OFF	OFF	PELCO-P			
	ON	ON	OFF	OFF	PELCO-D			
	OFF	OFF	ON	OFF	KALATEL			
	……				Reserved for future use			
POS	DESCRIPTION				5	6	7	8
BAUD RATE (BPS)	1200				ON	OFF	OFF	OFF
	2400 OFF					ON	OFF	OFF
	4800				ON	ON	OFF	OFF
	9600 OFF					OFF	ON	OFF
	19200				ON	OFF	ON	OFF
	Reserved for future use				…			

Table 3: SWITCH1 SETTING

Address	1	2	3	4	5	6	7	8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
40	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF
41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
42	OFF	ON	OFF	ON	OFF	ON	OFF	OFF
43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF

50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
55	ON	ON	ON	OFF	ON	ON	OFF	OFF
56	OFF	OFF	OFF	ON	ON	ON	OFF	OFF
57	ON	OFF	OFF	ON	ON	ON	OFF	OFF
58	OFF	ON	OFF	ON	ON	ON	OFF	OFF
59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
65	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
69	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
70	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
71	ON	ON	ON	OFF	OFF	OFF	ON	OFF
72	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
74	OFF	ON	OFF	ON	OFF	OFF	ON	OFF
75	ON	ON	OFF	ON	OFF	OFF	ON	OFF
76	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
77	ON	OFF	ON	ON	OFF	OFF	ON	OFF
78	OFF	ON	ON	ON	OFF	OFF	ON	OFF
79	ON	ON	ON	ON	OFF	OFF	ON	OFF
80	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
82	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
83	ON	ON	OFF	OFF	ON	OFF	ON	OFF
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF
87	ON	ON	ON	OFF	ON	OFF	ON	OFF
88	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF
90	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	ON	ON	OFF	ON	ON	OFF	ON	OFF
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF
93	ON	OFF	ON	ON	ON	OFF	ON	OFF
94	OFF	ON	ON	ON	ON	OFF	ON	OFF
95	ON	ON	ON	ON	ON	OFF	ON	OFF
96	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF
97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
98	OFF	ON	OFF	OFF	OFF	ON	ON	OFF
99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF

101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
109	ON	OFF	ON	ON	OFF	ON	ON	OFF
110	OFF	ON	ON	ON	OFF	ON	ON	OFF
111	ON	ON	ON	ON	OFF	ON	ON	OFF
112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
114	OFF	ON	OFF	OFF	ON	ON	ON	OFF
115	ON	ON	OFF	OFF	ON	ON	ON	OFF
116	OFF	OFF	ON	OFF	ON	ON	ON	OFF
117	ON	OFF	ON	OFF	ON	ON	ON	OFF
118	OFF	ON	ON	OFF	ON	ON	ON	OFF
119	ON	ON	ON	OFF	ON	ON	ON	OFF
120	OFF	OFF	OFF	ON	ON	ON	ON	OFF
121	ON	OFF	OFF	ON	ON	ON	ON	OFF
122	OFF	ON	OFF	ON	ON	ON	ON	OFF
123	ON	ON	OFF	ON	ON	ON	ON	OFF
124	OFF	OFF	ON	ON	ON	ON	ON	OFF
125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	ON	ON	ON	ON	ON	ON	OFF
128	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
130	OFF	ON	OFF	OFF	OFF	OFF	OFF	ON
131	ON	ON	OFF	OFF	OFF	OFF	OFF	ON
132	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON
133	ON	OFF	ON	OFF	OFF	OFF	OFF	ON
134	OFF	ON	ON	OFF	OFF	OFF	OFF	ON
135	ON	ON	ON	OFF	OFF	OFF	OFF	ON
136	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
137	ON	OFF	OFF	ON	OFF	OFF	OFF	ON
138	OFF	ON	OFF	ON	OFF	OFF	OFF	ON
139	ON	ON	OFF	ON	OFF	OFF	OFF	ON
140	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
141	ON	OFF	ON	ON	OFF	OFF	OFF	ON
142	OFF	ON	ON	ON	OFF	OFF	OFF	ON
143	ON	ON	ON	ON	OFF	OFF	OFF	ON
144	OFF	OFF	OFF	OFF	ON	OFF	OFF	ON
145	ON	OFF	OFF	OFF	ON	OFF	OFF	ON
146	OFF	ON	OFF	OFF	ON	OFF	OFF	ON
147	ON	ON	OFF	OFF	ON	OFF	OFF	ON
148	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
149	ON	OFF	ON	OFF	ON	OFF	OFF	ON
150	OFF	ON	ON	OFF	ON	OFF	OFF	ON
151	ON	ON	ON	OFF	ON	OFF	OFF	ON

152	OFF	OFF	OFF	ON	ON	OFF	OFF	ON
153	ON	OFF	OFF	ON	ON	OFF	OFF	ON
154	OFF	ON	OFF	ON	ON	OFF	OFF	ON
155	ON	ON	OFF	ON	ON	OFF	OFF	ON
156	OFF	OFF	ON	ON	ON	OFF	OFF	ON
157	ON	OFF	ON	ON	ON	OFF	OFF	ON
158	OFF	ON	ON	ON	ON	OFF	OFF	ON
159	ON	ON	ON	ON	ON	OFF	OFF	ON
160	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
161	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
162	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
163	ON	ON	OFF	OFF	OFF	ON	OFF	ON
164	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	ON	OFF	OFF	ON	OFF	ON
167	ON	ON	ON	OFF	OFF	ON	OFF	ON
168	OFF	OFF	OFF	ON	OFF	ON	OFF	ON
169	ON	OFF	OFF	ON	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON
171	ON	ON	OFF	ON	OFF	ON	OFF	ON
172	OFF	OFF	ON	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	ON	OFF	ON	OFF	ON
174	OFF	ON	ON	ON	OFF	ON	OFF	ON
175	ON	ON	ON	ON	OFF	ON	OFF	ON
176	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON
178	OFF	ON	OFF	OFF	ON	ON	OFF	ON
179	ON	ON	OFF	OFF	ON	ON	OFF	ON
180	OFF	OFF	ON	OFF	ON	ON	OFF	ON
181	ON	OFF	ON	OFF	ON	ON	OFF	ON
182	OFF	ON	ON	OFF	ON	ON	OFF	ON
183	ON	ON	ON	OFF	ON	ON	OFF	ON
184	OFF	OFF	OFF	ON	ON	ON	OFF	ON
185	ON	OFF	OFF	ON	ON	ON	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON
187	ON	ON	OFF	ON	ON	ON	OFF	ON
188	OFF	OFF	ON	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	ON	ON	ON	ON	OFF	ON
191	ON	ON	ON	ON	ON	ON	OFF	ON
192	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
193	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
194	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
195	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
197	ON	OFF	ON	OFF	OFF	OFF	ON	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON
199	ON	ON	ON	OFF	OFF	OFF	ON	ON
200	OFF	OFF	OFF	ON	OFF	OFF	ON	ON
201	ON	OFF	OFF	ON	OFF	OFF	ON	ON
202	OFF	ON	OFF	ON	OFF	OFF	ON	ON

203	ON	ON	OFF	ON	OFF	OFF	ON	ON
204	OFF	OFF	ON	ON	OFF	OFF	ON	ON
205	ON	OFF	ON	ON	OFF	OFF	ON	ON
206	OFF	ON	ON	ON	OFF	OFF	ON	ON
207	ON	ON	ON	ON	OFF	OFF	ON	ON
208	OFF	OFF	OFF	OFF	ON	OFF	ON	ON
209	ON	OFF	OFF	OFF	ON	OFF	ON	ON
210	OFF	ON	OFF	OFF	ON	OFF	ON	ON
211	ON	ON	OFF	OFF	ON	OFF	ON	ON
212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON
214	OFF	ON	ON	OFF	ON	OFF	ON	ON
215	ON	ON	ON	OFF	ON	OFF	ON	ON
216	OFF	OFF	OFF	ON	ON	OFF	ON	ON
217	ON	OFF	OFF	ON	ON	OFF	ON	ON
218	OFF	ON	OFF	ON	ON	OFF	ON	ON
219	ON	ON	OFF	ON	ON	OFF	ON	ON
220	OFF	OFF	ON	ON	ON	OFF	ON	ON
221	ON	OFF	ON	ON	ON	OFF	ON	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON
223	ON	ON	ON	ON	ON	OFF	ON	ON
224	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
225	ON	OFF	OFF	OFF	OFF	ON	ON	ON
226	OFF	ON	OFF	OFF	OFF	ON	ON	ON
227	ON	ON	OFF	OFF	OFF	ON	ON	ON
228	OFF	OFF	ON	OFF	OFF	ON	ON	ON
229	ON	OFF	ON	OFF	OFF	ON	ON	ON
230	OFF	ON	ON	OFF	OFF	ON	ON	ON
231	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	OFF	OFF	ON	OFF	ON	ON	ON
233	ON	OFF	OFF	ON	OFF	ON	ON	ON
234	OFF	ON	OFF	ON	OFF	ON	ON	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON
236	OFF	OFF	ON	ON	OFF	ON	ON	ON
237	ON	OFF	ON	ON	OFF	ON	ON	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON
239	ON	ON	ON	ON	OFF	ON	ON	ON
240	OFF	OFF	OFF	OFF	ON	ON	ON	ON
241	ON	OFF	OFF	OFF	ON	ON	ON	ON
242	OFF	ON	OFF	OFF	ON	ON	ON	ON
243	ON	ON	OFF	OFF	ON	ON	ON	ON
244	OFF	OFF	ON	OFF	ON	ON	ON	ON
245	ON	OFF	ON	OFF	ON	ON	ON	ON
246	OFF	ON	ON	OFF	ON	ON	ON	ON
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON

254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

Table 4: SWITCH2 SETTING

Always use the "PELCO P" or "PELCO D" protocols.

It is advisable to select PELCO-D protocol at 9600 bps baud rate to ensure the correct operation of the camera with the compatible products in the catalogue.

Do not use address "0" with the "PELCO P" and "PELCO D" protocols.

3.2. INSTALLATION

The camera has four types of mountings: in-ceiling mount, surface mount, wall mount and pipe pendant mount. Please make sure which type you are installing.

3.2.1. IN-CEILING MOUNT INSTALLATOIN

Step 1. <u>**Prepare In-ceiling**</u>

Pic. 3

Locate the center point of the in-ceiling mounting location. Insert the compass tool into the hole. Draw a circle on the ceiling using the compass tool and a pencil. See Pic. 4 (Left).

Cut the circle out of the ceiling tile. See Pic. 4 (Right).

Pic. 4

Step 2. <u>**Install back box**</u>
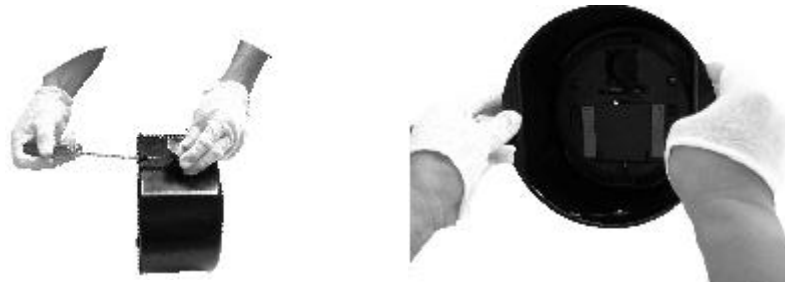
Pic. 5

Take out bracket from back box. Insert the back box into ceiling; take out bracket from back box. See Pic. 5.

Install a safety chain/cable (not supplied) that can stand up to 32 pounds(14.6kg). Press the thumb fastener and open the hinged door to the back box. Take out hole of pin. See Pic. 6

Pic. 6

Pull cables into the back box through the plastic panel. Connect cables to hole of pin. See Pic. 7

Pic. 7

Insert the hole of pin inside the back box. When finished, close the door to the back box and turn on the power. The LED will light up. See Pic. 8.
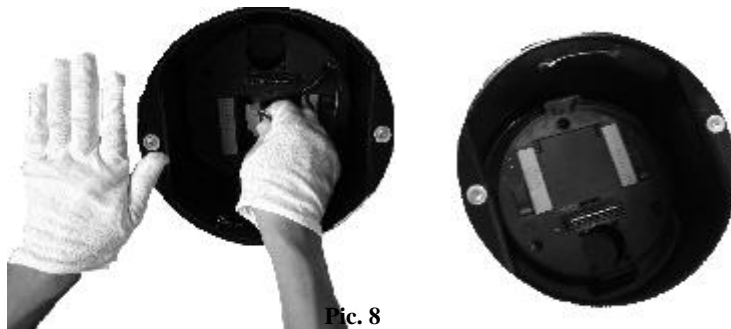
Pic. 8

If the LED does not light up, refer to Section 5: Trouble Shooting.

Step 3.   Install dome drive

Set the DIP switches for SW1 and SW2 at the bottom of the camera drive for the appropriate receiver address, communication protocol, and baud rate. Refer to the labels on the camera drive or DIP SWITCH SET in this manual.

Remove cover of camera and sponge. See Pic. 9
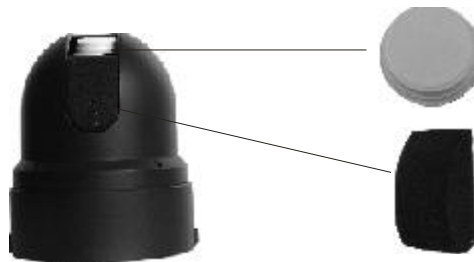
Pic. 9

Line up link card and faucet of the back board of the dome. Push the dome drive in. See Pic. 10

Pic. 10

Step 4.   <u>**Install lower dome**</u>

Pic. 11

Take out a screw from lower dome. Link cables, screw, and lower dome. See Pic. 11.

Pic. 12

Line up the snaps on trim ring with the mounting screws on the back box. Snap the trim ring into the plastic snap washers on the mounting screws. See Pic. 12.

3.2.2. SURFACE MOUNT INSTALLATION

Step 1.   <u>**Install back board of surface mount**</u>
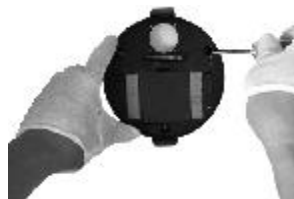
Pic. 13

Locate the back board of the camera location. Drill a hole in the ceiling using a drill. Insert the screw and back board into the hole. See Pic. 13

Pic. 14

Press the thumb fastener and open the hinged door to the back box. Take out hole of pin. See Pic. 15.
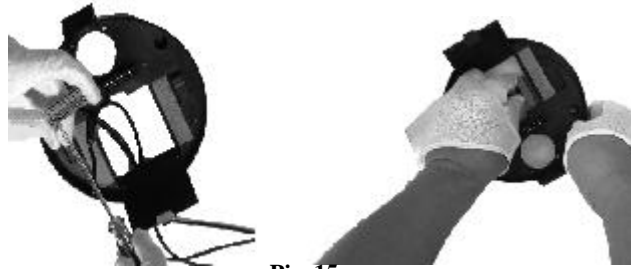
Pic. 15

Pull cables into the back box into the plastic panel. Connect cables to hole of pin. Insert the hole of pin inside the back board. When finished, close the door to the back board and turn on the power. The LED will light up. See Pic. 15.

If the LED does not light up, refer to Section 5: Trouble Shooting.

Step 2.   **Install dome drive**

Set the DIP switches for SW1 and SW2 on the bottom of the dome drive for the appropriate receiver address, communication protocol, and baud rate. Refer to the labels on the dome drive or DIP SWITCH SET in this manual.
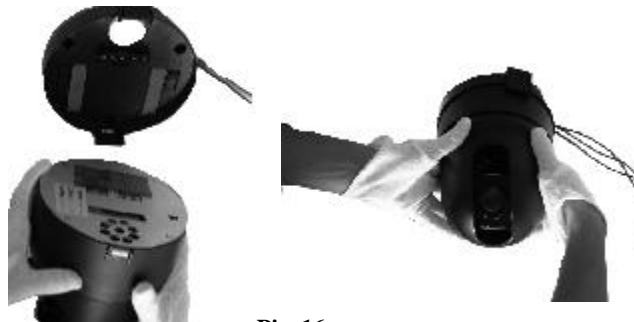
Pic. 16

Line up link card and faucet of the back board of the dome. Push the dome drive in. See Pic. 16.

Step 3.   **Install dome flange**

Pic. 17

Snip a flake piece. Keep three flanges away from two clamps on the back board. See Pic. 17.

Pic. 18

Push the flange of dome into the back board. Take out the membrane on the clarty flake of the dome drive. See Pic. 18.

3.2.3. WALL MOUNT INSTALLATION

Step 1.   <u>Install the bracket for pendant dome</u>
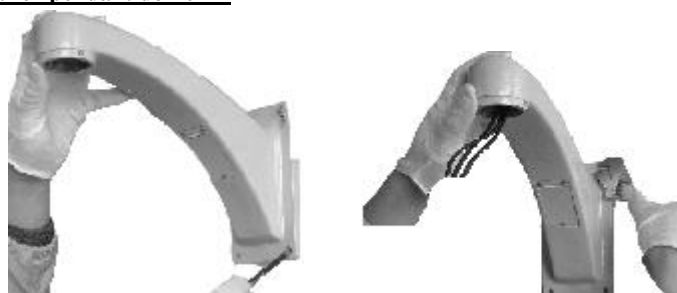
Pic. 19

When installing outdoors, make sure installation is properly sealed to keep moisture out.

Refer to the instructions supplied with the bracket. Take out cables for the dome through the bracket. See Pic. 19.
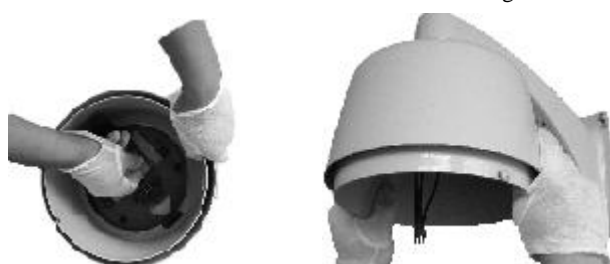
Pic. 20

Press the thumb fastener and open the hinged door to the back box. Take out hole of pin. Screw the metal cover into the bracket. See Pic. 20.
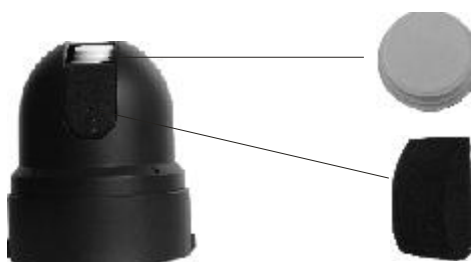

Pic. 21

Connect cables to hole of pin. Insert the pin inside the back box. When finished, close the door to the back box and turn on the power. The LED will light up. See Pic. 21.

If the LED does not light up, refer to Section 5: Trouble Shooting.

Step 2.   <u>Install dome drive</u>

Pic. 22

Set the DIP switches for SW1 and SW2 at the bottom of the dome drive for the appropriate receiver address, communication protocol, and baud rate. Refer to the labels on the dome drive or DIP SWITCH SET at the beginning of this manual.

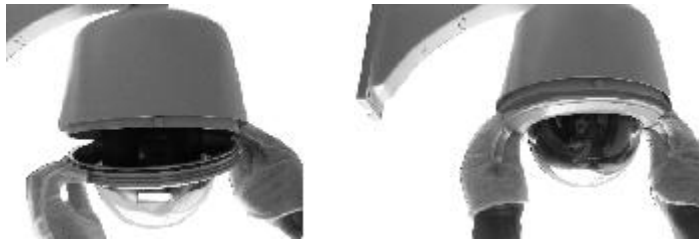Remove cover of camera and sponge. See Pic. 22.
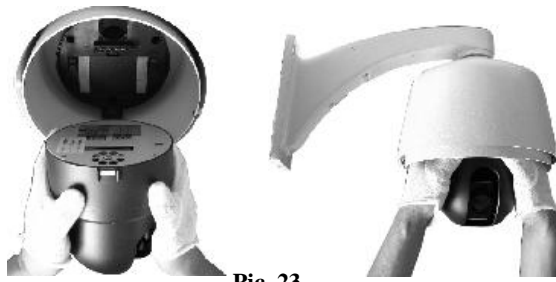
Pic. 23

Line up link card and faucet of the back board of the dome. Push the dome drive in. See Pic. 23.

Step 3. **Install lower dome.**

Pic. 24

Take out a screw from lower dome. Link cables, screw, and lower dome. See Pic. 24.

Pic. 25

Line up the mounting screw holes, and install the two mounting screws. Push the lower dome inside the back box. See Pic. 25.

Pic. 26

Screw the two mounting screws, and screws in the bracket. See Pic. 26.

3.2.4. PIPE PENDANT MOUNT INSTALLATION

See Section 3.2.3 Wall Mount Installation.

4. OPERATION GUIDE

4.1.   OPERATION AT POWER UP

The camera employs the default settings the first time it is switched on. Changes to the settings will be permanently stored and will be made available the next time the camera is switched on. You can return to the default settings by means of the appropriate menu option at any time.

The camera will work as follows when it is switched on.

The camera will run a calibration procedure and a message showing the following information will appear on the video output OSD (On Screen Display): protocol, communication parameters, and camera address and software version.

Check that the data are suitable for operation. Otherwise, refer to the section in this document that shows how to install the camera correctly

> PROTOCOL: PELCO-D
>
> COM: 9600, N, 8, 1
> ADDR: 01
> SOFTWARE VERSION   V4.2

At the end of the calibration step, the camera will switch to stand-by as programmed (**POWER UP ACTION** in   **DOME SETTINGS1 > POWER UP**). The camera will continue working this way until any command is received from the keypad. The camera during this phase can be pointed to a fixed point or pan across the field. Refer to the detailed described in the **POWER UP ACTION** menu section for more details.

4.2.   HOW TO USE OUR CONTROL KEYBOARD

The camera is ready to receive commands from our control keyboard (see figure below) after connecting.

4.2.1. CONTROL KEYPAD PASSWORD AND ACCESS

The system will wait for the password to be entered after being switched on.
The control panel requires a 6-digit password.
The entered digits will be replaced by a "*" symbol on the screen for privacy.
Access to the menu is gained after entering all the digits correctly.
Refer to the corresponding manual for using the control panel.

> *The default user password is "111111".*
>
> *It is advisable to change the default password to prevent intrusions.*
>
> *Do not lose or forget the programmed password.*
>
> *Take note of the new password and keep it in a safe place.*

4.2.2. CONTROL KEYPAD COMMAND SYNTAX

Controls can use the joystick, single keys or key combinations.
The key command syntax is shown below.

Key command syntax
The syntax used in this manual for controls using keys consists of various elements (words and three digit numbers). Each command is always in braces and each element is separated by commas. Each word or decimal digit used in the syntax is identified by a corresponding key on our control panel. Words can be enclosed in round brackets, square brackets or no brackets. Three digit decimals are never enclosed in brackets.

The following words only can be used: **PRESET**, **CALL**, **ESC**, **OPEN**, **CLOSE**, **NEAR**, **FAR**, **ZOOM OUT**, **ZOOM IN**, CAM, MON, **SCAN**, **ENTER**. The decimal digits are: **0**, **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, and **9**.

Some application examples of controls are shown in detail below.

Using the joystick
A command can also be given simply by moving the joystick because this generates actions on the camera or OSD (On Screen Display) menu.

Using a single key
Pressing a single key can cause camera action. For example, the following command will zoom out of the frame. Underling indicates the key is in use.

ZOOM OUT

Key combinations
Pressing a key combination in rapid sequence extents the command set. For example, the following command (select camera address 1) is performed by pressing the following keys:

CAM + **1** + **ENTER**

4.2.3. CONTROL KEYPAD COMMAND TYPES

There are four command types:

Select camera,

Move camera (tilt and pan, zoom, adjust focus and IRIS opening, go to preset positions),

Adjust camera operation mode using menus,

Various quick controls operable from the control panel.

The method for accessing these controls will be shown in detail in the following paragraphs.

4.3. SELECT A CAMERA

The camera to be controlled must be selected first. For example, the following command selects camera 1:

CAM + **1** + **ENTER**

After this operation, the message **CAM 1** will appear on the control panel display.

4.4. CAMERA MOTIONS

After selecting a camera, it can be moved either directly using the control panel as described below:

Panning (horizontal) and tilting (vertical).

Zooming, focusing and IRIS opening.

Preset positions programming and recalling.

These functions can be directly accessed using a single key or joystick or a simple key combination.

4.4.1. PAN AND TILT FUNCTIONS

The camera may be moved using our keyboard controller. Move the joystick vertically to tilt the camera and horizontally to pan it.

The maximum pan span is from 0º to 360º with continuous rotation. The maximum tilt span is from -5º (camera in vertical position) and 92º.

The panning and tilting speed can be modulated by operating the joystick appropriately.

Note that the maximum speed that can be obtained by operating the joystick is not always equal to that programmed in the working settings. This in fact depends on the value of the **PROPORTIONAL PAN** setting in the **MOTION** menu and the zoom. If the option is ON, the maximum rotation speed which can be obtained using the joystick is proportional to the magnification used to obtain the best frame.

Panning (horizontal)
Tip the joystick rightwards to turn the camera horizontally clockwise and tip it leftwards to turn it anticlockwise.

If no advanced options are set (e.g. range limits set enabled), the camera can be turned continuously without

interruptions.

The pan span may be limited between two angles in **SETTING1** > **MOTION** > **MANUAL LIMIT**.

Tilting (vertical)

Tip the joystick upwards to turn the camera vertically upwards and tip it downwards to turn the camera downwards. The camera rotation is limited upwards by the horizontal plane or downwards by the vertical axis.

Performance will change considerably near the vertical axis according to whether the **AUTO FLIP** is on or not (default setting is on).

With **AUTO FLIP** off, the camera will stop in perfectly vertical position and will stop turning when the joystick is tipped downwards.

With **AUTO FLIP** on, the camera will proceed over the vertical axis when the joystick is tipped downwards. This is because, when the vertical axis is reached, the camera flips automatically by 180 degrees and resumes the initial trajectory.

The **AUTO FLIP** function can be used to follow a subject arriving in a certain direction passes under the camera and continues in a straight line. To do this, hold the joystick tipped downwards following the movement of the subject. Observe that in this case the joystick performance after the camera passes over the vertical axis opposite to the normal axis because tipping the joystick downwards will turn the camera upwards.

Normal operation of the joystick will be resumed as soon as the downward tip is interrupted (also only for an instant). At this point, to follow the subject in the same direction, you will need to tip the joystick upwards, as you would normally.

4.4.2. ZOOM FUNCTIONS

The camera frame may be adjusted by using the **ZOOM IN** and **ZOOM OUT** commands. Use **ZOOM IN** to zoom into the detail; use **ZOOM OUT** to zoom out.

Zoom can be set as per the zoom specifications of relative modules, combined between optical zoom and digital zoom. Refer to the specific section for programming the function.

4.4.3. FOCUS FUNCTIONS

The camera focus may be adjusted manual y using the **NEAR** and **FAR** controls.

As the auto focus function is always on, a manual setting made using **NEAR** and **FAR** will be kept only until a pan, tilt or zoom command is used. In this case, auto focus will adjust focus automatically again.

Refer to the specific section for additional details on focusing and on the various options.

The auto focus function cannot work correctly in the following cases:

The object to be focused on it not in the middle of the image.

There are far and near object in the frame.

Bright light is shining on the subject.

The subject is behind a glass pane covered in drops or dust.

The subject is moving very quickly.

The subject is not well lit.

The subject is too big.

4.4.4. IRIS OPENING FUNCTIONS

The IRIS opening may be controlled manually using the **OPEN** and **CLOSE** commands.

The manual setting made using **OPEN** and **CLOSE** will be kept only until a pan, tilt or zoom command is used if the automatic IRIS opening option is enabled (the default setting is on). In this case, the opening will be controlling automatically again.

Refer to the specific section for additional details on IRIS opening adjustment.

4.4.5. PRESET POSITIONS PROGRAMMING AND RECALLING

The camera can store up to 256 panning, tilting and zooming configurations (called preset positions) which can be recalled at any time.

The manual focusing and IRIS opening settings cannot be stored.

> *When storing presets, it is important to remember that some are reserved and cannot be either stored nor used for positioning the camera.*
>
> > *Presets from 80 to 99 are reserved for management controls*
> >
> > *Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls*

The following examples show how to program the free Presets and recall them.

Example: programming preset number 32

1) Position the camera in a certain pan, tilt and zoom configuration.
2) Enter the command **PRESET** + **32** + **ENTER**.

From this moment onwards, simply enter the command **CALL** + **32** + **ENTER** to move the camera to the preset position.

> *The saved value will be written over if the setting is reprogrammed.*
>
> *The Presets are saved in a permanent memory area of the camera where they are maintained also when power is disconnected. However, restoring default settings will delete all preset values.*
>
> *Press **PRESET** + **83** + **ENTER** to delete all the saved **PRESET** values.*
>
> *The Presets store the coordinates according to an angular reference system. Therefore, the reference system zero point may become misaligned with the camera mechanics after prolonged use of the tilting and panning functions. Minor inaccuracies in preset positions may occur. In this case, calibrate the angular coordinate system using the **REBOOT SYSTEM** command. This calibration is automatically run when the camera is switched on.*

4.5. FUNCTION PROGRAM MENU

Use the following control panel command to access the function programming menu.

PRESET + **95** + **ENTER**

At this point, if no password is required for access, the following first level menu will appear on the screen:

```
          MAIN MENU

  < SYSTEM INFORMATION >
  < DISPLAY SETUP >
  < DOME SETTINGS 1>
  < DOME SETTINGS 2>
  <DOME LABEL> RESET
  CAMERA REBOOT
  SYSTEM LANGUAGE
            ENGLISH
  EXIT
```
Screen 1: Main Menu

Otherwise, if a password is required, the following prompt will appear.

```
      PLEASE INPUT PASSWORD

  PASSWORD
  1 2 3 4 5 6 7 8 9 0


  CLEAR
  ENTER
  EXIT
```
Screen 2: Password Protection

The password is a numeric combination (max. 4 digits).
Select the password digits by moving the joystick in the horizontal direction. Symbol "   " indicates the digit which will be entered.

Press **OPEN** to enter the selected digit.
The entered numbers will be replaced by a "*" symbol on the screen for privacy.
Select **ENTER** and press **OPEN** to access the first level menu after entering all the digits correctly.

> *THE DEFAULT PASSWORD IS "0000".*
> *It is advisable to change the default password to prevent intrusions.*
>
> *Do not lose or forget the programmed password.*
>
> *Take note of the new password and keep it in a safe place.*

Simply move the joystick vertically to scroll the menu and point the cursor to the menu item to be selected: at the point, select **OPEN** to access the selected second level.

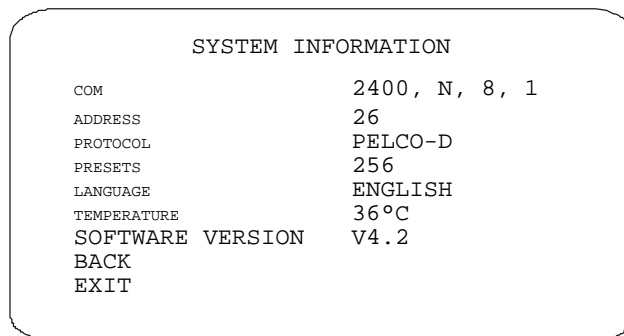Simply press **BACK** and use **OPEN** to go back to the previous level menu.

To completely exit a menu on any level, simply select **EXIT** and use the **OPEN** command.

Option	Value	Explanation
SYSTEM INFORMATION		Product information menu (refer to **Section 4.5.1**).
DISPLAY SETUP		Display menu (refer to **Section 4.5.2**).
DOME SETTINGS 1		Main programming menu (refer to **Section 4.5.3**).
DOME SETTINGS 2		Secondary programming menu (refer to **Section 4.5.4**).
DOME LABEL		Menu for associating the text to be associated to the camera (refer **Section 4.5.5**).
RESET CAMERA		This function reset the device without clearly the settings performed by the user. Resets the camera menu settings, except for the password.
REBOOT SYSTEM		This function restarts the device without clearly the settings performed by the user. The camera is repositioned.
LANGUAGE	**ENGLISH**	Menus in English.

Table 5

4.5.1. PORDUCT INFORMATION MENU

In the first level menu, select **SYSTEM INFORMATION** to display information concerning the protocol, the camera address, the presetting number, the language of use and the measured temperature.
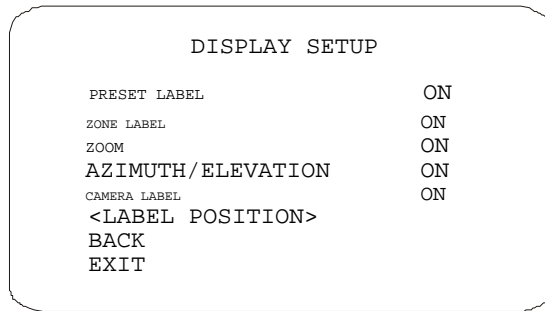
```
          SYSTEM INFORMATION

   COM               2400, N, 8, 1
   ADDRESS           26
   PROTOCOL          PELCO-D
   PRESETS           256
   LANGUAGE          ENGLISH
   TEMPERATURE       36°C
   SOFTWARE VERSION  V4.2
   BACK
   EXIT
```

Screen 3: System Info

The information in this menu cannot be edited.

4.5.2. DISPLAY SETUP

The **DISPLAY SETUP** menu is used to enable the labels to be displayed for the various camera functions.

```
                  DISPLAY SETUP

   PRESET LABEL                   ON
   ZONE LABEL                     ON
   ZOOM                           ON
   AZIMUTH/ELEVATION              ON
   CAMERA LABEL                   ON
   <LABEL POSITION>
   BACK
   EXIT
```

Screen 4: Display Menu

Option	Value	Explanation
PRESET LABEL	**ON/OFF**	Show or hide presetting labels (max. 64).
ZONE LABEL	**ON/OFF**	Show or hide zone labels.
ZOOM	**ON/OFF**	Show or hide zoom labels.
AZIMUTH/ELEVATION	**ON/OFF**	Show or hide camera pan/tilt labels. The coordinates refer to the monitor centre.
CAMERA LABEL	**ON/OFF**	Show or hide camera labels.
LABEL POSITION		Label positioning submenu (refer to **Section 4.5.2.1**)

Table 6

4.5.2.1.   LABEL POSITION (SUBMENU)

The labels may be positioned where required on the screen.

```
       ZONE   CAMERA   PRESET

                 SAVE
                RESET
       AZIMUTH           ZOOM
```
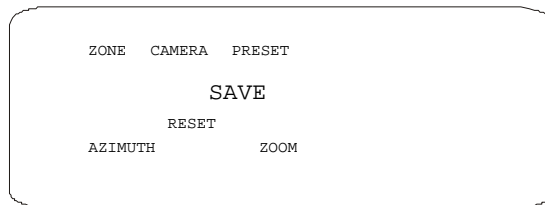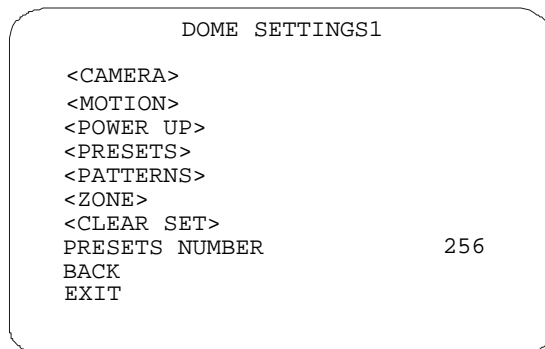
Screen 5: Label Position

To establish a position:

1)   Point the cursor to the label to be moved by moving the joystick vertically.
2)   Press **OPEN**
3)   Symbol " " will appear.
4)   Position the entire label in the chosen position using the joystick.
5)   Press **OPEN**.
6)   Repeat this operation for each label.
7)   Point the cursor " " to **SAVE** and press **OPEN**.

4.5.3. MAIN PROGRAMMING MENU (DOME SETTINGS 1)

In the first level menu, select **<DOME SETTINGS 1>**   and the corresponding submenus to access the main menus.

```
            DOME SETTINGS1

   <CAMERA>
   <MOTION>
   <POWER UP>
   <PRESETS>
   <PATTERNS>
   <ZONE>
   <CLEAR SET>
   PRESETS NUMBER              256
   BACK
   EXIT
```

Screen 6: Dome Settings 1

Option	Value	Explanation
CAMER		Camera parameter programming submenu (refer to **Section 4.5.3.1**)
A		Camera motion parameter programming submenu (refer to **Section 4.5.3.2**)
MOTION		
POWER UP		Power up parameter submenu (refer to **Section 4.5.3.3**)
PRESETS		Preset parameter submenu (refer to **Section 4.5.3.4**)
PATTERNS		Pattern parameter submenu (refer to **Section 4.5.3.5**)
ZONE		Zone parameter programming submenu (refer to **Section 4.5.3.6**)
CLEAR SET		Clear settings submenu (refer to **Section 4.5.3.7**)
PRESET NUMBER	40/64/256	Maximum number of Presets. Always enter 256 (refer to **Section 4.5.3.8**)

Table 7

4.5.3.1. CAMERA SUBMENU

The first level of this menu contains the following options grouped as shown in the following table.
To edit the value, simply select the required menu item using the joystick with vertical movements and the $\overline{OPEN}$ button. Then edit as required. Select **BACK/EXIT** to close the item.
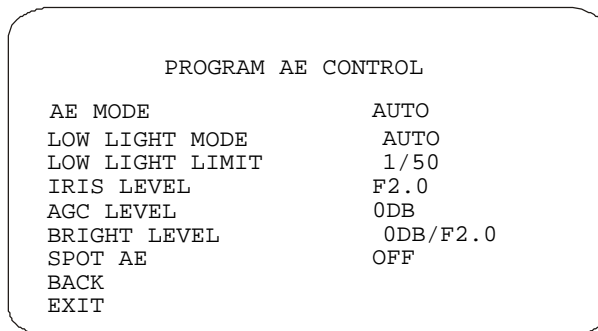
```
          CAMERA

DIGITAL ZOOM            OFF
BACKLIGHT COMP          OFF
<PROGRAM AE MODE>
<OTHERS>
BACK
EXIT
```
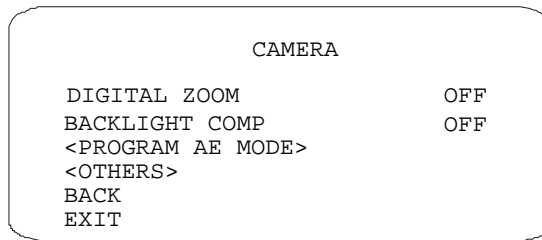
Screen 7: Camera (Sub-Menu)

Option	Value	Explanation
DIGITAL ZOOM	ON/OFF	Switch digital zoom **ON** or **OFF**
BACK LIGHT COMP	ON/OFF	Switch back light compensation **ON** and **OFF**. The **BACK LIGHT COMPENSATION** function is useful for improving visibility when the background light is very bright.
PROGRAM AE MODE		Automatic exposure submenu (see below)
OTHERS		Other settings submenu (see below)

Table 8

PROGRAM AE CONTROL submenu - Automatic Exposure settings

```
       PROGRAM AE CONTROL

AE MODE               AUTO
LOW LIGHT MODE        AUTO
LOW LIGHT LIMIT       1/50
IRIS LEVEL            F2.0
AGC LEVEL             0DB
BRIGHT LEVEL          0DB/F2.0
SPOT AE               OFF
BACK
EXIT
```

Screen 8: Program AE Control

Option	Value	Explanation
AE MODE	AUTO	In this mode: - The shutter opening time cannot be set and is automatically adjusted. - Auto IRIS opening is automatically adjusted. - Gain control is automatic (**AGC ON**).

	SHUTTER	In this mode: - The shutter opening time may be varied as programmed in the "**LOW LIGHT LIMIT**" menu. - Auto IRIS opening is automatically adjusted. - Gain control is automatic (**AGC ON**).
	IRIS	In this mode: - The IRIS opening time is fixed to 1/50 second. - The auto IRIS opening is manually varied in the "**IRIS LEVEL**" menu. - Gain control is automatic (**AGC ON**).
	MANUAL	In this mode: - The shutter opening time may be varied as programmed in the "**LOW LIGHT LIMIT**" menu. - The auto IRIS opening is manually varied in the "**IRIS LEVEL**" menu. - AGC gain control is variable as programmed in the "**AGC LEVEL**" menu. All items may be accessed in this mode.
	BRIGHT	In this mode: - The IRIS opening time is fixed to 1/50 second. - The auto IRIS opening is manually varied in the "**BRIGHT LEVEL**" menu. - Gain control is off (0 dB).
LOW LIGHT MODE	**AUTO/MANUAL**	This parameter is as follows: - **AUTO**: uses a fixed maximum IRIS opening (1/50 second). - **MANUAL**: increases camera sensitivity to the detriment of refreshing frequency (frame rate) using the "**LOW LIGHT LIMIT**" value. These adjustments are possible only in "**MANUAL**" or "**SHUTTER**" mode.
LOW LIGHT LIMIT	**1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 OF SECOND**	This selects the maximum opening of the IRIS. It is used to manually set the IRIS opening time. These adjustments are possible only in "**MANUAL**" or "**SHUTTER**" mode.
IRIS LEVEL	**F2.0, F1.6, F1.4, OFF, F22, F19, F16, F14, F11, F 9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4**	Manual IRIS adjustment (parameter F). It is used to manually set the IRIS opening time. These adjustments are possible only in "**MANUAL**" or "**IRIS**" mode.
AGC LEVEL	**-3DB, 0DB, 2 DB, 4 DB, 6DB, 8 DB, 10 DB, 12 DB, 14 DB, 16 DB, 18 DB, 20 DB, 22 DB, 24 DB, 26 DB, 28 DB**	It is possible to automatically control gain (AGC) to one of the indicated values. This selection is used to manually set the video signal gain. These adjustments are possible only in "**MANUAL**" mode.
BRIGHT LEVEL	**0DB ~ 26DB**	This function adjusts the camera gain and the IRIS opening using a special algorithm which may be programmed by the user. Exposure is controlled by the gain in low light condition and by the IRIS opening in bright light conditions. The function may be used only if "**AE MODE**" is set to "**BRIGHT**".
SPOT AE	**ON/OFF**	If this function is on, the adjustments only use the middle part of the image.

Table 9

*The following items cannot be accessed in if "**AE MODE**" is set to "**AUTO**":*

LOW LIGHT MODE (fixed to "MANUAL")

LOW LIGHT LIMIT

IRIS LEVEL

AGC LEVEL

BRIGHT LEVEL

OTHERS sub-menu - Other program settings.

```
                   OTHERS

   IR SW MODE              AUTO
   IR STATUS              COLOR
   AUTO IRIS              ON
   SHARPNESS              ON
   SHARPNESS              LEVEL 5
   AUTO WHITE BALANCE     AUTO
   R GAIN                  214
   B GAIN                  164
   BACK
   EXIT
```

Screen 9: Others Sub-Menu

Option	Value	Explanation
IR SW MODE	**AUTO/MANUAL**	The opening and closing of the IR filter which adjusts the Day & Night vision of the camera may be controlled in **MANUAL** mode. The **MANUAL** option enables the possibility to adjust the IR STATUS parameter (color/black-and-white). In **AUTO** mode, the switch is automatic according to the lighting.
IR STATUS	**COLOR/BLACK-WHITE**	Day & Night camera configuration.
AUTO IRIS	**ON/OFF**	The auto IRIS may operate automatically (**ON**) or at a predetermined level in the "**IRIS LEVEL**" menu. If enabled manually, this function will remain operative until the camera performs an angular movement of less than 15 degrees. It will switch automatically.
SHARPNESS	**ON/OFF**	The sharpness of the image may be adjusted automatically (**ON**) or to a level defined in the "**SHARPNESS LEVEL**" menu.
SHARPNESS LEVEL	**1 ~ 15**	Sharpness can be programmed in the range from 1 and 15 (15 corresponds to maximum sharpness).
AUTO WHITE BALANCE	**ATW**	White Balance (WB) is performed in auto tracking mode (Auto Tracking White). This mode automatically balances the white level by analyzing a wide range of colors, i.e. all those with temperatures comprised in the range between 2000K and 10000K.
	AUTO	This mode automatically adjusts the white balance by analyzing a more restricted range with respect to the previous option i.e. those with temperatures in the range from 3000K and 7500K.
	OUT	This function automatically balances the whites for outdoor use.
	IN	This function automatically balances the whites for indoor use.
	MAN	In this mode, white balancing may be performed by manually selecting the amount of red (R GAIN) and blue (B GAIN).
R GAIN	**1 ~ 255**	Adjust the red components using these values.
B GAIN	**1 ~ 255**	Adjust the blue components using these values.

Table 10

```
                    MOTION

  AUTO FLIP              ON/OFF
  PROPORTIONAL PAN       ON/OFF
  PARK TIME              0
  PARK ACTION            NONE
  SCAN SPEED<DEG/S>      1
  <SET SCAN>
  <MANUAL LIMIT>
  <SET AZIMUTH ZERO>
  <CLEAR AZIMUTH ZERO>
  BACK
  EXIT
```

Screen 10: Motion Sub-Menu

Option	Value	Explanation
AUTO FLIP	**ON/OFF**	When this option is on, the movements of a subject moving underneath the camera can be followed by moving the joystick vertically only. This is possible because after reaching vertical position, the camera will automatical y pan by 180 degrees to be repositioned and resume the tilt stroke.
PROPORTIONAL PAN	**ON/OFF**	If this mode is active, the pan and tilt speed applied by the keypad is proportion to the set zoom so that the movement speed decreases when the zoom increases.
PARK TIME	**15 S ~ 12 H**	With this function, the camera will resume the function defined in "**PARK TIME ACTION**" by specifying a value (in 1s, 1m, 1h steps) following a stop or interruption of the performed function and after the programmed time.
PARK TIME ACTION	**NONE**	No action is performed at the end of the park time.
	AUTO SCAN	The camera performs an auto scan at the end of the park time: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan at the end of the park time: the camera performs a random 360 degree scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan at the end of the park time: the horizontal scan is performed in the **SET SCAN** limits.
	PRESET 1/PRESET 8	The camera goes to preset 1 or preset 8 at the end of the park time.
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of the park time (command sequence continuously performed).
	CRUISE	The camera performs a cruise (preset sequence) at the end of the park time: the camera runs a cycle of up to 30 preset positions.
	REPEAT LAST	The camera simply resumes the operation it was performing before being interrupted at the end of the park time.
	TRACKING	The camera performs a tracking operation at the end of the park time.
SCAN SPEED <DEG/S>	**1 ~ 32 DEG./S**	This will specify the rotation speed for automatic horizontal scans.
SET SCAN		This submenu set the limits for horizontal pan movements of the camera. The limits are long applicable in **FRAME SCAN** mode (see below).

MANUAL LIMIT	**ON/OFF**	If the option is ON, horizontal automatically scanning is performed within the right and left scanning limits open. To set the left and right scanning limit, position the camera at the required pan angle and press **OPEN** to set. The two angles must be at least 10 degrees apart. A preset position may be called up outside these scanning limits.
SET AZIMUTH ZERO		This sets the pan zero position (see below).
CLEAR AZIMUTH ZERO		This is used to delete the zero settings (see below).

<div align="center">

Table 11

</div>

SET SCAN submenu

This includes a number of settings related to the programming of horizontal **FRAME SCAN** limits.

1) Press " " on "**SET SCAN STOPS**".
2) Press **OPEN** to confirm.
3) Go to the required position with the joystick to set the left scanning limit.
4) Press **OPEN** to confirm.
5) Go to the required position with the joystick to set the right scanning limit.
6) Press **OPEN** to confirm, Press **CLOSE** to cancel the operation.
7) Point the cursor " " to "**SET SCAN STOPS**" and press **OPEN** to delete the programmed positions.

SET AZIMUTH ZERO submenu

This includes the settings related to programming of the pan zero position.

1) Go to the required position with the joystick to set zero position.
2) Press **OPEN** to confirm; Press **CLOSE** to cancel the operation.

CLEAR AZIMUTH ZERO submenu

This includes the settings related to deleting the pan zero position.

1) Press **OPEN** to confirm.
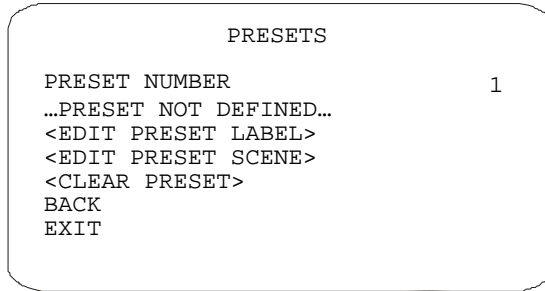2) Press **CLOSE** to cancel the operation.

4.5.3.3. POWER UP SUBMENU

```
                    POWER UP

   POWER UP ACTION            NONE
   BACK
   EXIT
```

<div align="center">
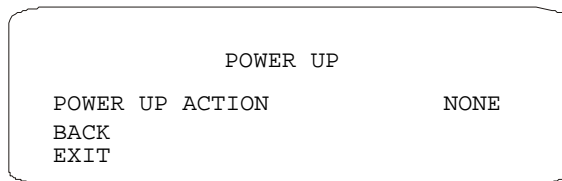
Screen 11: Power UP Sub-Menu

</div>

Option	Value	Explanation
POWER UP ACTION	**NONE**	No action is performed at the end of power up.
	AUTO SCAN	The camera performs an auto scan at the end of power up: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan at the end of power up: the camera performs a random 360° scan pausing for approximately 2" every 142°
	FRAME SCAN	The camera performs a frame scan at the end of power up: the horizontal scan is performed in the SET SCAN limits
	PRESET 1/ PRESET 8	The camera goes to preset 1 or 8 at the end of power up
	PATTERN 1 ~ 4	The camera performs one of the 4 patterns at the end of power up.
	CRUISE	The camera performs a cruise at the end of power up: the camera runs a cycle consisting of up to 30 preset positions
	TRACKING	The camera performs tracking action at the end of power up.

<div align="center">

Table 12

</div>

4.5.3.4. PRESETS SUBMENU

```
              PRESETS

PRESET NUMBER                    1
…PRESET NOT DEFINED…
<EDIT PRESET LABEL>
<EDIT PRESET SCENE>
<CLEAR PRESET>
BACK
EXIT
```

Screen 12: Presets

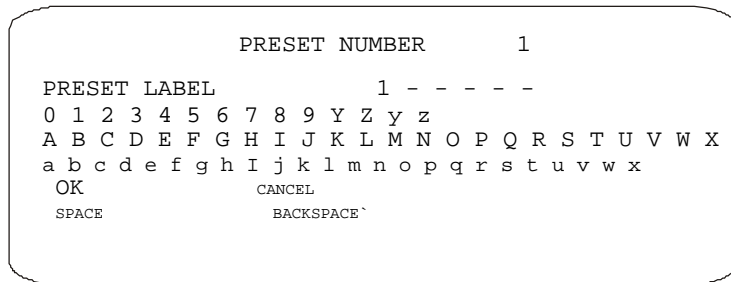| Option	Value	Explanation
PRESET NUMBER	**1-64**	This option is used to select a presetting for entering a descriptive label. This operation is allowed for up to 64 Presets. Press the **OPEN** button and use the joystick to set the number of the presetting to the stored. Press **OPEN** to confirm.
EDIT PRESET LABEL		This submenu is used to access writing mode for associating a label to a presetting (see below).
EDIT PRESET SCENE		This submenu is used to store the Presets.
CLEAR PRESET		The submenu is used to delete the presetting descriptions.

Table 13

The camera will start a scanning cycle when a presetting or pattern is recalled. This scanning cycle may be interrupted simply by moving the joystick.

EDIT PRESET LABEL submenu

This includes the operations needed for associating a label to a presetting.
1) Use the joystick to point the cursor to "**EDIT PRESET LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
         PRESET NUMBER      1
PRESET LABEL           1 - - - - -
0 1 2 3 4 5 6 7 8 9 Y Z y z
A B C D E F G H I J K L M N O P Q R S T U V W X
a b c d e f g h I j k l m n o p q r s t u v w x
 OK                  CANCEL
  SPACE               BACKSPACE`
```

Screen 13: Preset Label Sub-Menu

3) Point the cursor to the first character to the use and press **OPEN**. Point the cursor to "**BACKSPACE**" to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.

4.5.3.5. PATTERNS SUBMENU

```
             PATTERNS

PATTERN NUMBER                   1
<PROGRAM PATTERN>
<CLEAR PATTERN>
BACK
EXIT
```
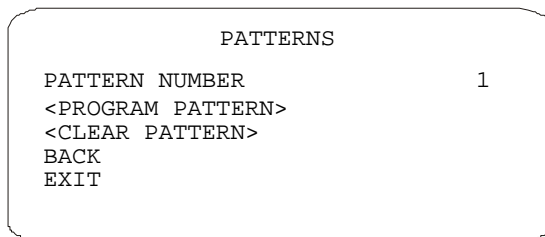
Screen 14: Patterns Sub-Menu

A pattern is a sequence of movements and functions which may be stored and repeated manually or automatically.

Option	Value	Explanation
PATTERN NUMBER	1 ~ 4	This option is used to select a pattern.
PROGRAM PATTERN		This submenu is used to program a pattern (see below)
CLEAR PATTERN		This submenu is used to delete a pattern (see below)

Table 14

PROGRAM PATTERN submenu

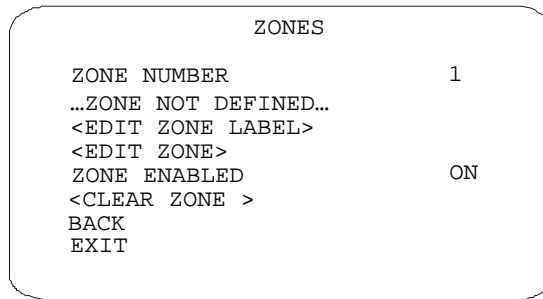This includes all the operations needed to program a pattern.
1) Use the joystick to point the cursor to the "**PATTERN NUMBER**" option.
2) Select the required pattern and press **OPEN.**
3) Position the cursor under "**PROGRAM PATTERN**" option and press the **OPEN** button.

The number of actions available (including zoom operations) for programming the Pattern is shown in percentage form on the screen while they are each being programmed. 100 operations are available for each pattern.

CLEAR PATTERN submenu

This includes the operations for deleting the selected pattern.

4.5.3.6. ZONES SUBMENU

```
                    ZONES

     ZONE NUMBER                  1
     …ZONE NOT DEFINED…
     <EDIT ZONE LABEL>
     <EDIT ZONE>
     ZONE ENABLED                 ON
     <CLEAR ZONE >
     BACK
     EXIT
```

Screen 15: ZONES Sub-Menu

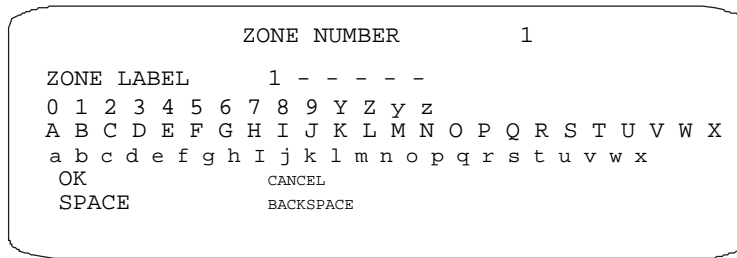A zone is a space defined on the display by the user. It may be associated to a label. Up to 8 zones may be defined.

Option	Value	Explanation
ZONE NUMBER	1 ~ 8	This option is used to select a zone. Press the **OPEN** button and use the joystick to set the required zone number. Press **OPEN** to confirm.
EDIT ZONE LABEL		This submenu is used to associate a label to a zone (see below).
EDIT ZONE		This submenu is used to create a zone (see below).
ZONE ENABLED	ON/OFF	This is used to enable/disable each zone selected in the "**ZONE NUMBER**" field.
CLEAR ZONE		This submenu is used to delete the zone selected in the "**ZONE NUMBER**" field (see below).

Table 15

EDIT ZONE LABEL submenu

This includes the operations needed to enter labels to be associated to zones.
1) Use the joystick to point the cursor to the "**EDIT ZONE LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
                    ZONE NUMBER         1

 ZONE LABEL        1 - - - - -
 0 1 2 3 4 5 6 7 8 9 Y Z y z
 A B C D E F G H I J K L M N O P Q R S T U V W X
 a b c d e f g h I j k l m n o p q r s t u v w x
  OK                    CANCEL
  SPACE                 BACKSPACE
```

Screen 16: Zone Label Sub-Menu

3) Point the cursor to the first character to be used and press **OPEN**. Point the cursor to "**BACKSPACE**" to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.
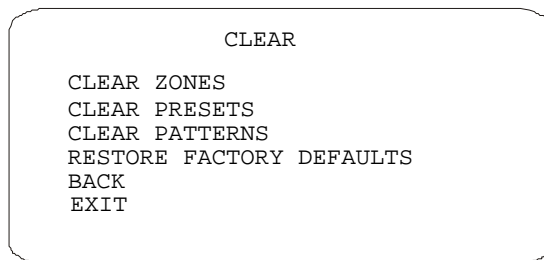
EDIT ZONE submenu

This includes all the operations needed to program a zone.
1) Press "   " on "**EDIT ZONE**".
2) Press **OPEN** to confirm.
3) Use the joystick to point to the required position to define the left limit of the zone to be created.
4) Press **OPEN** to confirm.
5) Use the joystick to point to the required position to define the right limit of the zone to be created.
6) Press **OPEN** to confirm.
7) Press **CLOSE** to cancel the operation.

CLEAR ZONE submenus

This includes the operations for deleting the selected zone.

4.5.3.7. CLEAR SET SUBMENU

```
                    CLEAR

    CLEAR ZONES
    CLEAR PRESETS
    CLEAR PATTERNS
    RESTORE FACTORY DEFAULTS
    BACK
    EXIT
```

Screen 17: Clear Set Sub-Menu

This menu is used to delete the settings of several elements at one time.

Option	Value	Explanation
CLEAR ZONES		This option is used to delete all the zone settings.
CLEAR PRESETS		This is used to delete all the Presets.
CLEAR PATTERNS		This is used to delete all the pattern settings.
RESTORE FACTORY DEFAULTS		This performs a total reset and loads the default settings. The operations may take a few seconds (approximately 20 seconds): the message "**WAIT**" will appear on the monitor.

Table 16

4.5.3.8. PRESET NUMBER

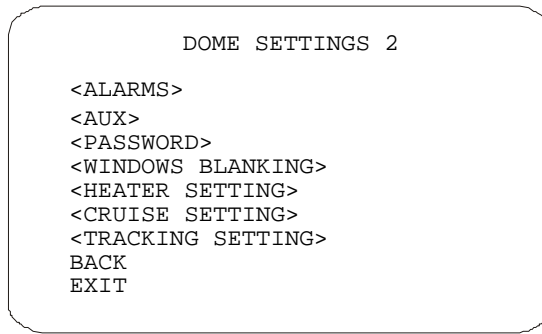This option can be used to set the number of Presets which may be used.
1) Point the cursor to "   " "**PRESET NUMBER**".
2) Press **ENTER**.
3) Move the joystick vertically and select "**256**".
4) Press **ENTER** to confirm.

Do not change the setting ("256").

4.5.4. SECONDARY PROGRAMMING MENU (DOME SETTINGS 2)

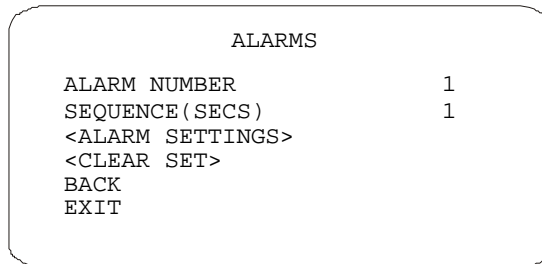In the first level menu, select **<DOME SETTINGS 2>** and the corresponding submenus to access the other menus.

```
                   DOME SETTINGS 2

        <ALARMS>
        <AUX>
        <PASSWORD>
        <WINDOWS BLANKING>
        <HEATER SETTING>
        <CRUISE SETTING>
        <TRACKING SETTING>
        BACK
        EXIT
```
Screen 18: Dome Settings 2

Option	Value	Explanation
ALARMS		Alarm submenu (refer to **Section 4.5.4.1**)
AUX		Alarm output submenu (refer to **Section 4.5.4.2**)
PASSWORD		Password submenu (refer to **Section 4.5.4.3**)
WINDOWS BLANKING		Privacy zones submenu (refer to **Section 4.5.4.4**)
HEATER SETTING		Heater use submenu (refer to **Section 4.5.4.5**)
CRUISE SETTING		Cruise programming submenu (refer to **Section 4.5.4.6**)
TRACKING SETTING		Automatic tracking submenu (refer to **Section 4.5.4.7**)

Table 17

4.5.4.1.   ALARM SUBMENU

```
                   ALARMS

        ALARM NUMBER              1
        SEQUENCE(SECS)           1
        <ALARM SETTINGS>
        <CLEAR SET>
        BACK
        EXIT
```
Screen 19: Alarms Sub-Menu

The camera has 4 alarm inputs and 2 alarm outputs.
The actions defined by the user may be associated to an alarm.

Option	Value	Explanation
ALARM NUMBER	1 ~ 4	This option allows selecting one of the 4 alarm inputs.
SEQUENCE (SECS)	1 ~ 250	Duration time (in seconds) of the action related to each alarm when several alarms occur at the same time.
ALARM SETTINGS		This submenu contains the alarm management programming (see below).
CLEAR SETTINGS		This submenu is used to delete the alarm programming (see below).

Table 18

ALARM SETTINGS submenus
This includes the operations needed to program the alarms.

```
┌─────────────────────────────────────────┐
│                                           │
│   ALARM NUMBER              1             │
│   ALARM ACTION              NONE          │
│   ACTIVATE AUX              OFF           │
│   ALARM CONTACT             OFF           │
│   BACK                                    │
│   EXIT                                    │
│                                           │
└─────────────────────────────────────────┘
```

Screen 20: Alarm Settings

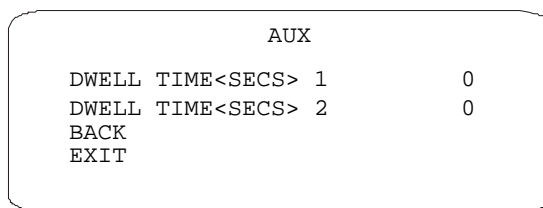| Option	Value	Explanation
ALARM NUMBER	**1 ~ 4**	This option allows selecting one of the 4 alarm inputs.
ALARM ACTION	**NONE**	No action occurs during the alarm.
	PRESET	The camera goes to the corresponding presetting following the alarm (correspondence is fixed: Alarm 1 - Preset 1; Alarm 2 - Preset 2, etc.).
	PATTERN	The alarm performs the corresponding pattern following the alarm (correspondence is fixed: Alarm 1 - Pattern 1; Alarm 2 - Pattern 2; etc.)
	AUTO SCAN	The camera performs an auto scan after the alarm: the camera performs a 360 horizontal scan operation.
	RANDOM SCAN	The camera performs a random scan after the alarm: the camera performs a random 360° scan pausing for approximately 2" every 142°.
	FRAME SCAN	The camera performs a frame scan after the alarm: the horizontal scan is performed in the **SET SCAN** limits.
	CRUISE	The camera performs a cruise after the alarm: the camera runs a cycle of up to 30 preset positions.
	TRACKING	The camera performs a tracking operation after the alarm, starting from the preset position associated with the alarm.
ALARM AUX	**OFF**	No action occurs after the alarm.
	AUX1	**AUX1** output is activated following the alarm: e.g. a siren.
	AUX2	**AUX2** output is activated following the alarm: e.g. a blinker.
ALARM CONTACT	**ON/OFF**	Alarm output polarity: normally open (**ON**) or normally closed (**OFF**). The circuit will open to generate an alarm if it is "**NC**" and will close if it is "**NO**".

Table 19

If an alarm is triggered during any automatic operation of the camera (Pattern, Auto Tracking, etc.), the operation in progress is stopped and the camera executes the action that has been set in the **ALARM ACTION** *menu:*

In the event of Preset action, the camera moves to the preset position. Then, if the option **PARK TIME ACTION** *is set to execute an action, the action will be executed after the* **PARK TIME** *period has expired.*

*In the event of "**TRACKING**" action, the camera executes the tracking function starting from the preset position that has been associated with the alarm. Once the tracking action has finished, the camera executes the action set in the option* **PARK TIME ACTION**.

*In the event of "**PATTERN, AUTO SCAN, RANDOM SCAN, FRAME SCAN, CRUISE**" actions, the action is executed by the camera permanently and can only be stopped by one of the following actions: any command sent by the operator, the 6+use of the joystick, any alarm event.*

4.5.4.2.   AUX SUBMENU

```
                       AUX

       DWELL TIME<SECS> 1          0
       DWELL TIME<SECS> 2          0
       BACK
       EXIT

```
Screen 21: AUX Sub-Menu

The camera has 2 alarm outputs (AUX1 and AUX2) which may be programmed to activate the external devices in the case of alarm. The 2 outputs closed to ground.

Option	Value	Explanation
DWELL TIME 1	**0 ~ 30**	Time (in seconds) of activation of the AUX1 output
DWELL TIME 2	**0 ~ 30**	Time (in seconds) of activation of the AUX2 output

Table 20

4.5.4.3.   PASSWORD SUBMENU
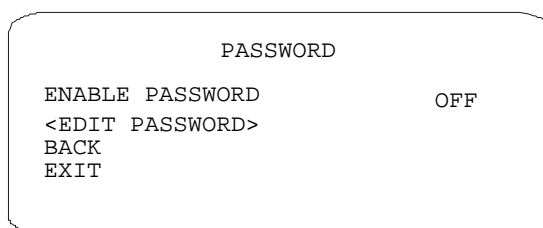
```
                   PASSWORD

       ENABLE PASSWORD           OFF
       <EDIT PASSWORD>
       BACK
       EXIT

```
Screen 22: Password Sub-Menu

| Option	Value	Explanation
ENABLE PASSWORD	**ON/OFF**	This enables the password.
EDIT PASSWORD		This is the password entry procedure.

Table 21

The password is a numeric combination (max. 10 digits).

THE DEFAULT PASSWORD IS "0000".

It is advisable to change the default password to prevent intrusions.

Do not lose or forget the programmed password.

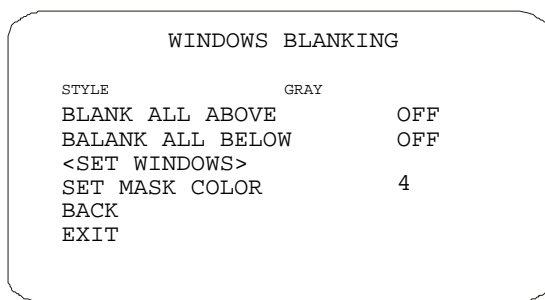*Take note of the new password and keep it in a safe place.*
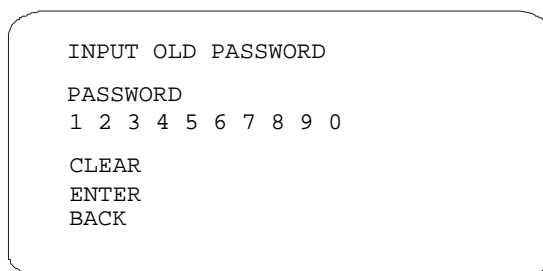
```
       INPUT OLD PASSWORD

       PASSWORD
       1 2 3 4 5 6 7 8 9 0

       CLEAR
       ENTER
       BACK

```
Screen 23: Edit Password

1) Select the password digits by moving the joystick in the horizontal direction. Symbol "   " indicates the digit which will be entered.
2) Press **OPEN** to enter the selected digit.
3) The entered numbers will be replaced by a "*" symbol on the screen for privacy.
4) Enter all the digits correctly and select **ENTER** to confirm.
5) During the password change procedure you will be asked to enter the old password. Enter the new password and enter it again for confirmation.

4.5.4.4. WINDOWS BLANKING SUBMENU

Windows blanking is only available for Sony Modules at present.

```
              WINDOWS BLANKING

STYLE                 GRAY
BLANK ALL ABOVE            OFF
BALANK ALL BELOW           OFF
<SET WINDOWS>
SET MASK COLOR             4
BACK
EXIT
```

Screen 24: Windows Blanking

The camera can be used to define up to eight privacy zones which blank out certain areas of the screen concealing them from the operator's sight.

A privacy zone appears as a grey or black rectangle associated to a certain pan, tilt and zoom position of a camera. This association is used to move, expand and compress the rectangle according to how the pan, tilt or zoom settings are changed.

Option	Value	Explanation
STYLE	**GRAY/SMEAR**	There are two ways to blank out the zone to be masked: either using a grey window which entirely conceals the area or by using a semi-transparent smear window which shows the scene without details.
BLANK ALL ABOVE		Blanks out the upper part of the frame shown on the monitor.
BLANK ALL BELOW		Blanks out the lower part of the frame shown on the monitor.
SET WINDOWS		The submenu is used to position and configure the privacy zones (see below).
SET MASK COLOR	**1 ~ 13**	This is used to select the blanking window color: 0　　black 1 ~ 6　　grey (1 dark; 6 light) 7　　white 8　　red 9　　green 10　　blue 11　　cyan 12　　yellow 13　　magenta

Table 22

The two blanking bands (upper & lower) may coexist at the same time.

The two blanking bands (upper & lower) cannot coexist at the same time in presence of a privacy zone.

A band will automatically be removed if both bands are enabled and a privacy zone is activated.

If an attempt to activate a blanking band is attempted with a privacy zone active, the privacy zone will remain active to the detriment of the blank.

Blanking parameters

BLANK ALL ABOVE		BLANK ALL BELOW	
OFF	No blanking	OFF	No blanking
0	-5°~10°	0	5°~92°
10	-5°~25°	10	-5°~92°
20	-5°~35°	20	5°~92°
30	-5°~45°	30	15°~92°

40	-5º~55º	40	25º~92º
50	-5º~65º	50	35º~92º
60	-5º~75º	60	45º~92º
70	-5º~85º	70	55º~92º
80	-5º~95º	80	70º~92º

Table 23

The coordinates shown on the monitor refer to the central point of the monitor (where the diagonals meet).

SET WINDOWS submenu

This includes the operations needed to position and configure the privacy zones.

```
                    SET WINDOWS

WINDOWS NUMBER                        1
<EDIT WINDOW LOCATION>
<EDIT WINDOW ZOOM >
ENABLE WINDOW                        OFF
CLEAR WINDOW
BACK
EXIT
```
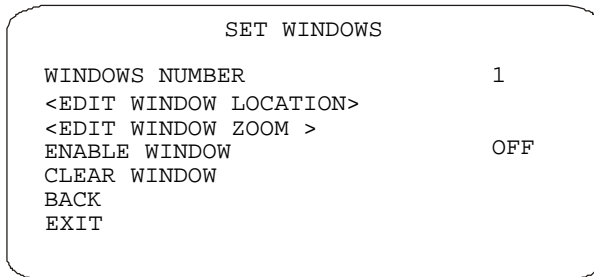
Screen 25: Set Windows Sub-Menu

Option	Value	Explanation
WINDOWS NUMBER	**1~ 8**	This option is used to select one of the 8 privacy zones (**WINDOWS**).
EDIT WINDOW LOCATION		This option is used to activate the privacy zone positioning procedure (see below).
EDIT WINDOW ZOOM		This option sets the zoom level over which the created privacy zone will be visible.
ENABLE WINDOW	**ON/OFF**	This switches the privacy zone selected in **WINDOWS NUMBER** on and off.
CLEAR WINDOW		This deletes the privacy zone selected in **WINDOWS NUMBER**.

Table 24

EDIT WINDOW LOCATION submenu

This menu may be used to define the position of the privacy zones to be created.
1) Press "   " on "**EDIT WINDOW LOCATION**".
2) Press **OPEN**. The following screen will appear.

```
             EDIT WINDOWS LOCATION

  IRIS OPEN TO CONTINUE
  IRIS CLOSE TO CANCEL
```
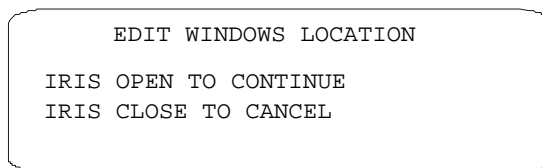
Screen 26: Edit Windows Location Sub-Menu

3) A cross-shaped pointer will appear on the monitor: this pointer will correspond to the middle of the privacy zones being created.
4) Point the cross-shaped cursor to the required position by moving the joystick in the vertical and horizontal directions.
5) Press **OPEN**. A square will appear on the monitor (with the previously defined features).
6) Use the joystick to obtain the required dimensions of the privacy zone:
   a) move leftwards to increase the left and right edges of the blanking zone
   b) move rightwards to decrease the left and right edges of the blanking zone
   c) move upwards to increase the upper and lower edges of the blanking zone
   d) move downwards to decrease the upper and lower edges of the blanking zone
7) Press **OPEN** to confirm after reaching the required dimensions.
8) At this point, either select a new privacy zone or select **CLOSE** to quit the menu.

   It is preferable to set the privacy zones with a zoom level of 1x.

| Remarks on Privacy Zones |
|---|
| Privacy zones can be programmed (and therefore the menu can be opened) in optical zoom situations only. The privacy zone works also in digital zoom conditions.

The privacy zone rectangle will move on the screen when panning and tilting. Zooming will expand and contract the rectangle.

The rectangle will expand twice in the vertical direction and four times in the horizontal position to avoid viewing protected areas when panning, tilting and zooming.

After panning and tilting, the privacy zone rectangle will shift and return to the correct dimensions. After zooming, the rectangle will remain either contracted or expanded according to the applied zoom (regardless of the x2 or x4 factor applied while zooming).

It is advisable to make the privacy areas slightly larger than the area to be concealed.

Privacy zones can only be rectangular or squares, but several rectangles can be placed to mask the area as required. |

EDIT WINDOW ZOOM submenu

This menu item may be used to define the zoom level at which the privacy zone becomes visible after defining the color and the position of the privacy zone.
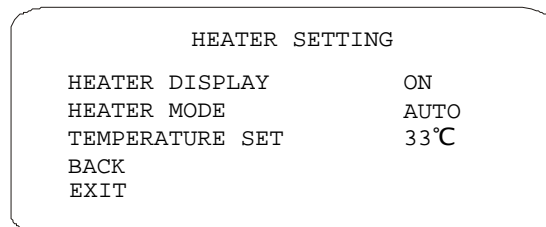
1) Press "   " on "**EDIT WINDOW LOCATION**".
2) Press **OPEN**, the following screen will appear.

```
        EDIT WINDOWS

  IRIS OPEN TO CONTINUE
  IRIS CLOSE TO CANCEL
```
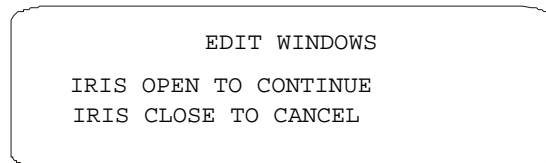
Screen 27: Edit Windows

3) Press **OPEN** and start the zoom setting procedure.
4) The newly created privacy zone will appear on the monitor.
5) Use the joystick to obtain the required zoom level over which the privacy zone will become visible:
   a) Turn clockwise to increase the zoom level
   b) Turn anticlockwise to decrease the zoom level
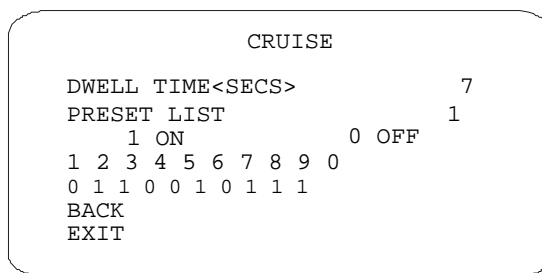6) Press **OPEN** to confirm.

4.5.4.5. HEATER SETTING SUBMENU

```
        HEATER SETTING

  HEATER DISPLAY       ON
  HEATER MODE          AUTO
  TEMPERATURE SET      33℃
  BACK
  EXIT
```

Screen 28: Heater Setting

Option	Value	Explanation
HEATER DISPLAY	**ON/OFF**	This switches the heater status display on and off. The message "**HEATER**" will appear when the heater is on.
HEATER MODE	**AUTO**	Heater operating mode: when set to "AUTO", the heater is operated when the outside temperature is lower than the setting made in the following menu.
	OFF	The heater is always off.
	ON	The heater is always on.
TEMPERATURE SET	**-99 ~ +99**	Temperature threshold in °C under which the heater is activated. Recommended values 18 - 20 °C

Table 25

4.5.4.6. CRUISE SETTING SUBMENU

```
                 CRUISE

   DWELL TIME<SECS>            7
   PRESET LIST                1
        1 ON          0 OFF
   1 2 3 4 5 6 7 8 9 0
   0 1 1 0 0 1 0 1 1 1
   BACK
   EXIT
```
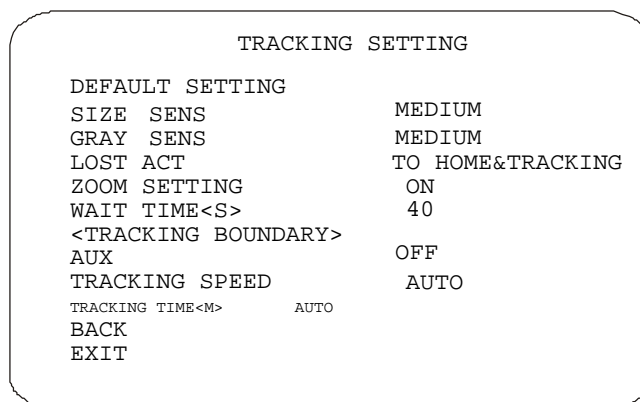
Screen 29: Cruise

The **CRUISE** function is used to make the camera run a cycle consisting of up to 30 preset positions.
This menu item is used to enable each of the preset positions used in the cruise cycle.

For the cruise cycle to be effective, the preset positions must be actually stored.

Option	Value	Explanation
DWELL TIME <SECS>	**5 ~ 250**	Duration (in seconds) of the dwel ing time on each presetting.
PRESET LIST	**1 ~ 3**	Value 1 selects the first group of Presets from 1 to 10, value 2 selects the second group from 11 to 20, value 3 the third group from 21 to 30. The following 10 digits (1/10) are used to switch the corresponding preset in the corresponding ten (1-10, 11-20, 21-30) either on or off (1=**ON**; 0=**OFF**).

Table 26

4.5.4.7. TRACKING SETTING SUBMENU

```
              TRACKING SETTING

   DEFAULT SETTING
   SIZE  SENS             MEDIUM
   GRAY  SENS             MEDIUM
   LOST ACT              TO HOME&TRACKING
   ZOOM SETTING            ON
   WAIT TIME<S>            40
   <TRACKING BOUNDARY>
   AUX                   OFF
   TRACKING SPEED           AUTO
   TRACKING TIME<M>      AUTO
   BACK
   EXIT
```

Screen 30: Tracking Setting Sub-Menu

Operating function
The auto tracking function is used to automatically track moving objects by detecting grayscale variations in the frame.
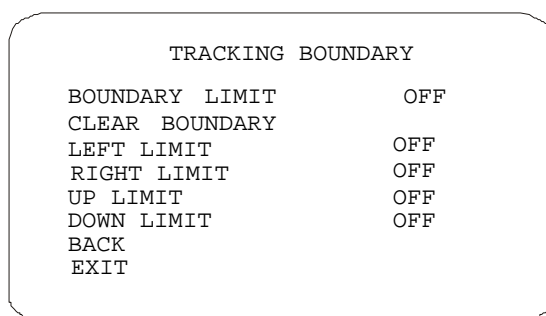
Option	Value	Explanation
DEFAULT SETTING		This function is used to load the auto tracking default settings.
SIZE SENS	**LARGE/MEDIUM/SMALL**	This option defines the total dimensions of the object to be tracked. The parameters are **LARGE/MEDIUM/SMALL**. A object larger than one fourth of the screen is **LARGE**. An object smaller than one eighth of the screen is SMALL.
GRAY SENS	**HIGH/MEDIUM/LOW**	This option determines the auto tracking sensitivity. The sensitivity measures the grey scale variations of a certain point in the frame in the unit of time.

LOST ACT	**RETURN HOME & TRACKING**	This option is used to establish the action to be performed if the camera looses the tracked object: the **RETURN HOME AND TRACKING** option repositions the camera in the original position (i.e. the position the camera goes to after power up) and tracking is enabled from this position.
	KEEP TRACKING	The **KEEP TRACKING** option keeps the camera in the position reached and the tracking function is kept on waiting for an object to be intercepted again.
	STOP TRACKING	The **STOP TRACKING** option leaves the camera in the position reached and deactivates the tracking function.
ZOOM SETTING	**OFF, 1 ~ 18**	This option determines the maximum zoom value that the camera / may use for tracking the object.
WAIT TIME	**5, 10, 15, 20, 25, 30, 35, 40 SECONDS**	This option determines the time which must elapse before performing an action after loosing a motion in frame. The action (**LOST ACT**) may consist in: - The camera goes to the original position (i.e. the position the camera goes to after power up) and tracking is enabled from this position (**RETURN HOME AND TRACKING**). - The camera is left in the position reached and the tracking function is kept on waiting for an object to be intercepted again (**KEEP TRACKING**). The camera is left in the position reached and deactivates the tracking function (**STOP TRACKING**).
TRACKING BOUNDARY	**UP/DOWN/LEFT/RIGHT**	This option is used to define the zone in which the camera performs the tracking.
AUX	**OFF, 1, 2**	This option is used to activate one of the 2 alarm outputs if the tracking function is on (**OFF** = no active alarm output).
TRACKING SPEED	**AUTO, 1 ~ 63**	This option establishes the camera movement speed. If **AUTO** is selected, the camera is automatically "adapted" to the motion of the target. The **MANUAL** options allow selecting the expected speed of the object to be tracked (1 slow, 63 fast).
TRACKING TIME	**AUTO,1~15 (MINUTES)**	This option allows setting the max. tracking duration, in minutes, during which the camera automatically tracks moving objects. Once the tracking time has expired, the camera executes the action set in the option "**LOST ACT**", independently of the movement in the scene. If the value "**AUTO**" is set, there is no time limitation on the tracking action and, in case of no movement in the scene at all, the camera executes the option "**WAIT TIME**".

Table 27

TRACKING BOUNDARY submenu

Operations needed to establish an intervention zone for the tracking function.

```
          TRACKING BOUNDARY

  BOUNDARY LIMIT           OFF
  CLEAR BOUNDARY
  LEFT LIMIT              OFF
  RIGHT LIMIT             OFF
  UP LIMIT                OFF
  DOWN LIMIT              OFF
  BACK
  EXIT
```

Screen 31: Tracking Boundary Sub-Menu

Option	Value	Explanation
BOUNDARY LIMIT	**ON/OFF**	This switches tracking function intervention zone on and off.
CLEAR BOUNDARY		This deletes the intervention area.
LEFT LIMIT	**ON/OFF**	Left limit of the intervention zone.
RIGHT LIMIT	**ON/OFF**	Right limit of the intervention zone.
UP LIMIT	**ON/OFF**	Upper limit of the intervention zone.
DOWN LIMIT	**ON/OFF**	Lower limit of the intervention zone.

Table 28

Advice for Correct Auto Tracking Use

General warnings

The tracking function should mainly be used in indoor environments. Outdoor use is highly problematic: the variety of objects (leafs, flags, litter, etc.) moved by the wind makes use unreliable.

Provide the best lighting possible in the detection zone: in poor lighting conditions, the inevitable presence of noise on the image makes grayscale variations extremely critical. In poor lighting conditions, the camera may easily loose the tracked object.

If IR illuminators are use, remember that:

The camera must be programmed to operate in B/W only (**SETTINGS 1/CAMERA/OTHERS** menu) because the Slow Shutter will make tracking unreliable in color mode

The lighting entirely covers the frame where motion is tracked, possibly by restricting the range of action of the camera in tracking mode (using the **TRACKING BOUNDARY** option).

Avoid background objects in the frame which could trick the motion detector, such as for example Venetian blinds, gates, doors with grid and objects with very marked, contrasting contours. A chequerboard background is certainly the worst condition for satisfactory operation.

Do not use the privacy zone function in frames where auto tracking is used: the privacy zone can trick the auto tracking function.

Do not use the auto tracking function if the object to be tracked and/or monitored moves too fast.

Recommended control parameters

SIZE SENS: select **SMALL** particularly in poor lighting conditions to improve performance.

GRAY SENS: most false alarms are caused by the tracking of unexpected objects. For this reason, it is preferable to select low sensitivity.

ZOOM SETTING: it is advisable to use the lowest possible zoom values. Excessive detail makes tracking difficult (the movement must be fastener and consequently or the risk of loosing the object is much higher).

WAIT TIME: particularly, in the case of poor lighting conditions or frames with interference, it is preferable to set the lowest possible time to prevent the camera from constantly tracking unexpected objects (e.g. "video noise" in the frame).

TRACKING SPEED: the **AUTO** setting should always be preferred, unless the object to be tracked does not always move at low, constant speed.

TRACKING BOUNDARY: it is strong advised to delimit the tracking zone, avoiding including unnecessary parts in the frame.

4.5.5. DOME LABEL MENU
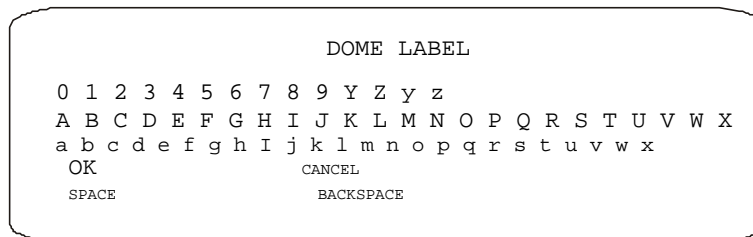
```
                       DOME LABEL

        <EDIT DOME LABEL>
        <CLEAR DOME LABEL>
        BACK
        EXIT
```
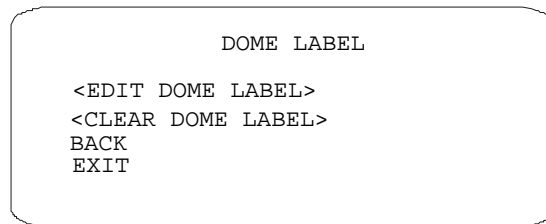
Screen 32: Dome Label Menu

Option	Value	Explanation
EDIT DOME LABEL		This submenu is used to access writing mode for associating a camera label (see below).
CLEAR DOME LABEL		This submenu allows deleting the label associated to the camera (see below).

Table 29

EDIT DOME LABEL submenu

The operations needed to associate a label to a camera are:
1) Use the joystick to point the cursor to the "**EDIT DOME LABEL**" option.
2) Press **OPEN**. The following menu will appear on the display:

```
                       DOME LABEL

        0 1 2 3 4 5 6 7 8 9 Y Z y z
        A B C D E F G H I J K L M N O P Q R S T U V W X
        a b c d e f g h I j k l m n o p q r s t u v w x
         OK                    CANCEL
         SPACE                 BACKSPACE
```

Screen 33: Dome Label

3) Point the cursor to the first character to be used and press **OPEN**. Point the cursor to "**BACKSPACE**" to delete it.
4) After writing the text, point the cursor to **OK** and press **OPEN** to save and go back to the main screen.

4.6. SPECIAL CONTROL PANEL COMMANDS

The camera can be programmed and operated using various quick control panel commands.

Control panel command	Function
PRESET + **95** + **ENTER**	Accesses main menu
PRESET + **XXX** + **ENTER**	Stores preset position (Preset) xxx.
CALL + **XXX** + **ENTER**	Recalls preset position (Preset) xxx.
PRESET + **80** + **ENTER**	Stops the tracking function
CALL + **80** + **ENTER**	Starts the tracking function
CALL + **81** + **ENTER**	Stops all functions
PRESET + **82** + **ENTER**	Stops the cruise function
CALL + **82** + **ENTER**	Starts the cruise function
PRESET + **83** + **ENTER**	Delete all Presets
PRESET + **84** + **ENTER**	Store pattern 1
PRESET + **85** + **ENTER**	Store pattern 2
PRESET + **86** + **ENTER**	Store pattern 3
PRESET + **87** + **ENTER**	Store pattern 4
CALL + **84** + **ENTER**	Start pattern 1
CALL + **85** + **ENTER**	Start pattern 2
CALL + **86** + **ENTER**	Start pattern 3
CALL + **87** + **ENTER**	Start pattern 4

CALL + **88** + **ENTER**	Start park action function
CALL + **89** + **ENTER**	Stop park action function
PRESET + **97** + **ENTER**	Stop random scan function
CALL + **97** + **ENTER**	Start random scan function
PRESET + **98** + **ENTER**	Stop frame scan function
CALL + **98** + **ENTER**	Start frame scan function
PRESET + **99** + ENTER	Stop auto scan function
CALL + **99** + **ENTER**	Start auto scan function

Table 30

When storing Presets, it is important to remember that some are reserved and cannot be either stored or used for positioning the camera.

Presets from 80 to 99 are reserved for management controls

Presets from 100 to 103, 170 to 173 are reserved for Tracking and Pattern controls

5. TROUBLE SHOOTING

Problem	Possible Reason	Solution
Power on normally but no video signal	Wrong wire connections	Check and reconnect wires
	Wrong or bad power source	Change power source
	Fuse broken.	Change fuse
	Power cable is disconnected	Reconnect power wiring
Pan/Tilt not initializing when power on	Address, protocol, and baud rate is not correctly set	Check and set the parameters again.
	RS-485 cable is not correctly connected	Check and reconnect Rs485 cable
Video is not stable	Video cable is wrong	Check and reconnect video
	Power source is wrong	Change the power source
Control center is not stable	RS-485 wiring error	Check and reconnect the RS485

Table 31