

# **security labs**

**Model SES-172C**

**Weatherproof Pan/Tilt 22X Optical High Speed Dome**



**Owner's Manual**

**15540 Herriman Blvd. Noblesville, IN 46060 - Customer Support 1-800-774-0284**

**[www.security-labs.com](http://www.security-labs.com)**



## Important Safety Measures

- 1) Please read this manual before installing the equipment.
- 2) Please follow all warning notices on the equipment and in the manual.
- 3) Please only use accessories which are recommended by your dealer or ones that are listed at the end of this manual.
- 4) Please protect cables well, especially near connection points.
- 5) Prevent corrosive type liquids from coming in contact with the dome.
- 6) Do not install equipment on unstable surfaces or structures. High winds can cause a poorly installed dome to become a hazard.
- 7) Contact customer service @ 1-800-774-0284 for maintenance issues.
- 8) The input voltage of this equipment is 12VDC. Please only use the power supply that comes with the unit.

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## 1. Wiring

### **CAUTION**

Please confirm the supply voltage meets the requirements of the dome camera's power supply.

### **Wiring for Dome System**

100 feet of CAT5E twisted pair cable, and a 12VDC power supply is included with your dome camera. Additional CAT5E cable can be purchased from a variety of stores or distributors and easily spliced to your cable. Up to 1,000 feet of cable can be successfully used on an installation. More distance can be achieved with the use of an amplifier. Call our customer service line for information on current models of amplifiers.

The RS-485 communication signal is sent over one twisted pair while the video is sent over another twisted pair. Video balun transformers are included to connect the video output of the dome to the CAT5E cable, and to connect the CAT5E cable to your DVR or other control device. **Please make sure to follow polarity markings (+ and -) on the video baluns and the RS-485 connections.**

Wires coming from dome:

12VDC Power Supply Jack

RS-485 Communication Cable RS-485 A , + RS-485B-

Coax video cable with connector for balun transformer.

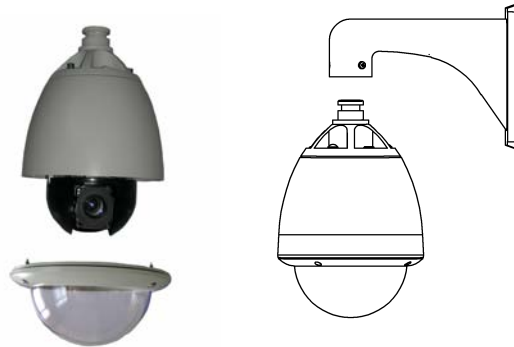
**Remarks: Please refer to the indications of the labels on the cables.**

## 2. Installation Requirements

1) To ensure proper operation make sure the 12 VDC power supply packed with your dome camera is securely connected to an indoor 120VAC outlet near the location of the dome. **Power Supply is not made for outdoor use. The use of a UL Approved extension cord is acceptable.** Please consult your local electrical codes for specific information.

2) Secure the included wall or ceiling (pendant) bracket to hold a minimum of five times the total weight of your dome assembly. High winds can cause your dome assembly to be torn away from its location and become a hazard. The included lag screws are provided for your convenience to mount the brackets directly to a wood support beam or joist, and anchors for concrete block mortar joints. Your particular installation situation should be carefully planned, and the proper mounting hardware should be used in all cases. Please consult with a professional installer if you are not well acquainted with this type of construction project.

3) Mark the location for the bracket mounting screws and drill the appropriate size holes for your installation. Run wiring from the dome through the bracket, and attach the dome to the bracket exerting equal pressure on the three screws around the neck of the dome. Connect the house wiring from the control unit or DVR to the dome before mounting the dome if access to the dome wiring will be limited after mounting. **BE SURE TO MOUNT THE BRACKET SECURELY TO THE BUILDING OR POLE STRUCTURE.** Notice: If installed outdoors, please make sure all seals are tight to prevent water from entering the dome. Caulk may be used around the building side of the wall or ceiling bracket.



### 3. Switch Settings

Please confirm the communications protocol (i.e Pelco-D, Pelco-P, etc.), baud ratio & camera ID match your DVR or control system. The corresponding switch positions are below:

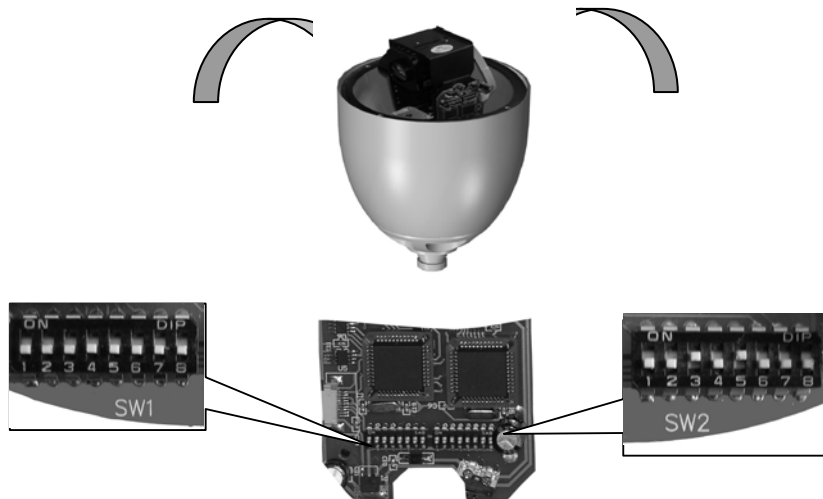
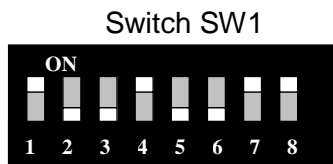


Diagram 13

## 4. Camera ID Setting

This speed dome camera requires setting of the ID before use. The ID set by an 8-segment ID setup switch (SW1) on the main PCB. The binary system ID setup range is : 00000000-11111111. Digital “1” equals switch ON, and digital “0” equals OFF, for example:

The positions from 1 to 8 of SW1 are used for camera ID setting.



This ID setup switch shows 10010011, corresponding to ID148. Each camera ID setting and OSD are entered as below:

Switch Position								OSD	CAM Selection
1	2	3	4	5	6	7	8		
O	O	O	O	O	O	O	O	001	CAM-001
FF	FF	FF	FF	FF	FF	FF	FF		
O	O <sup>3</sup>	O	O	O	O	O	O	002	CAM-002
N	FF	FF	FF	FF	FF	FF	FF		
O	O	O	O	O	O	O	O	003	CAM-003
FF	N	FF	FF	FF	FF	FF	FF		
O	O	O	O	O	O	O	O	255	CAM-255
FF	N	N	N	N	N	N	N		

Other ID numbers can be setup according to the Address Code Correspondence Table at the end of the manual.

## 5. Communication Protocol Setting

The #3 & #4 positions of SW2 on PCB are used for setting the communication protocol as below :

Switch Position		Protocol
3	4	
OFF	OFF	State Standard
OFF	ON	PELCO-D
ON	OFF	PELCO-P

## 6. Baud Ratio Setting

The #5 & #6 positions of SW2 on the PCB are used for setting baud ratio as below:

Switch Position		Baud Ratio
5	6	
OFF	OFF	1200 bps
OFF	ON	2400 bps
ON	OFF	4800 bps
ON	ON	9600 bps

## 7. Camera Selection

The #7 & #8 positions of SW2 on PCB are used for camera selection. The protocol used for the included zoom module is equivalent to the LG standard and is preset at our factory.

#7 Position	#8 Position	Camera Zoom Module
OFF	OFF	SONY Zoom Module
OFF	ON	CNB Zoom Module
ON	OFF	HITACHI Zoom Module
ON	ON	LG Zoom Module

## 8. Basic Function & Operation

This speed dome camera can be controlled by Keyboard, Matrix, DVR or Network Video Server etc. Under the control of these devices, this camera can achieve pan/tilt movement, lens control, preset, synchronized scanning, and OSD functions.

### Pan & Tilt Rotation

Use the direction arrows on the front panel of your DVR or a joystick controller to control pan and tile functions. The moving speed of the dome camera depends on the offset size of the joystick, the speed range is from 0.3°/sec to 360°/sec.

### Lens Operations

#### Zoom

Press the buttons of the ZOOM controls until the screen displays the picture that you need.

#### Focus

Your camera has Auto-focus. Press the FOCUS controls of your equipment if further adjustment is needed. Also, bumping the pan or zoom control can cause your Auto-focus function to readjust.

Your PTZ dome can memorize preset positions. Areas of high activity or concern can be viewed quickly by "Calling" a "Preset". This action will pan, tilt, and zoom the camera to a predetermined view within a fraction of the time it would take for you to do the same thing manually. A digital controller or "Joy Stick" may be needed to operate more than the number of memorized presets available from your DVR. Preset operation can be divided into two processes, "Setting" and "Call".

## **9. Presets**

### **Entering Presets**

Preset positions can be set with your control equipment. Some DVRs have the ability to do this directly (i.e. Security Labs Pro line, and Piczel Dual-Codec models). Typically the PTZ is adjusted to a target view, a <SET> button on the DVR is pressed, and then a number or channel button

### **Preset Call**

To view a preset position with most DVRs, a <CALL> button is pressed followed by the earlier programmed number or channel button.

Please refer to the DVR or controller's instructions for specific information on both functions.

When using preset functions, the typical accuracy for horizontal and vertical duplication of stopping points is within 0.3°.

There are total 100 presets from 1-30 and 59-128 that can be set by this speed dome. A digital controller or "joystick" may be required to obtain an extended number of presets.

## Specific Preset Commands

Preset numbers from 31 to 50 are defined as specific commands and not used as single presets. Please refer to the following table for details of these presets and commands.

Preset	Trigger Mode	Function
31~38	Setting	enter into the tour group setting
	Call	start the tour group
39	Call	start the horizontal scanning
40	Call	tour group setting or pan scanning with low speed
41	Call	tour group setting or pan scanning with middle speed
42	Call	tour group setting or pan scanning with high speed
43	Call	the stay time is 3 seconds for scanning tour group setting
44	Call	the stay time is 5 seconds for scanning tour group setting
45	Call	the stay time is 7 seconds for scanning tour group setting
46	Call	enter/escape camera menu
47	Call	screen characters On/Off
49	Call	pan/tilt speed change along with zoom change
50	Call	pan/tilt speed change not along with zoom change

## 10. Tour Groups

Tour group scanning combines auto scanning between a series of presets with a certain sequence and a certain speed, and stay a certain time at each preset. The scanning speed and the stay time at each preset can be set according to the user's actual requirements.

The presets arranged by a certain sequence combine to make a tour group. A total of eight tour groups can be set, named from preset numbers #31 to #38. Each group may include multiple presets from 2 entries to 64 entries. The groups can be set at anytime, and any group can be called randomly.

Each called preset will be added to the tour group followed by the calling sequence, and the scanning sequence will be according to this sequence. The maximum total 64 entries of presets can be set by each tour group.

### Tour Group Setting

Example for #31 tour group:

- a. #31 preset setting-----enter into #31 tour group setting-----input "31", then press the key [preset]
- b. Press Key [2], press Key [Call]
- c. Press Key [6], press Key [Call]
- d. Press Key [12], press Key [Call]
- e. Press Key [5], press Key [Call]
- f. Press Key [20], press Key [Call]
- g. Press Key [18], press Key [Call]
- h. Press Key [31], press Key [Call]-----end setting #31 tour group, save and run the group.

Notice: After finishing setup of the tour groups, it's not allowed to amend single preset. If you want to delete or add a preset, the tour group should be setup again.

#### ① Start Tour Group Scanning

Call the number of tour group, then the corresponding tour group can be started.

If you want to start #32 tour group, input "32" on the control keyboard, and then press the key [call].

#### ② Stop Tour Group Scanning

Operate the pan/tilt rotation by hand, the middle speed dome will stop the running the current tour group.

#### ③ Scanning Speed Setting

The scanning speed of the tour group has three levels you can setup randomly.

[40]+[Call]----- setting tour group scanning with low speed

[41]+[Call]----- setting tour group scanning with middle speed

[42]+[Call]----- setting tour group scanning with high speed

If you want to set the tour group scanning with middle speed, input "41" on the control keyboard, and then press the key [call].

#### ④ Stay Time For Preset Setting

Stay time for each preset of the tour group can be setup as 3 seconds, 5 seconds or 7 seconds.

[43]+[Call]----- setting stay time for preset of the group is 3 seconds

[44]+[Call]----- setting stay time for preset of the group is 5 seconds

[45]+[Call]----- setting stay time for preset of the group is 7 seconds

If you wish to setup the stay time for preset as 7 seconds, input "45" on the control keyboard, and then press the key [call].

## 11. Horizontal Scanning

Horizontal scanning can limit the range between the left and right observation the area between these two presets.

### Horizontal Scanning Setting

Horizontal scanning can be achieved through the scanning function of a tour group. That is to only setup two presets of the tour group. When starting the tour group, the speed dome will scan between these two presets.

For example, set #32 tour group as horizontal scanning, operation like as below:

a. #32 preset setting----- enter into setting state of #32 tour group-----input "32", then press the key [preset].

b. [2]+[Call] -----left limiting space of horizontal scanning

c. [6]+[Call]-----right limiting space of horizontal scanning

d. [32]+[Call]----- end setting #32 tour group, and the group is saved and run.

### Start Horizontal Scanning

Call the number of tour group which has been set as horizontal scanning, and then the corresponding horizontal scanning can be started.

If you want to start horizontal scanning of #32 tour group, input "32" on the control keyboard, then press the key [call].

### Stop Horizontal Scanning

Operate pan/tilt rotation by hand, the middle speed dome will stop the running horizontal scanning.

### **Horizontal Scanning Speed Setting**

The method for setting horizontal scanning of the middle speed dome is the same as the method for setting scanning speed of the tour group, the speed is divided into three grades you can setup randomly.

[40]+[Call]----- setting scanning with low speed

[41]+[Call]----- setting scanning with middle speed

[42]+[Call]----- setting scanning with high speed

If you wish to setup the horizontal scanning with middle speed, input “41” on the control keyboard, then press the key [call].

### **12. Pan/Tilt Speed and Zoom Lens Automatic Matching**

This speed dome has the function of pan/tilt speed and zoom lens automatic matching. When the function is ON, the pan/tilt speed will auto decrease when the zoom lens is increased helping you track objects far away.

[49]+[Call]----- pan/tilt speed change when zoom changes

[50]+[Call]----- no pan/tilt speed change when zoom changes

### **13. Auto Flip 180°**

When this speed dome camera moves to a vertical and horizontal position of 90°, the camera will auto level flip 180° to correct the view orientation.

## 14. Camera Specifications

Image Device 1/4" Color Sony Super HAD (Hi-Res.)  
Picture Elements NTSC:768x494, PAL:752x582  
Resolution 470 TVL  
Min. Illumination 0.7 Lux / F1.6  
S/N Ratio More than 48dB  
Electronic Shutter NTSC:1/60~1/30,000, PAL:1/50~1/30,000  
Flickerless Mode On / Off (NTSC:1/100, PAL:1/120)  
Iris Control Auto / Manual  
Lens Furnished 22x Auto Focus Zoom (3.9~85.8mm / F1.6~3.7)  
Digital Zoom Ratio Basic 22x (Total Zoom Ratio 352x),  
2x~22x variable  
Min. Shutting Distance 0.01m (Wide), 1.0m (Tele)  
Camera Control RS-485(TTL Level)  
Remote Control 6-pin Dry Contact Connector: Tele, Wide, Near, Far, Menu, GND  
Compatible Protocol LG  
Zoom Speed 5 / 7 / 9 sec mode  
Zoom / Focus Preset 128 preset points  
Focus Mode Auto / Manual / Push Auto  
On Screen Display Set-up menu  
Negative / Positive On / Off  
Day / Night On / Off  
Color Control On / Off  
Brightness Control Manual  
Wide Burst On / Off  
White Balance Auto / Hue / Indoor / Outdoor / Manual / Push Auto  
Gain Control Auto / Manual  
Back Light Comp. On / Auto (Center / Up / Down / Left / Right) / Super / Off  
Sync. System Internal / External Line Lock  
Video Output 1 Vp-p / 75 Ohms  
Power Supply DC12V 10%  
Power Consumption 340mA max.  
Operating Temp. -10C ~50C

<b>17. 255 Address Code Correspondence Tables - Switch SW1 Setting (1=ON, 0=OFF)</b>									
	<b>12345678</b>		<b>12355678</b>		<b>12345678</b>		<b>12345678</b>		<b>12345678</b>
0=	00000000	1=	10000000	2=	01000000	3=	11000000	4=	00100000
5=	10100000	6=	01100000	7=	11100000	8=	00010000	9=	10010000
10=	01010000	11=	11010000	12=	00110000	13=	10110000	14=	01110000
15=	11110000	16=	00001000	17=	10001000	18=	01001000	19=	11001000
02=	00101000	21=	10101000	22=	01101000	23=	11101000	24=	00011000
25=	10011000	26=	01011000	27=	11011000	28=	00111000	29=	10111000
30=	01111000	31=	11111000	32=	00000100	33=	10000100	34=	01000100
35=	11000100	36=	00100100	37=	10100100	38=	01100100	39=	11100100
40=	00010100	41=	10010100	42=	01010100	43=	11010100	44=	00110100
45=	10110100	46=	01110100	47=	11110100	48=	00001100	49=	10001100
50=	01001100	51=	11001100	52=	00101100	53=	10101100	54=	01101100
55=	11101100	56=	00011100	57=	10011100	58=	01011100	59=	11011100
60=	00111100	61=	10111100	62=	01111100	63=	11111100	64=	00000010
65=	10000010	66=	01000010	67=	11000010	68=	00100010	69=	10100010
70=	01100010	71=	11100010	72=	00010010	73=	10010010	74=	01010010
75=	11010010	76=	00110010	77=	10110010	78=	01110010	79=	11110010
80=	00001010	81=	10001010	82=	01001010	83=	11001010	84=	00101010
85=	10101010	86=	01101010	87=	11101010	88=	00011010	89=	10011010
90=	01011010	91=	11011010	92=	00111010	93=	10111010	94=	01111010
95=	11111010	96=	00000110	97=	10000110	98=	01000110	99=	11000110
100=	00100110	101=	10100110	102=	01100110	103=	11100110	104=	00010110
105=	10010110	106=	01010110	107=	11010110	108=	00110110	109=	10110110
110=	01110110	111=	11110110	112=	00001110	113=	10001110	114=	01001110
115=	11001110	116=	00101110	117=	10101110	118=	01101110	119=	11101110
120=	00011110	121=	10011110	122=	01011110	123=	11011110	124=	00111110
125=	10111110	126=	01111110	127=	11111110	128=	00000001	129=	10000001
130=	01000001	131=	11000001	132=	00100001	133=	10100001	134=	01100001
135=	11100001	136=	00010001	137=	10010001	138=	01010001	139=	11010001
140=	00110001	141=	10110001	142=	01110001	143=	11110001	144=	00001001
145=	10001001	146=	01001001	147=	11001001	148=	00101001	149=	10101001
150=	01101001	151=	11101001	152=	00011001	153=	10011001	154=	01011001
155=	11011001	156=	00111001	157=	10111001	158=	01111001	159=	11110001
160=	00000101	161=	10000101	162=	01000101	163=	11000101	164=	00100101
165=	10100101	166=	01100101	167=	11100101	168=	00010101	169=	10010101
170=	01010101	171=	11010101	172=	00110101	173=	10110101	174=	01110101
175=	11110101	176=	00001101	177=	10001101	178=	01001101	179=	11001101
180=	00101101	181=	10101101	182=	01101101	183=	11101101	184=	00011101
185=	10011101	186=	01011101	187=	11011101	188=	00111101	189=	10111101
190=	01111101	191=	11111101	192=	00000011	193=	10000011	194=	01000011
195=	11000011	196=	00100011	197=	10100011	198=	01100011	199=	11100011
200=	00010011	201=	10010011	202=	01010011	203=	11010011	204=	00110011
205=	10110011	206=	01110011	207=	11110011	208=	00001011	209=	10001011
210=	01001011	211=	01001011	212=	11001011	213=	00101011	214=	10101011
215=	01101011	216=	11101011	217=	00011011	218=	10011011	219=	01011011
220=	11011011	221=	00111011	222=	10111011	223=	11111011	224=	00000111
225=	10000111	226=	01000111	227=	11000111	228=	00100111	229=	10100111
230=	01100111	231=	11100111	232=	00010111	233=	10010111	234=	01010111
235=	11010111	236=	00110111	237=	10110111	238=	01110111	239=	11110111
240=	00001111	241=	10001111	242=	01001111	243=	11001111	244=	00101111
245=	10101111	246=	01101111	247=	11101111	248=	00011111	249=	10011111
250=	01011111	251=	11011111	252=	00111111	253=	10111111	254=	01111111
255=	11111111								

## 15. Optional Accessories

- 1) Pendant Mount (Ceiling) Bracket
- 2) Wall Mount Bracket
- 3) Pole Mount Bracket
- 4) Corner Mount Bracket



Wall Mount



Ceiling Mount



Corner Mount



Pole Mount

Installation Notes: