Speed Dome

EPTZ Series

USER MANUAL

EverFocus

Release Date: Aug, 2013

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EPTZ860 Overview

1.1. Introduction

EPTZ860 is outdoor type, using high sensitivity and high resolution CCD to display high quality image. The design of ICR (IR cut filter removable) can provide real color even under strong sunlight in day time. Under slight light in night time, a clear image can still be displayed. Fast moving function can reach to 360°/1sec. No matter high speed scanning or low speed scanning, the solid base can avoid vibration. This full-functioned speed dome can perform best quality images!

* 23X True Day/Night camera module with SONY 1/3" Exview HAD CCD II 960H sensor, 700 TVL resolution
* Auto white balance function creates natural shades of color
* Auto iris adjusts the monitoring image to the best brightness
* Support 360 degree horizontal rotation range and 94 degree tilt rotation range
* Extended IR range of up to 140m/450ft. with high power LEDs
* Intelligent IR function, the IR distance can be adjusted as the lens zooms
* Built-in heater and fan to tolerate low temperature
*Weatherproof IP66 rated to endure all weather conditions

Furthermore, the micro control unit enables camera a nimble and exact movement from minimal 0.01°/sec to maximal 300°/sec. It can go to every preset position in 1 second. It also has other advantages such as:

- 200 preset positions are available.
- 4 cruise tours can be set, and each tour contains up to 16 positions.
- Up to 256 speed domes can be supported on a RS-485 bus when all speed domes

are controlled by keyboard EKB500.

- Built-in fan to enhance heat dissipation at high temperature and circulate heat to keep system operation at low temperature.
- Built-in 4 alarm inputs and 2 alarm outputs.

All of the features make the intelligent high-speed dome camera works for a wide range and demanding application such as banks, airports, stations, casinos, streets of cities, intelligent buildings, etc.

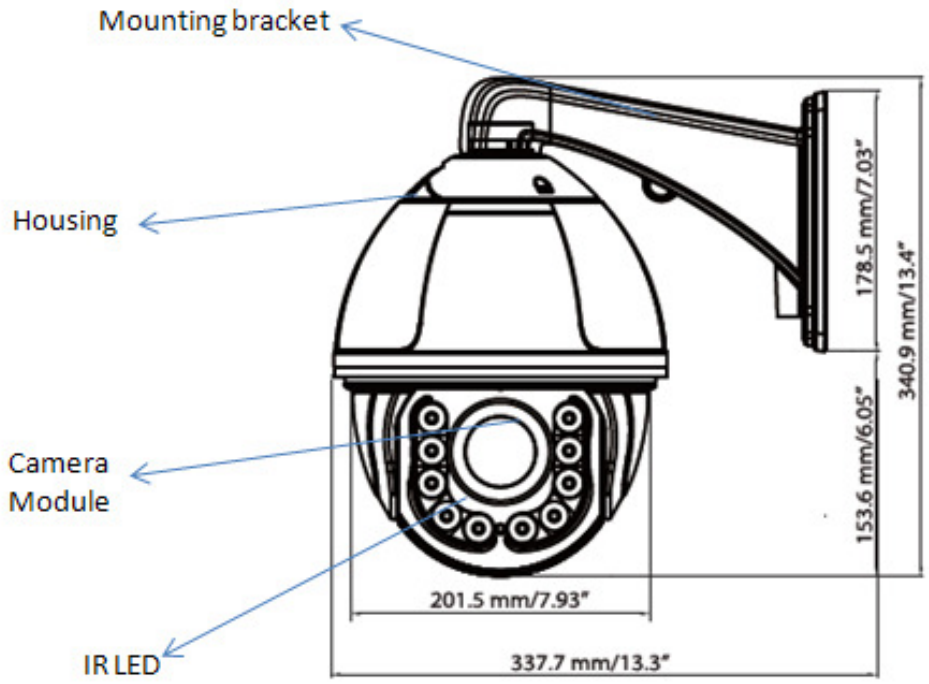
1.2. Specifications

Product Model	EPTZ860
Pickup Device	1/3"SONY 960H CCD
Scanning System	NTSC or PAL
Min.Illumination	Color 0.2 LUX, B/W 0.01 LUX,0LUX(IR LED On)
S/N Ratio(AGC OFF)	≥52dB
Electronic Shutter	Auto/1/50—1/10,000SEC
Optical Zoom	23X Optical Zoom(F=1.4 f=3.9~89.7mm)
Auto Iris	Auto
Streaming Frame Rate	1~30fps(NTSC),1~25Ffps(PAL)
Focus Control	Auto/Manual
True Day/Night	Auto
Auto Gain Control	Rang Adjustable
Backlight Comp.	（NO/OFF）/（HSBLC）
White Balance	Auto/Auto tracking/Indoor/Outdoor/Manual module
Video Output	1.0Vp-p, (75Ω Composite video)
Manual Pan/Tilt Speed	Pan:0.01°~180°/S,Tilt:0.01°~180°/S
Position Accuracy	±0.1°
Horizontal Rotation Range	360°Unlimited rotation

Tilt Rotation Range	94°Pendulum motion
Auto Speed Control	control speed auto-adjusted according to zoom length changing
Auto Pan Speed	300°/s
Dwell Time at Preset Position	0.5-10S,4 groups
Tour	4 groups
Tour Point Per Group	16Preset positions
Pattern	4PCS
Communication	RS485 Bus
Communication Protocol	EVF-1,Pelco-D, Pelco-P
Baud Rate	1200/2400/4800/9600bps
Alarm	4 inputs and 2 outputs (Optional)
Environmental Rating	IP66 for outdoor
IR Testing Time	2-15s selectable
IR Illumination Distance	140M
Power Source	24VAC
Power Consumption	25w max
Operating Temperature	Outdoor: -40°~ +60°
Dimensions(W+H)	337.7×340.9mm/13.3"×13.4"
Weight	With Bracket 7.2kg,w/o bracket 6.6kg
Certificates	CE,FCC

1.3. Feature

Profile of EPTZ860

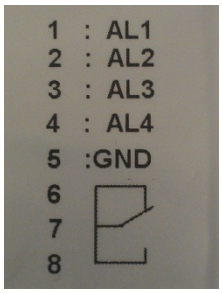


1.4. Alarm

Function direction list:

Pin #	Function
1	ALMIN1 (Alarm Input 1)
2	ALMIN2 (Alarm Input 2)
3	ALMIN3 (Alarm Input 3)
4	ALMIN4 (Alarm Input 4)
5	GND (Alarm input Common)
6	ALARM NC OUT (Alarm Output Normal Close)
7	ALARM OUT COM (Alarm Output Common)
8	ALARM NO OUT (Alarm Output Normal Open)

Label as below :



1.5. EPTZ860 Quick Operation Guide (Work with EKB500)

EPTZ860 and EKB500 (Keyboard) can work together by using factory default setting. You just need to connect cables by the following steps:

1. Connect the RS-485 cable to EPTZ860 and a keyboard (EKB500).
2. Connect a video cable from EPTZ860 to a monitor.
3. Connect the power to the EPTZ860 and a keyboard (EKB500).

After the EPTZ860 finishes the self-test mode, you can start to operate the EPTZ860 via the keyboard.

To operate the EPTZ860:

1. Shift the Joystick up/down or right/left to view from camera.
2. Turn the top of the Joystick to zoom in/out.
3. Press Zoom In/Out, Focus F. /N. and IRIS +/- function keys to operate the EPTZ860.

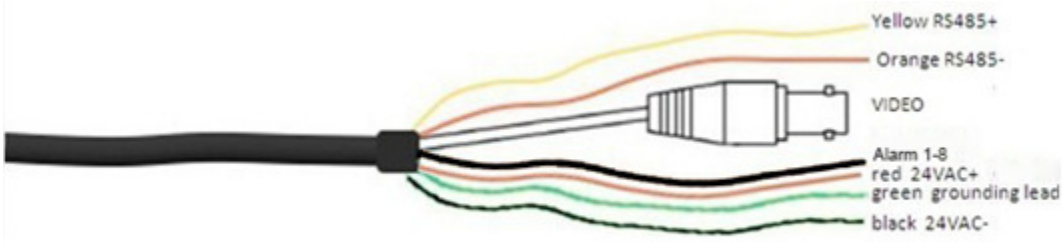
1.6. Packing List

There are main body with a camera module, housing with a base board, bracket, power adapter, Manual, plus one tool packet in the package. The detail accessories are listed below:

Standard

- Camera Main Body x1
- Bracket x1
- Housing x1
- Tool packet
  - RS485 Terminal Block
  - 1 desiccant packs

1.7. Cable Needed



Power Cable

Power source with 24VAC/25W max.provides the power to the EPTZ860. An extension power line may be needed.

Note: The input AC voltage range of an adapter depends on different area.

Please make sure the voltage range before installing.

Video Cable

A BNC cable is used for connecting an EPTZ860 to a DVR or a monitor. An amplifier may be needed if the video cable is too long.

RS485 Cable

Yellow wire represents RS485+, orange wire represents RS485-. Connect RS485 to EKB500 and you will be able to control the speed dome by a keyboard. If you are unable to control the speed dome with EKB500, it is probably due to a mis-connection. Please try to switch RS485 wires and connect again.

1.8. Initial Setup

Initial setup includes dome address, communication protocol, transmission speed, and terminal resistance settings. All of the settings should be confirmed before the dome is installed. The control-related setting that is address, communication protocol and transmission speed have to be set consistently with the control device such as a keyboard or a DVR.

Notice: Please make sure the power is off before setting, and restart the EPTZ860 to enable a new value after changing.

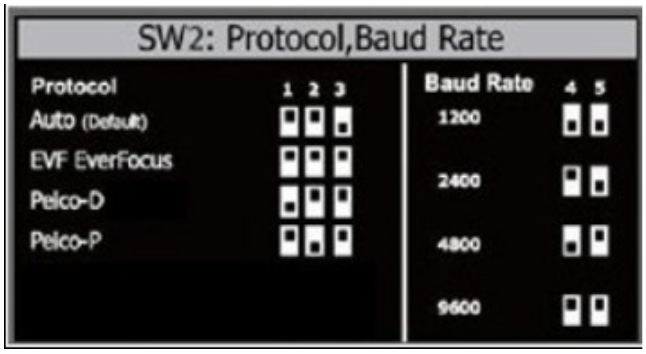
Address Setting

The address code of the EPTZ860 should be set to correspond properly with a control device to control multiple dome cameras. The address codes are made up by the dip switch on the camera main body. The 8 bits dip switch indicates the binary coded of the address, and there are 256 addresses can be selected (0 ~ 255). It also means that there are up to 256 dome cameras that can cascade on the RS-485 bus. The dip switch setting and the indicated address are represented in the following diagram.

Note: The factory default address is 1.

Notice: Please make sure the power is off before setting, and restart the EPTZ860 to enable a new value after changing.

Note: You will see the label of Protocol & Baud Rate as well as RS-485 ID address show on the speed dome. White part represents the switch key. For example: for EVF protocol, white keys are all switched downward; for ID Address 0, white keys are all switched downward.



Settings of SW2

The 1st-3rd DIP Switch are for reserved .The 4th and 5th DIP set the Baud rate, factory-default setting is 2400bps(Baud rate: 1200bps, 2400bps, 4800bps, 9600bps selectable)

The 8th bit of DIP switch SW2 is to select the matching resistor.

Switch	Address	Switch	Address	Switch	Address	Switch	Address
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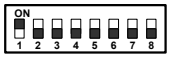
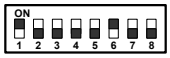
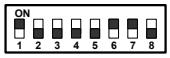
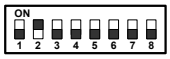
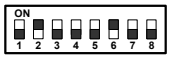
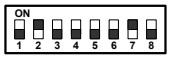
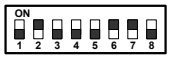
	1		33		65		97
	2		34		66		98
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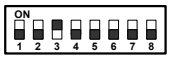
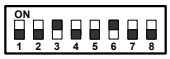
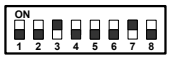
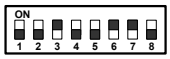
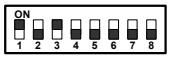
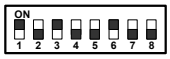
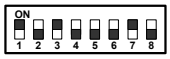
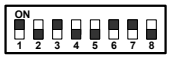
	4		36		68		100
	5		37		69		101
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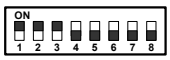
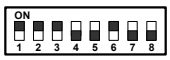
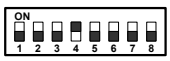
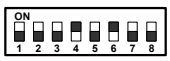
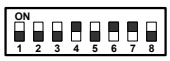
	7		39		71		103
	8		40		72		104
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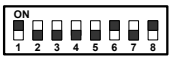
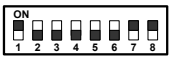
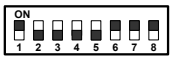
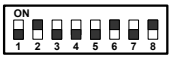
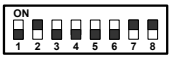
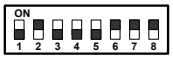
	129		161		193		225
	130		162		194		226
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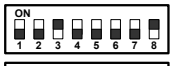
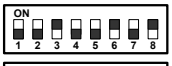
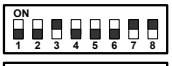
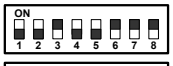
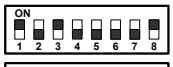
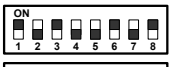
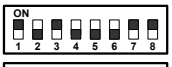
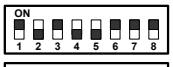
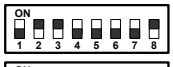
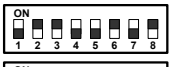
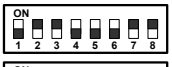
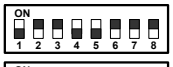
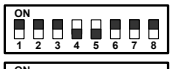
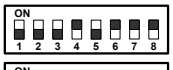
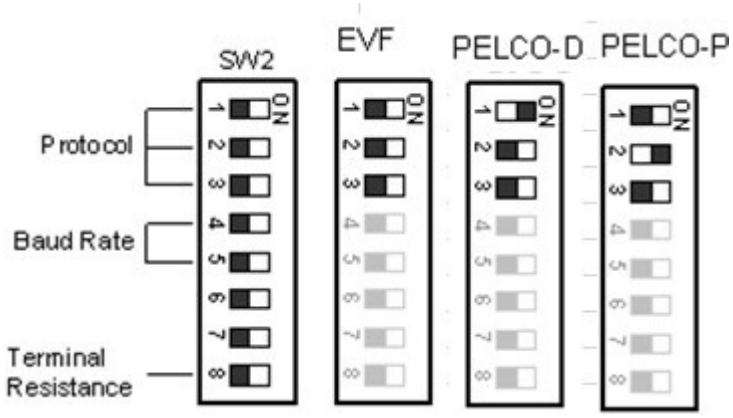
	132		164		196		228
	133		165		197		229
	134		166		198		230
	135		167		199		231
	136		168		200		232
	137		169		201		233
	138		170		202		234
	139		171		203		235
	140		172		204		236
	141		173		205		237
	142		174		206		238
	143		175		207		239
	144		176		208		240
	145		177		209		241
	146		178		210		242
	147		179		211		243
	148		180		212		244
	149		181		213		245
	150		182		214		246
	151		183		215		247
	152		184		216		248
	153		185		217		249
	154		186		218		250
	155		187		219		251
	156		188		220		252
	157		189		221		253
	158		190		222		254
	159		191		223		255

Communication Protocol Setting

The 1st, 2nd and 3rd bits are used to set communication protocol. The factory default protocol is EVF.

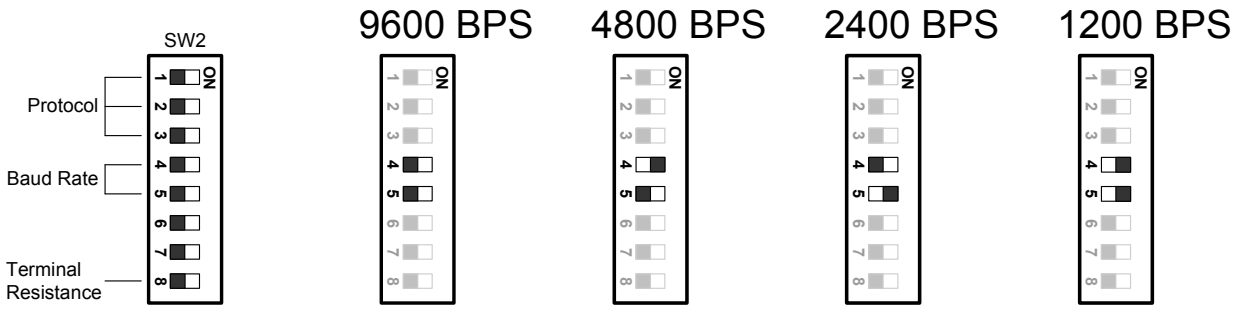


Notice: Please make sure the power is off before setting, and restart the EPTZ860 to enable a new value after changing.

Set all of protocol switches to ON; the speed dome EPTZ860 will enter a self-test mode.

Transmission Speed Setting (Baud Rate Setting)

The 4th and 5th bits on the PCB board are used to set the Baud Rate. The default baud rate setting is 9600.



Notice: Please make sure the power is off before setting, and restart the EPTZ860 to enable a new value after changing.

1.9. Bracket and Speed Dome Installation

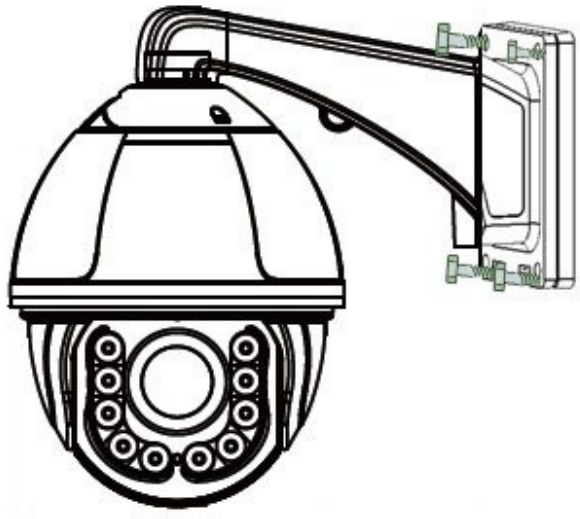
Installation Requirements

1. Installation should be handled by a qualified service agent and should comply with all local regulations. Service personnel should expect potential problems such as surface strength, surface material, falling objects, outer breaches, building vibration or other similar conditions.
2. Check for all necessary materials, and ensure if the selected installation location is suitable for the EPTZ860.

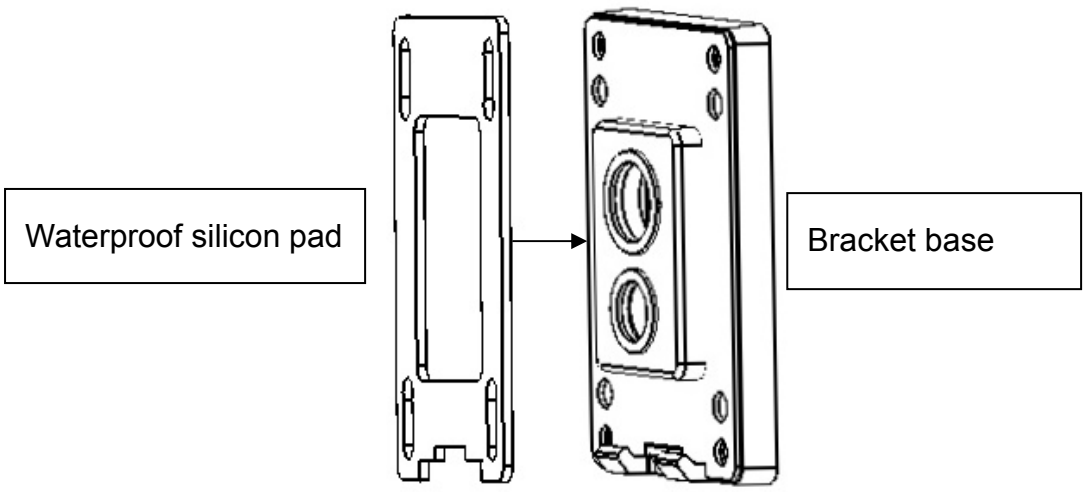
EPTZ860 overview

EPTZ860 Speed Dome Camera Wall Mount Simple Installation

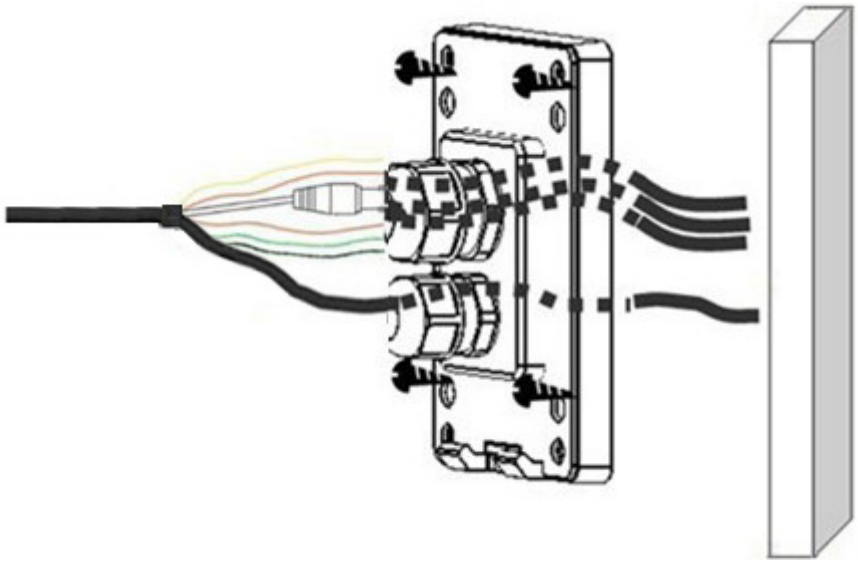
1. Screw the top housing to bracket by using a hexagon wrench.



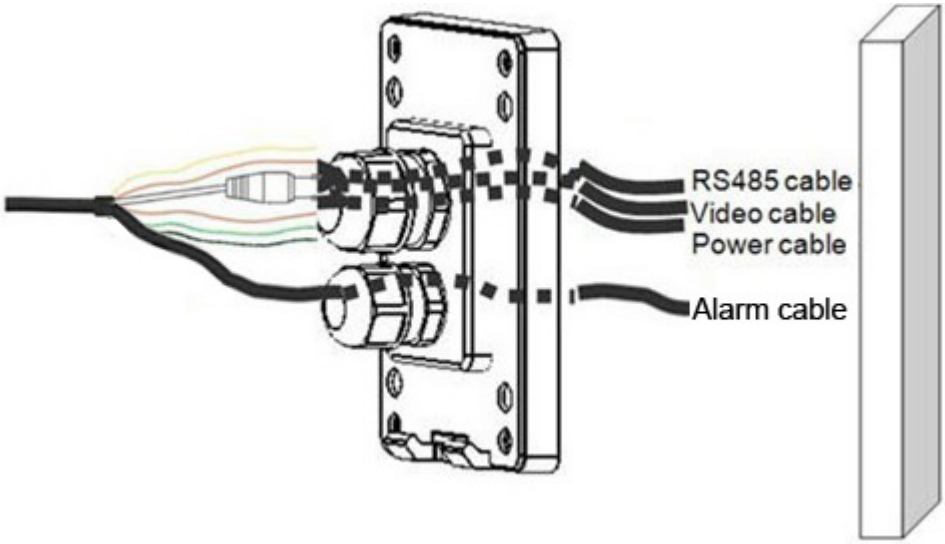
2. Put the waterproof silicon pad on top of the bracket base for waterproof purpose.



3. Connect the cable you detached from base board to the RS485 cable, Power cable and video cable you thread from the wall or ceiling. RS485 cable has to be connected via a terminal block. If you need to connect alarm cable, thread the alarm cable through the second hole. **Note:** Since video cable and power cable are bare wires, installers have to prepare their own BNC connector and power cord connector.



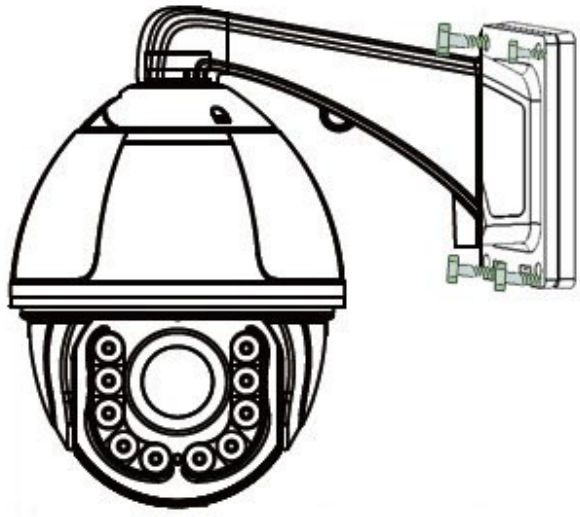
4. Screw in 4 screws for mounting the bracket base.



5. Screw in 4 long screws to fix the bracket to bracket base.

Note : The camera module on the mechanical part is very sensitive. Please be careful when installing this part.

6. Turn on the power, and start to operate the EPTZ860.



Note: When turning on the power, EPTZ860 will enter self-inspection mode, and carry out a self-testing program. After finishing self-inspection, you can start to operate the EPTZ860.

EPTZ860 Camera Setup Menu

In this section, setup and operation guide of EPTZ860 will be introduced. There are 9 items of the setting menu.

1.10. Structure of the Setup Menu

Press MENU to enter camera setup menu.

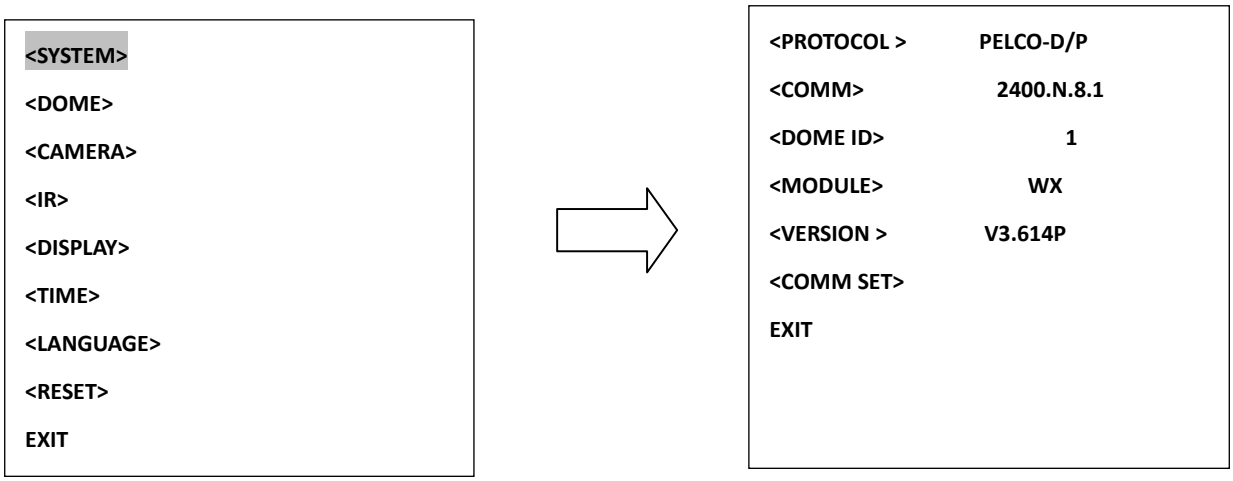
Turn the Joystick up/down to change subentries, and right/left to change the setting. If there is an arrow at the end of selection, it means that selection has a sub-menu, please press Enter key of keyboard to enter sub-menu.

<SYSTEM>
<DOME>
<CAMERA>
<IR>
<DISPLAY>
<TIME>
<LANGUAGE>
<RESET>
EXIT

(diagram 3.1)

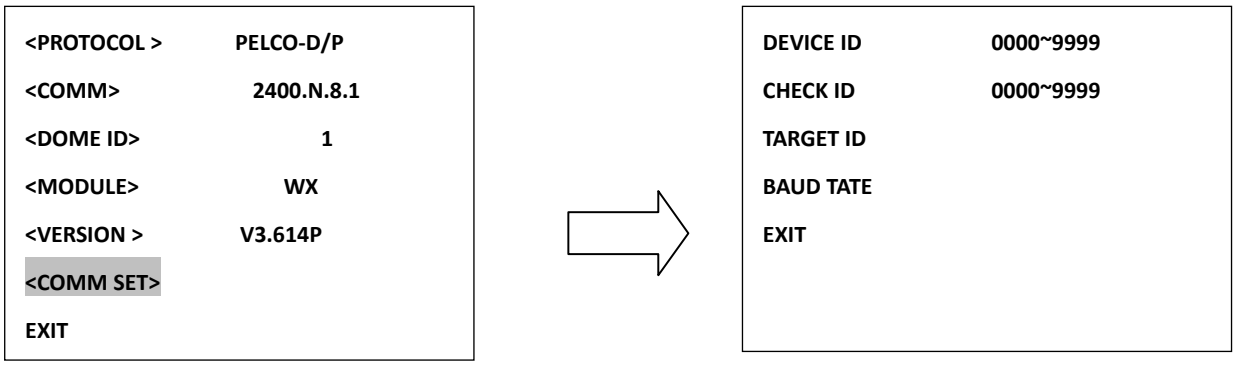
1.11. System

In main menu, turn joystick Up / Down to select SYSTEM option. Turn joystick Left / Right to enter SYSTEM sub-menu (see diagram 3.2).



(diagram 3.2)

Turn joystick Left / Right to enter COMM SET sub-menu (see diagram 3.3).



(diagram 3.3)

1.10.0 <PROTOCOL> (PELCO-D/P)

1.10.1 <COMM> (2400.N.8.1)

1.10.2 <DOME ID> (1)

1.10.3 <MODULE> (WX)

1.10.4 <VERSION> (V3.614P)

1.10.5 <COM SET>

a. DEVICE ID (0000~9999)

Default value is 1185

b. CHECK ID (0000~9999)

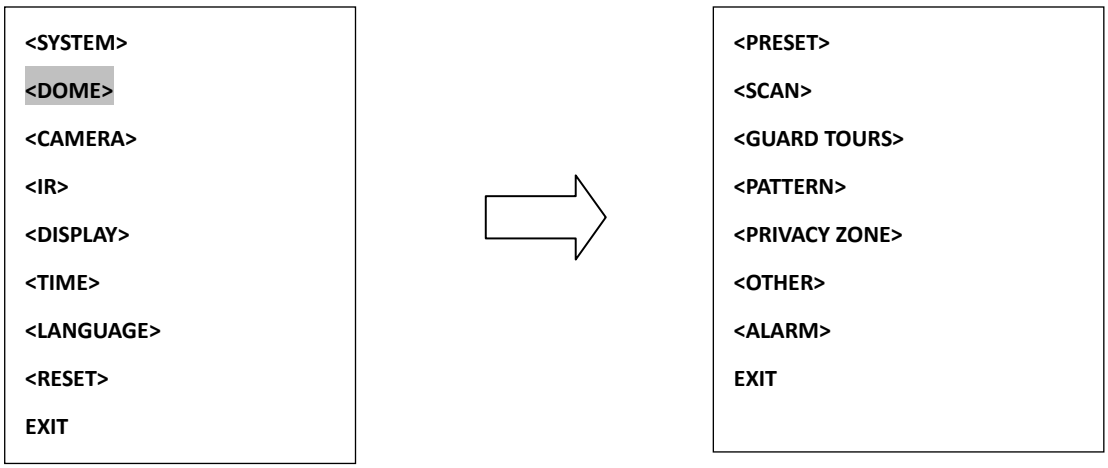
Default value is 0

c. TARGET ID

d. BAUD TATE

1.12. Dome

In main menu, turn joystick Up or Down to select DOME option. Press Enter key or turn joystick Left / Right to enter DOME sub-menu (See diagram 3.4).



(diagram 3.4)

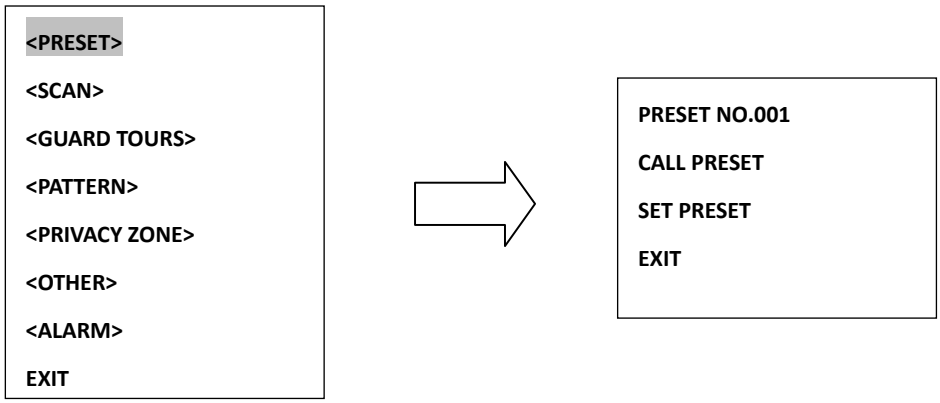
1.11.0 PRESET

a PRESET NO.001 (The default is PRESET NO.001)

b CALL PRESET

C SET PRESET

Press Enter key of keyboard to enter PRESET sub-menu.



(diagram 3.5)

1.11.1 SCAN

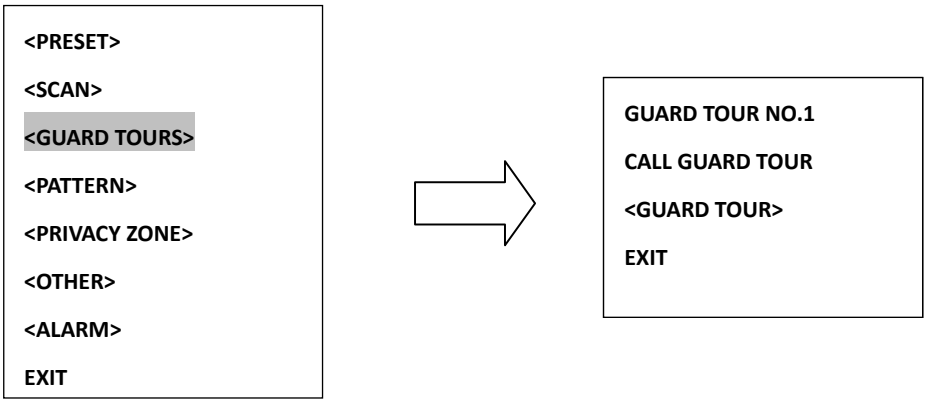
1.11.2 GUARD TOURS

a GUARD TOUR NO.1

b CALL GUARD TOUR

C GUARD TOUR

Press Enter key of keyboard to enter GUARD TOURS sub-menu.



(diagram 3.6)

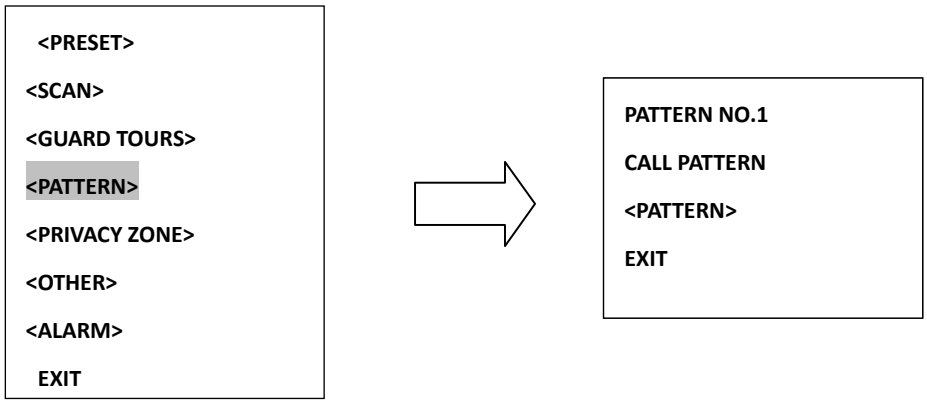
1.11.3 PATTERN

a PATTERN NO.1

b CALL PATTERN

C PATTERN

Press Enter key of keyboard to enter PATTERN sub-menu.

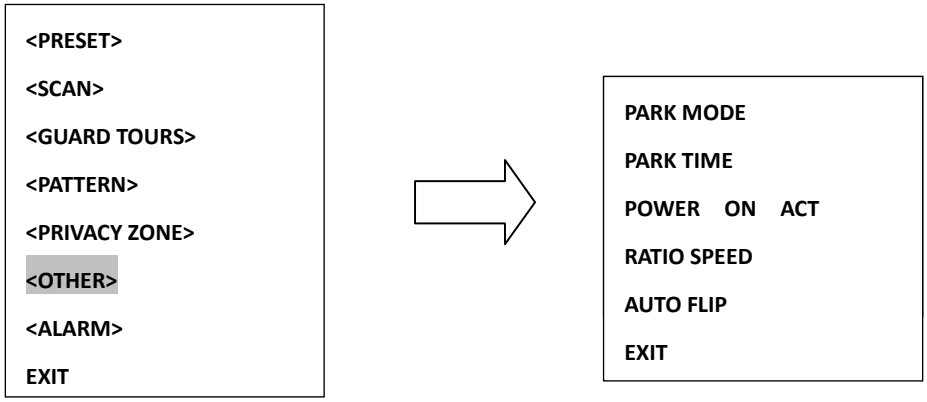


(diagram 3.7)

1.11.4 PRIVACY ZONE

1.11.5 OTHER

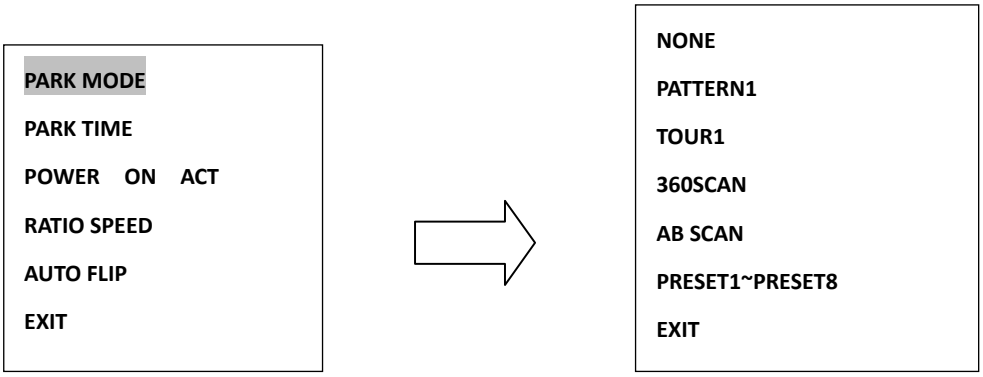
Press Enter key of keyboard to enter OHTER sub-menu.



(diagram 3.8)

a PARK MODE **(** NONE/ PATTERN 1/ TOUR 1/ 360SCAN/ AB SCAN/ PRESET 1~PRESET 8**)**

Press Enter key of keyboard to enter PARK MODE sub-menu.



(diagram 3.9)

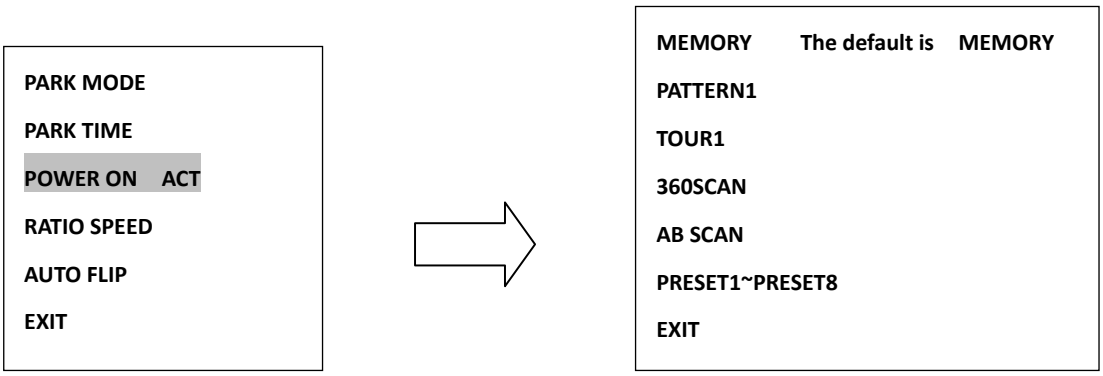
b PARK TIME (1 ~ 60)

The default is 5

C POWER ON ACT

MEMORY (The default is MEMORY)/ PATTERN 1/ TOUR 1/ 360SCAN/ AB SCAN/ PRESET 1~PRESET 8

Press Enter key of keyboard to enter POWER ON ACT sub-menu.

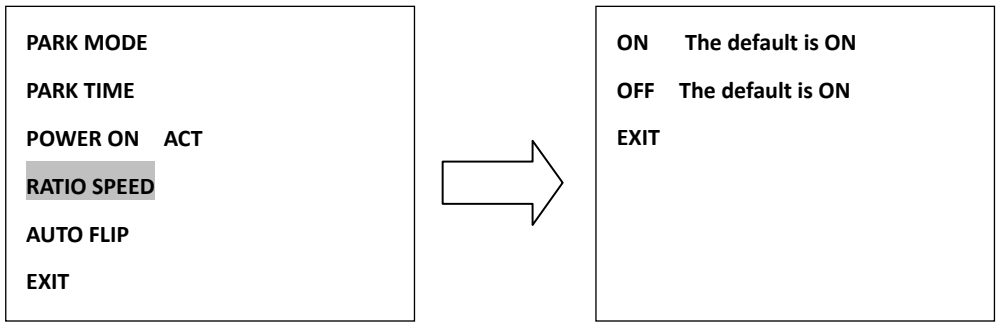


(diagram 4.0)

d RATIO SPEED (ON/ OFF)

The default is ON

Press Enter key of keyboard to enter RATIO SPEED sub-menu.

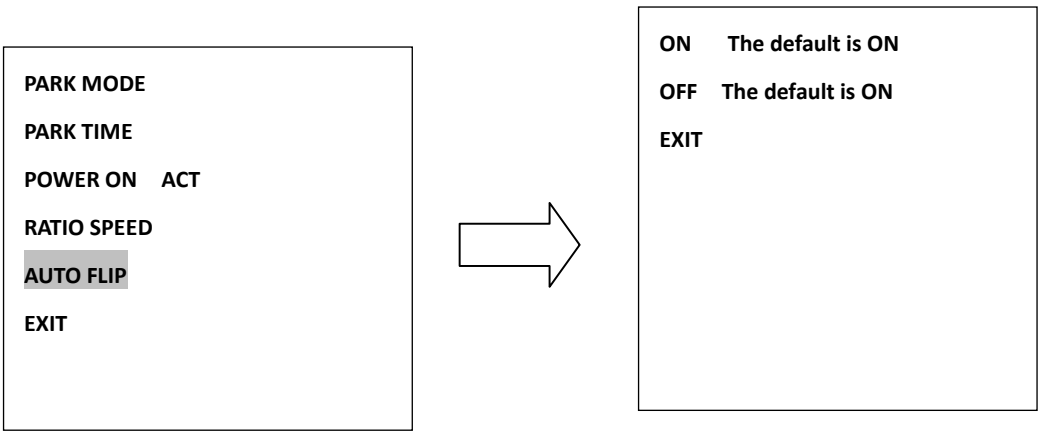


(diagram 4.1)

e AUTO FLIP (ON/ OFF)

The default is ON

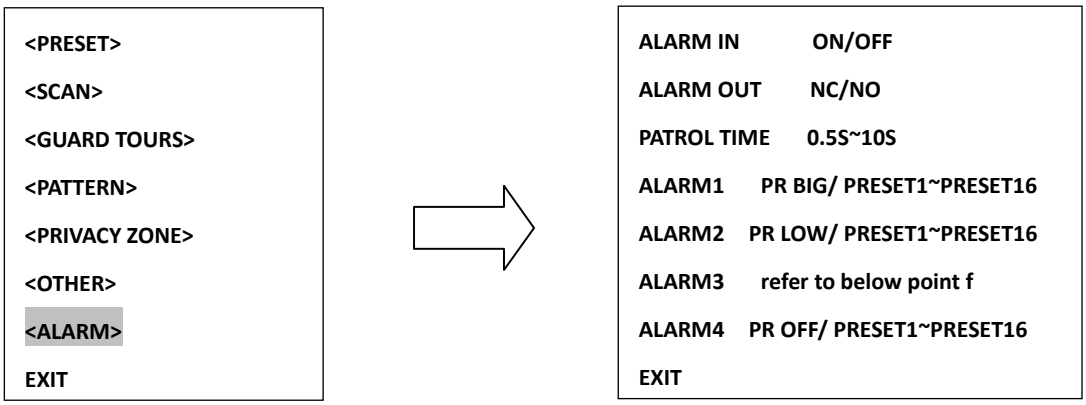
Press Enter key of keyboard to enter AUTO FLIP sub-menu.



(diagram 4.2)

1.11.6 ALARM

Press Enter key of keyboard to enter ALARM sub-menu.



(diagram 4.3)

a ALARM IN (ON/ OFF)

b ALARM IN (NC/ NO)

c PATROL TIME (05S~10S)

d ALARM 1 (PR BIG/ PRESET 1~ PRESET 16)

e ALARM 2 (PR LOW/ PRESET 1 ~ PRESET 16)

f ALARM 3

Turn joystick up (PRESET 21/ PRESET43/ PRESET 65/ PRESET 87/ PRESET 109/ PRESET 121/ PRESET 43/ PRESET 65)

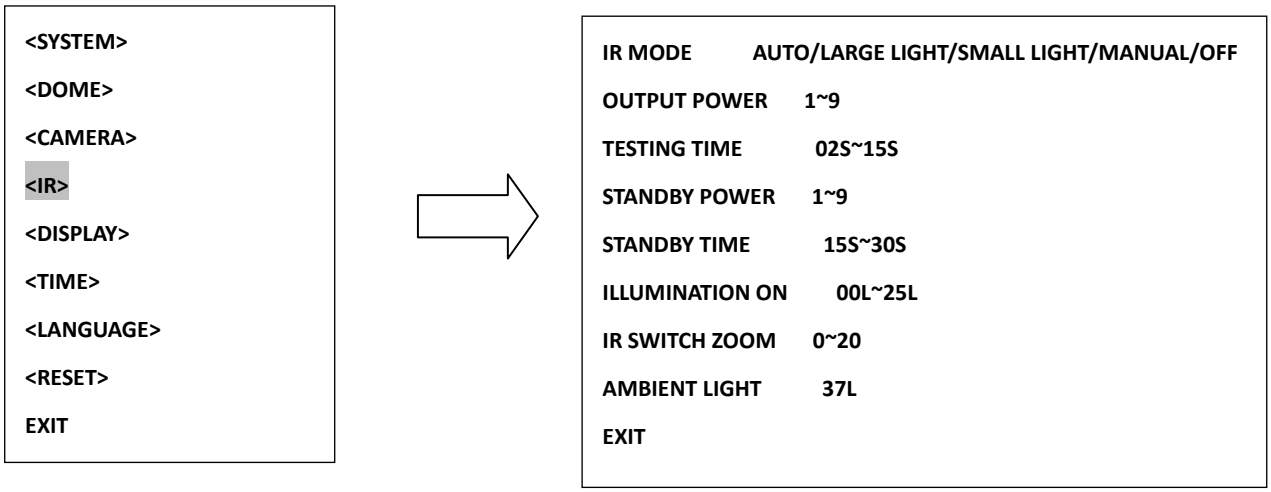
Turn joystick down (PRESET 1~ PRESET 16)

g ALARM 4 (PR OFF/ PRESET 1~ PRESET 16)

1.13. Camera

1.14. IR

In main menu, turn joystick Up or Down to select IR option. Press Enter key or turn joystick Left / Right to enter IR sub-menu (See diagram 4.4).



(diagram 4.4)

1.13.0 IR MODE

a AUTO

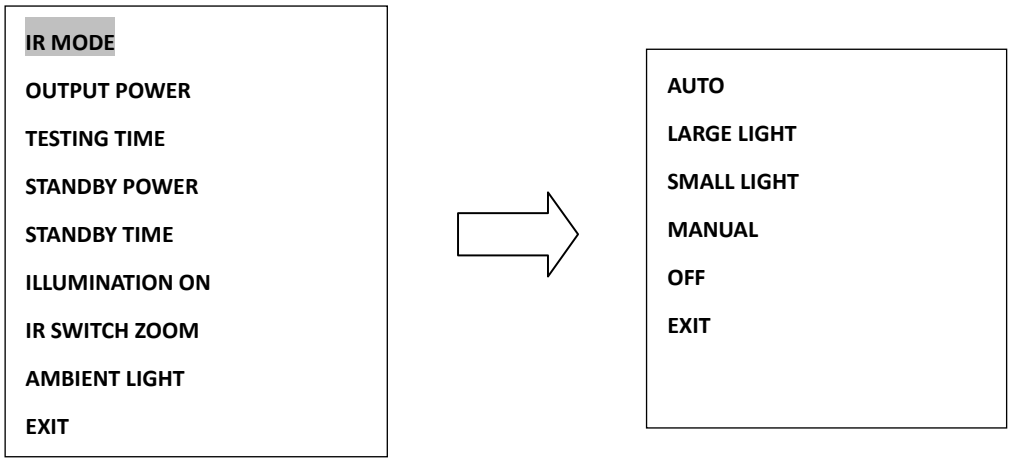
b LARGE LIGHT

C SMALL LIGHT

d MANUAL

e OFF

Press Enter key of keyboard to enter IR MODE sub-menu.



(diagram 4.5)

1.13.1 OUTPUT POWER (1~9)

1.13.2 TESTING TIME (02S ~15S)

1.13.3 STANDBY POWER (1~9)

1.13.4 STANDBY TIME (15S~30S)

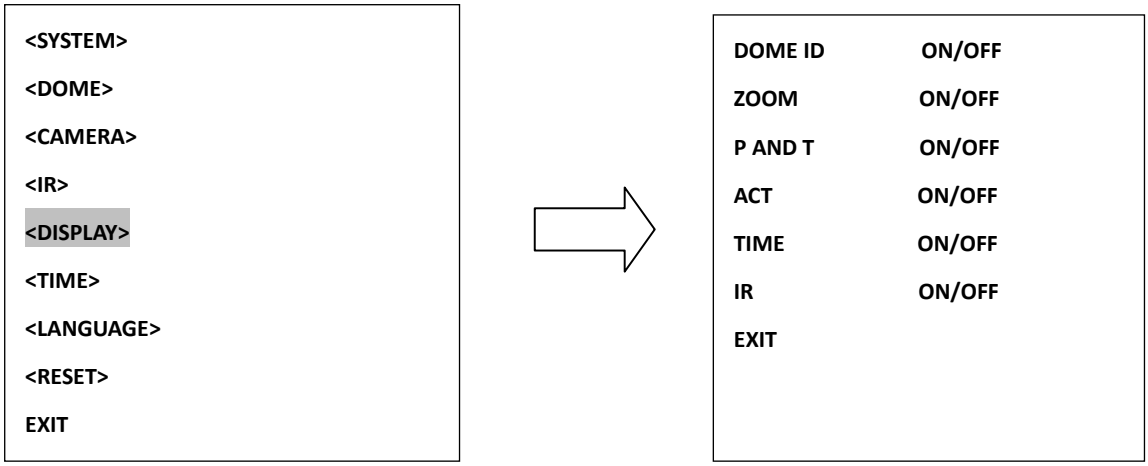
1.13.5 ILLUMINATION ON(00L~25L)

1.13.6 IR SWITCH ZOOM(0~20)

1.13.7 AMBIENT LIGHT (37L)

1.15. Display

In main menu, turn joystick Up or Down to select DISPLAY option. Press Enter key or turn joystick Left / Right to enter DISPLAY sub-menu (See diagram 4.6).



(diagram 4.6)

1.14.0 DOME ID (ON/ OFF)

1.14.1 ZOOM (ON/ OFF)

1.14.2 P AND T (ON/ OFF)

1.14.3 ACT (ON/ OFF)

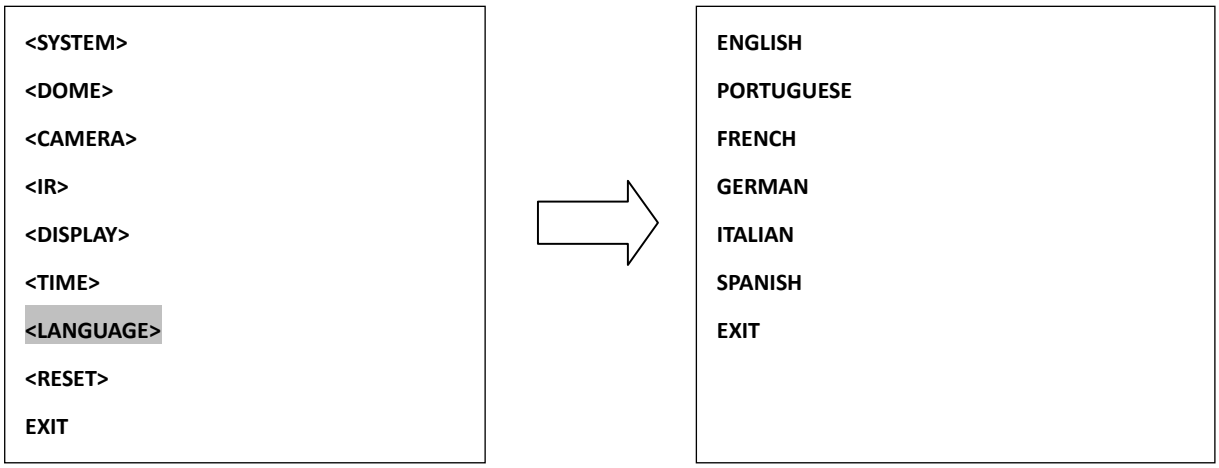
1.14.4 TIME (ON/ OFF)

1.14.5 IR (ON/ OFF)

1.15. Time(DATE/TIME/<SCHEDULE>)

1.16. Language

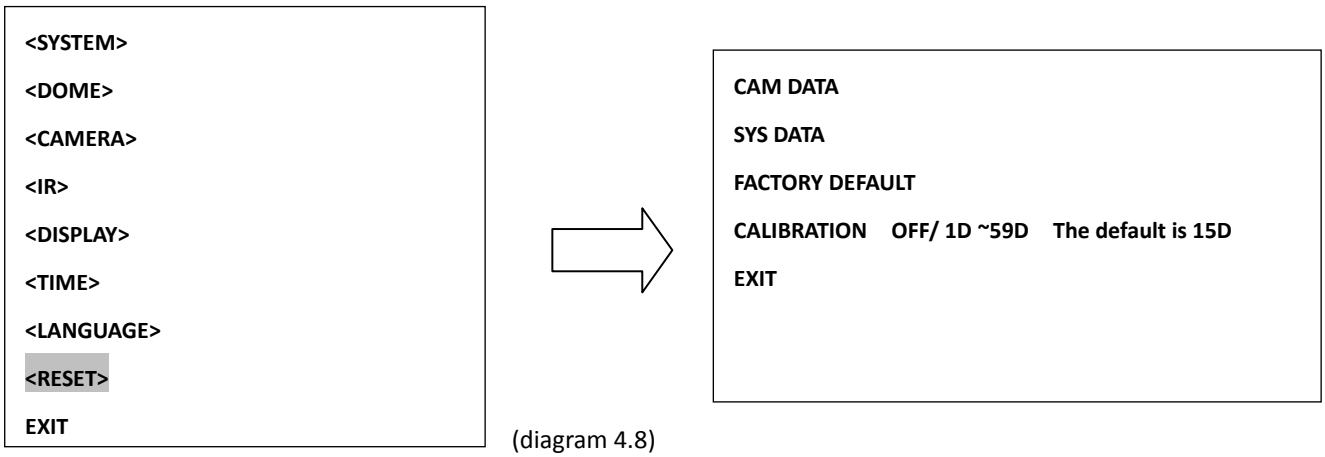
In main menu, turn joystick Up or Down to select LAGUAGE option. Press Enter key or turn joystick Left / Right to enter LANGUAGE sub-menu (See diagram 4.7).



(diagram 4.7)

1.17. Reset

In main menu, turn joystick Up or Down to select RESET option. Press Enter key or turn joystick Left / Right to enter RESET sub-menu (See diagram 4.8).



(diagram 4.8)

1.17.0 CAM DATA

1.17.1 SYS DATA

1.17.2 FACTORY DEFAULT

1.17.3 CALIBRATION

a. Off

b. 1D~15D, the default is 15D

1.18. Exit

Select Exit to save settings and exit from current page.

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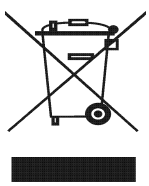

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In the European Union there are separate collection systems for used electrical and electronic product.
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