

FastCam III

FDMO-27X Speed Camera

User Manual



Version: V1.1

Doc. No.: 2006120401

i-view
A Safe Life

Precaution

● **FCC Statement**

This equipment has been strictly tested and reached to Class A, pursuant to part 15 of the FCC rules, which focus on providing reasonable protection against harmful exterior interference when the equipment is operated in a commercial environment. While the equipment running, it maybe cause a strong electromagnetic wave with constant frequency, which may interrupt the radio communication if the user does not installed and used in accordance with the product user manual.

● **Warning**

- Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
- This device may not cause harmful interference, and this device must accept any interference received, including interference that may cause undesired operation.
- Shielded cables and I/O cords must be used for this equipment to comply with relevant FCC regulations.

● **Caution**

- Do NOT use power sources other than that specified.
- Do NOT expose this appliance to rain or moisture.

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About This Guide

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols to use throughout this manual.



WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Information that you must follow to complete a task.



NOTE: Tips and additional information to aid in completing a task.

Important Safeguards and Warning

Important Safeguards and Warning



It is not recommended to install this product by unqualified person.



The method and material of installation should be insured for the weight of the product and enclosure as pan/tilt, camera lens, and so on



Stop using and power off the product if any unusual smell or smoke comes from the camera.



Do not install the camera in an intermittent lighting environment.



Do not aim the camera at the sun or any other strong light source



Do not install the camera where it might be exposed to rain or water.



Do not drop the camera or examine it in severe shocks or vibrations.



Do not touch the front glass of the camera with a dirty or coarse stuff.



Do not install the product under humid conditions, near flammable or explosive gases.

Chapter 1 Product Introduction

Characterized as fast speed, high decision, low noise and long life, High-speed dome is being popular more and more, it has being the best choice of retail, business, industry, government and entertainment field depending on its good construction, convenient installation and widen range of surveillance.

1-1. Product Package Content

Please check the package content by the following list.



Glove
X1



User Manual
X1



Safety Wire
X1



Camera Cover
X1



Power Adapter
X1



Hex Key Wrench
X1



Flat Cable
X1



Safety-wire Screws
X2



BWO-27L
(Optional)



BWO-27S
(Optional)



BCO-27L
(Optional)



Bracket Screws
X4 (Set)

1-2. Product Overview

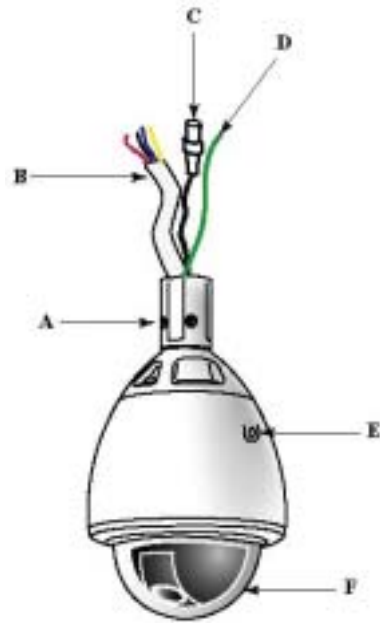
● Parts Name Description

- A. Screw holes for speed dome camera bracket
- B. Speed dome power and RS485 connecting wires
 - Red color: Power DC +12V
 - Black color: Power DC -12V
 - Blue color: RS485 +
 - Yellow color: RS485 -
- C. BNC video output connector
- D. Ground cable (Yellow / Green Color)
- E. Screw hole for Safety-wire
- F. Camera Cover



Inner cooling fan and heater power cable (Inside):

- Red color: power DC +12V
- Black color: power DC -12V



1-3. Product Features

- 360° continuous pan, 90° in tilt and 180° in auto flip
- Max 128 presets, programmable
- Low speed by manual is wider range, catch on the target accurately
- Three-dimensional scan between two presets
- Call camera menu
- Manual/Auto black and white switching (Camera self function)
- Focus & Iris speed is adjustable
- Auto/Manual white balance
- Manual/Auto backlight compensation
- Tour through presets in groups
- Tour speed is adjustable
- Dwell time is changeable
- Standard RS485 communication
- Pelco P or D protocol auto-detection
- Activity Function
- Auto Park Function
- Remote Addressing Function
- Restore Function
- Privacy Zone Masking Function (optional)
- Proportional controlling Function
- Power up function
- Turn angle display function
- Inner mount preventing from surge or lightning strike
- Auto protection Function will be on when power cutting

Chapter 2 Installation

2-1. Technical Data

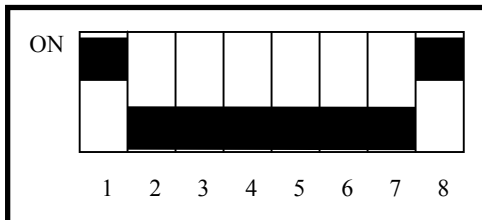
- **Voltage:** DC12V/3A($\pm 20\%$)(Including temperature power)
- **Mechanism Power:** $\leq 24\text{W}$
- **Temperature power:** $\leq 15\text{W}$
- **Pan turn speed:** $0.1^\circ \sim 120^\circ / \text{s}$
- **Tilt turn speed:** $0.1^\circ \sim 120^\circ / \text{s}$
- **Manual tilt scale:** $0^\circ \sim 90^\circ$
- **Scan scale:** 360° Continuously
- **Preset:** Max 128
- **Preset found time:** $\leq 1.5\text{s}$
- **Preset speed:** Pan $240^\circ/\text{s}$, Tilt $120^\circ/\text{s}$
- **Zoom found time:** $< 1.65\text{ S}$
- **Scan Precision:** $0.1^\circ \pm 0.03^\circ$
- **Signal Format:** PAL/NTSC
- **Preset Precision:** $\pm 0.2^\circ$
- **S/N ratio:** $> 48\text{dB}$
- **Communication Format:** RS-485
- **Baud Rate:** 1200\2400\4800\9600
- **Suitable temperature (Indoor) :** $-20^\circ\text{C} \sim 50^\circ\text{C}$
- **Suitable temperature (Outdoor) :** $-45^\circ\text{C} \sim 50^\circ\text{C}$

2-2. Outlet Cables Connections

Cables Colors	Function Description	Data	Note
Red (DC12+)	Dome power	DC12V+	
Black (DC12-)	Dome power	DC12V-	
Yellow/Green	Ground cable		To Ground
Blue	RS485	A(+)	
Yellow	RS485	B(-)	
Red	Temperature power	DC12V+	Outdoor
White	Temperature power	DC12V-	Outdoor
Black	BNC Video cable		Video

2-3. Baud Rate Setup

There is an 8-pins switch on PCB as showing below:



- **Baud Rate (Pin 7 and 8 are the selectors for baud rate)**

	Pin 7	Pin 8
1200/bps	OFF	OFF
2400/bps	ON	ON
4800/bps	OFF	ON
9600/bps	ON	OFF

2-4. Camera Address Setup

- Address List (Pin 1-6 address selectable)

Address	Pin -1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6
0	ON	ON	ON	ON	ON	ON
1	OFF	ON	ON	ON	ON	ON
2	ON	OFF	ON	ON	ON	ON
3	OFF	OFF	ON	ON	ON	ON
4	ON	ON	OFF	ON	ON	ON
5	OFF	ON	OFF	ON	ON	ON
6	ON	OFF	OFF	ON	ON	ON
7	OFF	OFF	OFF	ON	ON	ON
8	ON	ON	ON	OFF	ON	ON
9	OFF	ON	ON	OFF	ON	ON
10	ON	OFF	ON	OFF	ON	ON
11	OFF	OFF	ON	OFF	ON	ON
12	ON	ON	OFF	OFF	ON	ON
13	OFF	ON	OFF	OFF	ON	ON
14	ON	OFF	OFF	OFF	ON	ON
15	OFF	OFF	OFF	OFF	ON	ON
16	ON	ON	ON	ON	OFF	ON
17	OFF	ON	ON	ON	OFF	ON
18	ON	OFF	ON	ON	OFF	ON
19	OFF	OFF	ON	ON	OFF	ON
20	ON	ON	OFF	ON	OFF	ON
21	OFF	ON	OFF	ON	OFF	ON
22	ON	OFF	OFF	ON	OFF	ON
23	OFF	OFF	OFF	ON	OFF	ON
24	ON	ON	ON	OFF	OFF	ON
25	OFF	ON	ON	OFF	OFF	ON
26	ON	OFF	ON	OFF	OFF	ON
27	OFF	OFF	ON	OFF	OFF	ON

Chapter 2: Installation

28	ON	ON	OFF	OFF	OFF	ON
29	OFF	ON	OFF	OFF	OFF	ON
30	ON	OFF	OFF	OFF	OFF	ON
31	OFF	OFF	OFF	OFF	OFF	ON
32	ON	ON	ON	ON	ON	OFF
33	OFF	ON	ON	ON	ON	OFF
34	ON	OFF	ON	ON	ON	OFF
35	OFF	OFF	ON	ON	ON	OFF
36	ON	ON	OFF	ON	ON	OFF
37	OFF	ON	OFF	ON	ON	OFF
38	ON	OFF	OFF	ON	ON	OFF
39	OFF	OFF	OFF	ON	ON	OFF
40	ON	ON	ON	OFF	ON	OFF
41	OFF	ON	ON	OFF	ON	OFF
42	ON	OFF	ON	OFF	ON	OFF
43	OFF	OFF	ON	OFF	ON	OFF
44	ON	ON	OFF	OFF	ON	OFF
45	OFF	ON	OFF	OFF	ON	OFF
46	ON	OFF	OFF	OFF	ON	OFF
47	OFF	OFF	OFF	OFF	ON	OFF
48	ON	ON	ON	ON	OFF	OFF
49	OFF	ON	ON	ON	OFF	OFF
50	ON	OFF	ON	ON	OFF	OFF
51	OFF	OFF	ON	ON	OFF	OFF
52	ON	ON	OFF	ON	OFF	OFF
53	OFF	ON	OFF	ON	OFF	OFF
54	ON	OFF	OFF	ON	OFF	OFF
55	OFF	OFF	OFF	ON	OFF	OFF
56	ON	ON	ON	ON	OFF	OFF
57	OFF	ON	ON	OFF	OFF	OFF
58	ON	OFF	ON	OFF	OFF	OFF
59	OFF	OFF	ON	OFF	OFF	OFF

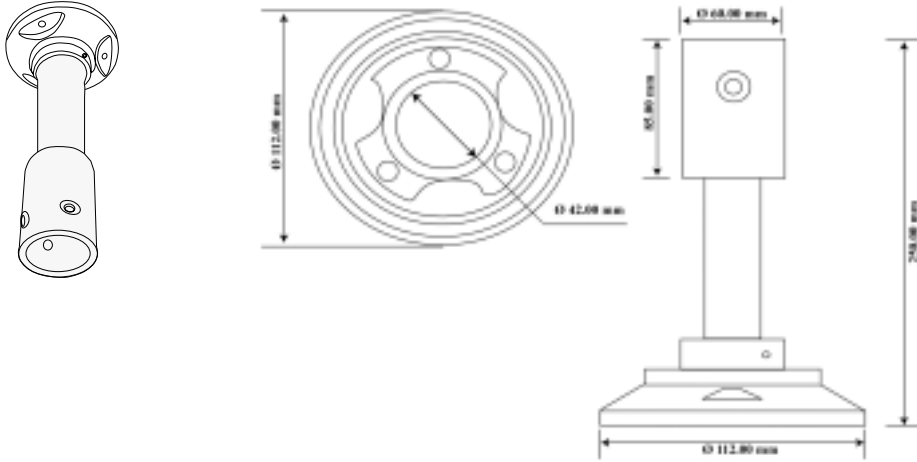
Chapter 2: Installation

60	ON	ON	OFF	OFF	OFF	OFF
61	OFF	ON	OFF	OFF	OFF	OFF
62	ON	OFF	OFF	OFF	OFF	OFF
63	OFF	OFF	OFF	OFF	OFF	OFF

2-5. Product with Ceiling Mount Installation

2-5-1. Ceiling Mount Model: BCO-27L

- **BCO-27L Dimension**



- **Installation Procedure:**

Please follow the steps below to install the BCO-27L and speed dome.

Step 1: Tear off the anti-shake tap and cover from the camera lens.

Step 2: Remove the camera cover inner protection stuff, and install the camera cover with the speed dome by tightening up the screws.

Step 3: Organize the required cables from the ceiling, and run through the cables to the BCO-27L pipe.

Step 4: Install the BCO-27L with ceiling by the screws, and make sure the BWC-27L is firm enough with the ceiling.

Step 5: Install the Safety-wire with BCO-27L and speed dome by the screws.

Step 6: Connect all the required cables from BCO27L and speed dome.

Step 7: Install the speed dome with BCO-27L by tightening up the screws.

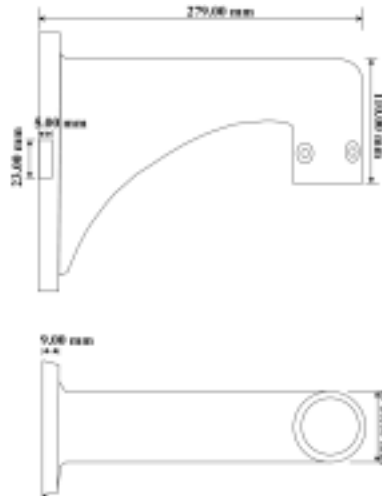
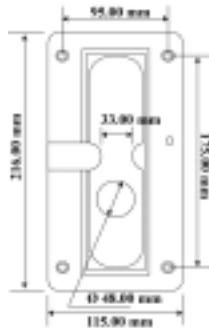
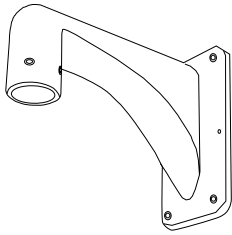
Step 8: remove the camera cover protection plastics.



2-6. Product with Wall Mount Installation

2-6-1. Wall Mount Model: BWO-27L

● BWO-27L Dimension



Installation Procedure:

Please follow the steps below to install the BWO-27L and speed dome.

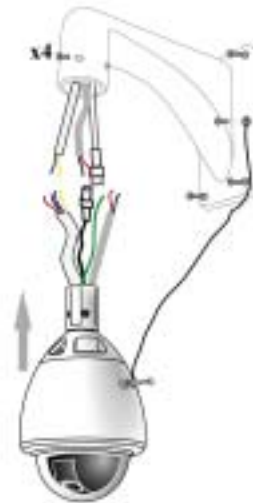
Step 1: Tear off the anti-shake tap and cover from the camera lens.

Step 2: Remove the camera cover inner protection stuff, and install the camera cover with the speed dome by tightening up the screws.

Step 3: Organize the required cables from the wall, and run through cables to the BWO-27L pipe.

Step 4: Install the BWO-27L with ceiling by the screws, and make sure the BWO-27L is firm enough with the ceiling.

Step 5: Install the Safety-wire with BWO-27L and speed dome by the screws.





Chapter 2: Installation



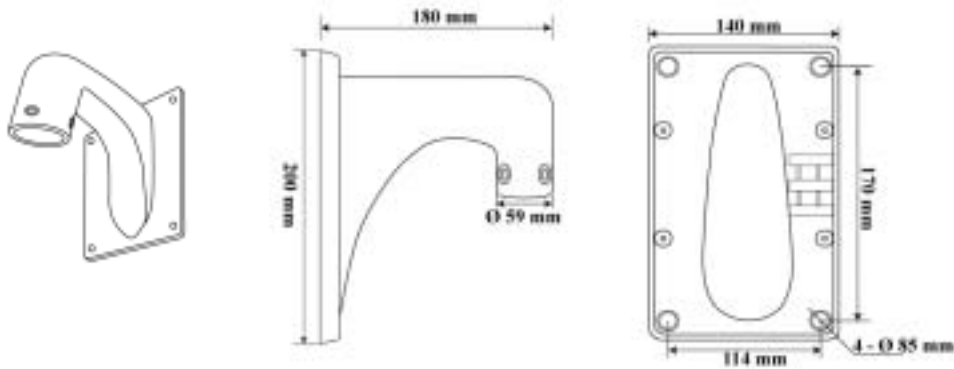
Step 6: Connect all the required cables from BWO-27L and speed dome.

Step 7: Install the speed dome with BWO-27L by tightening up the screws.

Step 8: remove the camera cover protection plastics.

2-6-2. Wall Mount Model: BWO-27S

2-6-2.1 BWO-27S Dimension



2-6-2.2 Installation Procedure:

Please follow the steps below to install the BWO-27S and speed dome.

Step 1: Tear off the anti-shake tap and cover from the camera lens.

Step 2: Remove the camera cover inner protection stuff, and install the camera cover with the speed dome by tightening up the screws.

Step 3: Organize the required cables from the ceiling through the cables to the BWO-27S pipe.

Step 4: Install the BWO-27S with ceiling by the screws, and make sure the BWO-27S is firm enough with the ceiling.

Step 5: Install the Safety-wire with BWO-27S and speed dome by the screws.

Step 6: Connect all the required cables from BWO-27S and speed dome.

Step 7: Install the speed dome with BWO-27S by tightening up the screws.

Step 8: remove the camera cover protection plastics.



Chapter 3 Operation

3-1. General Operation

3-1-1. Power On Display

When power on, the protocol and address will be displayed on the screen. After the dome accepts the correct commands, the information will disappear. E.g. : The screen displays as following information. The information is as the protocol (P、D) and baud rate which have been setup.

```

SYSTEM INFORMATION
COMM: 9600,N, 8, 1
PROTOCOL: P OR D
ADDRESS
FAST:OFF
ITSELF SWITCH:000
    
```

3-1-2. Camera Basic Control function

Function	Description
Pan/Tilt	Move joystick to pan and tilt
Enter On Screen Menu	Press [Menu] button, “95 + [Preset] button” or “64 + [Preset] button” to enter system menu display.
Start Auto Tour	Press [Tour] button, “76 + [Call] button” or “61 + [Call] button” to start auto tour. (Refer to Controlling System Manual)
Stop Tour	Press key [Tour] again.
Start Auto Scan	Press [Scan] button, “99 + [Call] button” or” 60 + [Call] button”. (Refer to Controlling System Manual)
Scan Limits	Set up “Left Limit”: Press “92 + [Preset]” or Press “62 + [Preset]”. Set up “Right Limit”: Press “93 + [Preset]” or Press “63 + [Preset]”.
Stop Scan	Press [Scan] button.

Chapter 3: Operation

Auto Flip	Program the on/off in the “Menu → Dome Settings → Pan/Tilt setting” section.
Zoom in	Press [Tele] button, or turn the joystick clockwise until the desired view occurs or limitation reached.
Zoom out	Press [Wide] button, or turn the joystick anticlockwise until the desired view occurs or limitation reached.
Focus Far	Select Auto/Manual in the menu. (Refer to Menu Edit Manual)Under the Manual mode, please press [FAR] button till the view is clearly. The manual control will be invalid under the Auto mode.
Focus Near	Select Auto/Manual in the menu. (refer to Menu Edit Manual)Under the Manual mode, please press [FAR] button till the view is clearly. The manual control will be invalid under the Auto mode.
Preset	Max 128 presets (Refer to Controlling System Manual)
Privacy zone asking	Can program max 8 units zone in current vision to protect privacy, and store in presets. This function is in regard to the selected camera. (Optional)
Preset Title	Refer to description of Menu Edit Manual
Camera Title	Refer to description of Menu Edit Manual
Proportional Curve character	The manual control to the pan and tilt will be limited when the It is useful when proportion is on. (Refer to description of Menu Edit Manual). The speed of pan/tilt will be comparatively slower at wide photo zoom settings to ensure an accurate catching function. The min. speed is 2°/S. It doesn't affect the preset call and tour function. Before the function on, speed under the manual controlling does not relate to camera zoom.

3-1-3. Camera Preset List

Function	Controlling System	Controlling System
	128 presets and DVR	64 presets
Enter programming menu	Press “95+[Preset] button” or “64+[Preset] button”	Press “64+[Preset] button”
Begin tour	Press “76 + [Call] button”	Press “61 + [Call] button”
Begin scan	Press “99 + [Call] button”	Press “60 + [Call] button”
Stop tour or scan	Press “96 + [Call] button”	Press “59 + [Call] button”
Soft restore to zero position	Press “34 + [Call] button”	Press “34 + [Call] button”
Scan limits	Left: Press “92+[Preset] button” Right: Press “93+[Preset] button”	Left: Press “62+[Preset] button” Right: Press “63+[Preset] button”

3-2. Menu System**3-2-1. Menu Operation**

Setup Preset 95 or 64, or Press [MENU] button of the controller to enter the Main Menu. Button [IRIS OPEN] or [OPEN] is the button for confirmation.

- 1.) The items with “<>” are the submenu (See diagram 1). The item with flashing “<>”
- 2.) The items without “<>” are for parameters setting. The item with flashing first character means being selected.

Move the joystick up or down to change selection. Press [OPEN] button to enter the needed item. Now “:” will flash. In the item submenu, move the joystick down to change the selection.

- 3.) Press [OPEN] button to confirm the changing. After confirmation, “:” of current item will be flashing, which means the item was selected. Then move the joystick down to change the

parameters.

- 4.) After modification, press [OPEN] button to confirm, then ":" will stop flashing, and the first character of the selected item will be flashing again, means that the modification finished and exit available.
- 5.) <BACK> is available for each menu page. Select it, and then press [OPEN] button to back to superior menu.
- 6.) Select <EXIT>, and then press [OPEN] button. The screen will show <EXIT>WAIT (Only for SONY cameras), five seconds later, the menu will be closed, and the dome exits the programming menu

MAIN MENU
<SYSTEM INFORMATION>
<DISPLAY SETUP>
<DOME SETTING>
<RESTORE>
CONFIG KEYBOARD:128PRE
<EXIT>

PAN/TILT SETUP
ACTIVITY:OFF
AUTO FLIP:ON/OFF
PROPORTION PAN/TILT:ON/OFF
SCAN SPEED: 12 DEG/S
LIMIT STOPS:OFF
MAX STICK SPEED: 120DEG/S
TOUR SPEED: 240DEG/S
DWELL TIME: 005S
<BACK>
<EXIT>

3-2-2. Menu Function Description

A. [MAIN MENU]

MAIN MENU
<SYSTEM INFORMATION>
<DISPLAY SETUP>
<DOME SETTING>
<RESTORE>
CONFIG KEYBOARD: 128PRE
<EXIT>

Via the controller, Setup Preset 95 or 64, or Press [MENU] button to enter the main menu. The main menu is including system information, display setup, dome setting, system restore, config keyboard, max. presets and exit.

B. [SYSTEM INFORMATION]

```
SYSTEM INFORMATION
CAMERA: PAL
COMM : 4800 , N , 8 , 1
PROTOCOL : P OR D
ADDRESS
FAST : OFF
ITSELF SWITCH : 001
CURRENT TOUR GROUP: ALL
<TOUR GROUPING>
<BACK>
<EXIT>
```

The initialization of speed dome can be read in System Information, which is including Camera Format, Baud Rate, Data Format, Protocol, Dipswitch Address, Fast Address, Current Tour Group selection, and Group programming. It only shows the system information. Resetting of the dome address is available in this menu.

- **CAMERA: PAL/NTSC**

Select the camera format.

- **Setup FAST ADDRESS :**

- a.) Select <SYSTEM INFORMATION> in main menu
- b.) Press [OPEN] button to enter SYSTEM INFORMATION menu.
- c.) Move the joystick down to select item FAST :OFF. Press [OPEN] button to enter FAST ADDRESS
- d.) Move the joystick up or down to select parameter from 001~063 and OFF. If FAST: OFF, fast address is closed. The address can be setup by the dipswitch only.
- e.) Press [OPEN] button to confirm and return. Then the new address effects. Only after the address of controlling device is reset, the dome can be operated.
- f.) Select<BACK>or <EXIT>. Press [OPEN] button to return to main menu or exit programming menu.



When fast address is on, it will not be closed after enable restore function.

■ Select CURRENT TOUR GROUP and program TOUR GROUPING

- a.) Select <SYSTEM INFORMATION> in main menu
- b.) Press [OPEN] button to enter SYSTEM INFORMATION menu.
- c.) Move the joystick down to select item CURRENT TOUR GROUP: ALL/1/2/3/4. Press [OPEN] button to enter it.
- d.) Move joystick up or down, the parameter will around among ALL/1/2/3. If ALL is selected, the speed dome will not tour in groups. As long as setup one or several of first 16 presets, the presets will be in tour. Select any group among 1 to 4, the dome will tour in preset order in the group.
- e.) Move joystick down to select <TOUR GROUPING>, and press [OPEN] button to enter it. And then move joystick in right direction to select the preset number. The number of the selected preset will be flashing, press [OPEN] button, and then there is a “√” in the head of the number to confirm. Then move the joystick to <CONFIRM>, press [OPEN] button to confirm and exit.

```

GROUP1 : 1√ 2√ 3√ 4√ 5√ 6 7 8
          9 10 11 12 13 14 15 16
GROUP2 : 1√ 2√ 3√ 4√ 5√ 6 7 8
          9 10 11 12 13 14 15 16
GROUP3 : 1 2√ 3√ 4√ 5√ 6 7 8
          9 10 11 12 13 14 15 16
GROUP4 : 1√ 2√ 3√ 4√ 5√ 6 7 8
          9 10 11 12 13 14 15 16
<CONFIRM>
<BACK>
    
```

C. [DISPLAY SETUP]

Select the situation the user wants to get on the screen when he does the correlative operation.

- a.) <PRESET OR CAMERA ID : ON/OFF>
ON : Display dome label and preset label. When call Preset 1-128 or tour among them, the PRESET

```

          DISPLAY SETUP
PRESET OR CAM ID: ON/OFF
PAN/TILT ANGLE : ON/OFF
<BACK>
<EXIT>
    
```

LABEL will show on the right top of the screen. Default label is PRE**.The default dome label is CAMERA ID. The detailed introduction of CAMERA ID and PRESET label can be found in latter chapters.

Chapter 3: Operation

OFF : No PRESET LABEL or CAMERA ID display

b.) <OSD : ON/OFF>]

ON : Display the camera data

OFF : No OSD display

c.) <PAN/TILT ANGLE : ON/OFF>

ON : Display the pan and tilt angle of the dome.

OFF : No angle display.

D. [DOME SETTINGS]

DOME SETTING

<CAMERA>
<PAN/TILT SETUP>
<POWER UP>
<PRESET OR CAMERA ID : ON/OFF >
<BACK>
<EXIT>

It is used to setup the functions and parameters of the dome. It includes four sub-menus: camera, pan/tilt setup, power up, preset or camera ID.

a.) [CAMERA] :

MENU

< CAMERA ID: ON/OFF >
< FOCUS SET ↴ >
< AWB SET ↴ >
< AE SET ↴ >
< SPECIAL SET ↴ >
< MOTION DET ↴ >
< F OSD DISP ↴ >
< E SENSITIVE NOT USE >
< WDR SET NOT USE >
<EXIT>

In this section, user can set up the parameters of camera focus, AWB (Auto White Balance), AE (Auto Electronic Shutter), Special, Motion (Camera motion detection display), F OSD DISP, E Sensitive and WDR.

Camera menu setting description:

<**CAMER ID**>: To set if display camera ID.

<**FOCUS SET**>: Select this section and press [Open] to enter camera focus setting.

- **FOCUS MODE**: To set up camera focus in MANUAL, PUSH AUTO OR AUTO mode.
- **FOCUS DIST**: To set up the camera focus and object distance in 1CM, 10CM, 50 CM, 1M, 3M or 5M.
- **ZOOM START**: To set up camera zoom in/out starting optical range from X1 to X26.
- **ZOOM END**: To set up camera zoom in/out ending optical range from X2 to X270 (From X27 to X270 is digital algorithm).
- **ZOOM SPEED**: To set up camera zoom speed of QUICK, SLOW OR MIDDLE.
- **ZTRK MODE**: To set up camera zoom tracking mode of AUTO or MANUAL. (Zoom tracking is the continuous adjustment of a camera's focal length, to keep a constant-sized image of an object moving along the camera's optical axis.)
- **INITIAL SET**: To restore all functions of this section in factory default setting.

<**AWB SET**>: Select this section and press [Open] to enter camera AWB (Auto White Balance) setting.

- **WBC**: To set up the White Balance Condition mode.
- **RED ADJUST**: This parameter setting is relate to the WBC setting.
- **RED ADJUST**: This parameter setting is relate to the WBC setting.
- **BLUE ADJUST**: This parameter setting is relate to the WBC setting.
- **PUSH AUTO**: This parameter setting is relate to the WBC setting.
- **INITIAL SET**: To restore all functions of this section in factory default setting.

Chapter 3: Operation

<**AE SET**>: Select this section and press [Open] to enter camera AE (Auto Electronic Shutter) setting.

- **AE MODE:** To set up the AUTO Electronic Shutter mode. (AUTO: To adjust all parameter setting automatically. IRIS MAN: To adjust camera iris manually. AGC MAN: To adjust camera GAIN control manually. MANUAL: To adjust all parameter setting manually.
- **IRIS ADJUST:** To set up the camera iris mode. (This parameter setting is relate to the AE MODE setting.
- **AGC ADJUST:** To set up the camera GAIN CONTROL mode. (This parameter setting is relate to the AE MODE setting.
- **BRIGHTNESS:** To set up the camera Brightness parameter (0 to 99).
- **BACK LIGHT:** To set back light mode on or off.
- **BLC LEVEL:** To set black level (0 to 80).
- **FLICKERLESS:** To set if FLICKERLESS mode on or off.
- **SHUTTER:** To set up the camera shutter mode. (NORMAL, 1/125, 1/150 ~ 1/10000)
- **INITIAL SET:** To restore all functions of this section in factory default setting.

<**SPECIAL SET**>: Select this section and press [Open] to enter camera SPECIAL setting.

- **USER TITLE:** To set up the camera title. (Please use [OPEN] button to enter and confirm the setting, [Close] button to move cursor backward, and move joystick direction to select the character.
- **SHARPNESS:** To set up camera image sharpness level.
- **MIRROR:** To turn mirror mode on or off.
- **COLOR:** To set up camera COLOR MODE or BLACK/WHITE MODE.
- **NEGATIVE:** To set NEGATIVE on or off.
- **WIDE BURST:** To set wide burst function on or off.
- **INITIAL SET:** To restore all functions of this section in factory default setting.



Chapter 3: Operation



<**MOTION**>: Select this section and press [Open] to enter camera MOTION setting. This function is to set if display the “MOTION DETECTED” on the screen when camera detect the aimed area image change. (The image change include color, brightness and shape)

- **DETECTION:** To set if turn on the camera motion detection function.
- **LEVEL SET:** To set up motion detection sensitive level.
- **INITIAL SET:** To restore all functions of this section in factory default setting.

<**F OSD DISP**>: Select this section and press [Open] to enter camera F OSD DISP (Function On Screen Display) setting.

- **FUNCTION DISP:** To set if display functions on the screen.
- **MOTION DET DISP:** To set if display the “MOTION DETECTED” when “Motion Detection” function is on and detect an image change.
- **CAMERA ID DISP:** To set if display camera ID on the screen.
- **ZOOM MAG:** To set if display zoom adjusting parameter (optical multiple) on the screen.
- **USER TITLE:** To set if display camera setting title.
- **INIT TITLE:** To set if display factory default setting title.
- **INITIAL SET:** To restore all functions of this section in factory default setting.

b.) [PAN/TILT SETUP] :

The activities and parameters of pan/tilt can be changed under this menu.

- **ACTIVITY: ON/OFF**

ON: under ACTIVITY on, there are exterior commands to stop tour or scan (besides press 96 + [Call] button or press 95 + [Preset] button) when tour or scan called. Dome will be restored to tour or scan automatically if there is no any operation in one minute. Press 96 + [Call] button to exit this status temporary and

it can be restored when tour or scan called again. Select OFF under menu of ACTIVITY to close this function completely.

OFF: Close activity function.



The Presets Setup is not available under Restore.

- **AUTO FLIP:ON/OFF**

ON : When the camera tilts downward 90 degrees, the dome rotates 180 degrees, and tilt moves to zero degree in the speed. Pan will keep rotation continually when tilt is kept on lowest position by the joystick, till the joystick released.

OFF : No auto flip when the camera tilts downward 90 degrees. The actual activities are only controlled by system command.

- **PROPORTION PAN/TILT:ON/OFF**

To reach high catching precision to far image, the max speed can be adjusted automatically according to the distant. The larger of zoom out is, the slower of speed is, vice versa

ON: Speed controlled by the proportion.

OFF: The PT speed does not related to zoom.

PAN/TILT SETUP

ACTIVITY:ON/OFF
 AUTO FLIP:ON/OFF
 PROPORTION PAN/TILT:ON/OFF
 SCAN SPEED: 12 DEG/S
 LIMIT STOPS:OFF
 MAX STICK SPEED: 120DEG/S
 TOUR SPEED: 240DEG/S
 DWELL TIME: 005S
 <BACK>
 <EXIT>

Chapter 3: Operation

- **SCAN SPEED:01/02/04/08/12/20/30/40 DEG/S**

Scan speed can be set: 01DEG/S, 02DEG/S, 04DEG/S, 08DEG/S, 12DEG/S, 20DEG/S, 30DEG/S, or 40DEG/S.

- **LIMIT STOPS:ON/OFF**

ON : The two limitations can be set under Auto Scan. Which are Preset 92/62 and 93/63. Left limitation is Preset 92, and right limitation is Preset 93. The limitations can be in both pan and tilt direction. If only pan limitations requested, then tilt position should be kept when pan limitations are set.

OFF: No limitations existing and the dome rotate in 360 degrees continually.

- **MAX STICK SPEED:4/8/16/24/40/60/80/120DEG/S**

It can setup the max moving pan or tilt speed. When the PROPORTION PAN/TILT is ON, this parameter is no use.

- **TOUR SPEED :**

5/10/15/20/25/30/35/40/50/65/80/100/120/140/160/180/200/220/240DEG/S

This is for setting tour speed from one preset to next preset.

- **DWELL TIME: 002~060S**

Pause time is 002S~060S on the each preset

c.) **[POWER UP] :**

This setting defines a specific activity (scan or tour) to be performed in the event the power up.

- **ACTION : NONE/AUTO SCAN/AUTO TOUR**

POWER UP
ACTION: NONE
/AUTO SCAN
/AUTO TOUR
<BACK>
<EXIT>



When power up, dome will be on stillness status, and wait for commands.

- **AUTO SCAN** : Dome starts auto scan.

- **AUTO TOUR** : Dome starts auto tour operation.

d.) [PRESET OR CAMERA ID] :

```

PRESET OR CAMERA ID
PRESET NO OR CAM.ID:080/ID
EDIT LABEL:
ABCDEFGHIJKLMNQRST
UVWXYZ0123456789-/:?
SP< - - > DEL
OK
CANCEL
<BACK>
<EXIT>
    
```

The Camera and Preset Position can be marked separately. For each label, max 16 characters can be edited, including the blank.

Preset Label: set [PRESET OR CAMERA ID] on in [DISPLAY SETUP], when call the preset or auto tour, the edited preset label can be showed on screen.

The dome without edited label will be showed as PRExx.

Dome Label: set [PRESET OR CAMERA ID] on in [DISPLAY SETUP], then dome label can be showed on the right top of screen. The dome without edited label will be showed as CMAERA ID.

- **Edit Preset Label. :**

- (1.) Enter [PRESET OR CAMRA ID]. Select [PRESET NO OR CAM ID :], then press [OPEN] button to enter. Move the joystick up or down to select the preset no., Press [OPEN] button again to confirm and exit.
- (2.) Move the joystick to select [EDIT LABEL:], press [OPEN] button to enter, then character "A" of the alphabet "A-- ?" is flashing, and the edited or defaulted label of this preset can be showed on the bottom of the screen, and a flashing cursor followed.

Chapter 3: Operation

- (3.) Move the joystick down to select [SP<- -> DEL], then the character “S” of “SP” is flashing. Move the joystick left to make“<-”flash, then press [OPEN] button continuously, until the first character of the label flashes.

```
PRESET OR CAMERA ID
PRESET NO OR CAM.ID:080/ID
EDIT LABEL:
ABCDEFGHIJKLMNQRST
UVWXYZ0123456789-/:?
SP<- -> DEL
OK
CANCEL
PRE01-
<BACK>
<EXIT>
```

- (4.) Move the joystick down till ”D” of “DEL” flashes. Press [OPEN] button continuously, until all the characters of the label are deleted.

- (5.) Move the joystick up, “?” of alphabet ”A--?” will be flashing, then move joystick to select the needed character fleshing, and press [OPEN] button to confirm, the selected character will appear on the bottom of the screen. Repeat it to finish the edition.

```
PRESET OR CAMERA ID
PRESET NO OR CAM.ID:080/ID
EDIT LABEL:
ABCDEFGHIJKLMNQRST
UVWXYZ0123456789-/:?
SP<- -> DEL
OK
CANCEL
-
<BACK>
<EXIT>
```

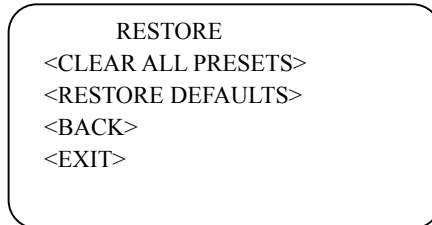
- (6.) If the space is needed in the label, move joystick to select [SP<- -> DEL], then “S” of” SP” will be flashing. Press [OPEN] button to enter the space.
- (7.) After editing, please move the joystick down to select [OK]. Press [OPEN] button to save the label. If select [CANCEL], and press [OPEN] button, the label will not be saved.
- (8.) After saving, please move the joystick to select<BACK>, and then press [OPEN] button to return to previous menu or select <EXIT>, and press [OPEN] button to close the menu.

- **Edit Camera ID. :**

Enter [PRESET OR CAMERA ID] menu. Select [PRESET OR CAMRA ID], and press [OPEN] button to enter. Move joystick up or down to change preset No. into ID, then press [OPEN] button to confirm and exit. The following operation is same as preset label.

E. [RESTORE]

All the presets can be deleted in this menu, and then all setting will be restored to initial data set by manufacturer.



(1.) [CLEAR ALL PRESETS] :

Enter restore menu. Select < CLEAR ALL PRESETS >, and press [OPEN] button to confirm. All the presets has been deleted When “OK” appears on the screen.

(2.) [RESTORE DEFAULTS] :

Enter restore menu. Select < RESTORE DEFAULTS >, and press [OPEN] button to confirm. it means all the presets has been deleted When “OK” appears on the screen.

F. CONFIG KEYBOARD

128PRE/64PRE/DVR:

128PRE : Controlling device supports 128 presets. Details as following,

- **1-33 , 35-63 are presets for user set up.**

Preset 64 or 95 is for entering dome menu.

Preset 76 is for beginning tour.

Presets 92 and 93 are for left and right limit under scan.

Preset 96 is for stopping scan or tour.

Preset 99 is for beginning scan.

Other presets are empty.

64PRE : Controlling device supports 64 presets. Details as following,

- **1-33 , 35-63 are presets for user set up.**

Preset 64 is for entering dome menu.

Preset 61 is for beginning tour.

Presets 62 and 63 are for left and right limit under scan.

Preset 59 is for stopping scan or tour.

Preset 60 is for beginning scan.

DVR : Controlling device supports 162 presets. Details as following,

- **1-33 , 35-63 are presets for user set up.**

Preset 64 or 95 is for entering dome menu.

Preset 76 is for beginning tour.

Presets 92 and 93 are for left and right limit under scan.

Preset 96 is for stopping scan or tour.

Preset 99 is for beginning scan.

Other presets are for future functions.

G. AUTO PARK

Although there is no this item in the menu, the dome has this function itself.

- (1.) Manual soft restore to zero position. Call Preset 34 by manual, the dome will be action as power up, and keep on the zero position. During of the period, the mechanism errors can be corrected automatically.
- (2.) During the dome runs, the mechanism error can be corrected automatically when the photoelectric cell is passed once.



Chapter 3: Operation



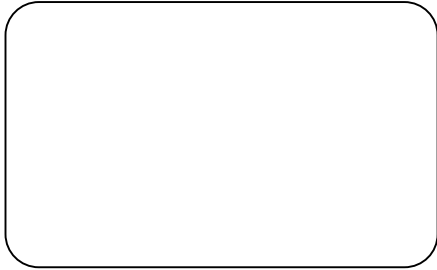
- (3.) Under tour, if the photoelectric cell is not passed, the dome will be gone to pass the photoelectric cell compulsively after 256 times, and then return to original position, which is designed for correcting the error automatically.

Chapter 4 Troubleshooting

Problems	Possible Causes	Remedies
No action and images when power on	Power supply damaged or insufficient power	Replace
	Wrong connection of power supply	Correct
	Faults in engineering circuits	Remove
Abnormal self-inspection. Images with roaring sound of the motor	Mechanical fault	Repair
	Tilting camera	Place uprightly
	Insufficient electrical power	Replace with qualified power supply
Normal self-inspection but no images	Failed Video Flat cable	Replace
	Camera damaged	Replace
Successful self-inspection but out of control	Wrong connection of RS-485 signal wire	Correct
	Mismatched address of spherical camera	Reselect
	Problem on PTZ controller	Replace
	Too longer distance of communication	Correct

Appendix A: Menu List

MENU



1. SYSTEM INFORMATION

SYSTEM INFORMATION
CAMERA : PAL
COMM : 4800,N,8,1
PROTOCOL : P OR D
ADDRESS
FAST : OFF
ITSELF SWITCH : 000
CURRENT TOUR GROUP : 1
<TOUR GROUPING>
<BACK>
<EXIT>

(1). <TOUR GROUPING>

GROUP1 : 1 ↓ 2 ↓ 3 ↓ 4 ↓ 5 ↓ 6 7 8
9 10 11 12 13 14 15 16
GROUP2 : 1 ↓ 2 ↓ 3 ↓ 4 ↓ 5 ↓ 6 7 8
9 10 11 12 13 14 15 16
GROUP3 : 1 2 ↓ 3 ↓ 4 ↓ 5 ↓ 6 7 8
9 10 11 12 13 14 15 16
GROUP4 : 1 ↓ 2 ↓ 3 ↓ 4 ↓ 5 ↓ 6 7 8
9 10 11 12 13 14 15 16
<CONFIRM>
<BACK>



Appendix A: Menu List

2. <DISPLAY SETUP>

DISPLAY SETUP
 PRESET OR CAM : ON/OFF
 OSD : ON/OFF
 PAN/TILT ANGLE : ON/OFF
 <PRIVACY>
 <BACK>
 <EXIT>

3. <DOME SETTINGS>

DOME SETUP
 <CAMERA>
 <PAN/TILT SETUP>
 <POWER UP>
 <PRESET OR CAMERA ID>
 <PRIVACY ZONE>
 <BACK>
 <EXIT>

A. <CAMERA>

MENU
 <CAMERA ID: ON/OFF >
 <FOCUS SET ↓>
 <AWB SET ↓>
 <AE SET ↓>
 <SPECIAL SET ↓>
 <MOTION DET ↓>
 <F OSD DISP ↓>
 <E SENSITIVE NOT USE >
 <WDR SET NOT USE >
 <EXIT>

B. <PAN/TILT SETUP>

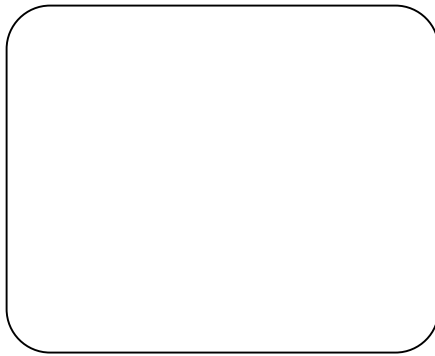
PAN/TILT SETUP
 ACTIVITY:ON/OFF
 AUTO FLIP:ON/OFF
 PROPORTION PAN/TILT:ON/OFF
 SCAN SPEED: 12 DEG/S
 LIMIT STOPS:OFF
 MAX STICK SPEED: 120DEG/S
 TOUR SPEED: 240DEG/S
 DWELL TIME: 005S
 <BACK>
 <EXIT>

Appendix A: Menu List


C. <POWER UP>



D. <PRESET OR CAMERA ID>



4. <RESTORE>



5. COFIG KEYBOARD : 128PRE

