

Color PT Dome Camera

Pan/Tilt/(Zoom) Camera

934-A V1.0

User's Manual



Please read this instructions thoroughly before operation and keep the manual in a safe place for further reference.

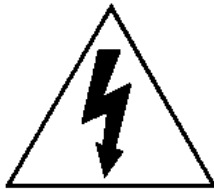
✓ WARNING

We reserve the right to make improvements to the documentation, software and firmware of its products without notice. In order to provide users with better operation of this product, information in this manual is intended to be accurate and reliable. However, we assume no responsibility for its use; nor for any infringements of rights of third parties which may result from its use.

*All the safety and operating instructions should be read before operation.
The improper operation may cause permanent damage.*



- Please lift and place this equipment gently.
- Do not expose this equipment to direct sunlight.
- Do not use this equipment near water or in contact with water.
- Do not spill liquid of any kind on the equipment.
- Do not block the ventilation holes at the top and bottom of the unit.
- Installation should be made by qualified service personnel.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance-(servicing) instructions in the literature accompanying the appliance.



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✓ Product introduction

■ 931&932 Features

- Compatible with Intelligent Mutiplexing DVRs.
- 1/3" Sony CCD. .
- OSD function select.
- S/N ratio more than 48dB(AGC off)
- 16 Presets
- RS-485 data port for surveillance application.
- On screen menu.

Note : The usage limit for the motor is 500 million times.

■ 933&934 Features

- Compatible with Intelligent Multiplexing DVRs.
- 1/3" Sony CCD.
- 480 TV lines of resolution.
- High sensitivity of 1.5 Lux / F2.6
- OSD function select.
- 3X optical zoom lens
- S/N ratio more than 48dB(AGC off)
- 16 Presets.
- RS-485 data port for surveillance application.
- On screen menu.

Note : The usage limit for the motor is 500 million times.

■ Description

This is a color CCD pan/tilt/(zoom) camera which employs a 1/3" Sony CCD solid-state imaging device which provides extremely long life and high reliability. The camera provides 350° Pan Range, 0° ~ 90 Tilt Range.

■ Precautions

- Don't shoot images that are extremely bright (e.g., light sources, the sun, etc.) for long periods of time.
- Don't use or store the camera in the following conditions :
 - (1) Extremely hot or cold places (operating temperature 0°C to 40 °C (=32 °F to 104 °F))
 - (2) Close to generators of powerful electromagnetic radiation such as radio or TV transmitters.
 - (3) Where it is subject to fluorescent light reflections.
 - (4) Where it is subject to unstable lighting (flickering, etc.) conditions.
 - (5) Where it is subject to strong vibration.

■ Specifications

Model No.	931	932	933	934
Pick up Element	1/3" Sony High Resolution CCD image sensor			
Number of Pixel	510(H) x 492(V) <NTSC> / 500(H) x 582(V) <PAL>	768(H) x 494(V) <NTSC> / 752(H) x 582(V) <PAL>		
Resolution	350 TV lines	480 TV lines		
Video Output	1.0 Vp-p, 75 Ω			
Signal-to-Noise Ratio	More than 48dB (AGC off)			
Minimum Illumination	0.5 Lux / F2.0	1 Lux / F2.0	1.5 Lux / F2.6	1.5 Lux / F2.6
Zoom Speed	-		approx. 1s (Tele/Wide) in manual mode	
Aperture	F2,0		F2.6(Wide) ~4.3(Tele)	
Focal Length	4mm		4.2~12.7mm	
Angular Field of View	80°		26.7°~80°	
Electronic Shutter	1/60 (1/50) to 1/100,000 sec.			
Sharpness	Sharpness/Normal/Soft Select			
White Balance	ATW			
Mirror	NA	On/Off		
Color Gain	Colorful/Normal/Light Select			

Model No.	931	932	933	934
AGC	On (low) / On (mid) / On (high) / Off			
BLC	On / Off			
Lens	Board Lens(4,6,12mm)	CCTV Lens(4,6,12mm)	3XOptical Zoom (4.2~12.7mm)	3XOptical Zoom (4.2~12.7mm)
Auto Focus	-		MANUAL/AUTO	
Auto Mode	SEQ/AUTO PAN			
Camera ID	preset ID, camera ID: up to 8 characters			
Pan Range	350°			
Pan Angle Setting	possible (in auto-pan mode)			
Pan Mode	manual/sequential position/auto pan			
Tilt Range	90 °			
Tilt Mode	manual/sequential position			
Controls	pan/tilt, lens, 16 preset positions, home position			
Ambient Operating Temperature	0°C ~ 40°C (32°F - 104°F)			
Power Source	DC12V			
Current Consumption	1A Regulated			
Dimensions	Ø105 (D) x 105 (H) mm			
Weight	approx. 320g (0.66 lbs.)			

- This machine is only compatible with DC12V 1A regulated adaptor.
- There is some noise when the machine is start working.

■ Package Content

- 1.Camera x 1 with power/video cable and single line (orange color x 1, brown color x 1).
- 2.User's manual x 1.
- 3.Decoration cover x 3, screw x 3, screw faster x 3.



PT(Z) Camera



User's manual



Screws and Decoration covers

■ Operating And Installation

Refer to the illustrations below before installing the camera:

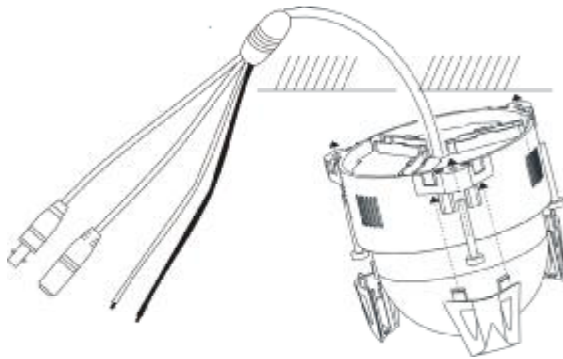


Figure 1 Cable routing to the attic

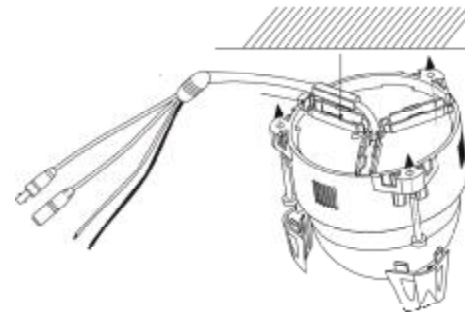


Figure 2 Cable routing over the ceiling surface

1. Cable routing to the attic (refer to figure 1)
2. Put the cable on the indentation, and cut off the thin border with nippers if necessary; else route the cable along the circular surface of the screw base, then place the cable into the cut. Routing the cable over the ceiling surface (refer to figure 2).
3. Screw the three screws into the three individual screwed bases to stick to ceiling.
4. Insert the three decoration covers onto the three different screwed bases (refer to figure 3)

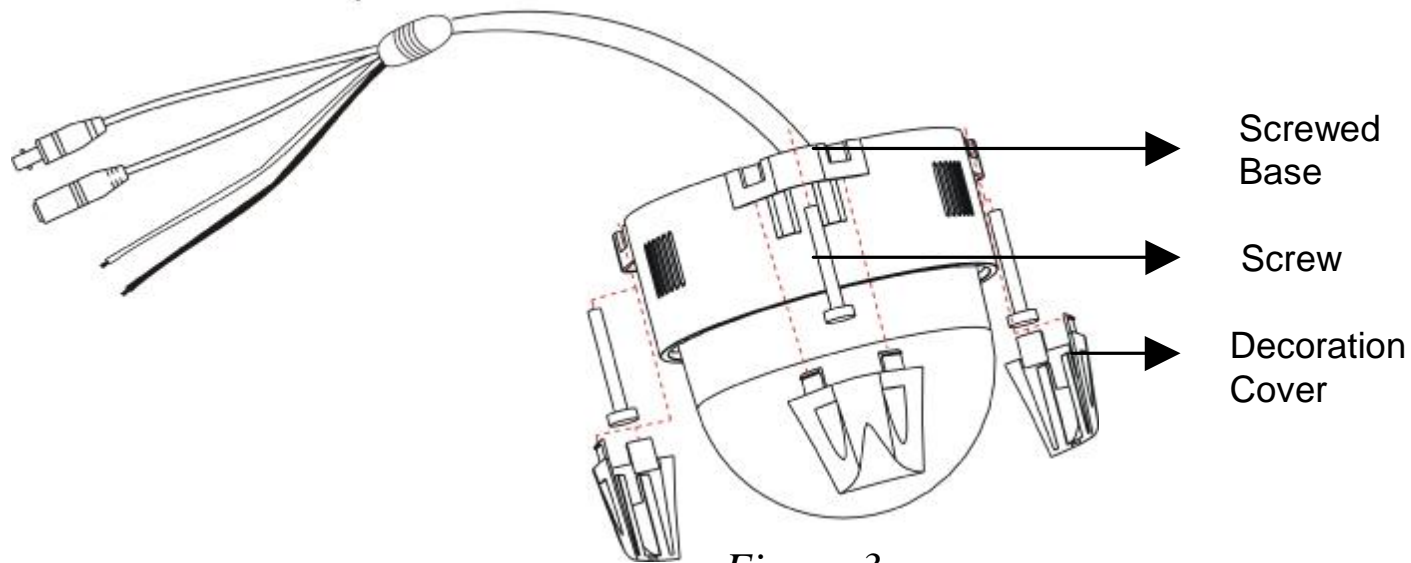


Figure 3

Note:

1. Don't install the camera in the corner, because doing so may limit the function of the PT(Z).
2. Installation angle : ± 15 degrees to a horizontal surface.
3. Don't fasten the screw with a torque greater than 2kg-cm, else the base may deform and then hamper the movement of the PT(Z)

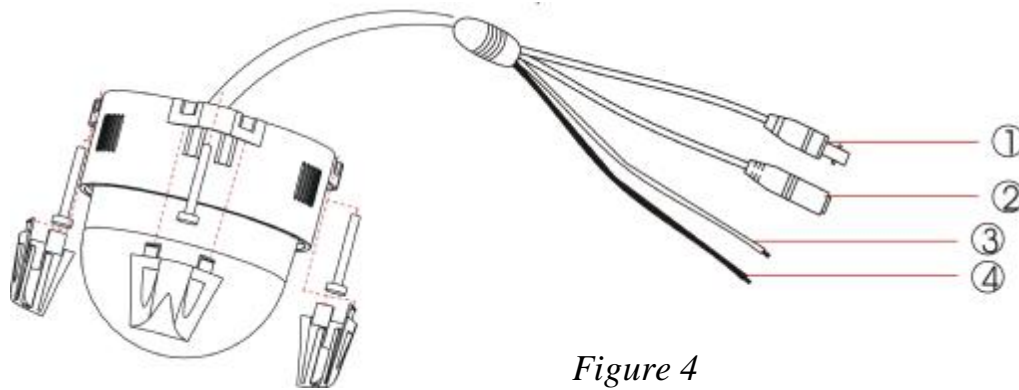


Figure 4

- ① Video Output Connector
- ② Power Cable
- ③ RS485-B (orange color line)
- ④ RS485-A (brown color line)

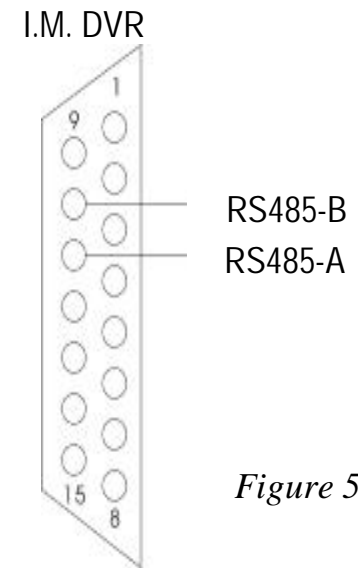
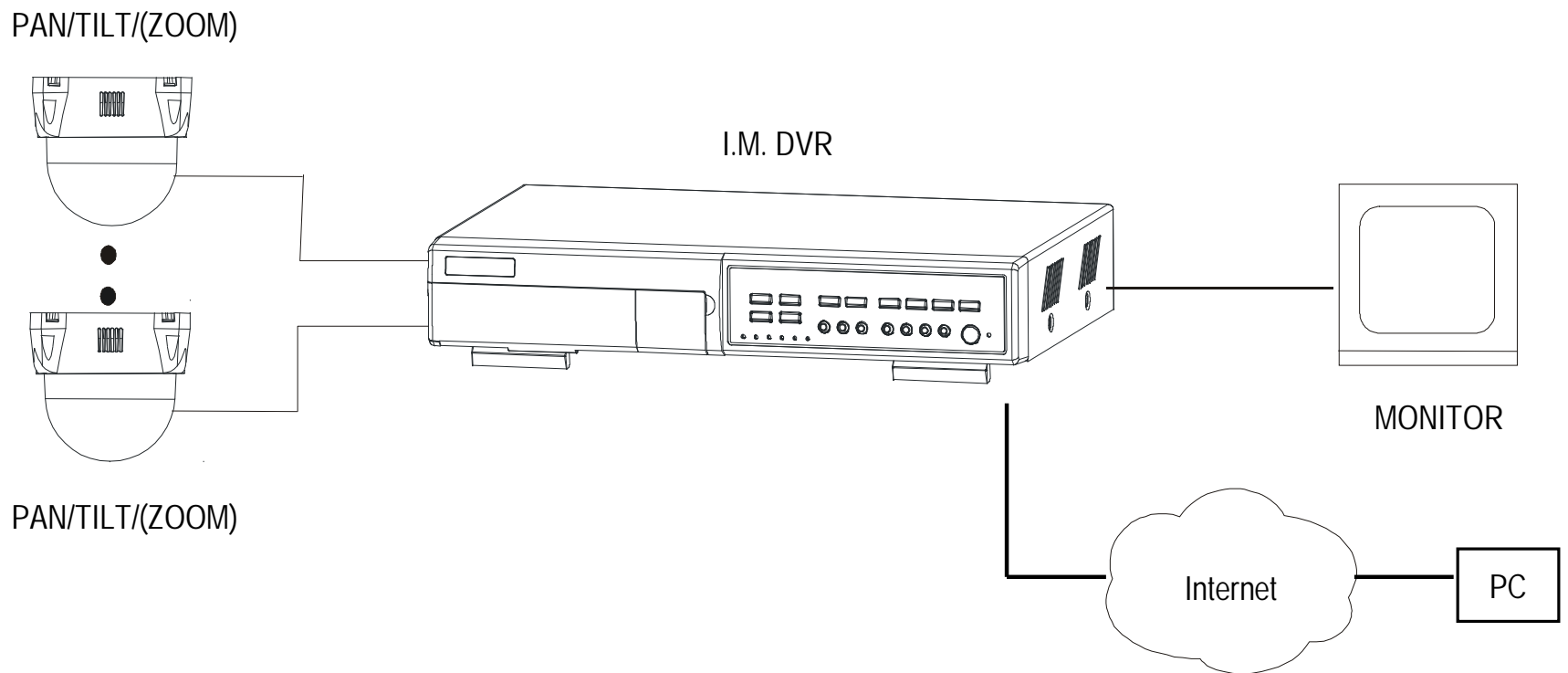


Figure 5

5. Connect the Video Output Connector to DVR's Video Input.
6. Connect the Power Cable to Adaptor.
7. Connect "RS485-A(brown color line)" to 11th aperture on DVR's Sub-D Plug.
8. Connect "RS485-B(orange color line)" to 10th aperture on DVR's Sub-D Plug.

Note : The usage limit for the motor is 500 million times.

■ Connection



✓ SITUATION SIMULATE

(an example for PT(Z) operation)

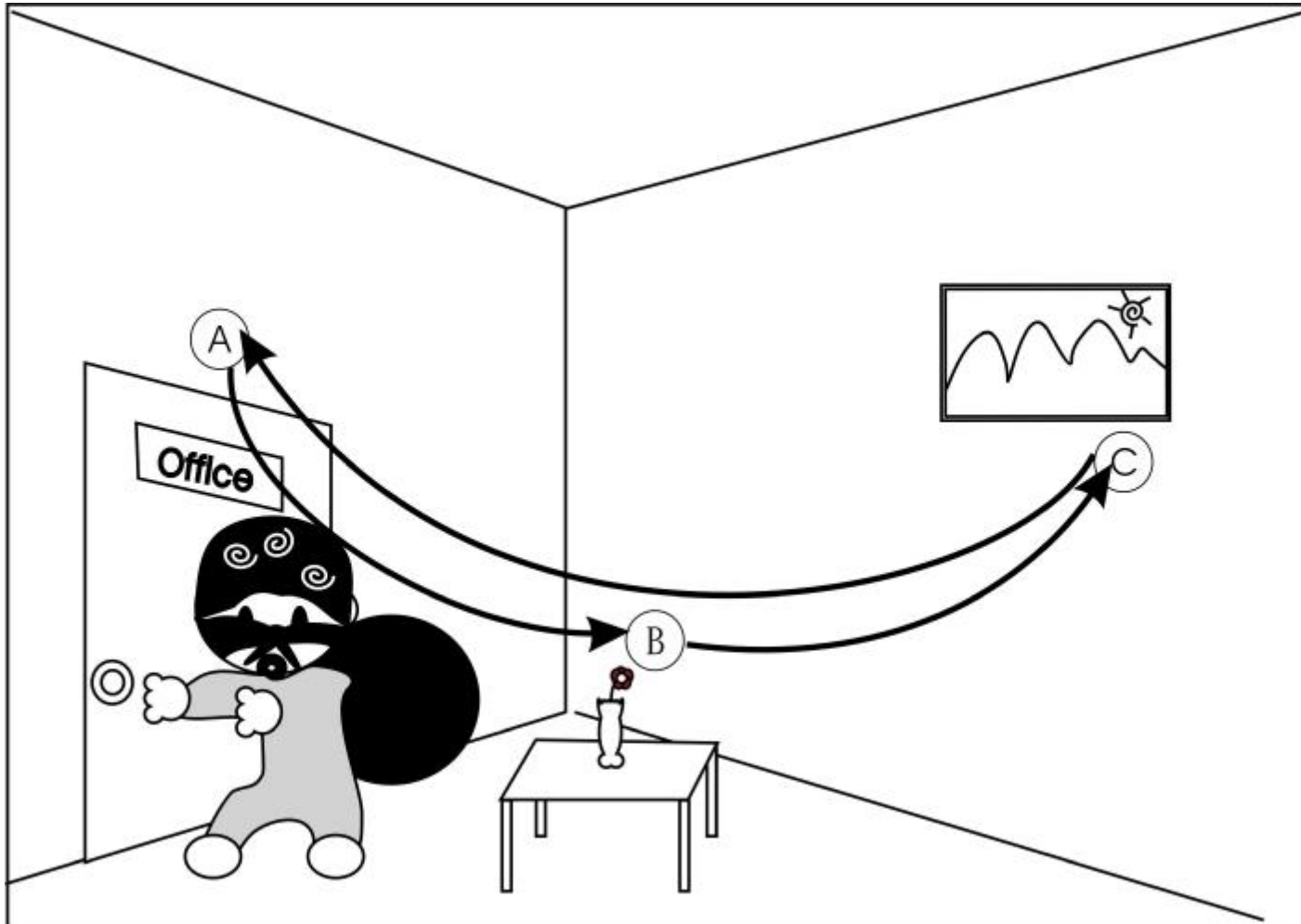


Figure 6

■ Situation simulate

- If there are 3 important points you want to detect, and we need the camera to detect them like the figure 6. (A→B→C→A).
- The speed moving from A to B is slow, from B to C is slow, and from C to A is fast.
- When it moves to A, you want it to stay for 30 seconds. When it move to B and C, you want it to stay for 10 seconds.

STEP 1 : SET THE PRESET

1. Press “MENU” to enter the main menu and press “▼” to move to “PRESET” function.
2. Press “ENTER” to enter the “PRESET” function.
3. Choose “ADD” to add the preset and set its name.
4. Enter “MENU” to confirm it and return to the “MENU” function.

STEP 2 : SET SEQUENCE

1. Press “▼” to move to “SEQUENCE” function.
2. Press “ENTER” to enter the “SEQUENCE” function.
3. Choose “ADD” to add the preset.
4. Move the cursor to SPEED, and press “▲” “▼” to choose the speed.
5. Move the cursor to PRESET, and press “▲” “▼” to choose the preset , A, B or C.
(It is because that you want to set the order as A to B to C ,to A and back, 3.)

Preset Number and Name

Number of Sequence

SEQUENCE			
ADD INS EDIT DEL			
	SPEED	PRESET	STAY
01	FAST	01 → A	30s
02	SLOW	02 → B	10s
03	FAST	03 → C	10s

- The speed 01 is fast. This means that when you change to SEQUENCE mode, camera will move to A in fast speed(because it is the first order).
- The speed move from A to B is slow.

6. Move the cursor to STAY, and press “▲” “▼” to choose the staying time.
7. Enter “MENU” to confirm it and return to the “MENU” function.

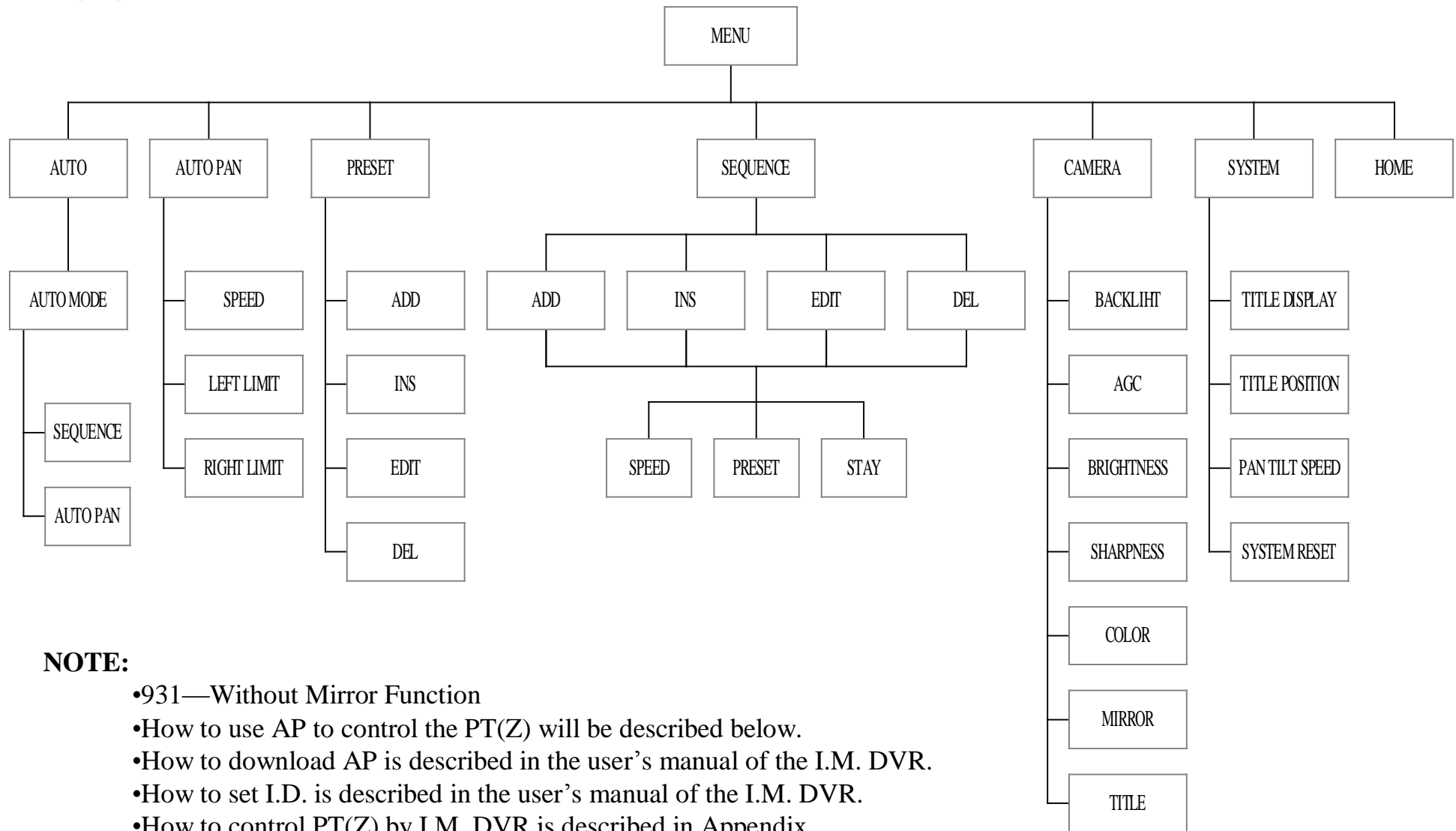
STEP 3 : SET AUTO

1. Press “▲” to move to “AUTO” function.
2. Press “▲” or “▼” to change the auto mode from AUTO PAN to SEQUENCE.
3. Press ENTER or MENU to confirm the selection.
4. Press “AUTO” button to switch to auto mode.

After these three steps, PT(Z) will operate as figure 6 displays.

✓ DETAILED MENU SETUP

■ Menu



NOTE:

- 931—Without Mirror Function
- How to use AP to control the PT(Z) will be described below.
- How to download AP is described in the user's manual of the I.M. DVR.
- How to set I.D. is described in the user's manual of the I.M. DVR.
- How to control PT(Z) by I.M. DVR is described in Appendix.

■ Enter PT(Z) Menu Via AP

Click here to choose channel





Click here to enter PT(Z) mode



Select PT(Z) number

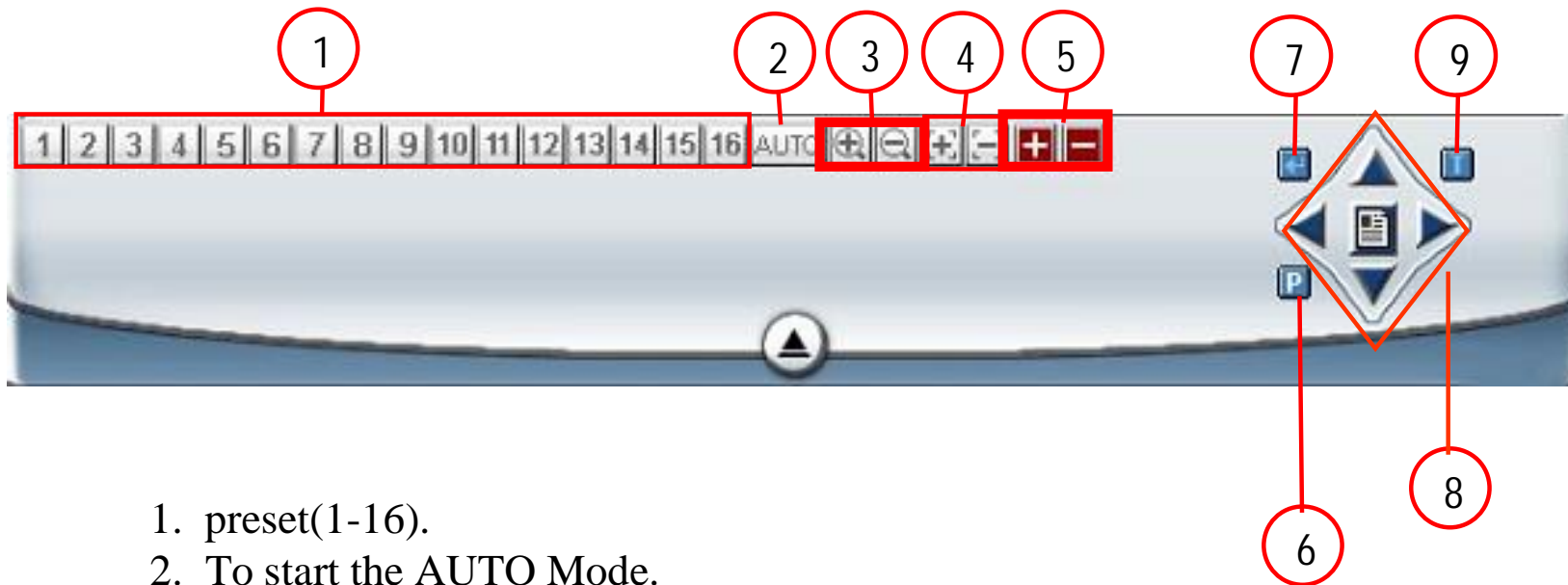
Click here to enter PT(Z) mode



Click here to enter the menu

- MENU
- AUTO
 - AUTO PAN
 - PRESET
 - SEQUENCE
 - CAMERA
 - SYSTEM
 - HOME

■ Control Panel



1. preset(1-16).
2. To start the AUTO Mode.
3. ZOOM Tele/ ZOOM Wide.
4. FOCUS Near/ FOCUS Far.
5. Max zoom in/ Max zoom out.
6. PTZ
7. Enter
8. Menu(Exit), Left, Right, Up, Down.
9. TURBO

■ Main Menu

Press “**MENU**” button to enter the main menu.
There are 7 options available in the Main Menu.

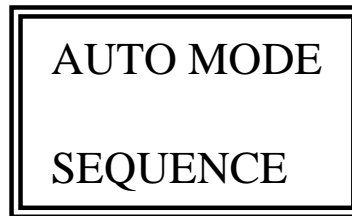
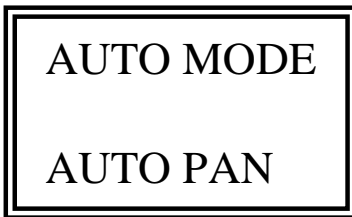
MENU	
AUTO	AUTO -----To choose the mode “SEQUENCE” or “AUTO PAN”.
AUTO PAN	AUTO PAN ----Auto pan setup.
PRESET	PRESET -----preset setup (1 to 16).
SEQUENCE	SEQUENCE ---Sequence setup.
CAMERA	CAMERA -----Camera setup.
SYSTEM	SYSTEM -----System setup.
HOME	HOME -----Home position.

The following buttons are used for menu setting :

- “▲” “▼” : Move the cursor.
- **ENTER** : Enter a submenu mode/Choose an option under a submenu for browsing/Confirm the selection.
- **MENU** : Enter the menu mode/ Confirm the change/ Exit the menu.

■ Main Options

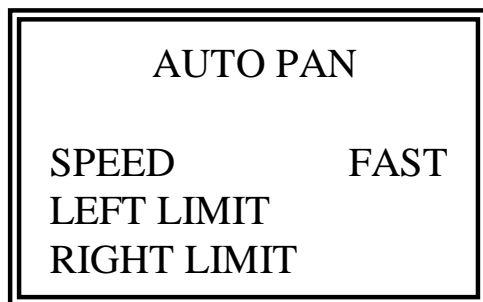
AUTO



- Press “▲” or “▼” can change the auto mode to AUTO PAN or SEQUENCE.
- Press MENU to confirm the selection.

- In the “AUTO PAN” mode, PT(Z) will catch the image automatically.
- In the “SEQUENCE” mode, users can setup the point users want to detect and PT(Z) will catch the image according to your setting.

AUTO PAN



- “▲” ”▼” : Move the cursor.
- **ENTER** : Enter a submenu mode/ an option under a submenu for browsing/ Confirm the selection.
- **MENU** : Enter the menu mode/ Confirm the change/ Exit a menu.

1. SPEED

- There are 2 options available in the “SPEED” – FAST and SLOW.
- Press “▲” or ”▼” can change the speed.

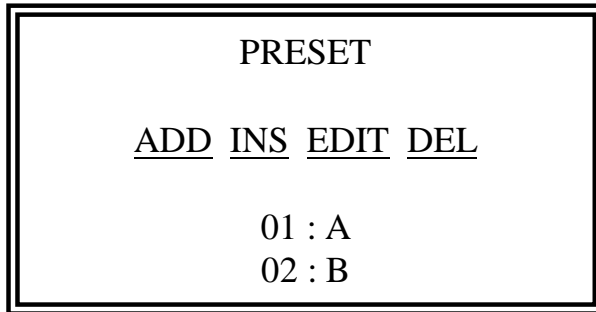
2. LEFT LIMIT

- Press “◀” or ”▶” can setup the left limit and press enter to confirm it.

3. RIGHT LIMIT

- Press “◀” or ”▶” can setup the right limit and press enter to confirm it.

PRESET



•◀ ▶ : Move the cursor.

•**ENTER** : Enter a submenu mode/ an option under a submenu for browsing/ Confirm the selection.

•**MENU** : Enter the menu mode/ Confirm the change/ Exit a menu.

1. **ADD**

- To add the preset (maximum is 16).

2. **INS**

- To insert the camera preset

SEQUENCE

SEQUENCE		
<u>ADD</u>	<u>INS</u>	<u>EDIT</u> <u>DEL</u>
SPEED	PRESET	STAY
01 : FAST	01 → A	01s
02 : FAST	02 → B	01s
03 : FAST	03 → C	01s
AUTO : SEQUENCE PREVIEW		

Users can set up 32 sets of sequence at most.

• “◀” “▶” “▲” “▼”: Move the cursor.

• **ENTER** : Enter a submenu mode/ Choose an option under a submenu for browsing/ Confirm the selection.

• **MENU** : Enter the menu mode/ Confirm the change/ Exit the menu.

- It depends on your “PRESET”, there are 3 point you have set and you can choose this 3 point to set. (For example, there is a 3-detection-point setting and you can set the sequent like 01 → 02 → 03 → 01, 01 → 03 → 02 → 03, and so on.)

1. ADD

- To add the preset you had set previously.

2. INS

- To insert the preset you had set previously.

3. EDIT

- To edit the preset you had set previously.

4. DEL

- To delete the preset you had set previously.

5. SPEED

- This function is to set the speed (Fast and Slow).

6. STAY

- This function is to set the staying time. (01s, 02s, 03s, 05s, 10s, 20s, 30s and 60s).

7. AUTO: SEQUENCE PREVIEW

- When you enter the “SEQUENCE” menu, you can see the message “AUTO: SEQUENCE PREVIEW”.
- Click “Auto” and the PT(Z) would detect as the sequence you set.

8. AUTO: PRESET PREVIEW

- When you add, insert, edit or delete the preset, you can see the message “AUTO: PRESET PREVIEW”.
- Click “Auto” and the PT(Z) would show the point you set.

CAMERA

CAMERA	
BACKLIGHT	OFF
AGC	MID
BRIGHTNESS	NORMAL
SHARPNESS	NORMAL
COLOR	NORMAL
MIRROR	ON
TITLE	CAMERA 1

- “▲” “▼” : Move the cursor.
- **ENTER** : Enter a submenu mode/ Choose an option under a submenu for browsing/ Confirm the selection.
- **MENU** : Enter the menu mode/ Confirm the change/ Exit the menu.

1. BACKLIGHT

- Choose “ON” to turn on the “BACKLIGHT”.

2. AGC

- There are four options, MID, LOW, HIGH and OFF.

3. BRIGHTNESS

- There are 3 options, NORMAL, DARK and BRIGHT.

4. SHARPNESS

- There are 3 options, NORMAL, SOFT and SHARP.

5. COLOR

- There are 3 options, NORMAL, LIGHT and COLORFUL.

6. MIRROR

- ON/OFF

7. TITLE

- Press “▲” or “▼” to set the title.

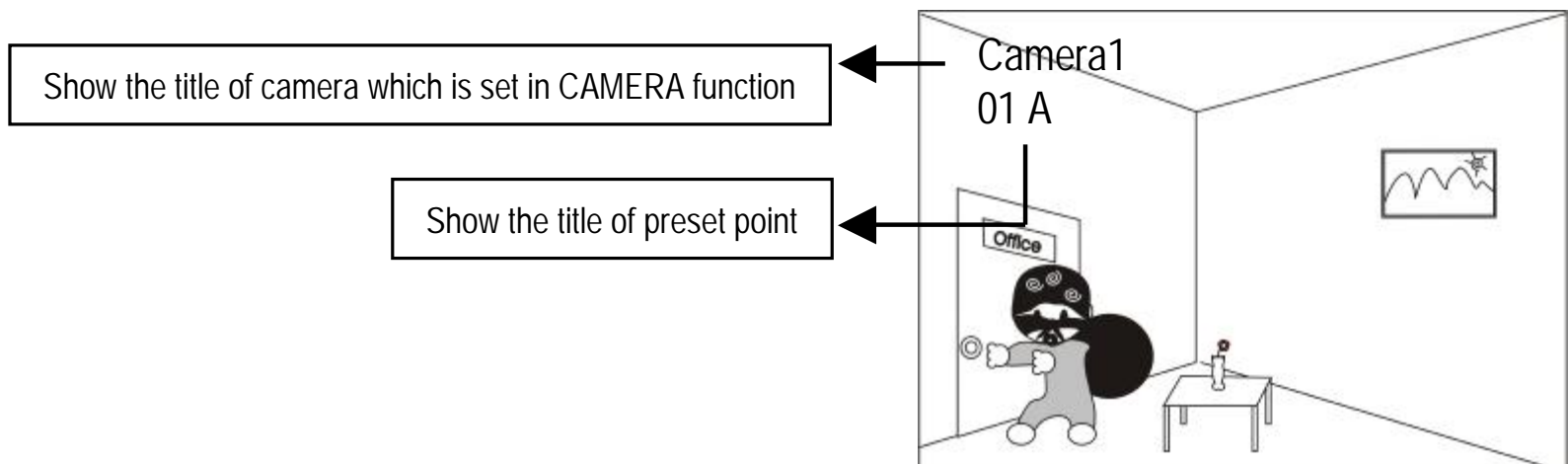
SYSTEM

SYSTEM	
TITLE DISPLAY	ALL
TITLE POSITION	U—L
PAN TILT SPEED	FAST
SYSTEM RESET	NO

- “▲”””▼” : Move the cursor.
- ENTER** : Enter a submenu mode/ Choose an option under a submenu for browsing/ Confirm the selection.
- MENU** : Enter the menu mode/ Confirm the change/ Exit a menu.

1. TITLE DISPLAY

- There are 4 options, ALL, PRESET, CAMERA and OFF. When you choice ALL, the preset and camera title will be displayed.



2. TITLE POSITION

- Press “▲” ”▼” to determine the title position, U-L (Up/Left), D-R (Down/Right), D-L (Down/Left) and U-R (Up/Right).

3. PAN TILT SPEED

- Press “▲” ”▼” to choose the PAN TILT MANUAL SPEED, FAST or SLOW.

4. SYSTEM RESET

- If you want to reset the system, please press “▲” or ”▼” to switch to “YES”, and then press “ENTER” to confirm it. The system will notice you that “Are you sure?”. Please press “◀” and “▶” to confirm it.

V APPENDIX

■ Keypad

USE DVR TO OPERATE PT(Z)

1. ENTER+ZOOM

- PT(Z)(enter & exit).

2. MENU

- MENU.

3. ENTER

- ENTER.

4. PLAY

- AUTO.

5. FF

- LEFT. (Show on the front panel PT(Z) operation)

6. REW

- RIGHT.

7. STOP

- DOWN.

8. PAUSE

- UP.

9. ZOOM

- TELE DIGITAL ZOOM

10. /+

- ZOOM TELE.

11. /-

- ZOOM WIDE.

12.MENU+SEARCH

- PRESET MENU (enter & exit).
- When enter PRESET MENU, you can change the setting value by:
 - √ ◀ Focus Far
 - √ ▶ Focus Near
 - √ ▲ Increase Preset Number
 - √ ▼ Decrease Preset Number

13.NUM1

- PT(Z) CH1.

14.NUM2

- PT(Z) CH2

15.NUM3

- PT(Z) CH3

16.NUM4

- PT(Z) CH4

17.ENTER+

- LIVE QUAD.