Auto Tracking Speed Dome Camera

195Z

Innovative

User Manual

Please read instructions thoroughly before operation and retain it for future reference.
The image shown above may differ from the actual product appearance.

IMPORTANT SAFEGUARD

	**CAUTION** **RISK OF ELECTRIC SHOCK**	

CAUTION:
To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. Only operate this apparatus from the type of power source indicated on the label. The company shall not be liable for any damages arising out of any improper use, even if we have been advised of the possibility of such damages.

Graphic Symbol Explanation

	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.
	This 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.
	All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.
	The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.
	This apparatus is manufactured to comply with the radio interference requirements.

About this document

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. The content of this manual is subject to change without notice.

Precautions

- Do not shoot images that are extremely bright for a long time (For example, light sources, the sun, etc.).
- Don’t use or store the camera in the following conditions: (1) Extremely hot or cold places (operating temperature -10° C ~ 40° C (= 14° F ~ 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. (6) Where it is near water or in contact with water.
- Installation should be made by qualified service personnel.

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Overview

This outdoor type speed dome camera equipped with a 360° pan and 90° tilt base, and 22X optical zoom lens and has the auto focus function. Moreover, it has many advanced functions, including **Intelligent Auto Tracking, High Spindle Reliability**, **Friendly Graphical OSD Interface** and **Convenient Keyboard Controller Control**. With all these strong features, various demanding applications for safety surveillance can be easily achieved.

1.2 Features

- **High-Speed Pan/Tilt Mechanism and Auto-Focus Zoom Lens**
  - Provide 360° panning, 90° tilting and 22X optical zooming functionality.
- **Auto Tracking Function to Follow Intruder**
  - With precise pan / tilt movement and zoom coefficient calculation, the speed dome camera can make **precise pan, tilt and zoom movement** to keep tracking intruders.
  - The camera will automatically aim and follow the largest movement in the monitoring view, making the camera pan (max. 360º), tilt (max. 90º) and zoom to keep the target in the center of the view within: **(1) the camera's pre-defined surveillance area** / (2) **the pre-defined tracking timeout**. When the locked target is out of the pre-defined surveillance area or the aimed object stops moving longer than the pre-defined tracking timeout, the camera returns to the point it originally monitors. It's the best function to provide evidentiary recording.
- **Proven Spindle Reliability**
  - The patented spindle of the speed dome camera passes rigidly component analysis after testing more than 2,000,000 revolutions.
- **Graphical On-Screen Display**
- **Easy Operation via Keyboard Controller**
  - The optional keyboard controller provides convenient 3D joystick and touch screen design for easy operation.
- **Support PTZ Hot Point Function**
- **Support 8 preset groups, up to 256 programmable preset points**
- **Advanced White Balance Function**
  - According to different color temperature and installation place, set the white balance function to the different mode.

1.3 Package Contents

◎ In the camera package:	◎ In the bracket package (Optional) :	
☐ Speed dome camera	☐ Bracket	
☐ User manual	☐ Wall mounting screw * 4	
	☐ Wall plug * 4	
	☐ Cap * 1	
	☐ M6 Nylok screw * 6	
	☐ Spirit level * 1	
	☐ M4 screw * 1	

1.4 Specification

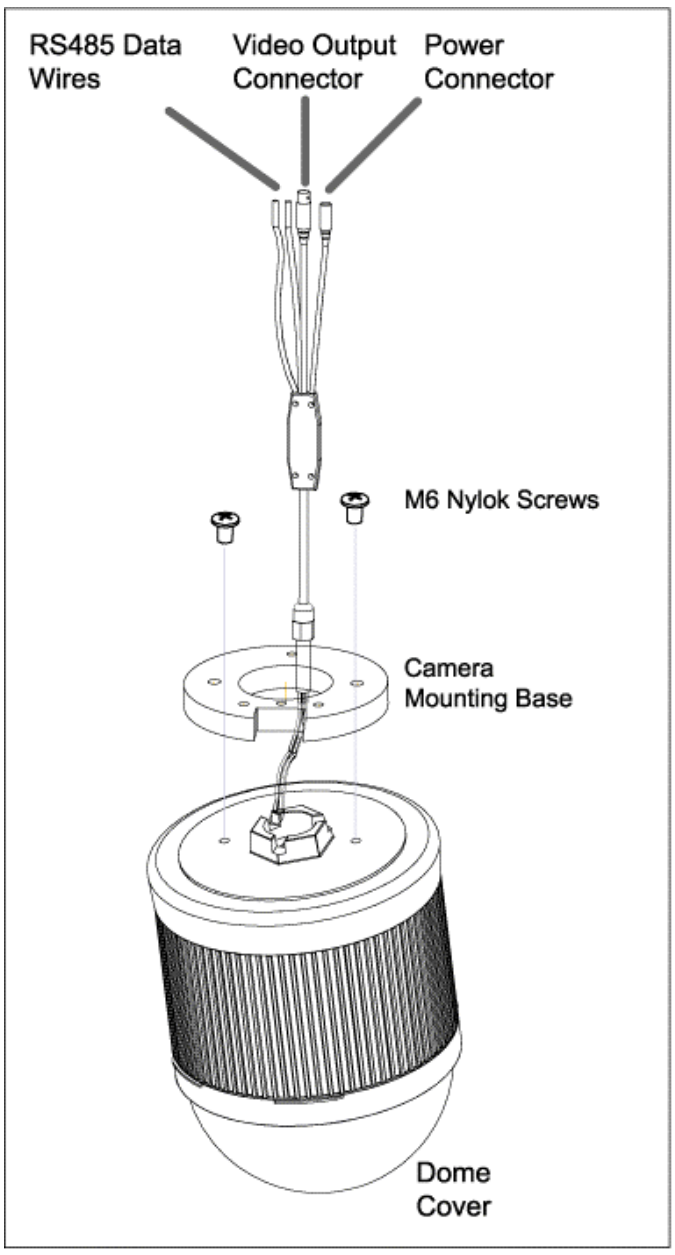
Outdoor 22X Zoom Speed Dome Camera Specification*	
■ GENERAL	
Signal System	NTSC or PAL
Pick-up Element	1/4" Sony Color Super HAD CCD image sensor
Number of Pixels	768(H)*494(V)<NTSC> / 752(H)*582(V)<PAL>
Resolution	480TV lines
Min. Illumination	0.3 Lux / F1.6
S/N Ratio	More than 48dB (AGC off)
Video Output	1.0 Vp-p. 75Ω
BLC	On / Off
Gain Control	Low, Medium & High / Off
Sharpness	Low / Medium / High
White Balance	Auto / Indoor 1 / Indoor 2 / Sun / Cloudy * Indoor1 = 9000K; Indoor2 = 3000K; Sun = 5500K; Cloudy = 7000K
Camera Title	10 characters or symbols
Preset Points and Sequence	Support 8 preset groups, up to 256 programmable preset points * The sequence of all the preset points will follow the order of the minimal panning route.
Auto Tracking	Yes (combined with auto zoom focus tracking)
■ LENS	
Focal Length	f3.9 mm ~ f85.9 mm
F-number	F1.6 (Wide) ~ 3.7 (Tele)
Viewing Angle	4° ~ 60°
Auto Electronic Shutter	1 / 60 (1/50) to 1 / 100,000 sec.
Auto Focus	Manual / Auto
■ MECHANISM	
Pan Range	360°
Pan Speed	360° / 1 sec * The pan speed can be adjusted according to the different pan speed mode.
Tilt Range	90°
Tilt Speed	0° ~ 90° under 1 sec
Zoom Ratio	22X optical zoom
Zoom Speed	Approx. 7s (Tele ~ Wide)
■ OTHERS	
IP Rating	IP67
Ambient Operating Temperature	-10°C ~ 40°C (14°F ~ 104°F)
Power Source	DC12V ± 10%
Current Consumption	1.5A (max)
Dimension (mm)	145(Ø) x 184(H) mm (± 5mm)
Gross Weight (g)	Approx. 1.2 kg
Optional Bracket	Wall-mounted
Optional Device	Keyboard controller

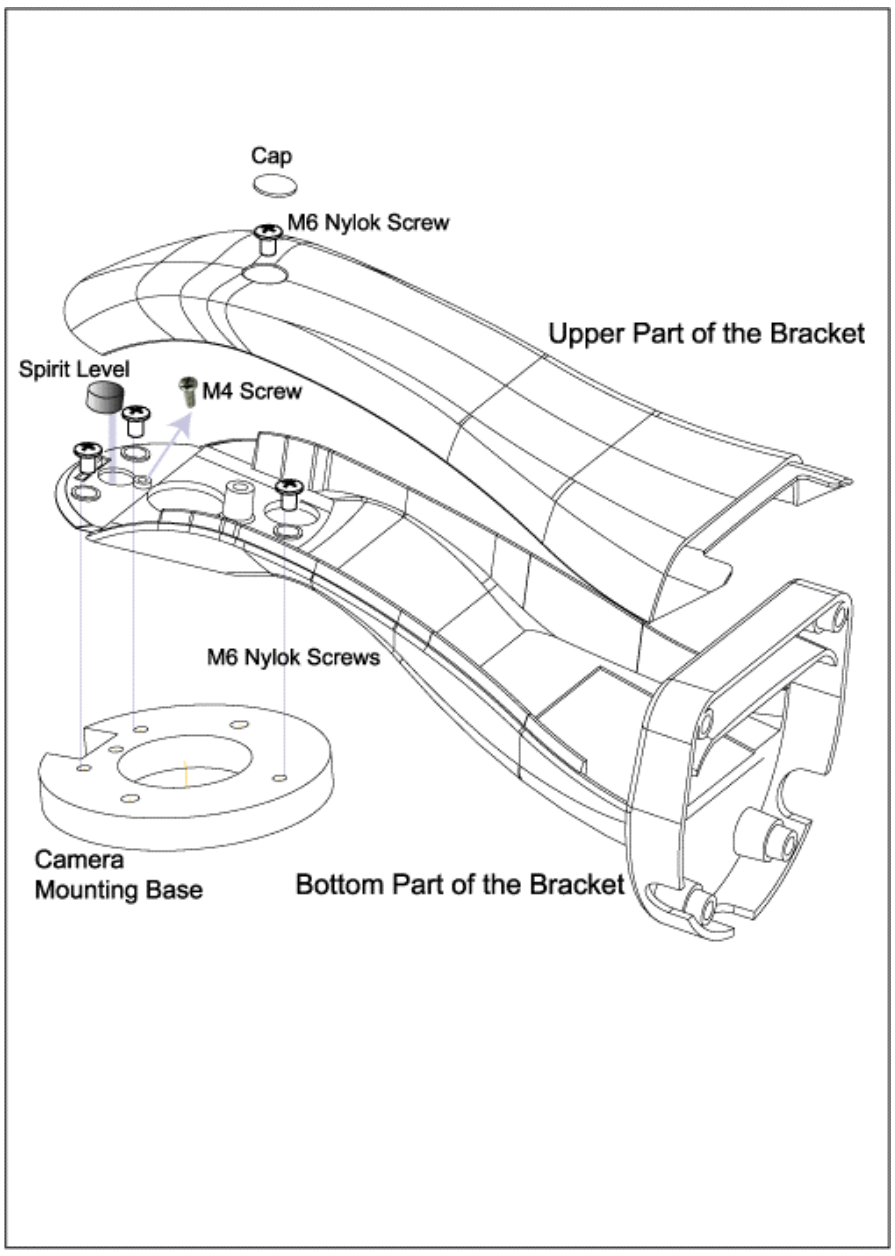
* **The specifications are subject to change without notice.**

2. INSTALLATION AND SETUP

For the installation and connection of this PTZ camera, please refer to qualified service personnel or installer.

2.1 Construction





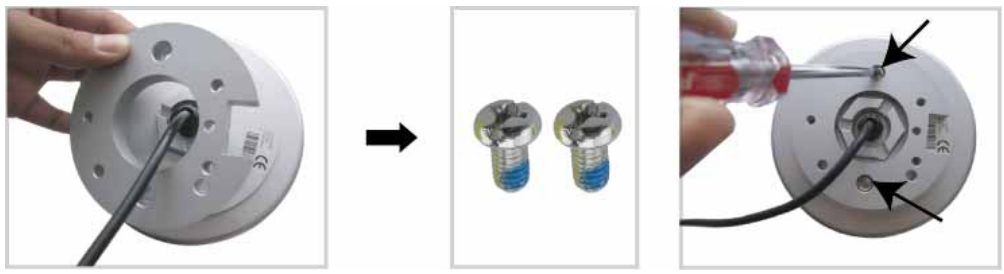
2.2 Installation

Before installation, you need the following items before installation:

- Bracket (supplied with the bracket sales package)
- The accessory packages supplied with the bracket sales package, including:
  (1) Wall mounting screws
  (2) Wall plugs
  (3) Cap
  (4) M6 Nylok screws
  (5) Spirit level
  (6) M4 screw
- Power Drill

STEP 1: Attach the camera-mounting base to the PTZ camera.

Put the power, video and RS485 data connectors through the hole of the camera-mounting base. Align the breach of the camera-mounting base to the sticker label on the PTZ camera, and use two M6 Nylok screws to attach the camera-mounting base to the PTZ camera, as shown in the picture below.



STEP 2: Attach the bracket to the wall.

The bracket is composed of two parts: the upper part and the bottom part. Remove the upper part from the bottom part of the bracket. Use the four mounting screws and wall plugs to attach the bottom bracket to the wall, as shown in the picture below.

Use the spirit level supplied with the bracket package to check the surface is horizontal or not. **If the surface is horizontal, the bubble will remain in the center circle of the spirit level.**

STEP 3: Attach the PTZ camera to the bracket. Connect the power, video and RS485 wires.

Turn the camera up side down, and put the power, video and RS485 data connectors through the hole of the bracket. Then, slightly secure the camera and the bracket with three M6 Nylok screws.

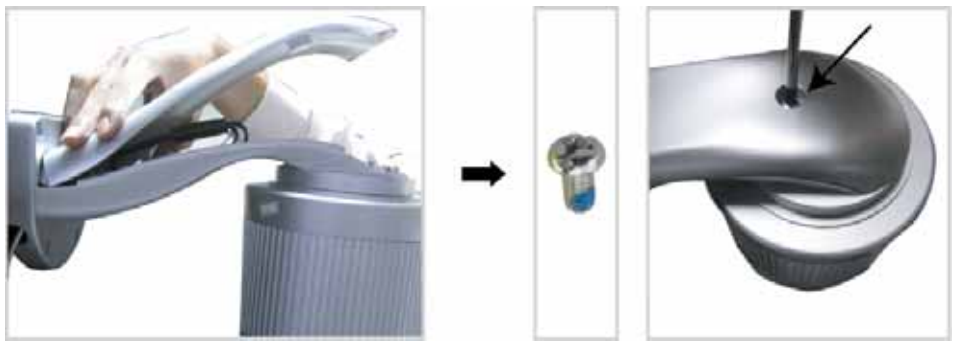
Use the **spirit level** to check the surface is horizontal or not, and adjust the tightness of the three **M6 Nylok screws**. When you make sure the surface is horizontal, use the **M4 screw** supplied with the bracket package to fix the camera and the bracket tightly.

Connect the PTZ camera with the indicated power adapter, video output device and RS485-A & RS485-B wires. After connection, use the **insulation tape** to cover the connected wires and arrange the wires in the proper position.

Note: For detailed connection, please refer to "2.3 Connection (PTZ Camera / Keyboard Controller / DVR)" .

STEP 4: Replace the upper part of the bracket, and finish the installation.

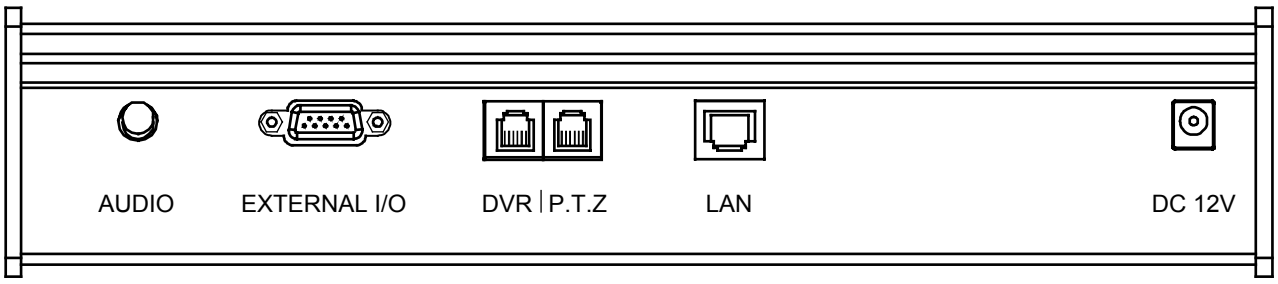
Place the upper part of the bracket back to the bottom part of the bracket, and fasten the bracket with a M6 Nylok screw. Then use the **cap** supplied with the package to cover it and finish the installation.



2.3 Connection (PTZ Camera / Keyboard Controller / DVR)

The optional peripheral (keyboard controller) allows you to accurately control of the pan / tilt / zoom movement for a PTZ camera with the convenient 3D joystick and functional keypad design. The following connection illustration is an example. For further connection and operation guide, please refer to your keyboard controller manual.

Rear panel of the keyboard controller:



1) Connect PTZ Camera to Keyboard Controller with RJ11 Line:

RJ11 Line	RS485-A and RS485-B wires of the PTZ camera
RS485-A: **Red wire**	RS485-A: **Brown wire**
RS485-B: **Green wire**	RS485-B: **Orange wire**
	
The RJ11 line is not supplied in the sales package.	*Example of RS485-A and RS485-B wires of the PTZ camera.*

STEP 1: Get a RJ11 line with the proper length to your connection.

Different RJ11 connector may have different line layout, so the connection might be different. If you cannot control the PTZ camera after connection, please reverse the RJ11 line connection with the PTZ camera.

STEP 2: Remove one end of the insulating coating of the RJ11 line.

Remove one end of the insulating coating of the RJ11 line to find the RS485-A and the RS485-B wires, and remove the insulating coating to reveal the naked wires for further connection.

STEP 3: Twist the RS485-A and RS485-B wires together (as shown in the picture above).

Twist the RS485-A (red) and RS485-B (green) wires of the RJ11 line to the RS485-A (brown) and RS485-B (orange) wires of the PTZ camera (as shown in the picture above). To protect the naked wires, use the insulation tape to cover on the twisted wires.

STEP 4: Connect the RJ11 connector to the “PTZ” port on the rear panel of the keyboard controller.

STEP 5: Press "F1" key on the keyboard controller, and go to "System" and "CAM" menu to make related settings.

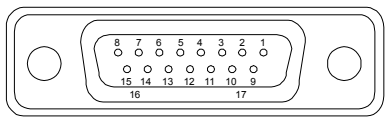
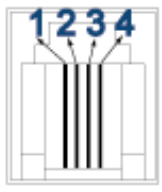
- **System**

Mode	: To select the mode, press "FUN1" key on the keyboard controller. Go to "System" → "Mode" and select Mode 1 (For the case of one DVR and one camera connection).
Net Setup	: Check if this product is under the same domain as the connected PTZ camera.

- **CAM**

Baud Rate	: Check and select the baud rate the same as the connected PTZ camera is used.
Protocol	: Choose the proper camera protocol depending on the camera type, AVP321 / AVP311 / PELCO (PELCO-D).
CAM ID	: Assign an exclusive ID number. This ID is important for the keyboard controller to identity the camera you want to control.

2) Connect DVR to Keyboard Controller with RJ11 Line and D-Sub Connector or RS-485 Port:

RJ11 Line	**For 4CH DVR – 15 PIN D-Sub Connector**	**For 16CH & 8CH DVR – RS-485 Port on the DVR Rear Panel**
RS485-A: **Red wire**	RS485-A: **PIN 11**	RS485-A: **PIN 2**
RS485-B: **Green wire**	RS485-B: **PIN 10**	RS485-B: **PIN 3**
	Solder Side of 15-pin D-Sub connector RS485-A: PIN11; RS485-B: PIN10 	 2: RS485-A 3: RS485-B
The RJ11 line is not supplied in the sales package.	*D-Sub connector is supplied with the DVR package.*	*Example of RS485 port on the DVR rear panel.*

STEP 1: Get a RJ11 line with the proper length to your connection.

Different RJ11 connector may have different line layout, so the connection might be different. If you cannot control the DVR after connection, please reverse the RJ11 line connection with the DVR.

STEP 2: Remove one end of the insulating coating of the RJ11 line.

Remove one end of the insulating coating of the RJ11 line to find the RS485-A and the RS485-B wires, and remove the insulating coating to reveal the naked wires for further connection.

STEP 3: Solder the RS485-A and RS485-B wires together (as shown in the picture above).

For 4CH DVR MODEL

Solder the RS485-A (red) and RS485-B (green) wires of the RJ11 line to the corresponding pins on the solder side of the 15 PIN D-Sub connector (as shown in the picture above). To protect the naked wires, use the insulation tape to cover on the twisted wires.

For 16CH & 8CH DVR MODEL

Insert the RS485-A (red) and RS485-B (green) wires of the RJ11 line to the corresponding pins on the "RS485" port of the DVR rear panel (as shown in the picture above).

STEP 4: Insert the D-Sub connector to the DVR's external I/O port. And connect the RJ11 connector to the "DVR" port on the rear panel of the keyboard controller.

STEP 5: Press "F1" key on the keyboard controller, and go to "System" and "DVR" menu to make related settings.

- **System**

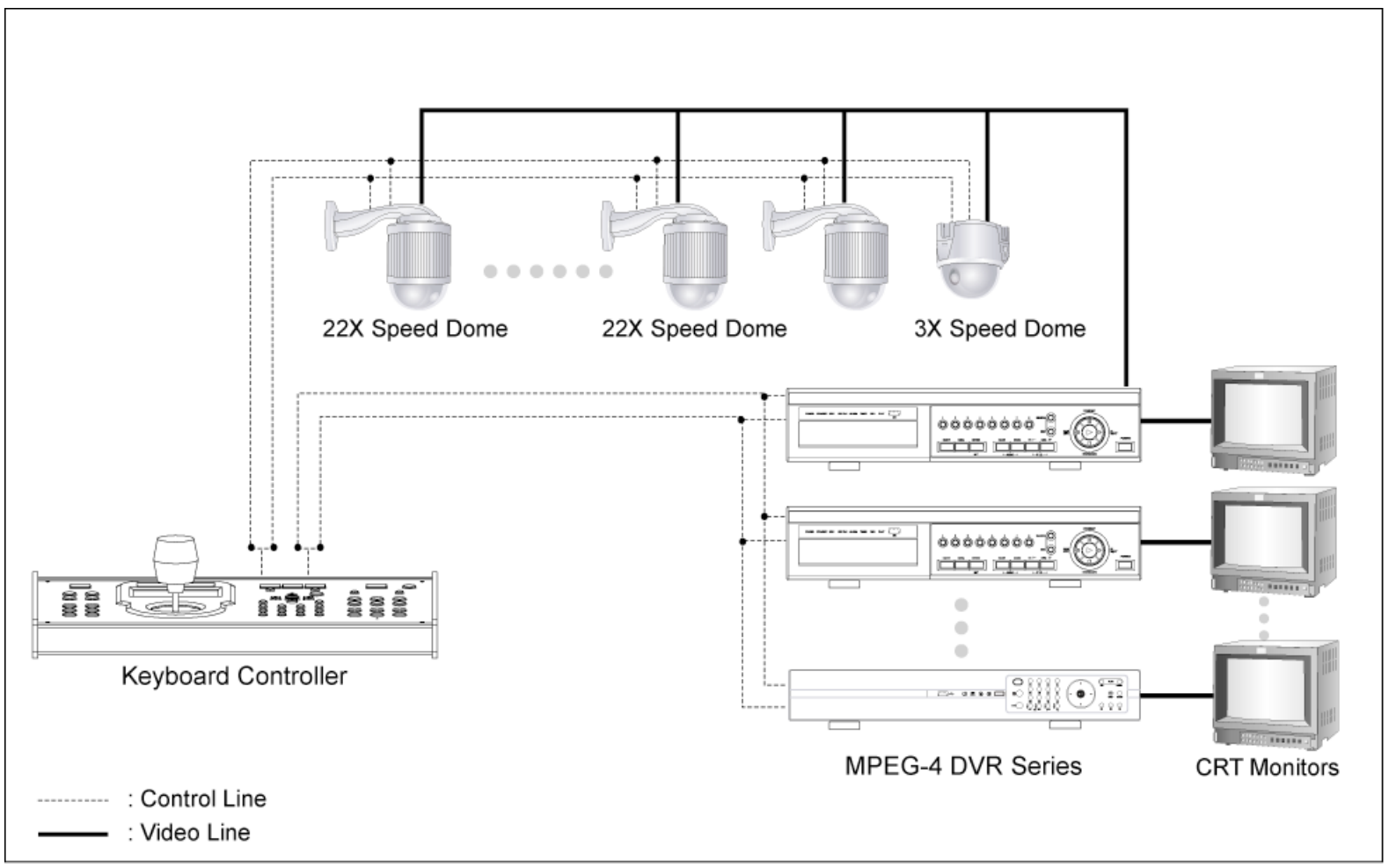
Mode	: To select the mode, press "FUN1" key on the keyboard controller. Go to "System" → "Mode" and select Mode 1 (For the case of one DVR and one camera connection).
Net Setup	: Check if this product is under the same domain as the DVR.

- **DVR**

Baud Rate	: Check and select the baud rate the same as the DVR is used.
Protocol	: Choose the proper DVR protocol depending on the DVR type, DVR-16 (16CH) / DVR-8 (8CH) / DVR-4 (4CH).
DVR ID	: Assign an exclusive ID number. This ID is important for the keyboard controller to identity the DVR you want to control.

3) System Diagram Illustration:

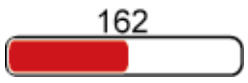
The diagram below illustrates the available connections of this PTZ camera for you to picture your surveillance system.



3. QUICK MENU GUIDE

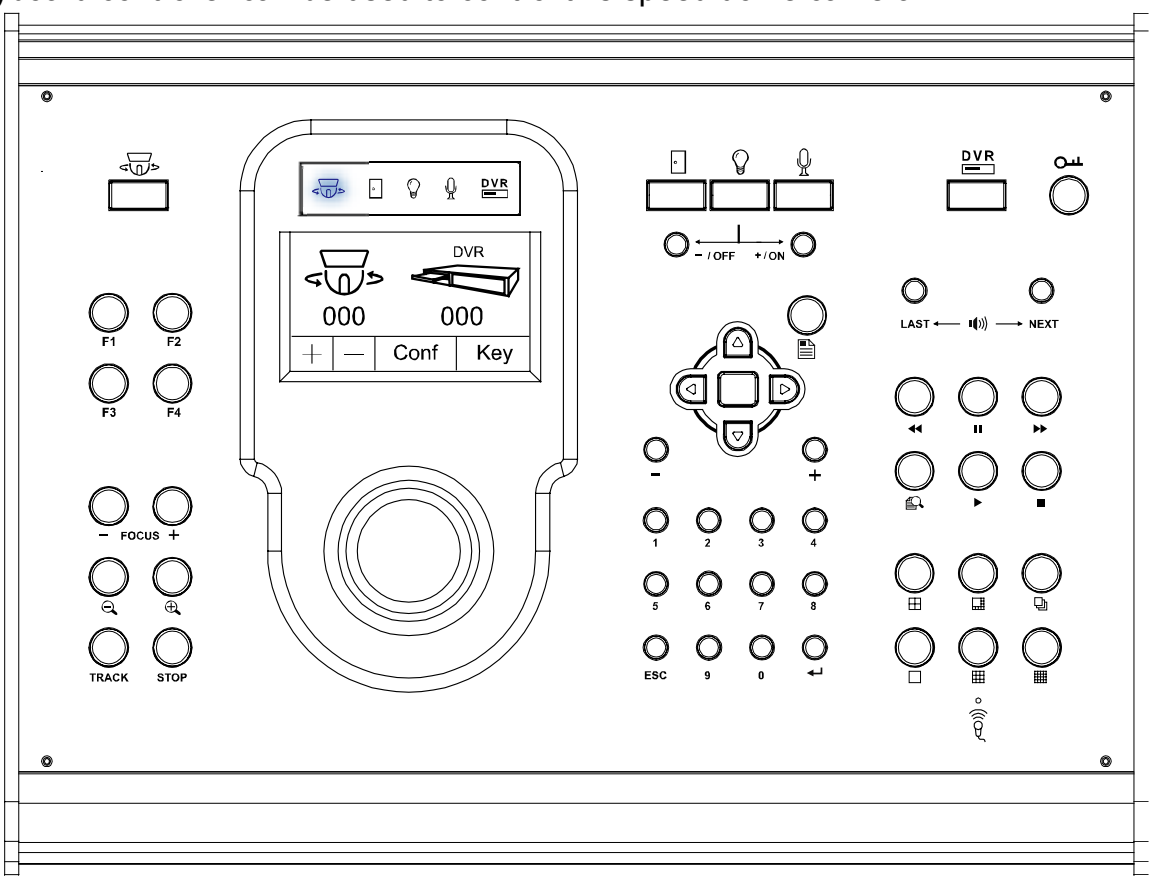
3.1 Menu Configuration

Setup menu is shown as below. You can customize the speed dome camera to your own requirements by setting up the respective items in these menus. For details, please refer to the corresponding pages.

	**CAMERA**	White Balance	Auto, Indoor 1, Indoor 2, Sun, Cloudy
		Shutter Speed	1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
		Gain	Low, Medium, High, Off
		IRIS	
		BLC	On, Off
		Sharpness	Auto, Low, Medium, High
	**TOOL**	Title Name	Modify, New
		Title Position	Up, Down, Off
		Pan / Tilt Angle	On, Off
		Pan / Tilt Graph	On, Off
		Zoom Bar	On, Off
		Focus Window	On, Off
		ID Code No.	0
		ID Code Display	On, Off
		Baud Rate	19200, 9600, 4800, 2400
	**STATUS**	Auto Focus	Yes
		Motion Detect	Yes
		Auto Tracking	Yes
	**MODE**	Reset Setting	Set
		Pan / Tilt Speed	Slow, Fast
		Preset Setup	Group 1 ~ Group 8
		Tracking Setup	LIMIT, TIME
		Home Position	Set
		Auto Focus	Always, PTZ
	**EXIT**	SAVING	
		WITHOUT SAVING	

3.2 Quick Programming Guide

The optional keyboard controller can be used to control this speed dome camera.



Note: Please enter the PTZ camera control mode of the keyboard controller first.

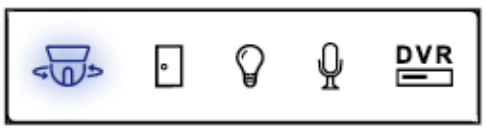
	(1)	Press the "" key on the keyboard controller to enter the PTZ camera control mode. Or use the stylus to click the PTZ icon on the touch screen of the keyboard controller to enter the PTZ camera control mode.
Enter the PTZ Camera Control Mode	(2)	In the control mode of the PTZ camera, the LED indication light of the PTZ camera on the keyboard controller will be on.
KEYS	**OPERATIONS UNDER THE PTZ CAMERA CONTROL MODE OF THE CONTROLLER**	
	Press this key to access the main menu of the PTZ camera.	
	Use the up or down key to make the selection.	
	Press the right key, the sub-menu shows up. Press the left key, go the upper layer of the menu list.	
	Use the enter key "" to confirm the certain menu setting / enter the certain sub-menu	
F1, F2, F3, F4 **HOTKEY** These four keys can function as 4 types customized hotkey.	HOME: Go to the home position	
	GOTO: Go to the preset point	
	SEQ: Start sequence function. Press "STOP" key to exit the sequence mode.	
	NONE: Saved for future functions	
* For detailed hotkey function setup, please refer to section "" at page xx.		
− **FOCUS** +	Adjust the focus of the PTZ camera.	
/	Press these keys to zoom out / zoom in the PTZ camera.	
TRACK	Press this key to start auto-tracking function.	
STOP	Press this key to stop auto-tracking function.	
− / +	Use the − / + key to modify the setting of the IRIS level or the ID code number or the auto tracking angle in the menu.	
0 ~ 9	Use this number pad to enter the camera ID, channel number and password, etc.	
ESC	Ignore the setting and exit.	
↵	Confirm the number / password entering.	
	Use the joystick to control the PTZ camera to move up / down / left / right. Turn the joystick clockwise to zoom in. Turn the joystick counter-clockwise to zoom out.	

Press and hold , and press F1, F2, F3, F4 and respectively to quickly perform different functions as follows:

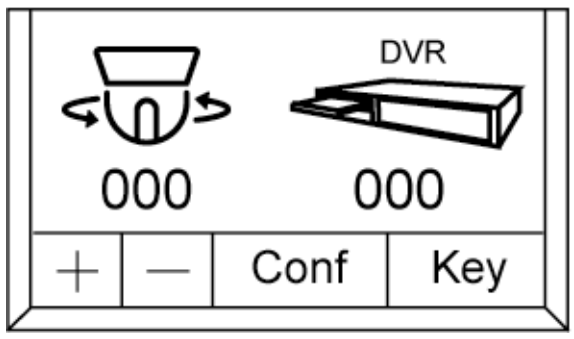
Key Combination	Functions	Description
and F1	Show ID	This keystroke combination will show the camera ID display on the monitor if the ID is hided.
and F2	Clear ID	This keystroke combination will clear the camera ID information saved in the camera, and restore to the default setting (00).
and F3	Hide ID	This keystroke combination will hide the camera ID display on the monitor.
and F4	Show firmware version of the keyboard controller.	This keystroke combination will show the current firmware version of the keyboard controller.
	* For the firmware version of the PTZ camera, please reboot the PTZ camera. The firmware version will be shown on the monitor of the PTZ camera.	
and	Reset the keyboard controller to factory default settings.	This keystroke combination enables the reset of the keyboard controller to the factory settings. Then, it will prompt you to shut down and reboot again.
	* To reset the PTZ camera to the factory default settings, please enter the MODE menu of the PTZ camera.	

4. MAIN MENU – CAMERA

Press the "  " key on the keyboard controller to enter the PTZ camera control mode of the controller. Or use the stylus to click the PTZ icon on the touch screen of the controller to enter the PTZ camera control mode, as shown in the picture below.

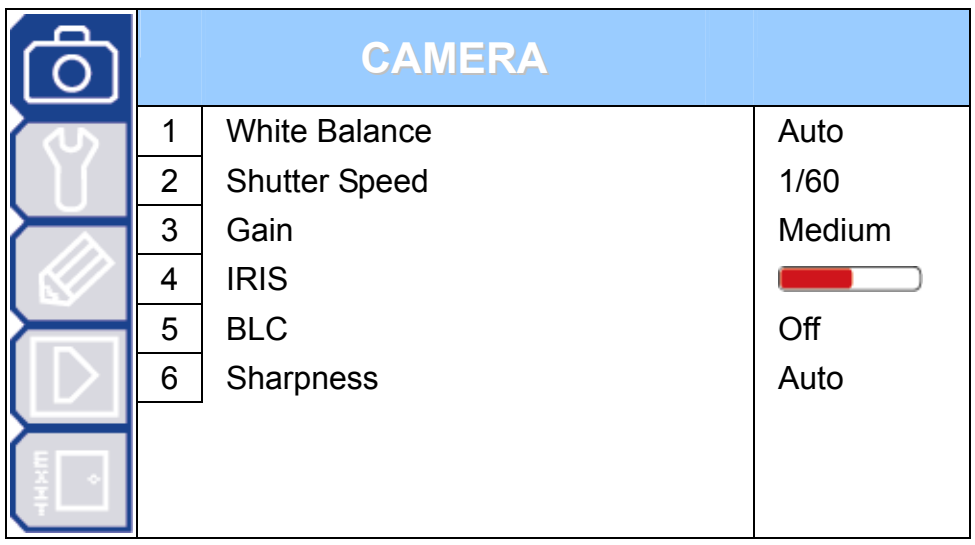


Device LED Indicator

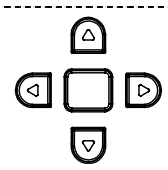


Touch Screen Display

In the PTZ camera control mode of the keyboard controller, press  key on the controller to access the main menu of the PTZ camera. Move the cursor to CAMERA "  ", you will see the following window:



Note: You will see the current settings on right hand side of this menu page.

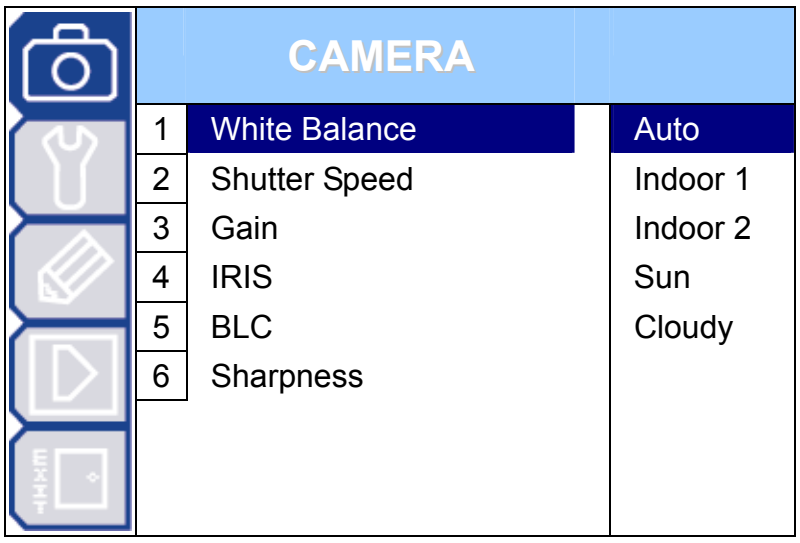
	Press this key to access the main menu of the PTZ camera.
	Use the up or down key to make the selection.
	Press the right key, the sub-menu shows up. Press the left key, go the upper layer of the menu list.
– / +	Use the – / + key to modify the setting of the IRIS level in the menu.

- Exit and Save the Settings / Exit without Saving the Settings:

Move the cursor to EXIT "  ", press right key to enter the sub-menu. Select "EXIT & SAVE" or "EXIT & NO SAVE" and press enter key. Then you'll see the pop-out message "Are your sure ?", press enter key again to apply the settings and exit the menu.

4.1 White Balance

The white balance function processes the viewed image to retain color balance over a color temperature range. According to different color temperature and installation place, set the white balance function to the different mode.



- **Auto:**

Balance the color automatically depending on the different color temperature.

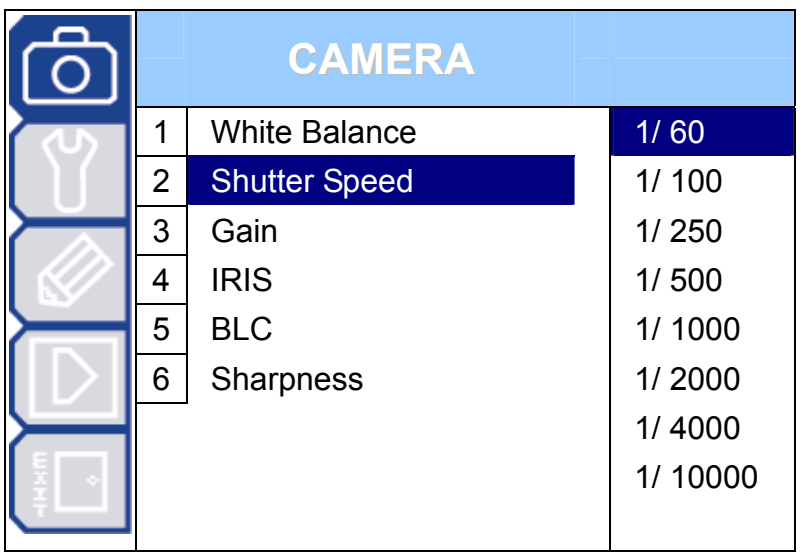
- **Indoor 1 / Indoor 2 / Sun / Cloudy:**

You can select different white balance modes provided here to adjust the picture output. As you change the setting, you will see the color change on your monitor.

White Balance Modes	Color Temperature
Indoor 1	9000K
Indoor 2	3000K
Sun	5500K
Cloudy	7000K

4.2 Shutter Speed

Shutter speed is the duration of the electronic shutter. You can program the shutter speed manually (Numeric Value).



- **Numeric Value:**

NTSC: (1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000)

PAL: (1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000)

The camera has several numerical shutter speed settings. The higher the number, the faster the electronic shutter. Increasing the shutter speed will lower the amount of light passing through the lens.

The slowest shutter speed setting is 1/60 second (NTSC) or 1/50 second (PAL).

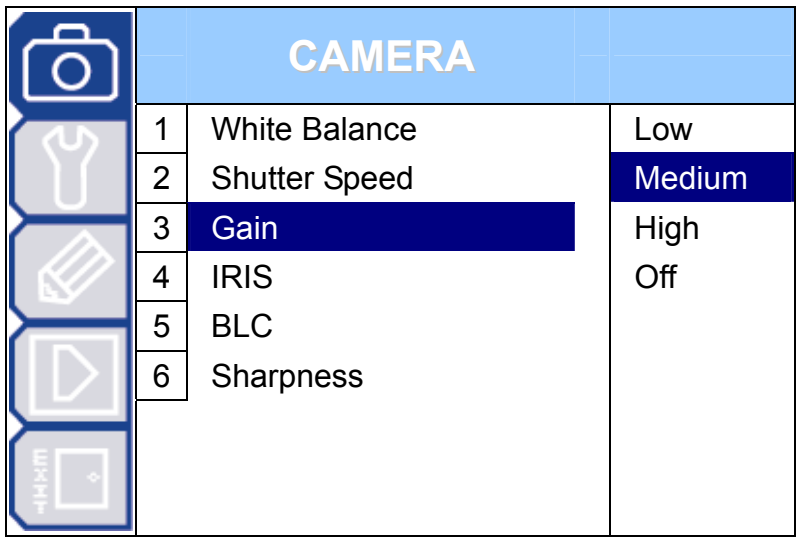
The fastest shutter speed setting is 1/10000 second.

Note: When you use a NTSC camera in the PAL system environment, set the shutter speed as 1/100, the effect of the camera picture output will equal to the effect under flickerless mode.

Note: When you use a PAL camera in the NTSC system environment, set the shutter speed as 1/120, the effect of the camera picture output will equal to the effect under flickerless mode.

4.3 Gain Control

Gain control is a function that can adjust the amplitude of the signal input according to the light conditions.

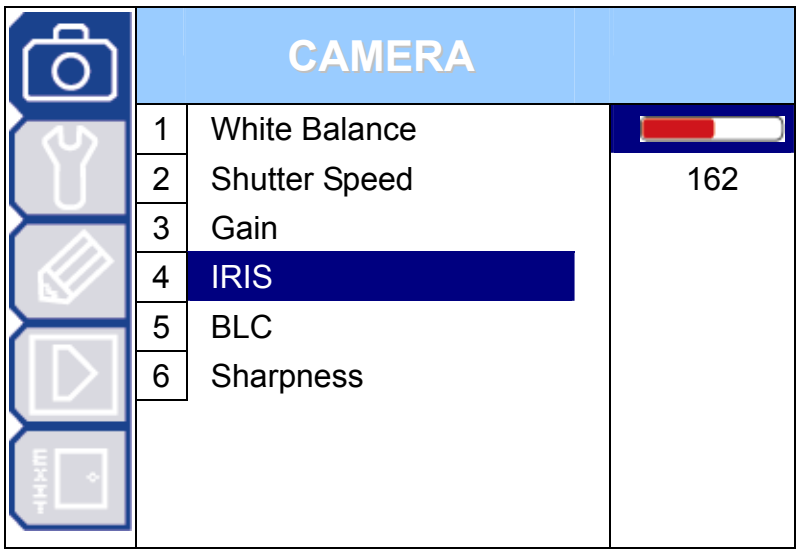


- **On (Low, Medium, High) / Off:**

When the light condition is too bright, you can select “Low” for the gain control to get lower sensitivity. When the light condition is normal, you can select “Medium” for the gain control to get normal sensitivity. When the light condition is too dark, you can select “High” to get the higher sensitivity and a brighter display. However, the higher the sensitivity is, the more the signal noise will be.

4.4 IRIS

Auto iris is the lens function that automatically opens and closes the iris in response to changing light conditions.

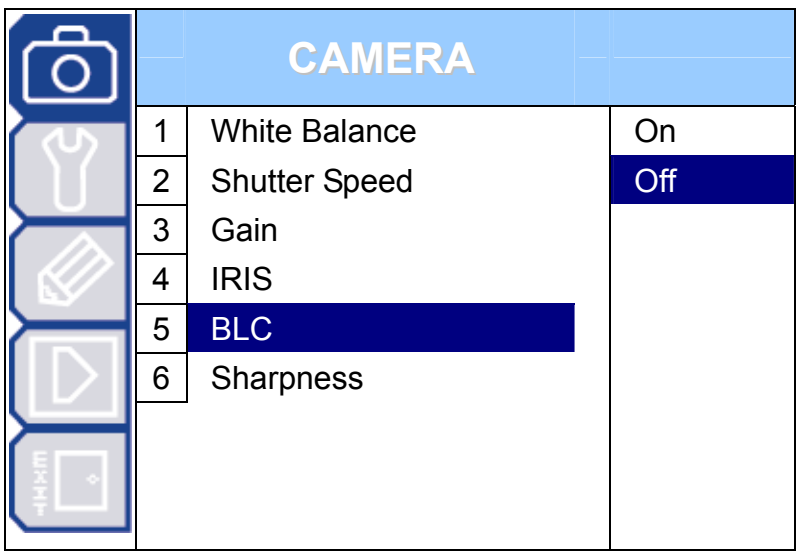


- **Auto IRIS Level (50 ~ 250):**

Auto iris level is the numeric value the auto iris uses to maintain the brightness level of the camera. Use the "＋" key to increase the value to brighten the scene. Use the "－" key to decrease the level to darken the scene.

4.5 Backlight Compensation (BLC)

If a bright backlight is present, the picture may appear dark or as a silhouette. The backlight compensation function can enhance objects in the center of the picture and adjust the iris so that the object will be properly exposed.

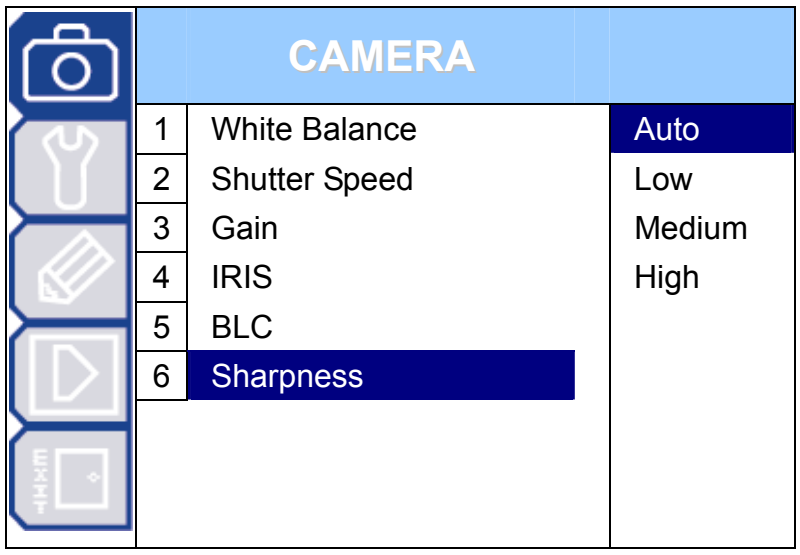


- **On / Off:**

The backlight compensation can be set on or off.

4.6 Sharpness

Auto sharpness enhances picture detail by increasing the aperture gain of the camera and sharpening the edges in the pictures.



- **Auto:**

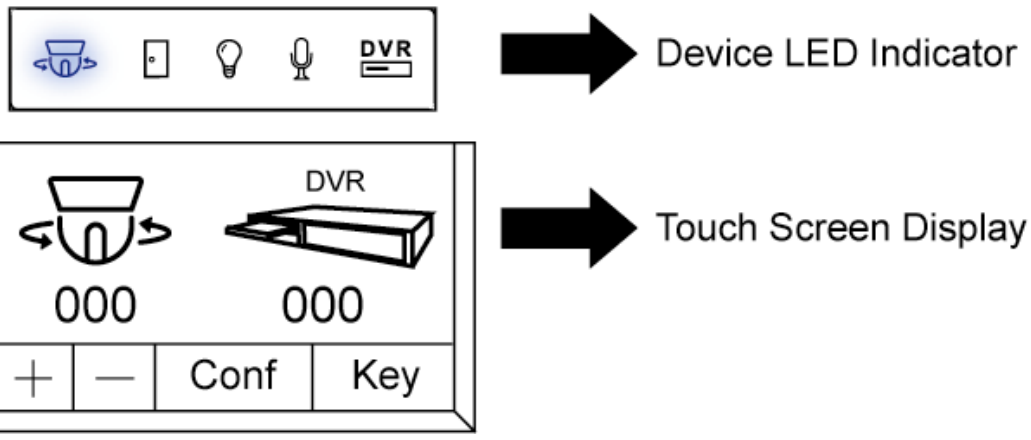
The camera automatically maintains a normal sharpness mode.

- **Sharpness Level (Low / Medium / High) :**

The sharpness of the picture can be set manually or by different sharpness levels (Low / Medium / High).

5. MAIN MENU – TOOLS

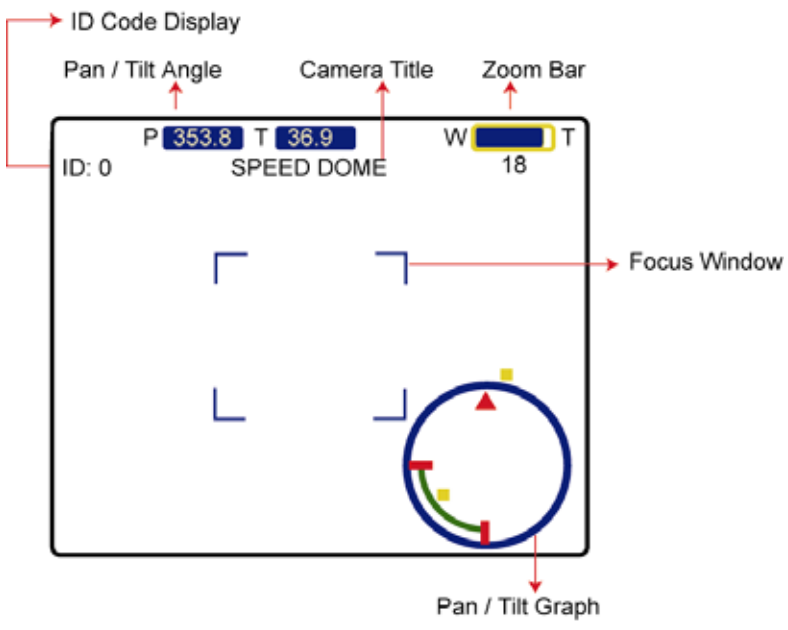
Press the "  " key on the keyboard controller to enter the PTZ camera control mode of the controller. Or use the stylus to click the PTZ icon on the touch screen of the controller to enter the PTZ camera control mode, as shown in the picture below.



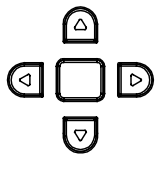
In the PTZ camera control mode of the keyboard controller, press  on the controller to access the main menu of the PTZ camera. Move the cursor to TOOLS "  ", you will see the following window:

TOOLS		
1	Title Name	Set
2	Title Position	Up
3	Pan / Tilt Angle	On
4	Pan / Tilt Graph	On
5	Zoom Bar	On
6	Focus Window	On
7	ID Code No.	0
8	ID Code Display	On
9	Baud Rate	2400

Graphical Display Monitor of the PTZ Camera:



Note: You will see the current settings on right hand side of this menu page.

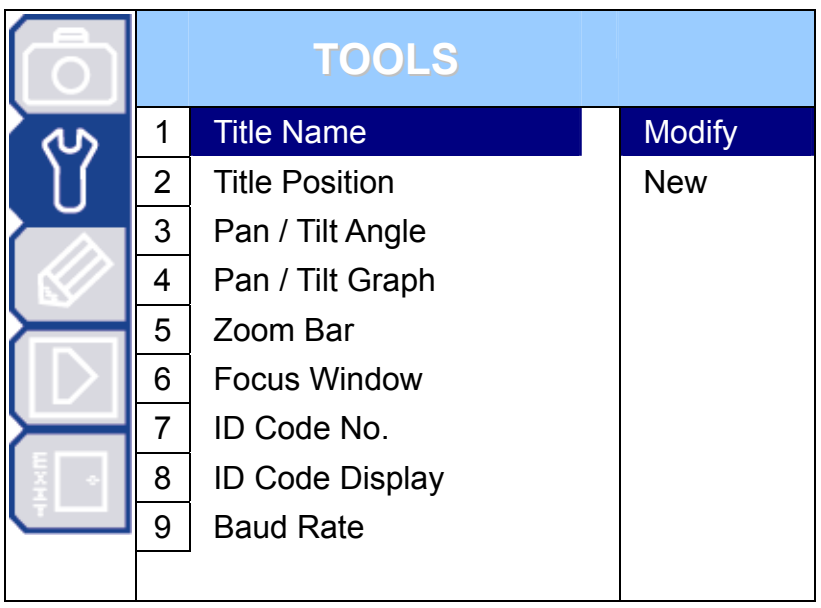
	Press this key to access the main menu of the PTZ camera.
	Use the up or down key to make the selection.
	Press the right key, the sub-menu shows up. Press the left key, go the upper layer of the menu list.
	Use the enter key "  " to confirm the certain menu setting / enter the certain sub-menu
– / +	Use the – / + key to modify the ID code number in the menu.

- Exit and Save the Settings / Exit without Saving the Settings:

Move the cursor to EXIT "  ", press right key to enter the sub-menu. Select "EXIT & SAVE" or "EXIT & NO SAVE" and press enter key. Then you'll see the pop-out message "Are your sure ?", press enter key again to apply the settings and exit the menu.

5.1 Title Name

The title name is the label used to identify the camera viewed on the monitor. Up to 10 characters can be used for a title.

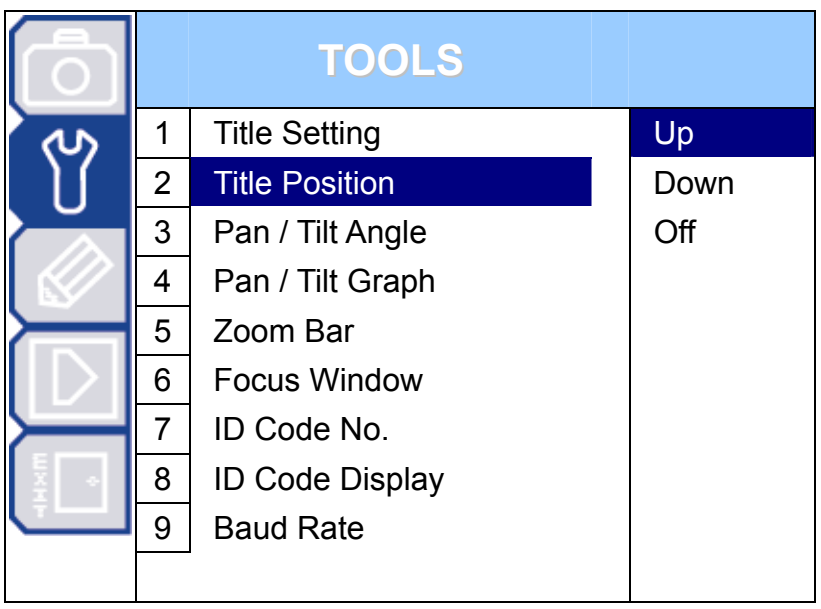


- **Modify / New:**

Move the cursor to “Modify” or “New” and press the enter key to start editing the camera title. Use the up or down key to select the characters, numbers, or symbols. After setup, press the enter key to confirm the setting and exit.

5.2 Title Position

The position of the camera title viewed on the monitor can be selected by your own or can be switched off.

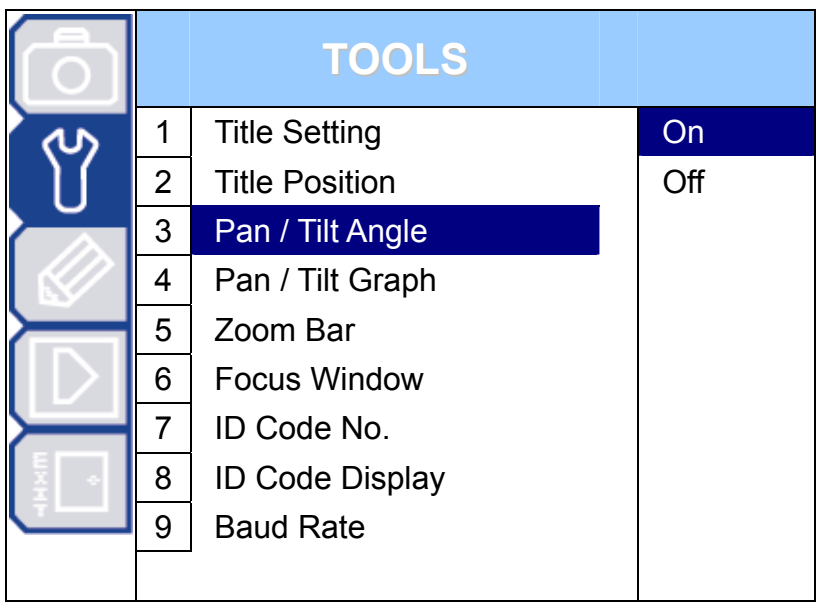


- **Up / Down / Off:**

Select to display the camera title name on the top of / at the bottom of the monitor or choose not to display the title.

5.3 Pan / Tilt Angle

The numeric value of the pan and tilt angle can be displayed on the monitor.

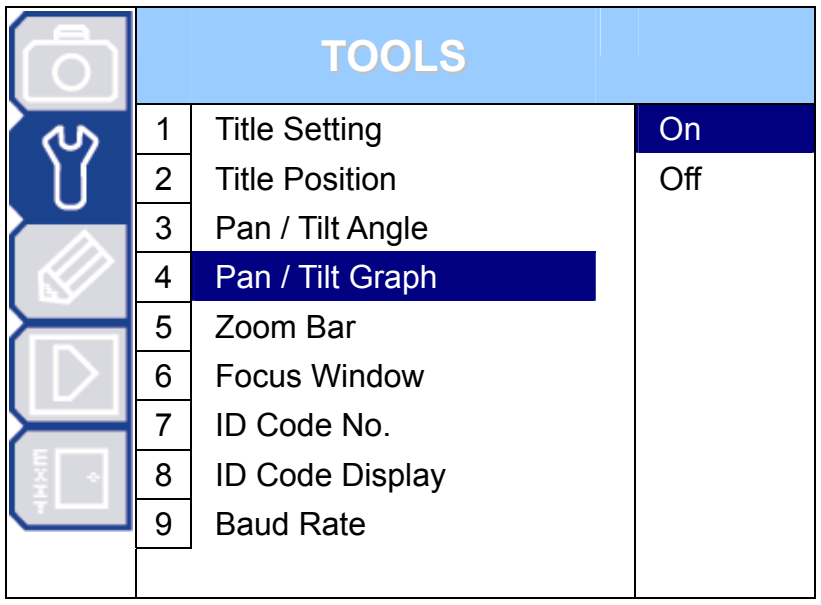


- **On / Off:**

Select whether to display the pan and tilt angle information (numeric value) on the monitor or not.

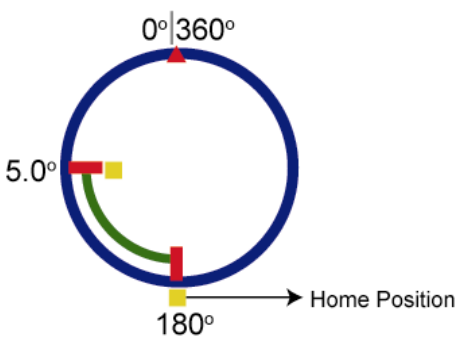
5.4 Pan / Tilt Graph

The pan / tilt position can be easily viewed on this graphical display.



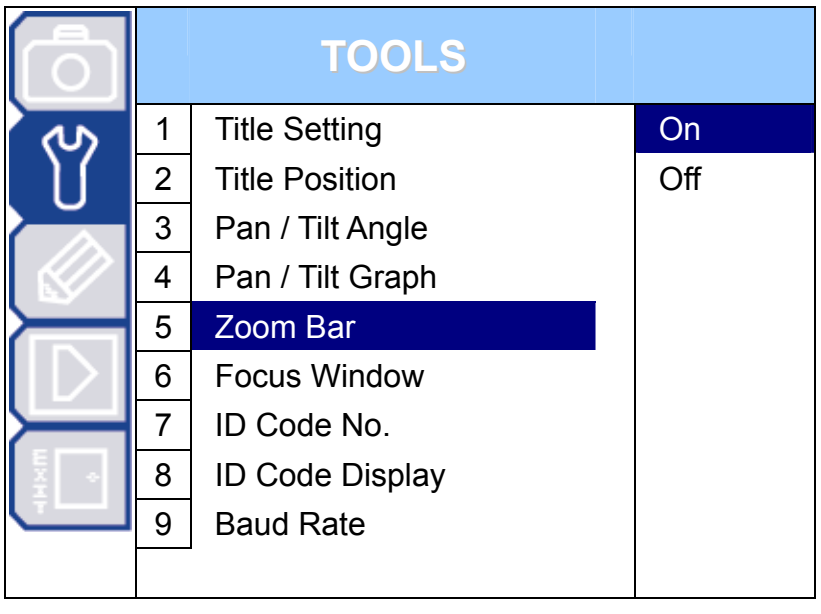
- **On / Off:**

Select whether to display the pan/ tilt graphical display on the monitor or not.



5.5 Zoom Bar

The zoom ratio can be easily viewed on this zoom bar graph.

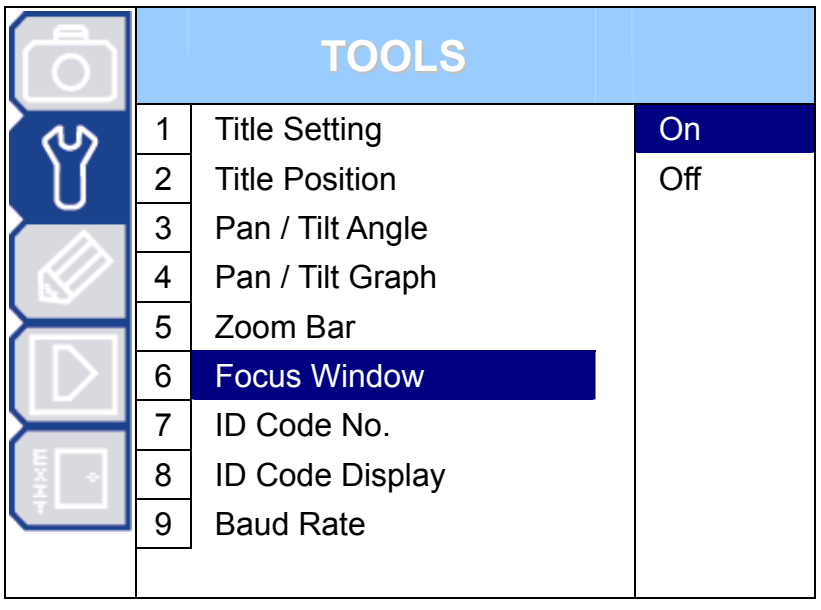


- **On / Off:**

Select whether to display the zoom bar graph on the monitor or not.

5.6 Focus Window

The focus window can be marked on the monitor.

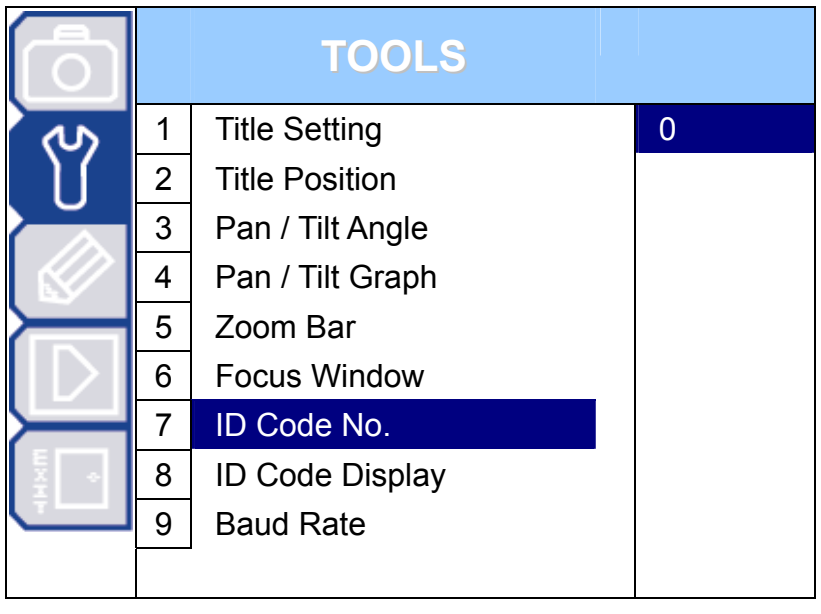


- **On / Off:**

Select whether to mark the focus window position on the monitor or not.

5.7 ID Code No.

The camera ID code number is a series of numbers that indicate the location of the camera.

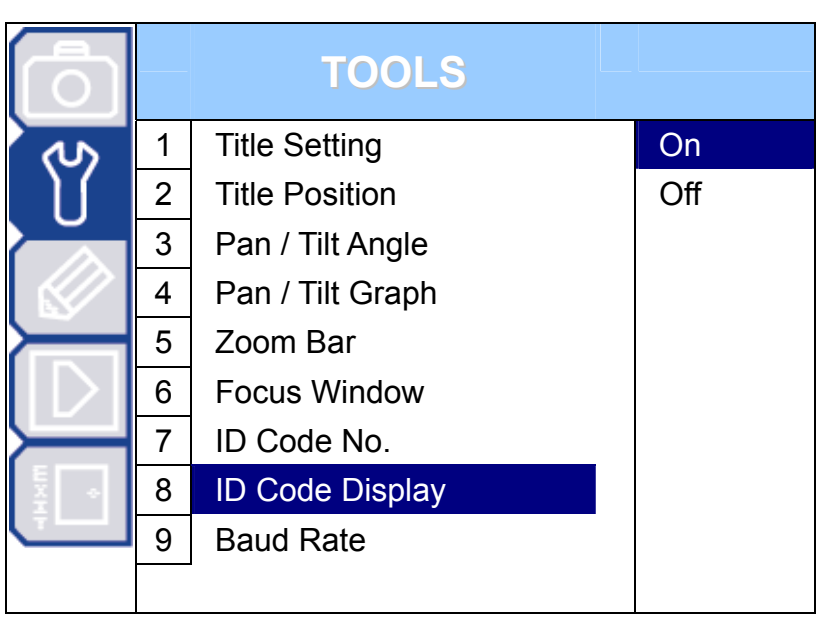


- **Camera ID Code Number Setup:**

Use the － / ＋ key to set the camera ID code number in the menu.

5.8 ID Code Display

The camera ID code number can be viewed on the monitor.

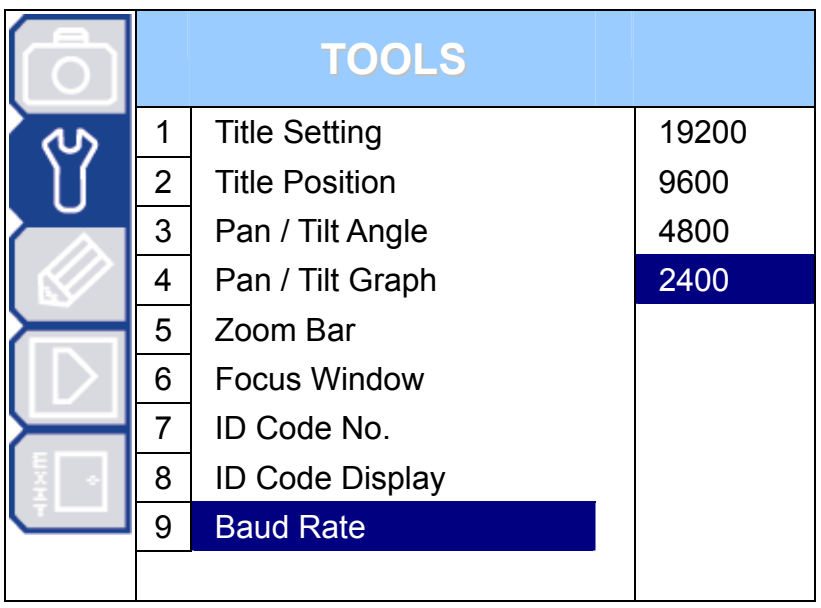


- **On / Off:**

Select to whether to display the ID number information on the monitor or not.

5.9 Baud Rate

Baud rate is the transmission speed for the RS485 communication.



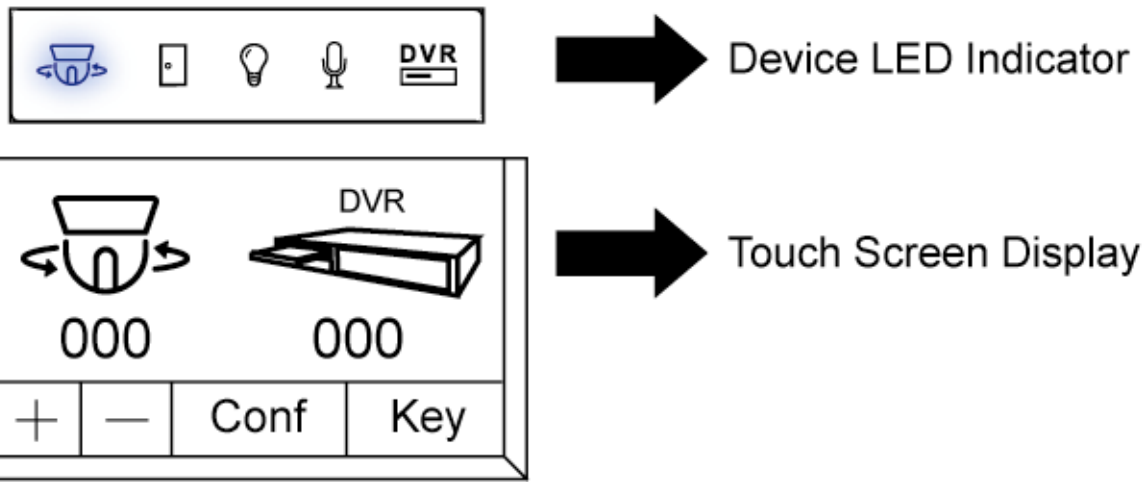
- **2400 / 4800 / 9600 / 19200 (unit: bits/s)**

Set the baud rate of the PTZ camera to the same baud as the connected keyboard controller.

Specifies the transmission speed (19 200, 9600, 4800, 2400 bits per second) for the RS485 communication. The factory default setting is 2400.

6. MAIN MENU – STATUS

Press the "  " key on the keyboard controller to enter the PTZ camera control mode of the controller. Or use the stylus to click the PTZ icon on the touch screen of the controller to enter the PTZ camera control mode, as shown in the picture below.



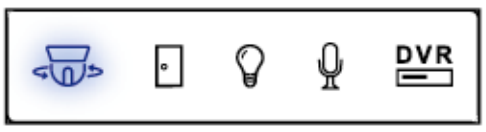
In the PTZ camera control mode of the keyboard controller, press  on the controller to access the main menu of the PTZ camera. Move the cursor to STATUS "  ", you will see the following window:

STATUS		
1	Auto Focus	Yes
2	Motion Detect	Yes
3	Auto Tracking	Yes

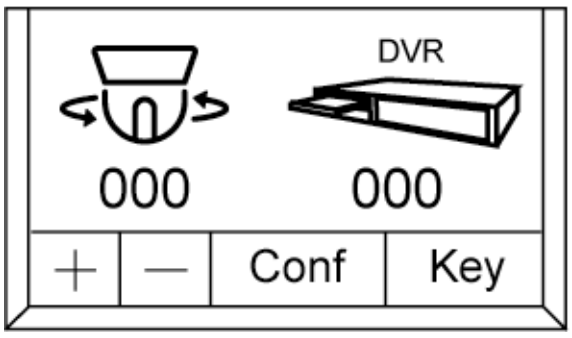
Note: This STATUS menu will be deleted in the future.

7. MAIN MENU – MODE

Press the "  " key on the keyboard controller to enter the PTZ camera control mode of the controller. Or use the stylus to click the PTZ icon on the touch screen of the controller to enter the PTZ camera control mode, as shown in the picture below.



Device LED Indicator

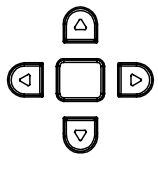


Touch Screen Display

In the PTZ camera control mode of the keyboard controller, press  on the controller to access the main menu of the PTZ camera. Move the cursor to MODE "  ", you will see the following window:

MODE		
1	Reset Default	Set
2	Pan / Tilt Speed	Fast
3	Preset Setup	Group_1
4	Tracking Setup	60° 5s
5	Home Position	Set
6	Auto Focus	PTZ

Note: You will see the current settings on right hand side of this menu page.

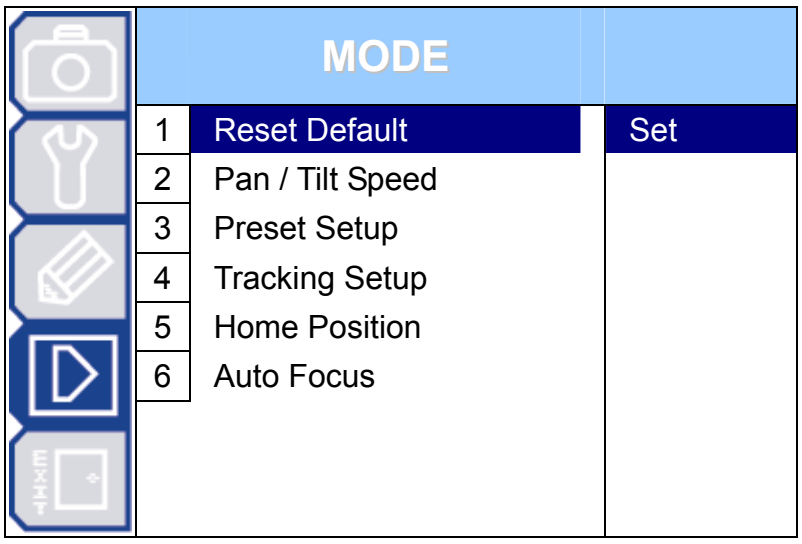
	Press this key to access the main menu of the PTZ camera.
	Use the up or down key to make the selection.
	Press the right key, the sub-menu shows up. Press the left key, go the upper layer of the menu list.
	Use the enter key "  " to confirm the certain menu setting / enter the certain sub-menu
— / +	Use the — / + key to modify the auto tracking angle in the menu.

- Exit and Save the Settings / Exit without Saving the Settings:

Move the cursor to EXIT "  ", press right key to enter the sub-menu. Select "EXIT & SAVE" or "EXIT & NO SAVE" and press enter key. Then you'll see the pop-out message "Are your sure ?", press enter key again to apply the settings and exit the menu.

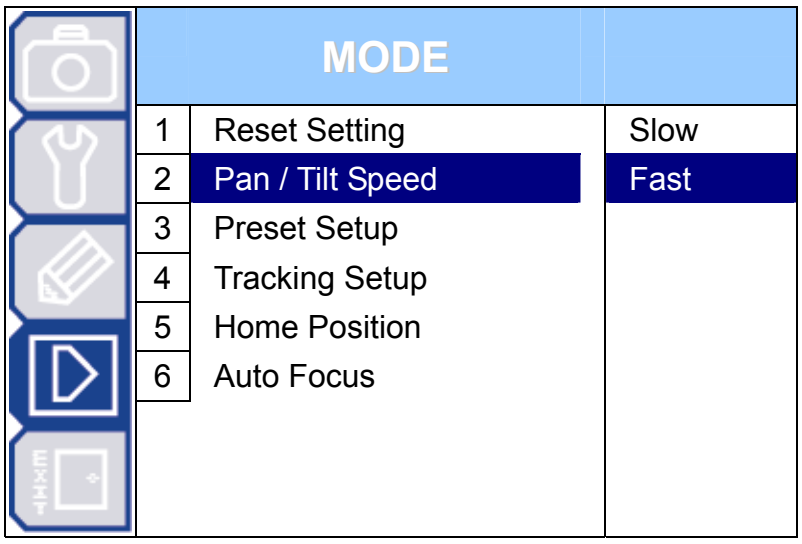
7.1 Reset Default

Restore all the camera settings to the factory default settings. Press the enter key to confirm the reset command. After you see the message “Initial…OK” on the monitor, all the camera settings are reset to default settings. Press the left key to exit the message window.



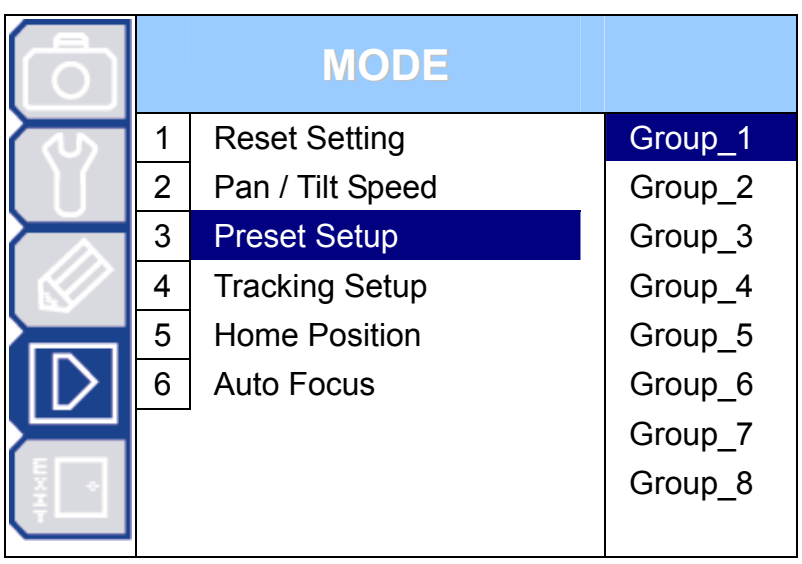
7.2 Pan / Tilt Speed

The pan / tilt speed can be set to slow or fast.



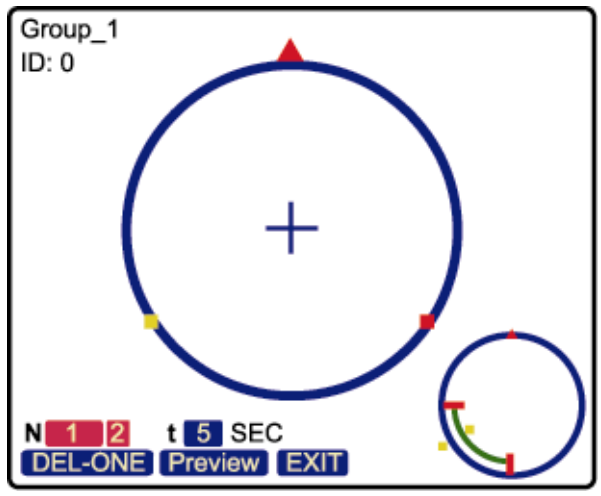
7.3 Preset Setup

The preset point setting can be used to specify the camera position (pan and tilt) and the lens zoom setting. You can set up to 256 preset points (8 groups, each group has 32 preset points).



- **Set the Preset Points:**

Move the cursor to “Group_1” and press the enter key to enter the setting mode of the preset points, you will see a similar preset point window as shown in the picture below.

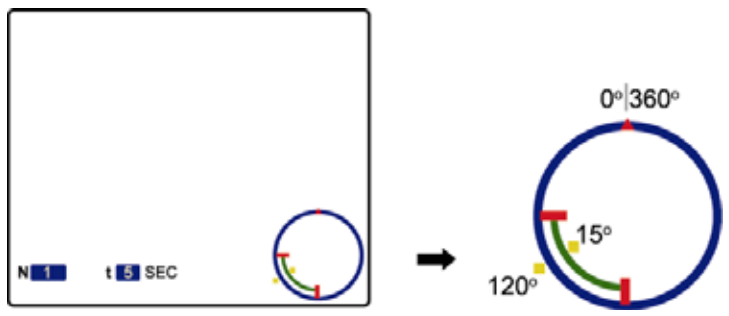


- **Factory Default Preset Points:**

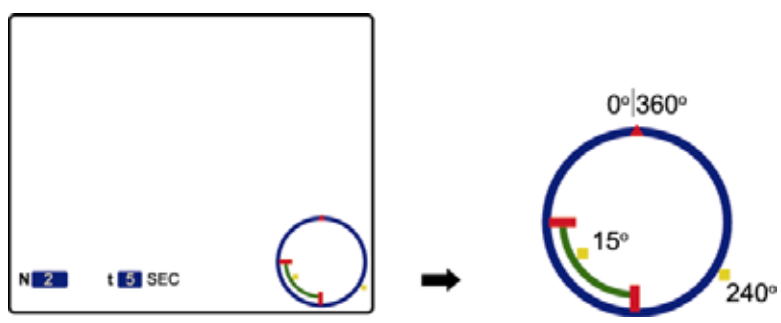
For convenience, there are two factory-default preset points within each preset group. The first position is “Pan: 120° ; Tilt: 15° ” and the second position is “Pan: 240° ; Tilt: 15° ”.

The preview graphs of the factory-default preset points are shown as below.

Factory-default preset point 1.



Factory-default preset point 2.

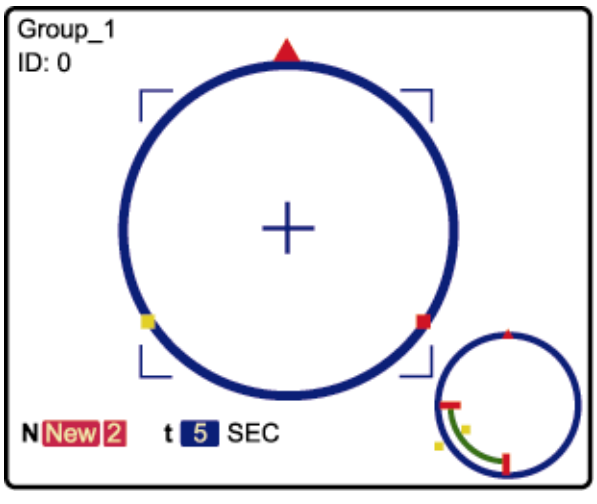


Note: Each preset group need to have at least two preset points.

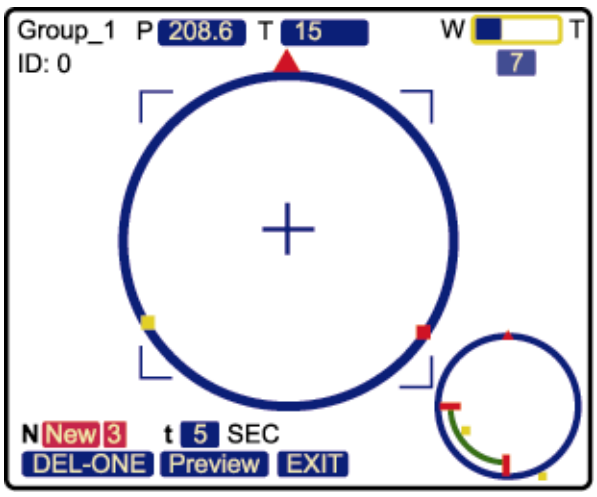
- **Add New Preset Points:**

You can add new defined preset points.

Step 1. Use the left / right key to move the cursor to " N 1 2 ". And use the up / down key to select " N New 2 " and press enter key. Then you will see a similar window as following.



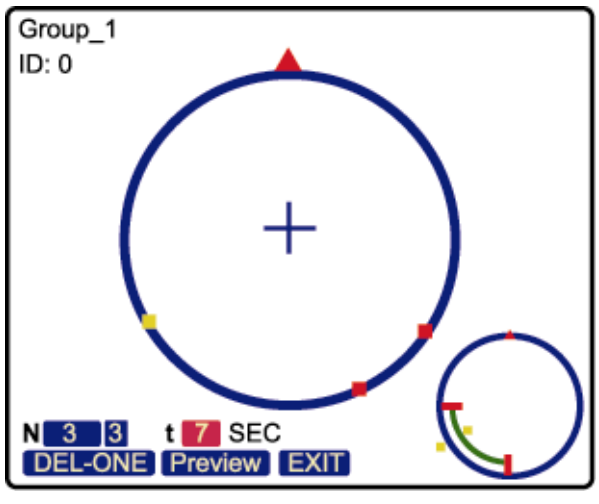
Step 2. Use the joystick to specify the camera position (pan and tilt) and the lens zoom setting. For example, set the 3rd preset point as "Pan: 208.6° ; Tilt: 15° ; Zoom: 7X ". After setup, press enter key to record the setting and you will see the similar window as following.



Tips: Use the joystick to control the PTZ camera to move up / down / left / right. Turn the joystick clockwise to zoom in. Turn the joystick counter-clockwise to zoom out.

- **Set Duration Time of the Preset Points:**

Step 1. Move the cursor to " t 5 SEC ". And use the up / down key to select the duration second. For example, set the duration second as 7 and you will see the similar window as following.



- **Deleting the Preset Points:**

Use the left / right key to move the cursor to " DEL-ONE " and use the up / down key to select " DEL-ONE " or " DEL-ALL ".

- **Preview the Preset Points:**

Use the left / right key to move the cursor to " Preview " and press the enter key to start previewing the preset points.

Note: The sequence of all the preset points will follow the order of the minimal panning route.

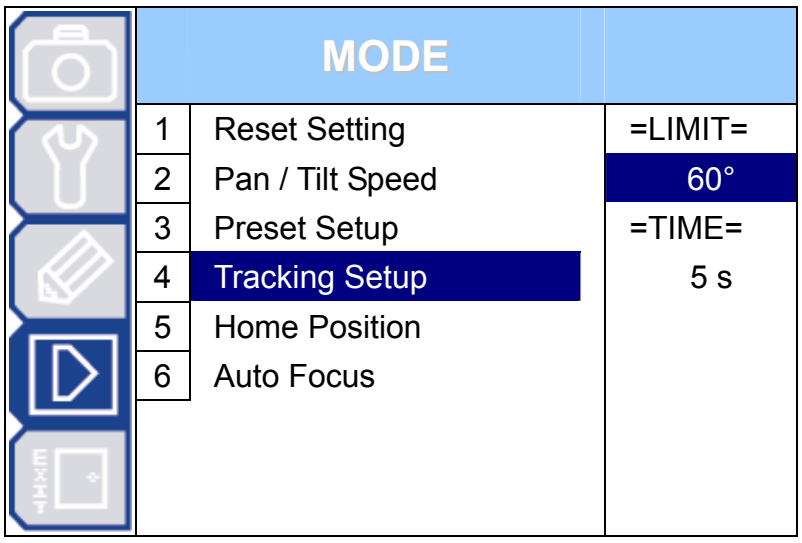
- **Exit the Preset Point Setting Menu:**

Move the cursor to " EXIT " and press enter key to exit the preset point setting menu.

Note: You can set up to 256 preset points (8 groups, each group has 32 preset points).

7.4 Tracking Setup

The PTZ camera will automatically aim and follow the largest movement in the monitoring view, making the camera pan (max. 360º), tilt (max. 90º) and zoom to keep the target in the center of the view within: (1) the camera's pre-defined surveillance area / (2) the pre-defined tracking timeout.



- **Set the Pre-defined Surveillance Area (=LIMIT=):**

When the locked target is out of the pre-defined surveillance area, the camera returns to the point it originally monitors after the preset tracking timeout.

Move the cursor to “=LIMIT= ”, and use the right key or － / ＋ key on the keyboard controller to set the tracking surveillance area angle (60° / 120° / 180° / Full / Manual). The default surveillance angle is 60°.

- **Set the Pre-defined Tracking Timeout (=TIME=):**

When the locked target stops moving longer than the pre-defined tracking timeout, the camera returns to the point it originally monitors after the preset tracking timeout.

Move the cursor to “=TIME= ”, and use the right key or － / ＋ key on the keyboard controller to set the tracking time-out seconds (5 s / 10 s / 15 s / 20 s / 25 s / 30 s / 35 s / 40 s / 45 s / 50 s / 55 s / 60 s / ∞ s). The tracking timeout is 5 seconds.

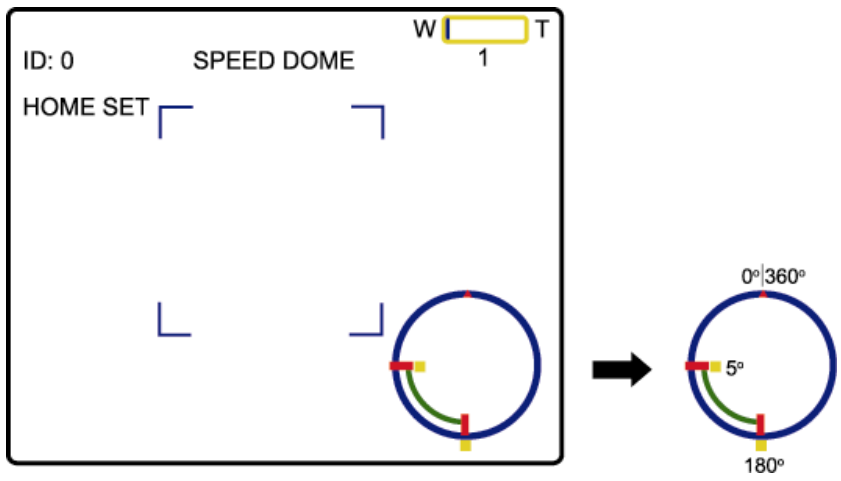
- **Auto Tracking Mode:**

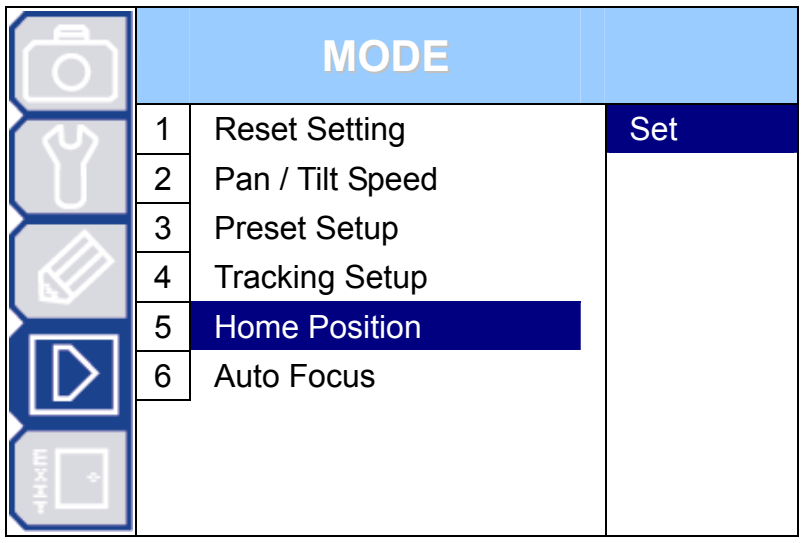
Press the “TRACK” key on the keyboard controller to start the auto tracking function and press the “STOP” key to exit the auto-tracking mode. In the auto-tracking mode, you will see the message “TRACKING” on the monitor of the PTZ camera.

Note: Make sure that the starting point of tracking mode is within the pre-defined surveillance area.

7.5 Home Position

An auto mode is a memorized, repeating series of pan, tilt and zoom. In the home position setting mode, you will see the message “HOME SET” on the monitor of the PTZ camera. The default home position is “Pan: 180° ; Tilt: 5° ”.



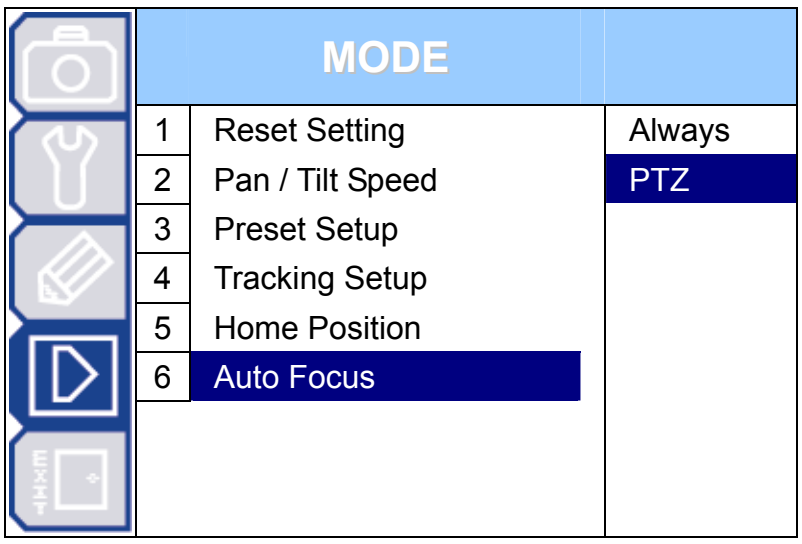


- **Set the Home Position:**

In the mode of the home position setting mode, use the joystick to specify the camera home position (pan and tilt) and the lens zoom setting. After setup, press the enter key on the keyboard controller to exit the setting mode. Then move the cursor to enter “ ” (EXIT) submenu to save the setting.

7.6 Auto Focus

There two types of the auto focus mode. You can select the mode depending on your need.



- **Select the Auto Focus Mode:**

(1) Always:

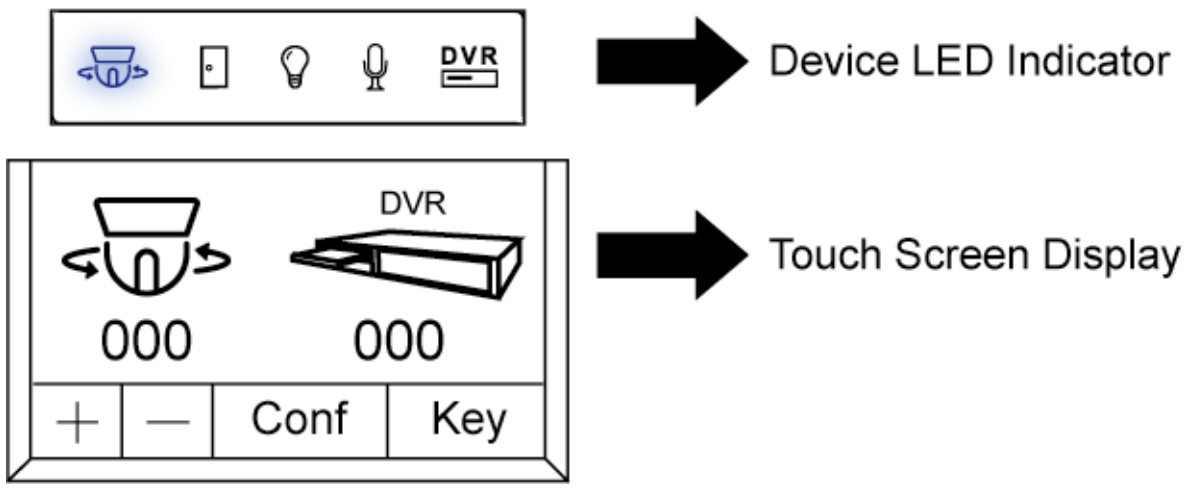
When the auto focus mode is set to “Always”, the camera will always focus automatically no matter the camera is still or under panning, tilting, and zooming operation.

(2) PTZ:

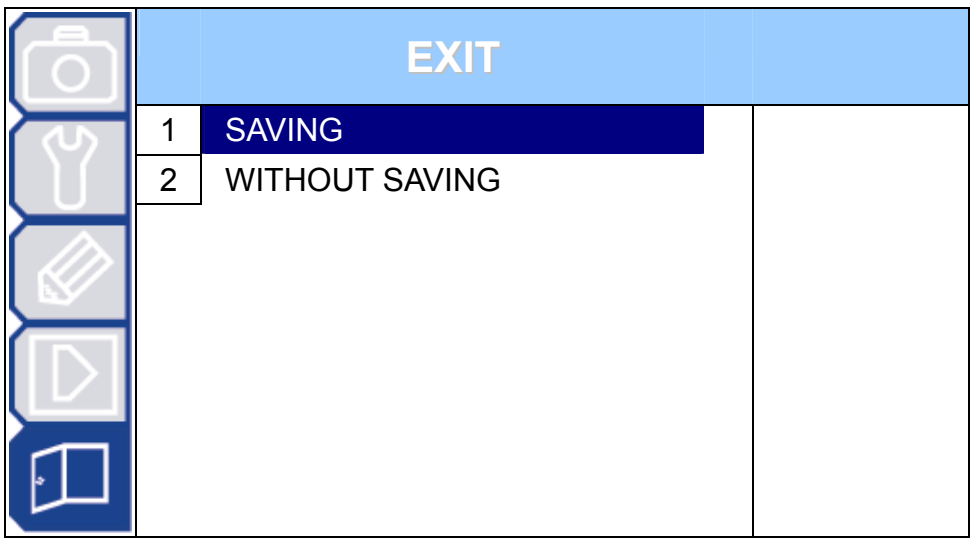
When the auto focus mode is set to “PTZ”, the camera will focus automatically only during the panning, tilting, and zooming operation.

8. MAIN MENU – EXIT

Press the "" key on the keyboard controller to enter the PTZ camera control mode of the controller. Or use the stylus to click the PTZ icon on the touch screen of the controller to enter the PTZ camera control mode, as shown in the picture below.



In the PTZ camera control mode of the keyboard controller, press on the controller to access the main menu of the PTZ camera. Move the cursor to EXIT "", you will see the following window:



- **Exit And Save the Settings:**

  Move the cursor to "EXIT & SAVE" and press the enter key. Then you'll see the pop-out message "Are your sure ?" on the PTZ camera monitor. Press the enter key again to apply the settings and exit the menu.

- **Exit Without Saving the Settings:**

  Move the cursor to "EXIT & NO SAVE" and press the enter key. Then you'll see the pop-out message "Are your sure ?" on the PTZ camera monitor. Press the enter key again to exit the menu without saving the changing.

APPENDIX 1 DEFAULT VALUE

Items	Default Value
White Balance	Auto
Shutter Speed	1/60
Gain	Medium
IRIS Level	162
BLC	Off
Sharpness	Auto
Title Display Position	Up
Pan / Tilt Angle Graph	On
Pan / Tilt Graph	On
Zoom Bar Graph	On
Focus Window	On
ID Code No.	0
ID Code Display	On
Baud Rate	2400
Pan / Tilt Speed	Fast
Factory Default Preset Points	The first preset position is “Pan: 120° ; Tilt: 15° ”. The second preset position is “Pan: 240° ; Tilt: 15° ”.
Tracking Setup	The default pre-defined surveillance area is 60° .
	The default pre-defined tracking timeout is 5 seconds.
Default Home Position	The default home position is “Pan: 180° ; Tilt: 5° ”.
Auto Focus Mode	The default auto focus mode is “PTZ”. * When the auto focus mode is set to “PTZ”, the camera will focus automatically only during the panning, tilting, and zooming operation.