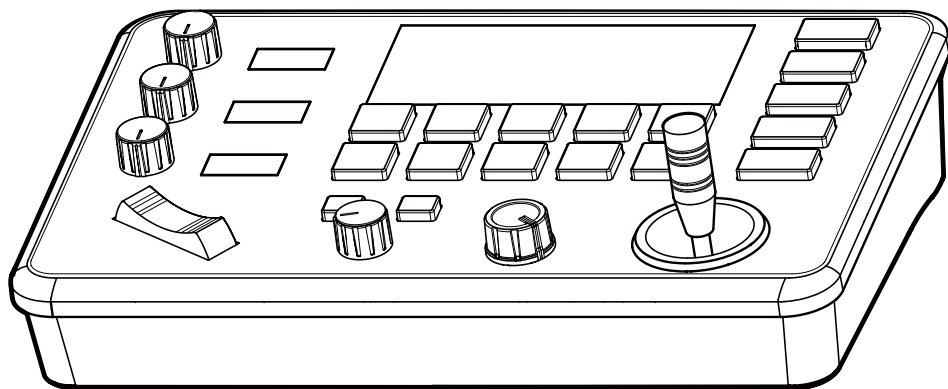# JVC Compact Joystick PTZ Controller

RM-LP5G

User Manual V1.0

Content

Parameters & Specs

Communication & Control Interface	
RS422/RS485 Interface	Phoenix Contact 4 pin 3.81mm Terminal
RS232C Interface	DB9 Male Interface
LAN Interface	RJ45 Female Interface
Power Supply	JEITA type4 Female Interface
Upgrade Online	Micro USB Female Interface
Camera Control or Operation	
Camera Support	5
Communication Protocol	VISCA, PELCO P/D, UDP
Number of LED Displays	4 Units Color LED Display Screen
Number of Camera Channels	5
Infinitely variable knobs	4
Joystick	2-Axis
Zoom Mode	Tele-Wide Bridge Keys
Buttons	17 Silicon Button
Presets Short keys	5 Presets or Max 10 Presets per Each Channel
Focus Mode	Auto/ Manual/ OPT
Pan/Tilt Rotation Speed	7-Level Adjustment
Zoom In/Out Speed	7-Level Adjustment
AE Mode	The mode can be switched arbitrarily, and the value can be adjusted
WB Mode	
Camera Menu	One-keys for call
Control Signal Format	
Baud Rate	2400bps, 4800bps, 9600bps, 19200bps, 38400bps
Date Bits	8 Bit
Stop Bit	1 Bit
Parity bit	NONE
Internet Protocol	UDP / VISCA OVER IP
Power Supply and Consumption	
Rated Voltage	DC 12V
Rated Current	0.3A max
Max Power Consumption	3.6W
Physical & Others	
Password Privacy Protection	YES
Kingston's Lock Hole	YES
Works Temperature	0°C ~ 40°C（32 °F ~ 104 °F）
Storage Temperature	-20°C ~ +60°C（-4 °F ~ 140 °F）
Working Environment	Indoor
Dimensions（L×W×H）	244 × 164 × 48mm
G.W	1.1 kg
Accessories	Phoenix Contact 4 pin 3.81mm Terminal / Power Adapter / User Manual

Description of Button & Knob Function
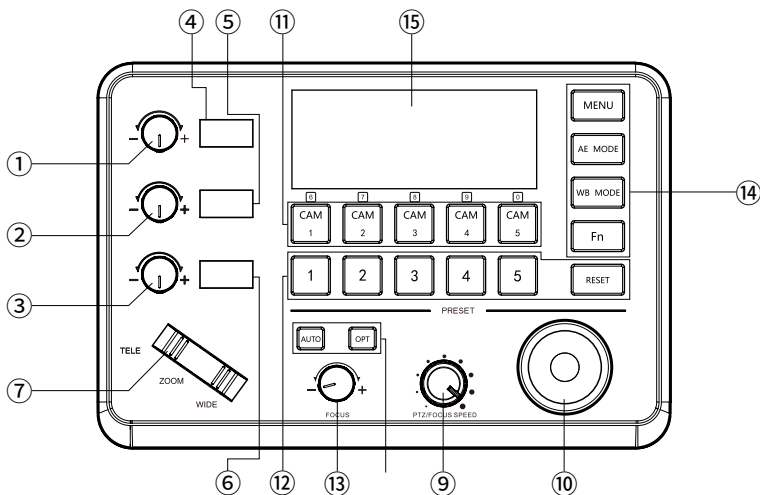
① Rotation Knob to adjust the Camera Exposure Parameter or Red Gain Value, Turn Right to valued Increase, Turn Left to Decrease.

② Rotation Knob to adjust the Camera Exposure Parameter or Blue Gain Value, Turn Right to Increase, Turn Left Rotation to Decrease.

③ Rotation Knob to adjust the Camera Exposure Parameter, Turn Right to Increase, Turn Left to Decrease.

④ LED Display, Real-time display of items and parameter values of " knob ① ".

⑤ LED Display, Real-time display of items and parameter values of " knob ② ".

⑥ LED Display, Real-time display of items and parameter values of " knob ③ ".

⑦ Zoom Bridge Key
It is used to control the camera to Zoom In/Out, for example, press the TELE end of the bridge key, the camera will Zoom in the TELE direction object, When you Press with more Large Pressure, then the Zoom Speed changed more Faster.

⑧ Focus

When the [AUTO]Button is illuminated, the focus mode is set to automatic; When the [AUTO] Button is off, the Focus Mode is set to Manual. Users can Press this button to switch modes.

Description of Button & Knob Functions

[OPT key] is used to trigger single focus of the camera. At the same time, the camera enters the one-shot auto focus mode.

⑨ PTZ Speed Adjustment Knob

This knob is used to adjust the speed of Camera Pan, Tilt and Zoom.

The Current Speed will be displayed on the Led Display. The Value is lower when the pan/tilt rotation speed or zoom speed of the camera Slower.

⑩ 2-Axis Joystick

The joystick supports camera Up/Down, Left and Right movements.
When the camera or keyboard menu is opened, the joystick is used to control the menu cursor Up/Down,Left/Right and modify parameters.

⑪ Channel Button Zone

[CAM1] to [CAM5] are shortcut keys for camera channels. When you select any camera channel, the back-light of the corresponding camera channel will be illuminated in green, and all the parameters and settings of the keyboard will be changed to the current Channel.

Note: The communication parameters (address ID, protocol, baud rate, IP address, port number, etc.) of each channel can be set individually. Mixed use of multiple protocols through different channel is supported.

⑫ Presets Function Zone

● [Number Keys]

SETTING PRESETS :
Long Press and hold the number key for 2 seconds (such as [Number key 1], when the screen displays "Set Preset 1" preset 1 has been saved)

CALL PRESETS :
Short press the preset number to recall Presets, (for example, [Number key 1], when you press the [Number key 1]the screen displays "Show Preset 1", this means that preset 1 has been recalled).

● [RESET]

It is used to clear presets.

  >When the System Menu selection is in 5 presets Mode

Press[RESET]+[Number keys]to clear the presets setting.

Clear the preset: After pressing the [RESET] Button, the green backlight starts to flash,

and then press the preset number to be cleared.

 >**When the menu selection is in 10 presets Mode. the [RESET] Button is changed to a presets expansion compound key, which is used to set and call 6-10 preset positions.**

[RESET]+]CAM1-5]TO Setting or Call 6-10 Presets.

Set Presets 6-10

Press the [RESET] key, at the same time of the number keys [1-5] and [CAM1-CAM5] will light up in green at the same time, and the camera channel keys [CAM1-CAM5] will be changed to number keys 6-10 Presets, the user can Set 6-10 Presets

Long press[CAM1], when "Set Preset 6" is displayed on the screen, means that No. 6 Preset has been saved;

Call Presets 6-10

Press the [RESET] key, at the same time of the number keys [1-5] and [CAM1-CAM5]will light up in green at the same time, the camera channel key [CAM1-CAM5] will be changed to the number keys 6-10 Presets, the user can call 6-10 Presets

Press【CAM1】, when "Show Preset 6" is displayed on the screen, means that the No. 6 Presets is being called;

*Note: When 10 Presets Mode is selected, All Presets cannot be cleared through the [RESET] Button and Only can be replaced by New Presets.

⑬ FOCUS Knob

This Knobs is for adjusting the camera's focal length. When using this function, the keyboard's Focus mode will be changed to Manual.

⑭ Function Key Zone

● [Menu Key]
This key is to Turn ON/OFF Camera Menu, Long Pressing for 3 seconds will turn on the Keyboard system Menu.
● [AE MODE Key]
This key is used to change the automatic exposure mode of the camera.
Each time it is pressed, the camera changes to a different exposure mode.

The specific functions are shown in Table 1:

Exposure Mode	Knob 1	Knob 2	Knob 3
Auto	NOT USED	NOT USED	Exposure Compensation
Manual	Shutter	Iris	Gain
Shutter Priority	Shutter	NOT USED	Exposure Compensation
Iris Priority	Iris	NOT USED	Exposure Compensation
Brightness Priority	Iris	Gain	Exposure Compensation

Table 1

● [WB MODE Key]

This Key is used to changed the White Balance of the camera. Each Time is pressed, the camera will be changed to different WB Mode.Under in difference of WB mode, the corresponding functions of Knob 1, Knob 2 are different.

The specific functions of the knobs are shown in Table 2:

White Balance Mode	Knob 1	Knob 2
Auto	NOT USED	NOT USED
Manual	Red Gain	Blue Gain

Table 2

● [Fn Keys]

This key is reserved for adding custom functions.

The factory default state is: short press this key to send the command to enter the Sub-menu of the camera, long press this key for 3 seconds to return to Home Position of Camera.

⑮ LED DISPLAY

Used to display the current status information & Settings of the keyboard in real time (including IP address, Port number, serial port address, communication protocol, Baud Rate and other information) and keyboard menu. The brightness of the display can be set through the keyboard menu.

When the selected camera brand does not match the camera used, the parameter values displayed on the screen corresponding to the knob ① /Knob ② / knob ③ may not match the actual parameters of the camera.

Description of Button & Knob Function

		Execution Command	
CAM_WB	Auto	8x 01 04 35 00 FF	Normal Auto
	Indoor	8x 01 04 35 01 FF	Indoor mode
	Outdoor	8x 01 04 35 02 FF	Out door mode
	One Push WB	8x 01 04 35 03 FF	One Push WB mode
	ATW	8x 01 04 35 04 FF	Auto Tracing White Balance
	Manual	8x 01 04 35 05 FF	Manual Control Mode
	One Push Trigger1	8x 01 04 10 05 FF	One Push WB Trigger
CAM_RGain	Reset	8x 01 04 03 00 FF	Manual Control of R Gain
	Up	8x 01 04 03 02 FF	
	Down	8x 01 04 03 03 FF	
	Direct	8x 01 04 43 00 00 0p 0q FF	pq: R Gain
CAM_BGain	Reset	8x 01 04 04 00 FF	Manual Control of B Gain
	Up	8x 01 04 04 02 FF	
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: B Gain
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode
	Manual	8x 01 04 39 03 FF	Manual Control mode
	Shutter Priority	8x 01 04 39 0A FF	Shutter priority Exposure mode
	Iris Priority	8x 01 04 39 0B FF	Iris priority Exposure mode
	Bright	8x 01 04 39 0D FF	Brightness Mode(Manual control)
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Shutter Setting
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter Position
CAM_Iris	Reset	8x 01 04 0B 00 FF	Iris Setting
	Up	8x 01 04 0B 02 FF	
	Down	8x 01 04 0B 03 FF	
	Direct	8x 01 04 4B 00 00 0p 0q FF	pq: Iris Position
CAM_Gain	Reset	8x 01 04 0C 00 FF	Gain Setting
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Direct	8x 01 04 4C 00 00 0p 0q FF	pq: Gain Position
	AE Gain Limit	8x 01 04 2C 0p FF	p: Gain Position (4 to F)
CAM_Bright	Up	8x 01 04 0D 02 FF	—
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 4D 00 00 0p 0q FF	pq: Brightness Position
CAM_ExpComp	On	8x 01 04 3E 02 FF	Exposure Compensation ON/OFF
	Off	8x 01 04 3E 03 FF	
	Reset	8x 01 04 0E 00 FF	Exposure Comp Setting
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 0p 0q FF	pq: ExpComp Position

Description of Button & Knob Function

Inquiry Command			
CAM_WBModeInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	In Door
		y0 50 02 FF	Out Door
		y0 50 03 FF	One Push WB
		y0 50 04 FF	ATW
		y0 50 05 FF	Manual
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter Priority
		y0 50 0B FF	Iris Priority
		y0 50 0D FF	Bright
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position
CAM_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompModeInq	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position

	/	59.94/29.97 mode	50/25 mode
	15	1/10000	1/10000
	14	1/6000	1/6000
	13	1/4000	1/3500
	12	1/3000	1/2500
	11	1/2000	1/1750
	10	1/1500	1/1250
	0F	1/1000	1/1000
	0E	1/725	1/600
	0D	1/500	1/425
Shutter Speed	0C	1/350	1/300
	0B	1/250	1/215
	0A	1/180	1/150
	09	1/125	1/120
	08	1/100	1/100
	07	1/90	1/75
	06	1/60	1/50
	05	1/30	1/25
	04	1/15	1/12
	03	1/8	1/6
	02	1/4	1/3
	01	1/2	1/2
	00	1/1	1/1

		Display	Compensation values
	0E	7	+10.5dB
	0D	6	+9dB
	0C	5	+7.5dB
	0B	4	+6dB
	0A	3	+4.5dB
	9	2	+3dB
	8	1	+1.5dB
Exposure Comp	7	0	0dB
	6	−1	−1.5dB
	5	−2	−3dB
	4	−3	−4.5dB
	3	−4	−6dB
	2	−5	−7.5dB
	1	−6	−9dB
	0	−7	−10.5dB

		IRIS	GAIN
	1F	F1.6	+43dB
	1E	F1.6	+39dB
	1D	F1.6	+36dB
	1C	F1.6	+33dB
	1B	F1.6	+30dB
	1A	F1.6	+27dB
	19	F1.6	+24dB
	18	F1.6	+21dB
	17	F1.6	+18dB
	16	F1.6	+15dB
	15	F1.6	+12dB
	14	F1.6	+9dB
	13	F1.6	+6dB
Bright	12	F1.6	+3dB
	11	F1.6	0dB
	10	F2	0dB
	0F	F2.4	0dB
	0E	F2.8	0dB
	0D	F3.4	0dB
	0C	F4	0dB
	0B	F4.8	0dB
	0A	F5.6	0dB
	9	F6.8	0dB
	8	F8	0dB
	7	F9.6	0dB
	6	F11	0dB
	5	F14	0dB
	0	CLOSE	0

	0F	+43dB
	0E	+39dB
	0D	+36dB
	0C	+33dB
	0B	+30dB
	0A	+27dB
	9	+24dB
Gain	8	+21dB
	7	+18dB
	6	+15dB
	5	+12dB
	4	+9dB
	3	+6dB
	2	+3dB
	1	0dB

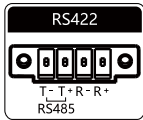|	11	F1.6
	10	F2
	0F	F2.4
	0E	F2.8
	0D	F3.4
	0C	F4
	0B	F4.8
Iris	0A	F5.6
	9	F6.8
	8	F8
	7	F9.6
	6	F11
	5	F14
	0	CLOSE

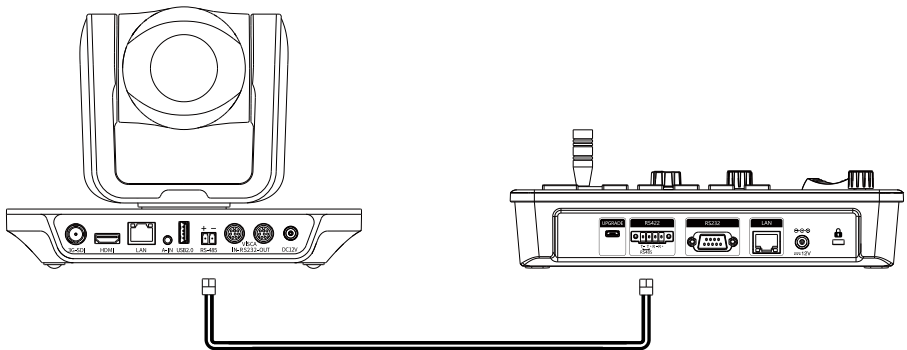# Interface Function and Connection Diagram
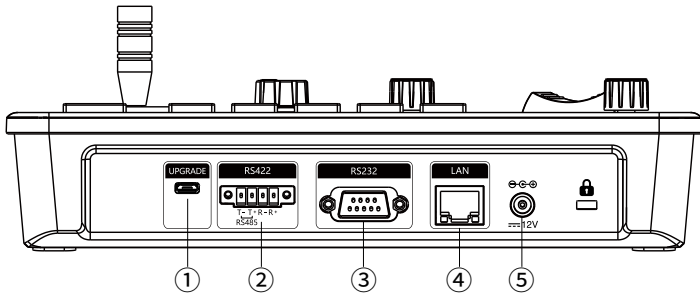
① Upgrade Interface

This interface is to upgrade keyboard firmware by laptop. Using Micro USB Cable direct connection with a PC and upgrade tools software.
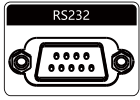
② RS422/RS485 Interface

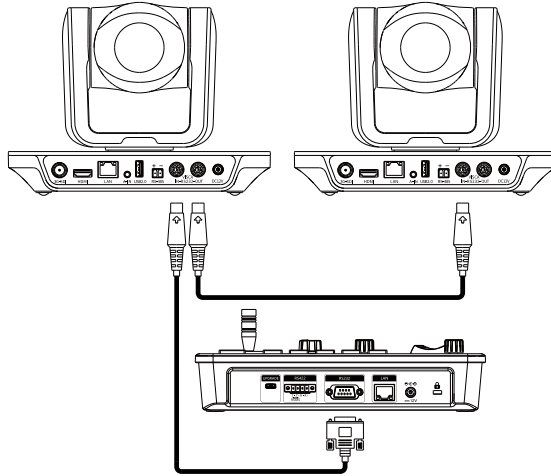This Interface is used to connect with Cameras by RS422 or RS485, detailed connection diagram as follows:
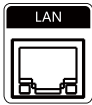
Interface Function and Connection Diagram

③ RS232 Interface

This Interface is using to connect with Cameras through RS232, detailed connection diagram as follows :

④ LAN Interface

The LAN Interface is for connection with a Network switch. Network PTZ Camera, detailed connection diagram as follows:

● Connect with Single Unit Network PTZ Camera：
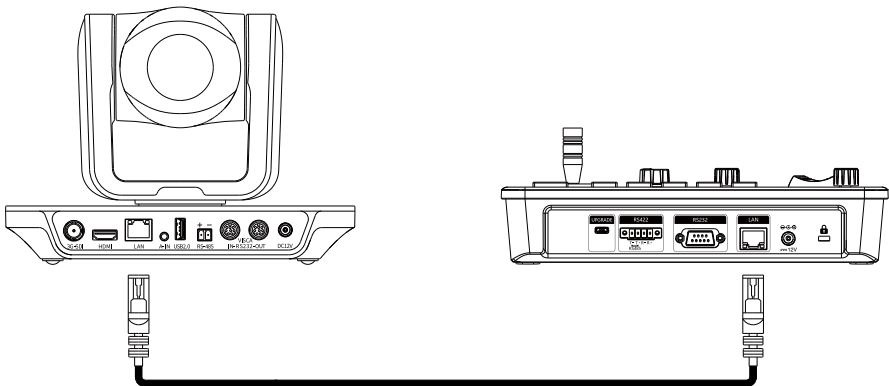
Interface Function and Connection Diagram

● Connect with multiple cameras by LAN interface detailed connection diagram as follows: (When connecting multiple cameras, you need to set the IP of each camera separately with a computer).
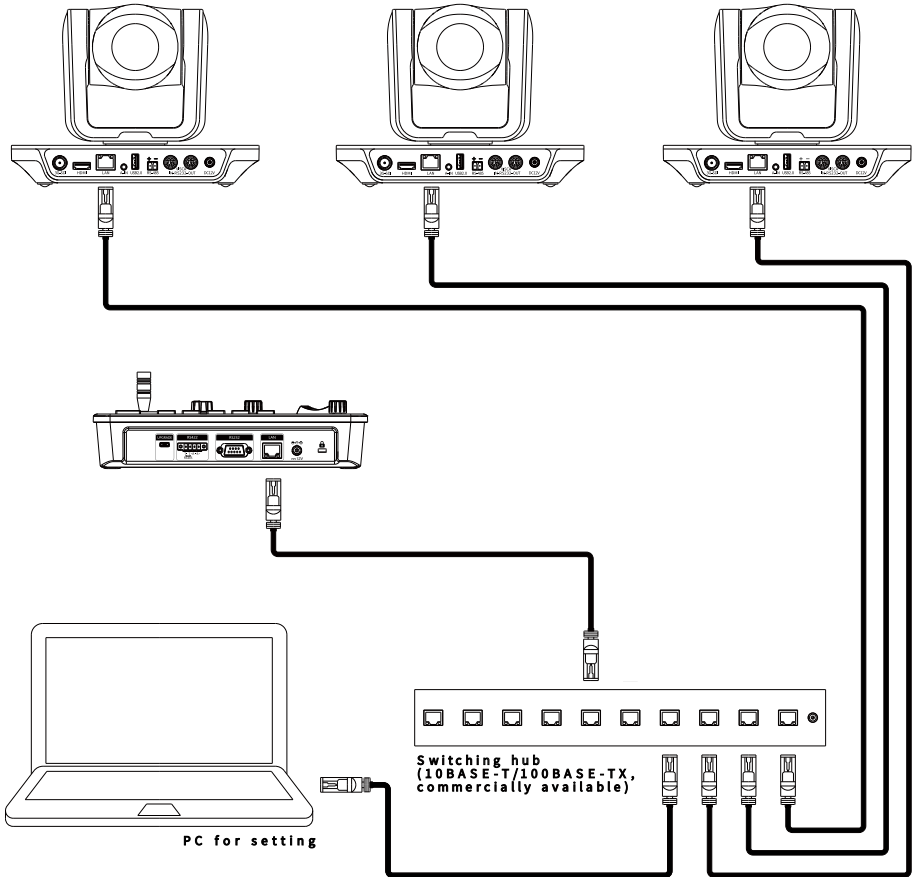
⑤ DC Power Supply Interface

This interface is the Power supply interface. Only use the original Power adapter.

System Menu Operation Instructions

System Menu Operation & Explanation

1.Long Press ［MENU］for 3 seconds to turn on the Keyboard system Menu;

2.The joystick swings up and down: control the system menu cursor to move up and down / change the parameters of the current menu item;

3.The Joystick swings Right: enter the current menu item / save and exit the current menu item;

4.The Joystick swings Left: Exit current Menu item / Abort and Exit current Menu item;

5.Press ［MENU］to exit the System Menu;

6.Press the number keys[0]~[9]: input numerical value. For example: IP Address or Port number setting.

1.Long Press ［MENU］for 3 seconds to turn on Keyboard system Menu.

2.The joystick swings up and down to control the menu cursor to move up and down.

1. System Setting
2. COMM Setting
3. Ethernet Setting
4. Password Setting

SYSTEM SETTING

Move the joystick up and down to highlight ［System Setting］, then move right to enter System Setting menu.

● [Language]

Move the joystick up/down to [Language], then Move right to enter setting. Move the joystick up/down to change the current Parameters setting. Move the joystick right to save the current parameters and exit the language setting state. The following menus operate the same.

1. Language : English
2. LED Display Brigtness: Normal
3. Automatically Standby: Off
4. Itself IP: 192.168.000.088
5. Itself Port: 52381
6.Preset Mode:5Preset/10Preset
7. Factory default Setting
8. About Keyboard

● [LED Display Brigtness]
Change the brightness of the LED display: Low, Normal, High.

● [Automatic Standby]
Set the keyboard to automatically enter standby mode without any operation within a limited time.
Select-able: Off, 1 minute, 2 minutes, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 60 minutes.

● [Itself IP]
To set the Keyboard IP Address / Port Number, default IP is 192.168.000.088 default Port 52381.

● [Preset Mode]
Move the cursor to [PRESET MODE], then move right to enter Presets Mode. Select 5 Presets or 10 Presets Mode;

System Menu Operation Instructions

● [Factory default Setting]
To restore to Factory default settings.

● [About Keyboard]

To review the relevant information of the keyboard, including: keyboard model, Firmware version, factory S/N and other information.

COMM SETTING

1. Channel:	CAM1
2. Address:	1
3. Baud Rate:	9600
4. Protocol:	VISCA
5. Camera Brand:	SONY

To move the cursor to[Comm Setting], then
Movement right to enter Comm Setting:

● [Channel]
The available channels CAM1~5 corresponds to the buttons [CAM1]~[CAM5].

● [Address]
To set the serial communication address of the corresponding channel.
If the current communication protocol is VISCA, the communication address can be selected from 1~7. If the current communication protocol is PELCO-D/P, The communication address can be selected from 1~255.

● [Baud Rate]
To set the serial communication Baud Rate of the corresponding channel.
Available in: 2400, 4800, 9600, 19200, 38400bps.

● [Protocol]
To set the Serial communication Protocol of the corresponding channel
(Including Serial Communication Protocol and Internet Communication Protocol).
Available in: VISCA, PELCO P/D, UDP.

● [Camera Brand]
Due to the differences in the AE/WB parameter values corresponding to different brands of cameras, the actual function of the knob may vary.

Before using, please set the camera brand of the corresponding channel, you can choose: JVC, PUAS, SONY, VHD, Minrray, Bolin...

ETHERNET SETTING

1. Channel:	CAM1
2. Cam IP:	192.168.000.010
3. Port:	52381

Move the cursor to [Ethernet Setting], then
move right to enter Ethernet Settings:

● [Channel]
The available channels CAM1~5 correspond to the buttons [CAM1]~[CAM5].

● [Port]
To set the UDP Port of the corresponding channel.

System Menu Operation Instructions

PASSWORD SETTING

Move the cursor to [Password Setting],
then move right to enter Password：

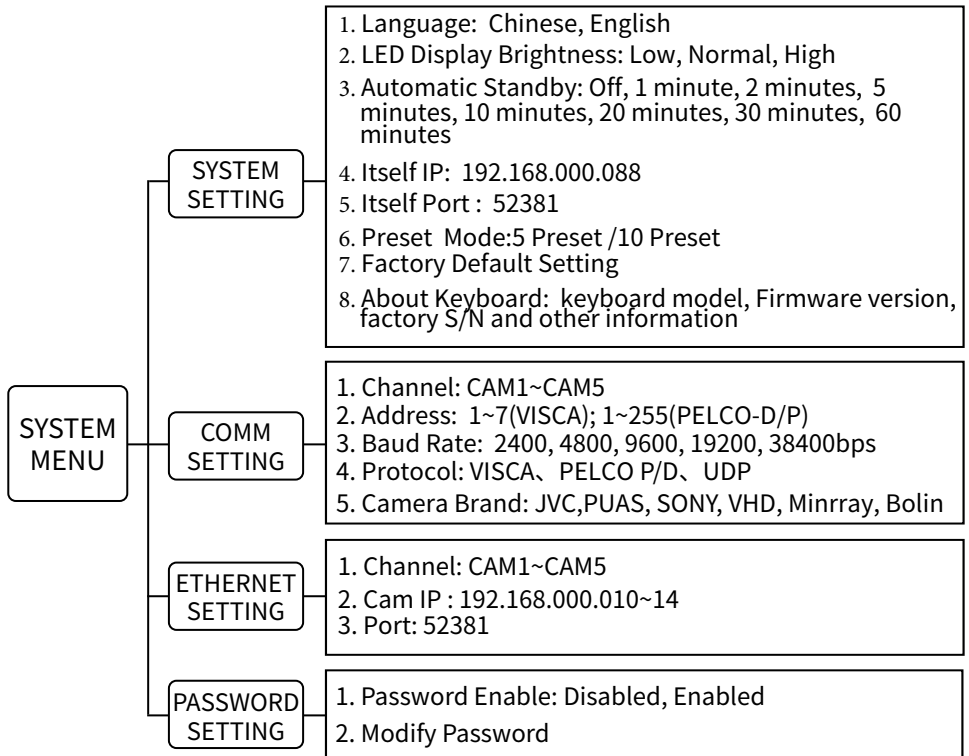| |
|---|
| 1. Using Password：　　Enabled |
| 2. Modify Password |

● [Using Password]
When the password function is Enabled, a password is required to enter the menu. The default password is: 8888

● [Modify Password]
The user can change the password. If the password is not changed, the password is the default password.

System Menu Operation Instructions

SYSTEM MENU GUIDE

SYSTEM MENU

SYSTEM SETTING
1. Language: Chinese, English
2. LED Display Brightness: Low, Normal, High
3. Automatic Standby: Off, 1 minute, 2 minutes, 5 minutes, 10 minutes, 20 minutes, 30 minutes, 60 minutes
4. Itself IP: 192.168.000.088
5. Itself Port : 52381
6. Preset Mode:5 Preset /10 Preset
7. Factory Default Setting
8. About Keyboard: keyboard model, Firmware version, factory S/N and other information

COMM SETTING
1. Channel: CAM1~CAM5
2. Address: 1~7(VISCA); 1~255(PELCO-D/P)
3. Baud Rate: 2400, 4800, 9600, 19200, 38400bps
4. Protocol: VISCA、 PELCO P/D、 UDP
5. Camera Brand: JVC,PUAS, SONY, VHD, Minrray, Bolin

ETHERNET SETTING
1. Channel: CAM1~CAM5
2. Cam IP : 192.168.000.010~14
3. Port: 52381

PASSWORD SETTING
1. Password Enable: Disabled, Enabled
2. Modify Password

Products Dimensions

(Units of measure: mm)