CONTROLE DE CÂMERA PTZ IP WTC1208

Statement：

The descriptions in this manual may differ from the version you are using. If you are having trouble during using this manual, please contact our technical support for assistance. The contents of this manual will be updated, and our company reserves the right to leave it without notice.

Precautions

The controller is an indispensable device in the integrated video conferencing system, providing full control of all front-end cameras, pan/tilt and motorized lenses. There are usually many numeric keys and function keys on the controller. The numeric keys are used to select the camera or decoder address, and the function keys are used to perform various control operations on the selected front-end device. An LCD liquid crystal display is provided on the control keyboard for displaying control commands or working states of various monitoring programs in the system. One system use one controller for remote control of the entire video conferencing system.

1.Product Overview

1.1 Product Features

- Adopt RS485, RS422, RS232 multiple interface control signals, max up to 255 cameras
- Support PELCO-D,PELCO-P and VISCA Control protocol
- Metal housing, computer keyboard button design
- Adopt 3D joystick to control the camera speed.
- Control camera rotation, zoom, aperture, focus and other camera parameter settings
- English & Chinese LCD display, displaying the real-time working status of the decoder and matrix
- With button sound prompt function

- Unique control code learning function allows customers to modify control code commands by themselves
- Any device connected with RS485 cable can be set with different protocols and baud rates separately.
- RS422 communication interface has the over-current protection ability to recover from short circuit.
- The max communication distance is up to 1200M(0.5MM Twisted Pair Cable).

1.2Technical Parameters

Parameters /Model No	WTC1208
Communication Mode	RS485 Half duplex,RS422 Full duplex,RS232 Serial Port
Baud Rate	2400bps,4800bps,9600bps,19200bps
Interfaces	5PIN Crimping terminal,RS232 Port
Joystick Rocker	3D Control：Up,Down,Left,Right,Rotate）
Display	Blue screen LCD
Input voltage	DC12V±10%
Power Consumption	6W MAX
Temperature	-10℃～50℃
Humidity	≦90%RH(No frosting)
Dimension	320mm（L）X179.3mm（W）X106.4mm(H)

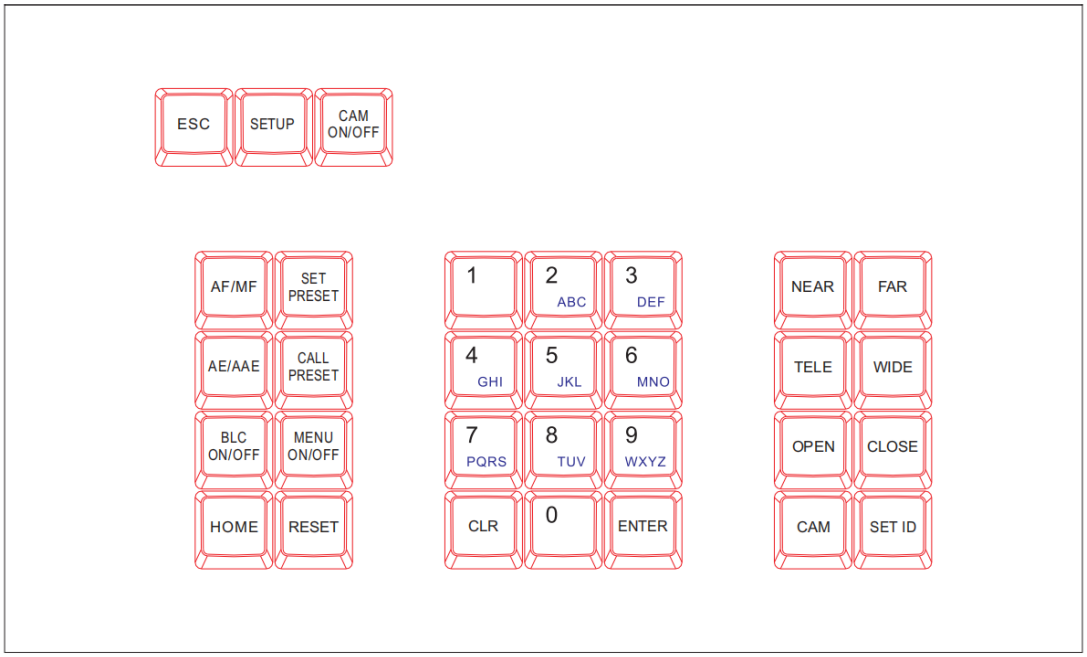
1.3 Precautions

- LCD Screen is fragile, do not squeeze or leave under harsh light for too long.
- The joystick rocker is fragile. Do use the original package or properly packaged before shipment back.
- Make it work in the place with favourite temperature and humidity.
- Strictly follow the manual for correct connection.

1.4 Accessories List

Name	Quantity	Unit	Remarks
5PIN Plug	1	Pc	
DC-12V Power Adapter	1	Pc	INPUT:100-240VAC~50/60HZ
Certificate	1	Pc	
Warranty Card	1	Pc	

2. Keyboard Buttons Analysis



2.1 Button Functions

【ESC】Exit and back to former menu.

【SETUP】Parameter setting button：Long press 3S to enter the KBD parameter setting status

【CAM ON/OFF】Camera power on/off button

【AF/MF】Auto focus / manual focus：

Manual focus need to work together with [FOCUS]+ or [FOCUS-] button.

【SET PRESET】Presets setting button, working together with number keys and the **[ENTER]** button.

【CALL PRESET】Call presets button, working with the number keys and the **[ENTER]** button.

【AE/AAE】Auto Aperture / Aperture priority button, working together with 【OPEN】and【CLOSE】

buttons.

【BLC ON/OFF】: Back light compensation ON/OFF button

【MENU ON/OFF】: MENU ON/OFF button

【HOME】：HOME button

【RESET】: Pan/tilt reset button

【CLR】Clear button: clear the current inputs.

【0】~【9】Number keys：0,1,2,3,4,5,6,7,8,9.

【ENTER】Confirmation key: Confirm the current inputs.

【NEAR】Focus in: manually focus in to make far distance objects clearer

【FAR】Focus out: manually focus out to make near distance objects clearer

【TELE】Narrow-angle button/ Zoom-in button: increase lens magnification, reduce the lens field of view, enlarge the monitor target.

【WIDE】Wide-angle button/Zoom out button: reduce lens magnification, expand lens field of view and monitoring range

【OPEN】Aperture plus button: Increase manual aperture. When the aperture is at its maximum, the LCD screen is displayed in full white. When the camera menu mode is turned on, the next level menu is entered.

【CLOSE】Aperture minus button: Reduce manual aperture . When the aperture is at its minimum, the LCD screen is displayed as black. When the camera menu mode is turned on, the menu is returned to the previous menu.

【CAM】Address selection button: Select the address of the control device (decoder or camera) , it needs to use together with the number keys and [ENTER] button

【SET ID】Set ID button: long press 3s to set the cascade camera protocol address.

2.2 LCD screen display

All button operations will be displayed on LCD screen. It would enter into power saving mode(with darkest light), with initializing status displayed if no operation for 30 seconds.

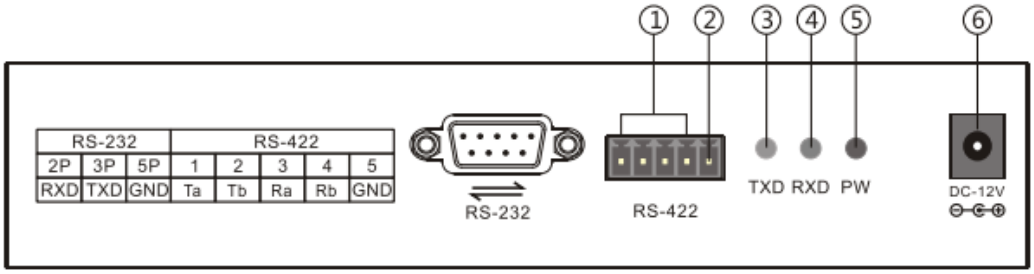
2.3 Joystick Control

（Clockwise/ Counterclockwise rotation only available for 3D design）

Operation	Output Control	Operation	Output Control	Operation	Output Control
	UP		Down		Left
Operation	**Output Control**	**Operation**	**Output Control**	**Operation**	**Output Control**
	Right		Zoom In		Zoom Out

2.4 Back Panel Interfaces

Back Panel Details: 1x 5PIN crimping terminal interface,1 x RS232 interface,1xDC-12V power socket，3 x indicator lights as picture below：



2.5 Functional number description

Number	Label	Physical interface	Description
①	RS-422	Control output（Ta,Tb,Ra,Rb）	1. （Ta）to connect RS485+,（Tb）to connect RS485- 2. to connect RS422 Bus；（Ta）to connect RXD IN-，（Tb）to connect RXD IN+,（Ra）to connect TXD IN-,（Rb）to connect TXD IN+
②	Ground	Control line to ground（G）	Signal control line to ground.
③	PW	Power indicator	The light will always be red when keybaord is working.
④	TXD	Sending data	The light will flicker in green when sending data

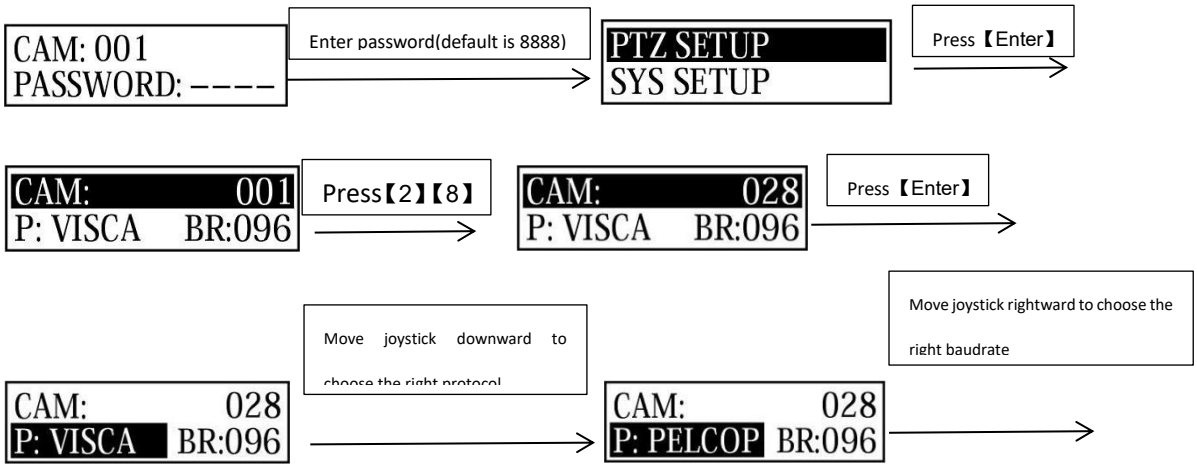
		indicator	
⑤	RXD	Receiving data indicator	The light will flicker in green when receiving data.
⑥	DC-12V	Power input	DC12V power input

3. Parameter Setting and Query

3.1 PTZ Setup

E.g. With address code 28, steps to change to Pelco-P protocol and baud rate to 9600 are as follows:

Press【SETUP】button for 3 seconds under normal working mode, it displays as follows:



Then press 【ENTER】,there will be a 1sec beep sound when setting done.

Press【ESC】 3 times to back to normal working mode.

Note: Steps to set all devices to be with same protocol and baud rate are as follows:

Enter into the setup page 

and choose the corresponding protocol and baud rate. Then all devices within 0-255 addresses are set with the same protocol and baud rate.

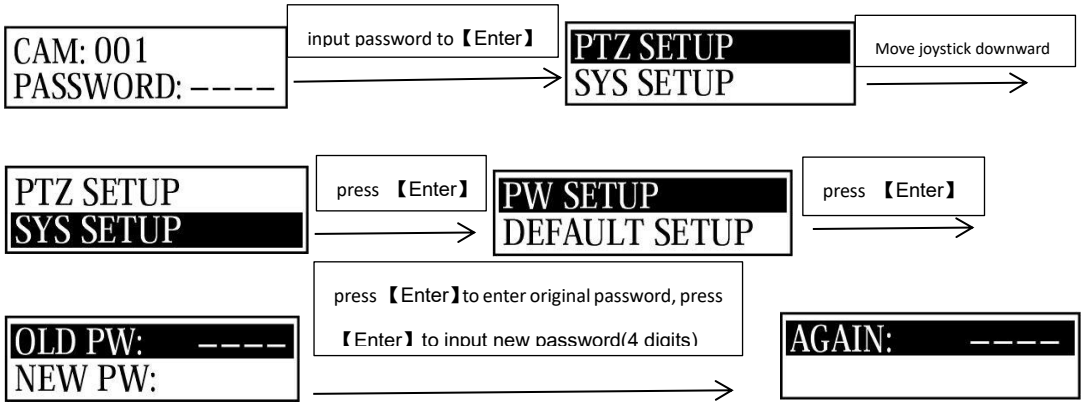
3.2 System Setup

System setup includes: password setting, Restore factory setting, Indicate sound switch setting, Keyboard ID and Keyboard lock switch setting.

Here shows the steps to restore factory setting and set keyboard lock switch.

3.2.1 Password Setting

Press【SETUP】button for 3 seconds under working mode, it displays as follows :

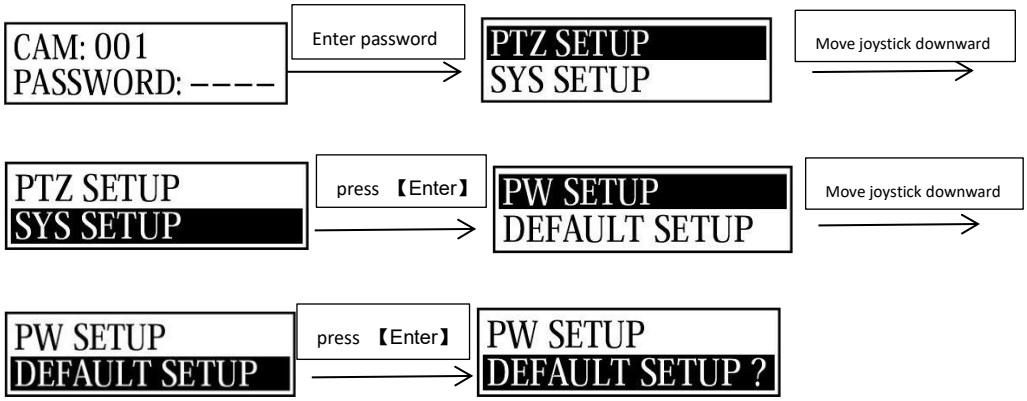


Then input the new password again，press【ENTER】，there will be a 1sec beep sound when setting

done. Press【ESC】twice to back to normal working mode.

3.2.2 Restore Factory Setting

Press【SETUP】button for 3 seconds under working mode, it displays as follows :



Press 【ENTER】,there will be a 1sec beep sound when setting done.

Press 【ESC】 twice to back to normal working mode.

3.3 Keyboard Parameter Setting Frame

>PTZ Setup	Camera address： XXX（to be set）	PROTPCOL	PELCOD,PELCOP,RULE,ctc
		Baud Rate	2400,4800,9600,19200
	Camera address：0-255 (all set the same)	Same as above	
>SYSTEM Setup	>SET PASSWORD	OLD PW：old password	4 digits
		NEW PW(new password)	4 digits
		AGAIN PW:(confirm password)	4 digits
	>LOAD DEFAU (restore factory setting)	confirm?	Press 【ENTER】to confirm ,and【ESC】to exit.
>SYSTEM Setup	>SOUND SETUP (button sound switch setting)	ON	Move joystick right/left and press【ENTER】to confirm
		OFF	
	>HOST ID SET	Keyboard address	Number【0】-【15】
	>LEARN SETUP（keyboard lock setting)	ON	Move joystick right/left and press【ENTER】to confirm to set password
		OFF	

3.4 keyboard parameter query

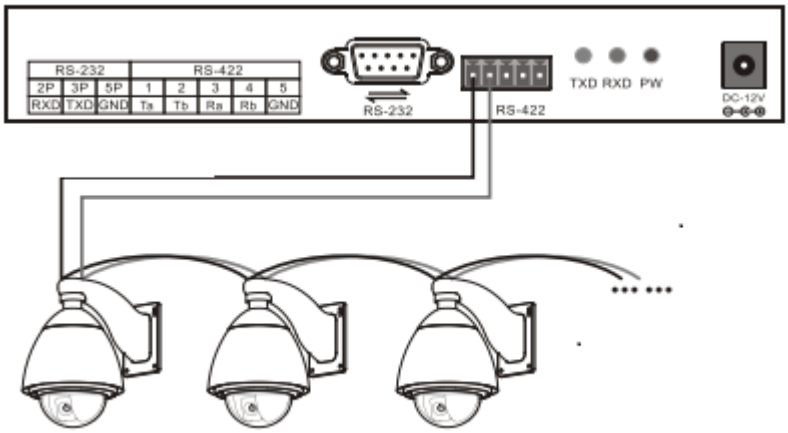
Protocol：X Baud rate：X	current control protocol and baud rate.		
Camera query	Camera protocol：001	protocol	Corresponding protocol
		Baud rate	Corresponding baud rate
System query	Model number：XXXXXXXX	Max 10 digits	
	Serial number：XXXXXXXX	8 digits serial number on camera	
	Device number：XX	2 digits keyboard ID number	
	Keyboard lock（ON/OFF）	Display the current setting of the keyboard lock	

	Sound（ON/OFF）	Display the setting of the current button sound prompts

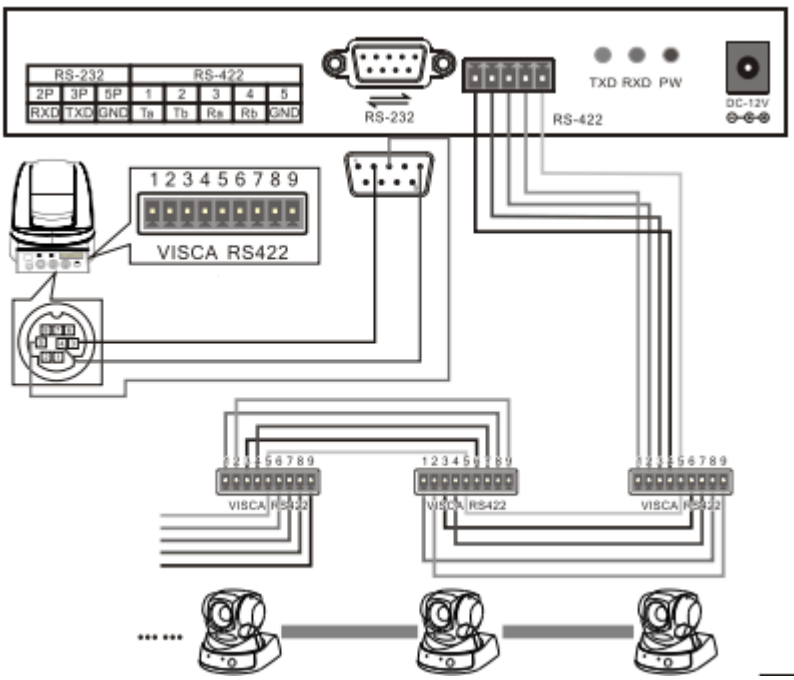
4. Typical wiring diagram

4.1Typical wiring diagram

Connection with surveillance dome camera



Connection with video conference camera



1.control output:connect camera RS485+ with keyboard Ta, RS485- with Tb.

2.Deputy control device:either RS485 output from DVR or keyboard is available.

4.2 Connection Analysis

4.2.1 connection between keyboard and camera

With RS422 bus connection way, the keyboard third pin (Ra) is connected with the camera third pin TXD IN- , the keyboard fourth pin (Rb) with the camera fourth pin TXD IN+ , the keyboard first pin(Ta) with the camera first pin RXD IN-, the keyboard second pin (Tb)with the camera second pin RXD IN +.

KBD	CAMERA
Ra<·····>	TXD IN-
Rb<·····>	TXD IN+
Ta<·····>	RXD IN-
Tb<·····>	RXD IN+

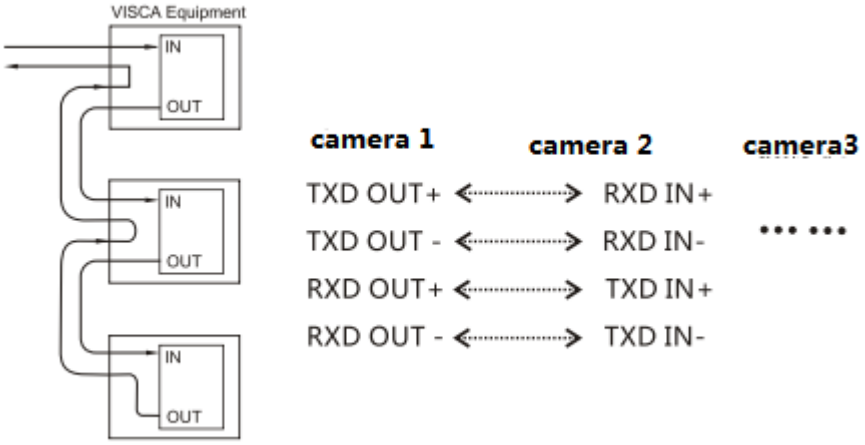
With RS232 connection way, the KBD(10pin connecting terminal) first pin RXD is connected with the third pin TXD of camera RS232 port, the KBD second pin TXD with the camera fifth RXD, the KBD third GND with the camera forth pin GND.(It is also available to connect camera with the standard RS232 port on the KBD.)

KBD	CAMERA
RXD<·····>	TXD
TXD<·····>	RXD
GND<·····>	RXD

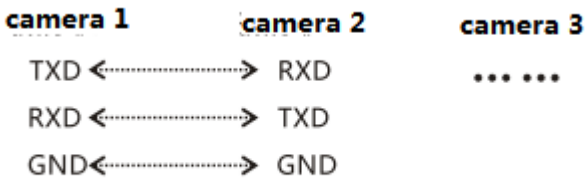
The camera can be controlled by any connection way mentioned above.

4.2.2 Connection between cameras

With the RS422 bus cascade connection, the output of camera 1 is connected with the input of camera 2, and the output of camera 2 is connected with the input of camera 3,and so on so forth. As shown below:



The RS232 cascade connection way is almost the same as that of RS422. The output of camera 1 is connected with the input of camera 2, the output of camera 2 is connected with the input of camera 3, and so on so forth.



5. Appendix

5.1 RS485 bus introduction：

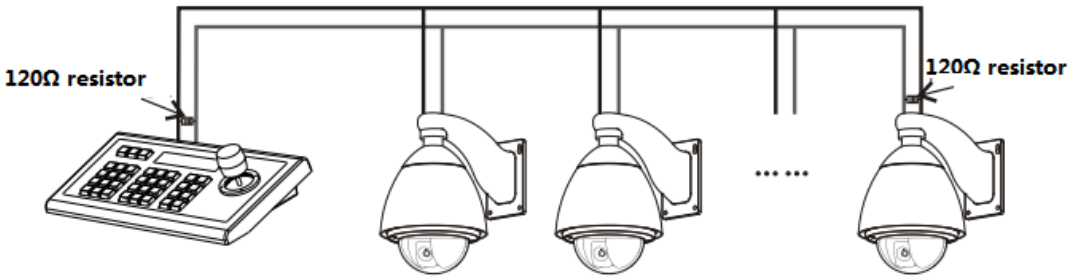
RS485 bus, RS is the abbreviation of English "recommended standard", 485 is the identification number. The RS485 serial bus is widely used in applications where the communication distance ranges between dozens of meters to 1km more. RS485 uses balanced transmitting and split receiving, so it has the ability to reject common mode interference. In addition to the high sensitivity of the bus transceiver, it can detect voltages as low as 200mV, so the transmitted signal can be recovered beyond the kilometers away. As RS485 adopts half-duplex working mode, and only one point is allowed to be under sending status any time, the transmitting circuit must be controlled by the enable signal. RS485 is very convenient for multi-point interconnection, which help save many signal lines. RS485 can be used to make a distributed system, which allows up to 128 drivers and 128 receivers to be connected in parallel, depending on the chip used by the driver and receiver, and the bus drive capability is limited by the weakest one. However, in practical applications we can extend it with the RS485 distributor

5.2 Transmission distance：

When a 0.56mm (24AWG) twisted pair cable is used as the communication cable,the theoretical value pf the maximum transmission distance varies with different baud rate: 1800 meters can be transmitted when the baud rate is 2400 bps, and 600 meters under 19200 bps. When using a thinner communication cable, or using the product in an environment with strong electromagnetic interference, or when too many devices are connected with the bus, the maximum transmission distance will be shortened accordingly, or the maximum distance is longer.

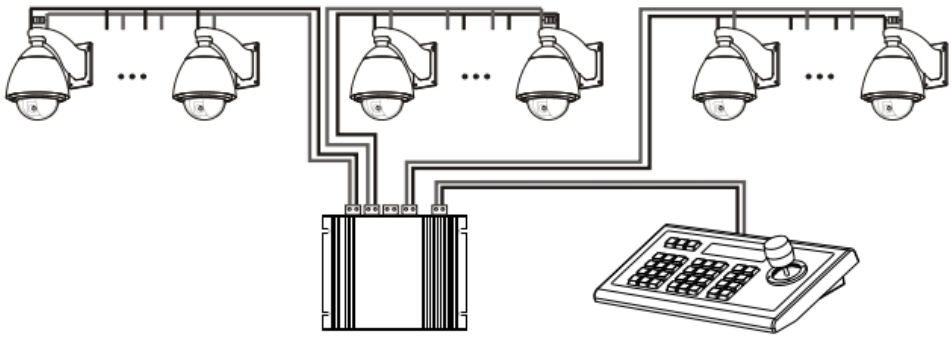
5.3 Connection method and terminating resistor

The RS485 industrial bus standard requires daisy chain connection between devices. The two ends must be connected with a 120Ω termination resistor. The two balance distances must be within 7m.



5.4 Problems in Actual Application

The star link mode will always be used in actual constructions, requiring the terminating resistor to be linked with the two devices in the farthest distance. But it does not meet the requirements of the RS485 industry standards. When the distance between each device are too long, signal reflection and anti-interference ability reducing would frequently happen,which will decrease the reliability of the control signal. It means the camera will not be under control or under control intermittently. In this case, the application of RS485 distributor is recommended, which can effectively convert the star link mode to one qualified by the RS485 industry standards. It will help avoid problems and improve the communication reliability.



6.Trouble shootings

Troubles	Analysis	Solutions
PTZ S surveillance Camera cannot be controlled by KBD	1.check RS485 cable	Step 1: Whether the RS485 A and B are reversed, Step 2: check whether the RS485 line is short-circuited when power off.
	2.check the correspondence of camera protocol and baud rate settings with those of KBD	Step 1: Check whether the current protocol and baud rate are correspondent. Step 2: Restore the KBD default settings and then reset it.
	3.Check whether the PTZ indicator light flickering when control.	Step 1: If the PTZ indicator light flickers when control, then there is no problem with KBD. Step 2: If the PTZ indicator light does not flash when control, there is some problem with the RS485 output of the keyboard. Please return to factory for repairing.
Video conference camera can not be controlled by KBD	1.check the control cable	Make sure a right connection of the control cable.

	2.check the correspondence of camera protocol and baud rate settings with those of KBD	Check whether the current protocol and baud rate of each address are correspondent. Please refer to camera user manual.
Not all camera can be controlled by KBD.	1.Inspect accessories.	Inspect all connection cables.
	2.Check settings.	Check whether the current protocol and baud rate of each address are correspondent.
	3.Probably a problem with star wiring.	Step 1: At the farthest end of RS485, connect an impedance of 120Ω. Step 2: Add RS485 splitter to the star connection
Some camera rotate at the same time when control.	1.Inspect camera address setting.	Check if the address codes of the cameras that are moving together are the same, please stagger the address code settings. (Note: you need to restart after modifying the dialing switch to take effect)
Forget the locking password	Long press the [SETUP] key to enter the system settings and reset the password,if happened at any time.	
Button silent	Enter the system settings and turn on the button sound.	

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