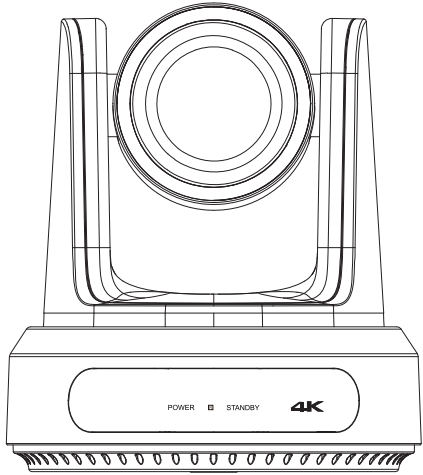


4KP60 AI Auto Tracking PTZ Camera

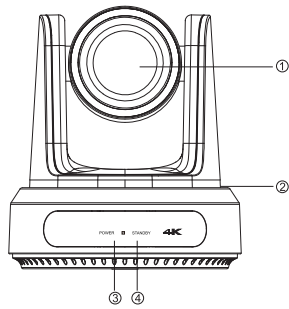
User Manual



Version V1.0-05.02.0261

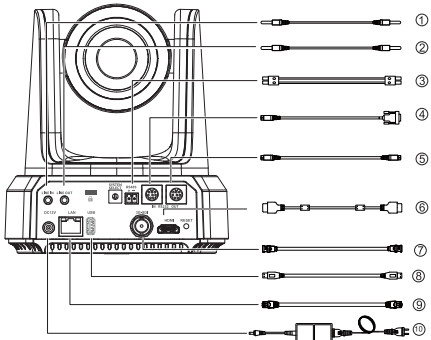
1. Product Description

1.1 Front



- ① Lens
- ② Pan&Tilt
- ③ Power
- ④ Standby

1.2 Back



- ① LINE IN
- ② LINE OUT
- ③ RS-485
- ④ RS-232 IN
- ⑤ RS-232 OUT
- ⑥ HDMI
- ⑦ SDI
- ⑧ USB
- ⑨ LAN
- ⑩ DC 12V

Warranty Certificate

(Please keep this for warranty claims)

User Information

Name: _____ Phone: _____

Email: _____ Postal Code: _____

Address: _____

Product Information

Model: _____

Barcode: _____

Fault Description

Notes

- Please fill in your user information accurately and completely to ensure the repaired device can be returned to you promptly.
- Specify the model, barcode, and provide a detailed description of the malfunction.

3. Performance Characteristics

Model No.	4KP60 AI Auto Tracking PTZ Camera
Sensor	1/1.8"
Effective Pixels	8.42MP
Video Signals	HDMI: 4KP60, 4KP59.94, 4KP50, 4KP40, 4KP30, 4KP20, 4KP10, 1080P60, 1080P50, 1080P30, 1080P10, 1080P59.94, 1080P50.94, 1080P29.97, 720P60, 720P59.94, 720P29.97, 720P59.94, 720P29.97, 1080P59.94, 1080P29.97, 1080P59.94, 1080P29.97, 720P59.94, 720P29.97
Zoom	20x optical zoom
Lens	f4.3mm ~ 120mm
Aperture	F1.58 ~ F3.96
Horizontal Angle	59.6° ~ 3.5°
Vertical Angle	35.7° ~ 2.7°
Diagonal Angle	66.8° ~ 4.0°
Digital Zoom	16X
Video Output	USB 2.0, HDMI, RJ45, SDI
Signal Standard	NTSC/PAL
Control Interface	RS232, RS485, USB, NET
Shutter	1/50s ~ 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual, VAR
Backlight Compensation	Support
Digital Noise Reduction	3D Digital Noise Reduction
Base Rate	9600/38400/2400/4800
Control Protocol	VISCA, Pelco-D, Pelco-P
USB Protocol	UVC 1.1~1.5
Minimal Illumination	0.5 Lux @ (F1.5, AGC On)
SNR	50dB
Horizontal Rotation	350° (±175°) 0.1°/s ~ 100°/s
Vertical Rotation	180° (±90°) 0.1°/s ~ 80°/s
H.A.V.F.R.	Support
Image Freeze	Support
PoE	Support
IPC Features (IP Camera)	H.264H.265/MJPEG
Video Encoding Format	Main Stream, Sub Stream
Video Stream	3840x2160, 1920x1080, 1280x720, etc.
Main Stream Resolution	720x480, 3840x2160, etc.
Sub Stream Resolution	320x240 ~ 2048x1536
Video Bit Rate	Variable Rate, Fixed Rate
Bit Rate Type	50Hz: 10s ~ 20Hz: 60Hz: 10s ~ 60s
Frame Rate	50Hz: 10s ~ 20Hz: 60Hz: 10s ~ 60s
Audio Compression	AAC, G711A
Audio Bit Rate	96Kbps, 128Kbps
Network Protocol	NDI (H.2, SRT, TCP/IP, HTTP, RTSP, RTMP/IS), Onvif, DHCP, GB/T28181, Multicast
Input/Output Interface	1x HDMI
HD Output	1x3G-SDI, BNC type, 800mVp-p, 75Ω, Aiming to SMPTE 424M standard
LAN	1xRJ45, 100M/10M Ethernet Interface
Audio Interface	1-ch: 3.5mm Audio Interface, Line in: 1-ch: 3.5mm Audio Interface, Line Out
USB	1xUSB2.0, Type-A
Communication Interface	1xRS232 In: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P 1xRS232 Out: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use only 1xRS485: 2pin Phoenix Pin, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P ①⑦⑧ type (DC IN 12V)
Power Jack	Generic Specification
Power Supply	DC 12V(2A/MAx)
Power Consumption	24W(Max)
Work Temperature	0°C ~ 40°C
Work Humidity	20% ~ 80% RH
Store Temperature	-20°C ~ 60°C
Store Humidity	20% ~ 80% RH
Product Size	156.1*176.4*175.3mm(285*217*197mm(before / after packing))
Product Weight	1.51kg(2.8kg (net / gross weight))

5. Camera Menu Setup

When operating remote control, press 【MENU】 to enter main menu of the video camera.

5.1 Level 1 Menu - Main Menu

MENU	
▶ Exposure	
Color	
Image	
P/T/Z	
Setup	
Tracking Config	
Communication Setup	
Version	
Restore Default	
[Home] Enter	
[Menu] Exit	

5.2 Level 2 Menu - Exposure

EXPOSURE	
▶ Mode	Auto
ExpCompMode	On
ExpComp	+2
Backlight	Off
Gain Limit	10
Anti-Flicker	50Hz
Meter	Average
DRC	1

Mode: Auto/Manual/SAE/AE/Bright
ExpcompMode: On(-7--+7)/Off
Blacklight: Off/On
Gain Limit: 0~15
Anti-Flicker: 50Hz/60Hz/Off
Meter: Average/Center/Smart/Top/Bottom
DRC: 0~8

EXPOSURE	
▶ Mode	Manual
Iris	F1.8
Shutter	1/125
Gain	2
DRC	8

Mode-Manual
Iris: F1.8, F2.0, F2.4, F2.8, F2.4, F3.4, F4.0, F4.8, F5.6, F6.8, F8.0, F9.6, F11.0, Close
Shutter: 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000
Gain: 0~7
DRC: 0~8

5.5 Level 2 Menu-P/T/Z

P/T/Z	
▶ SpeedBy Zoom	On
AF-Zone	Front
AF-Sense	High
L/R Set	STD
Digital Zoom	Off
Horizontal Speed	16
Vertical Speed	18
Zoom Speed	5

5.6 Level 2 Menu-Setup

SETUP	
▶ Language	EN
DVI Mode	HDMI
Video Format	1080P60
Auto Patrol	Off
Noise Reduction	
Video Mode	
Other	

Language: EN/Chinese
DVI Mode: HDMI/DVI
Video Format: HD1080P60/HD1080P50/HD1080I60/HD1080I50/HD1080P30/720P60/1080P29.97/1080I59.94/1080P59.94/720P59.94/4KP29.97/4KP59.94/4KP25/4KP30/4KP50/4KP60
Auto Patrol: Off/On
Residence Time: 1~60
Call Preset Speed: 1~24
Noise Reduction-NR3D-Level: Off/1-9

Noise Reduction-NR3D-Level: Off/1-9

Video Mode
SDI-3G Mode: LEVEL-A/LEVEL-B
Video Output: HDMI/SDI

Other
Auto Inversion: On/Off
Pre Attr: Off/On
Display Info: On/Off
Image Freeze: Off/On

5.7 Level 2 Menu - Tracking Config

TRACKING CONFIG	
▶ Tracking	Off
Tracking Mode	Presenter
Figure Size	Full

Tracking: Off/On
Tracking Mode: Presenter/Zone/Auto Framing
Figure Size: Full/Half Body/Close Up/Custom(This function is only for Presenter Tracking Mode)

5.8 Level 2 Menu - Communication Setup

COMMUNICATION SETUP	
▶ Protocol	Auto
V_Address	1
V_AddrFix	On
Net Mode	Paral
P_D_Address	1
P_P_Address	0
Baudrate	9600
IR Addr	1
DHCP	Off
IP	192.168.0.206

Protocol: Auto/VISCA/PECLP-D/PELCO-P
V_Address: 1~7
V_AddrFix: On/Off
Net Mode: Paral/Serial
P_D_Address: 0~254
P_P_Address: 0~31
Baudrate: 9600/38400/2400/4800
IR Addr: 1/2/3/4/ALL
DHCP: Off/On
IP: 192.168.0.206

5.9 Level 2 Menu - Version

VERSION	
ARM	6.0.29
SOC	0.0.08
Model	F51.TV
Date	2025-07-01
AF	3.5.21
Video Format	1080P60
Lens	Z 20X

5.10 Level 2 Menu - Restore Deafult

RESTORE DEAFULT	
Restore?	No

Restore?: No/Yes

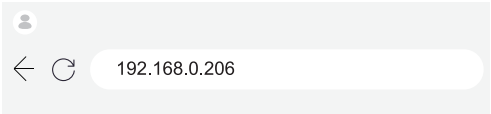
6. AI Tracking Setting from WebUI

This camera offers three tracking modes: Presenter, Zone, Autoframing. Through the WebUI, users can adjust settings such as: Close-up image proportions, Tracking activation (On/Off), Tracking zone configuration, Display position of the tracking target, etc.

The setting procedures are as below (It is recommended to set the tracking parameters when the tracking function is turned off.):

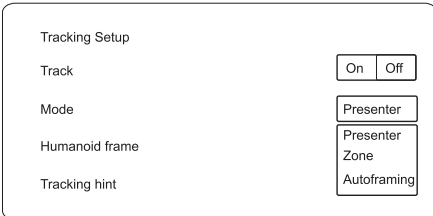
6.1 Accessing the Camera's WebUI

- Enter the camera's IP address (default: 192.168.0.206) in a browser.
- Log in with the default credentials: Username: admin, Password: admin.

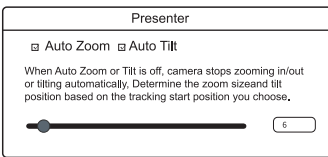


6.2 Tracking under Presenter Mode

Step 1: Tracking-Mode(Presenter)



Step 2: Target Retention Time Setting.Default: 6 seconds



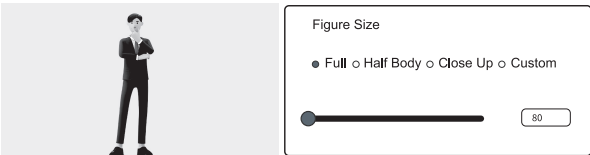
It is recommended to disable tracking during setup.

Adjust zoom and tilt settings:
Auto Zoom: Enabled by default; adjusts the target size dynamically.
Auto Tilt: Enabled by default; keeps the target centered vertically.
Target Retention Time: Set how long the camera head returns to the set tracking start position after the tracking target is lost. Default: 6 seconds.

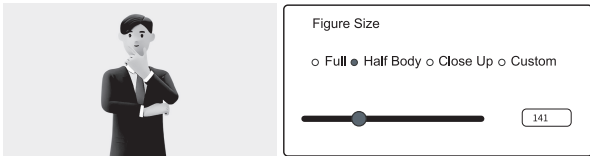
Step 3: Figure Size (Close-up) Setting

By selecting different modes, users can customize the proportion of the person in the close-up frame, with changes taking effect immediately.

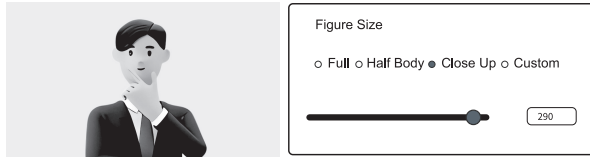
- Full Body: The close-up frame includes the entire body of the tracked subject, as shown in the image below:



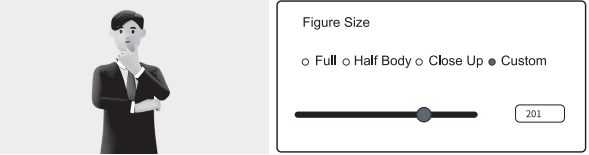
- Half Body: The close-up frame captures the upper half of the tracked subject, from the head down to the knees, as shown below:



- Close-Up: The frame captures the tracked subject from the waist up, as shown below:

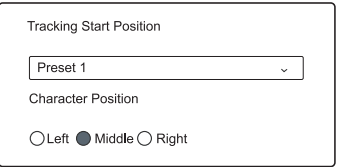


4) Custom: Adjust the tracked subject size freely. Higher values will enlarge the subject in close-up view, but may cause the camera to lag when tracking fast-moving subjects, as shown below:



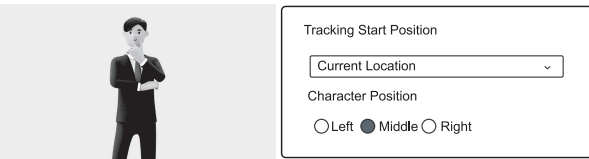
Step 4: Tracking Start Position Setting

Options: Current position and Preset position 1
If you select "Current position", the camera will only track from its current position; and return to this position when tracking stops.
If you select "Preset position 1", you must set this preset position first. The camera will move to Preset position 1 when tracking begins, and automatically track when someone enters this preset zone, and return to Preset position 1 if the tracked subject is lost (after exceeding retention time).

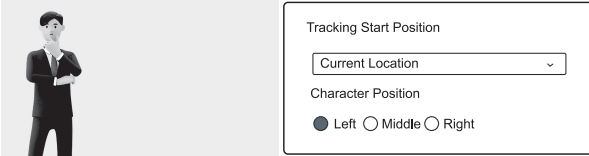


Step 5: Target Display Position Setting

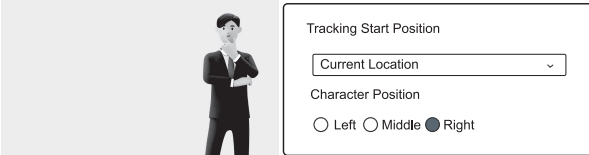
Default: Middle (Left and Right optional)
Primarily used in live broadcast scenarios
1) Middle (default):Keeps the tracked subject centered on screen during tracking.



2) Left: Maintains the tracked subject on the left side of the screen during tracking.

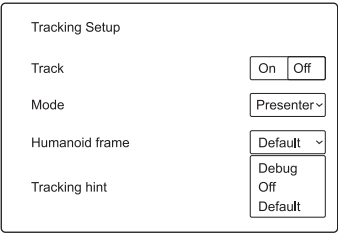


3) Right: Maintains the tracked subject on the right side of the screen during tracking.



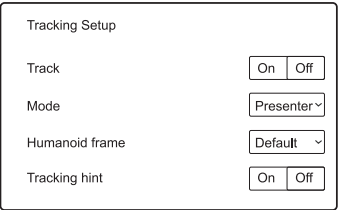
Step 6: Humanoid Frame and Tracking Hint Setting

1) Humanoid Frame (3 options: Debug, Off, Default)
Recommended: "Off" for live broadcast scenarios
Default:
• After enabling tracking:
-Select target from crowd using direction keys (auto-framing box appears)
-Press HOME to confirm → box disappears → tracking begins
Off:
• No framing box appears during target selection
• Ideal for live broadcasts
Debug:
• Framing box remains visible throughout tracking
• For debugging/demonstration only

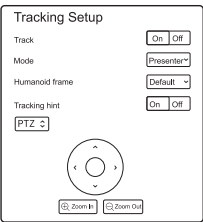


2) Tracking Hint

On:
• Displays a tracking status prompt (upper left corner) when:
-Tracking is activated
-Tracking is deactivated
Off:
• No status prompts appear
• Recommended for live broadcast scenarios

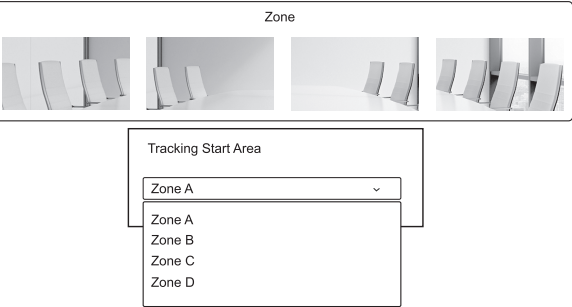


Step 7: Activate Tracking, select target using direction keys and press HOME key to confirm and begin tracking.



6.3 Zone Tracking

Functionality:
Divides the tracking target's frequent activity area into customizable zones (A, B, C, D), each linked to a preset position. When the target enters a zone, the camera automatically recalls the corresponding preset.
Operation Steps:
1) Setup Preparation:
-Navigate to the Tracking menu
-Select Zone Mode (recommended to configure with tracking disabled)
2) Zone Configuration:
-Use the WEB interface directional/zoom keys to frame each zone
-Sequentially save presets for Zone A, B, etc. (max 4 zones)
-Key Notes
(1) Zones must overlap sequentially (e.g., A→B→C or A→C allowed)
(2) Edit/delete presets if needed
3) Tracking Activation:
-Designate any zone as the start/end point
-On activation:
(1) Camera moves to the start zone
(2) Auto-triggers when a target enters
(3) Returns to start zone if target is lost



7. Common Operation Instructions

7.1 Camera Select

Set the IR remote control's address to control the corresponding camera, option item 1/2/3/4

7.2 Camera Direction Control

- Turning up
- Turning down
- Turning left
- Turning right
- Turning to default

Note: Press the direction key when you need to adjust the angle.
If you want to move the camera slowly, just click the direction key;
If you want to move the camera fast at a large scale, just long-press the button;
If you want to adjust left and right direction, just press and hold the L/R button for 10S.

7.3 Camera Focusing Mode Control

[AUTO FOCUS] Switch the focus mode to AUTO
[MANUAL FOCUS] Switch the focus mode to MANUAL
[FAR] Far focus manually
[NEAR] Near focus manually

7.4 Camera Zoom Control

Press any one of the 4 [ZOOM] to make the zoom functioning.
These 4 keys are not applicable for fixed focus cameras.



7.5 Preset Setup, Call, Cancel

(1) Reserve Preset: Press [PRESET], then press one of the numbers (0-9) to reserve a preset that correspond to the NUMBER.
Note: You can setup 10 presets at most by the remote control.
(2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset.
Note: It won't work if there's no preset reserved in the corresponded number.
(3) Remove Preset: Press [RESET], then press one of the number (0-9) to remove a preset that corresponds to the NUMBER.



7.6 AI Mode

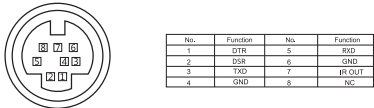
1) Press [AI] button to enter Multi-Person tracking mode and start auto-tracking. Press [AI] button again to exit Multi-Person tracking mode.
2) While in Multi-Person tracking mode, press [C] button to enter Single-Person tracking mode. In Single-Person tracking mode, a green frame will appear when there are two or more people present. Use the left and right buttons to select the person you want to track, then press [C] button to confirm and begin tracking.
3) Press [B] button to exit Single-Person tracking mode and return to Multi-Person tracking mode.

7.7 DIP Switch Settings

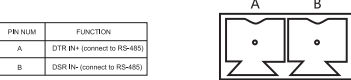
DIP	HDMI	SDI
0	1080P60	1080P60
1	1080P50	1080P50
2	1080I60	1080I60
3	1080I50	1080I50
4	1080P30	1080P30
5	720P60	720P60
6	1080P29.97	1080P29.97
7	1080I59.94	1080I59.94
8	1080P59.94	1080P59.94
9	720P59.94	720P59.94
A	4KP29.97	1080P29.97
B	4KP59.94	1080P59.94
C	4KP25	1080P25
D	4KP30	1080P30
E	4KP50	1080P50
F	4KP60	1080P60

1) Default Mode: DIP switch priority
2) Configuration Path: Web Interface → Video Settings → "Video Standard"
3) Available Options: DIP Switch Priority (default), 50Hz, 60Hz

7.8 RS-232 Interface Distribution



7.9 RS-485 Interface Distribution



8. Network Function

8.1 Equipment Installation

Connect the camera to either a PC's external network port via Ethernet cable, or an Internet network through a router/switch. Access the camera's web interface by entering its IP address in a web browser (default IP varies by model - refer to the label on the camera's bottom).

8.2 Configure Computer IP to Match Camera's Network

Purpose: Ensure computer and camera are on the same subnet for communication.

1) Open Network Adapter Settings

Navigate to:
Control Panel > Network and Sharing Center > Change adapter settings
Right-click your active connection → Select Properties

2) Configure IPv4 Settings

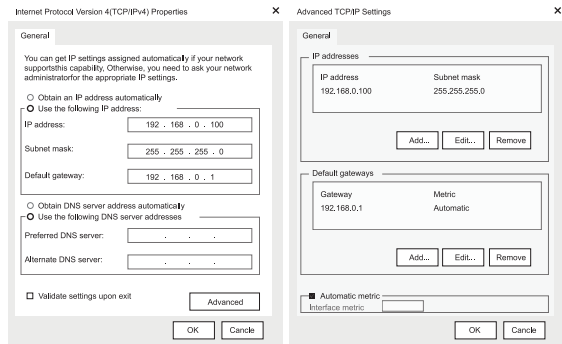
From the list, double-click:
"Internet Protocol Version 4 (TCP/IPv4)"
(or select it and click Properties)
3) Add IP Address Manually
Select:
Use the following IP address
Enter:
IP Address: 192.168.0.xxx (e.g., 192.168.0.245)
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.xxx
(typically your router's IP, e.g., 192.168.0.1 or 192.168.0.254)

4) Finalize Changes

Click OK to close all configuration windows
Changes take effect immediately

8.3 Modify Camera's IP to Match Local Network

Purpose: Integrate camera into your existing network.



Steps:

1) Access camera's web interface.
2) Enter http://192.168.0.206 in a browser.
3) Navigate to: Setup > Network Settings > Local Network.
Update settings:
IP Address: 192.168.x.206 (match your subnet, e.g., 192.168.1.206)
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.x.xxx
(typically your router's IP, e.g., 192.168.1.1 or 192.168.1.254)

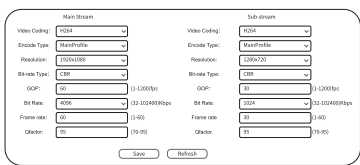
8.4 IE Login

Input http://192.168.0.206 to IE (better with IE or Google web browser), a login window will pop up, input user name: admin, password: admin, language: English. After successfully login, you can do preview, configurations, etc.



8.5 Video streaming

1) Select "Setup"- "Video Settings"- "System Settings" to enter the following interface:



2) RTSP video streaming

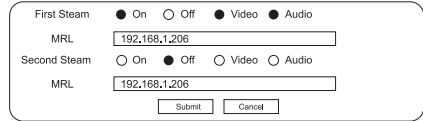
Select "Setup"- "Network Settings"- "RTSP" to enter following interface:



Configure parameters according to the network environment.
For example, Camera default IP Address: 192.168.0.206 here is the way to get RTSP video streaming.
Default RTSP main streaming address: rtsp://192.168.0.206:554/live/avO(avO Main)
Default RTSP sub streaming address: rtsp://192.168.0.206:554/live/av1(av1 Sub)

3) RTMP video streaming

Select "Setup"- "Network Settings"- "RTMP" to enter following interface:



Enable and turn on the RTMP video stream to the server
Server URL: server address, which can be domain name or IP address
Streaming code: Persistent Stream Key/Name

8.6 Software upgrade (upgrade if there is a new version)

Select "Setup"- "Maintenance"- "System Upgrade" to enter the following interface:



1) Open the upgrade file to Upgrade automatically if needed.
2) Restart the camera and prompts "Upgrade succeeded". Log in to the network and check whether the software version is consistent with the upgrade file to ensure that the upgrading is successful. Then click "Restore factory default" to restart and restore the parameters to the factory default setting. (IP default: 192.168.0.206, User default: admin, password default: admin)

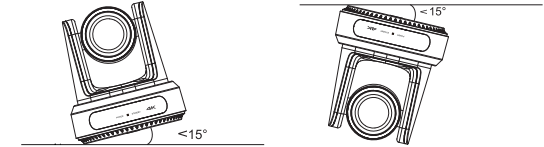
8.7 VISCA over IP

VISCA Protocol is transmitted through IP to reduce RS232/RS485 cabling (the controller must support IP communication)
Communication Port Specification:
Control Port: RJ45
IP Protocol: IPV4
Transmission Protocol: Sony VISCA;
IP address: Setting through the web
Port address: Sony VISCA(52381)
Application Range: Under the same network segment

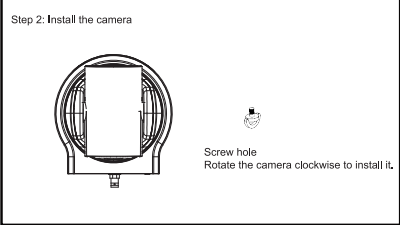
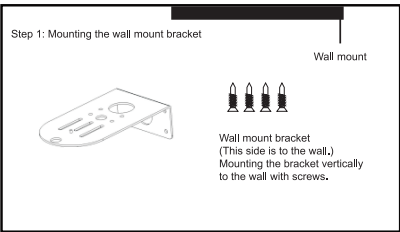
9. Installation Instructions

9.1 Surface Installation

Put the camera on the desk flatly, and make sure the camera is in a horizontal position.
If you want to put the camera on an oblique surface, please make sure the angle of inclination is less than 15 degrees to ensure the camera pan and tilt work in normal operation.



9.2 Wall Mount Installation



10. Trouble Shooting

Before requesting service to service engineer, please refer to the following methods to remove failures. If the failures still can't be solved, please contact us for assistance.

Q: The video of the camera cannot be displayed on the screen.
A: Please check the connection between power cable, video cable, camera and monitor, fix the connector on each end.
Q: It's unable to Pan, Tilt and Zoom camera.
A: Because the menu was displayed on monitor. Please re-operate after exiting the menu
Q: Why the camera rotates for about 10 seconds after power on?
A: This is the normal self-test of the camera
Q: Poor Image quality while using in church or other low-light conditions.
A: Press menu (ON/OFF) to adjust backlight effect to suit the church lighting property.
Q: Remote control is not working or insensitive.
A: ⓀNot work, please replace batteries
ⓀNot sensitive: Choose the correct "IR select" number to correspond to the camera.
Control the camera within 10m (32.8ft). Remove the obstacles. Aim at the sensor which is in front of the camera when controlling it.

Q: USB interface is not identifiable.
A: Please check if the USB cable and extension cable are well connected or not. If yes, change to another USB interface and try to connect again.
Q: It won't be controlled via RS-232/RS-485 when camera connect to PC.
A: Make sure it is a correct connection between the camera and PC. (Reference to RS-485 and RS-232 Pins distribution on page 16).
Q: Why no ceiling mount bracket?
A: Camera comes with wall mount, ceiling mount or tripod brackets need to buy separately.
Q: Does this camera has built-in mic?
A: No, this camera comes with no built-in mic.
Q: Can we control the camera only by the remote control?
A: You can control the camera by remote control, keyboard controller (joystick), and software.

材质:100g书纸, 黑白双面印刷

尺寸: 说明书大小 594*297(w*h)左右5折6页再对折
折叠后 99*148.5mm(w*h)