

# Boom MAGNA

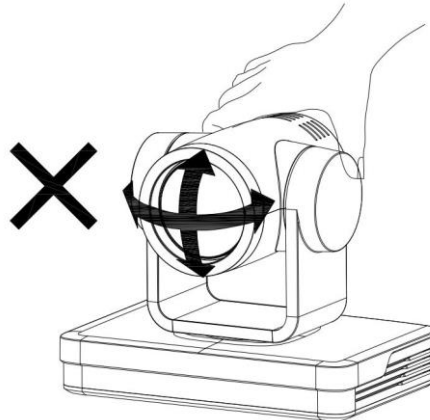
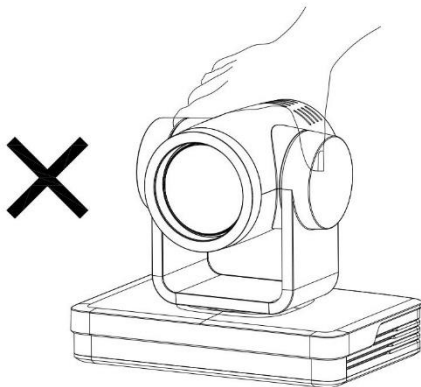
a professional camera for superior meetings



Quick Guide

# Handling your new Boom MAGNA

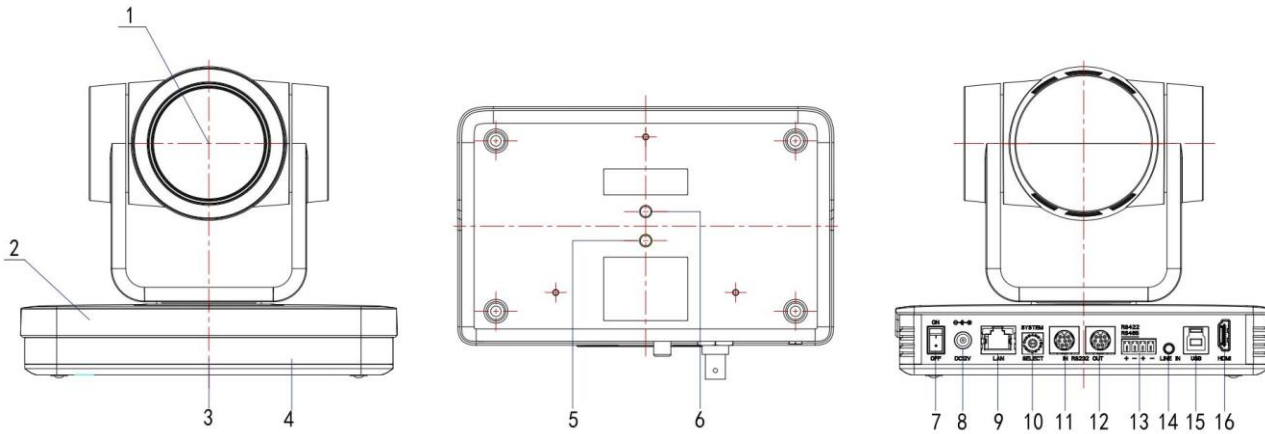
Improper handling may damage the camera and result in mechanical failure.



Move the camera by holding the base with one or both hands.

- Do not rotate the lens or holder manually.
- Do not get the unit wet or place objects on top of it.
- To prevent the risk of electric shock, do not open the case.
- Installation and maintenance should only be carried out by qualified technicians.
- Do not expose to extreme temperature, humidity, or power supplies not intended for this camera.
- To clean use a soft, dry cloth on the camera lens. Use only mild detergent if needed. Do not use strong or corrosive detergents to avoid damaging the lens.
- Do not disassemble.
- Ensure there are no obstacles within rotation range of the holder.
- Electromagnetic fields at specific frequencies may affect the video image. This product is Class A. It may cause radio interference in household application.
- Any damage caused by misuse or mishandling of the product will void the warranty.

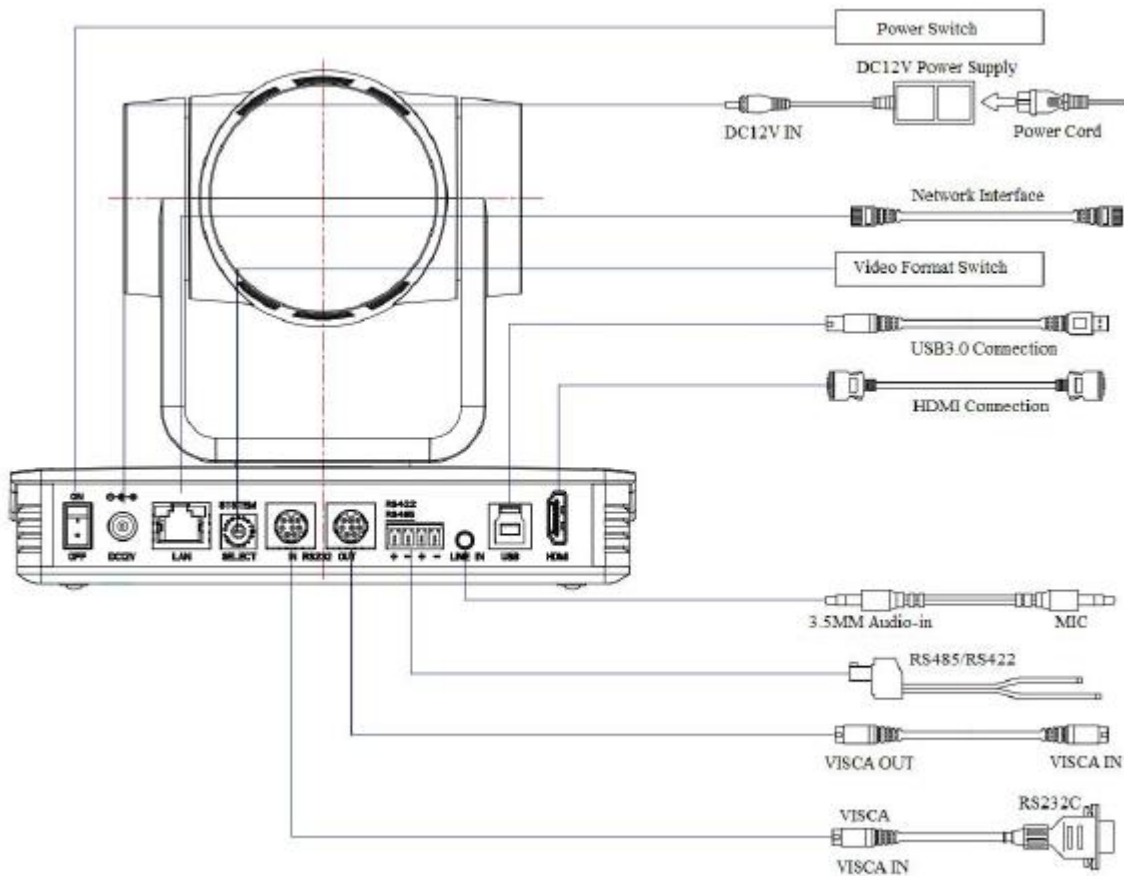
# Interfaces and connections



- 1.Camera Lens
- 2.Camera Base
- 3.Indicator Light
- 4.Infrared Receiver

- 5.Tripod thread
- 6.Tripod thread

- 7.Power Switch
- 8.DC12V Input Power Supply Socket
- 9.LAN Port
- 10.Rotary DIP Switch
- 11.RS232 Control Interface(input)
- 12.RS232 Control Interface(output)
- 13.RS422/RS485 Interface
- 14.Audio Input Interface (LINE-IN)
- 15.USB 3.0 Interface
- 16.HDMI Output Interface



# Your new Boom MAGNA camera

Take your video conferencing to the next level with Ultra HD 4k at 60fps and 12x optical zoom. Enjoy superior image quality with Sony CMOS sensor providing excellent low light optimization. Multiple video outputs, noise reduction, remote control and multi-codec IP streaming make the Boom MAGNA your go to camera for huddle and conference rooms. Anyone passionate about collaboration needs this camera. Better meetings. Simply.

## What's in the box?

Boom MAGNA camera

Remote Control

Power Adapter

RS 232 Cable

USB 3.0 cable

User Manual

## Optional Accessories

Ceiling Mount

Wall Mount

Wireless remote

## Let's get started

1. Connect the power adapter to your camera and plug it in. Your camera lens will begin to move while it warms up. Give it a second.
2. Connect the USB 3.0 cable from your camera to your computer or laptop.
3. Open the video software, select Boom MAGNA 4K and enjoy.
4. For RS232, Visca, and other connection details check out our support docs at [www.BOOMcollaboration.com](http://www.BOOMcollaboration.com)
5. Need help? Drop us a line or give us a call:
  - Phone: 800.534.BOOM
  - Web support: [BOOMcollaboration.com/support](http://BOOMcollaboration.com/support)
  - Email: [support@BOOMcollaboration.com](mailto:support@BOOMcollaboration.com)

# Boom MAGNA highlights & features

**4K UHD Resolution:** 8.51M megapixel high quality SONY CMOS sensor. Resolution is up to 4K with frame rate up to 60fps.

**Optical Zoom Lens:** 12X optical zoom with 82° wide angle field of view

**Leading Auto Focus Technology:** Fast, accurate and stable auto focusing technology.

**Low Noise and High SNR:** Super high SNR image is achieved with low noise CMOS. Advanced 2D/3D noise reduction technology further reduces the noise while ensuring high image clarity.

**Multiple video output interfaces:** HDMI, USB3.0, LAN

**Multiple Audio/Video Compression Standards:** USB3.0 interface supports MJPEG, H.264, YUY2, NV12, H.265; support AAC, MP3 and G.711A audio compression, 8000, 16000, 32000, 44100, 48000 sampling frequency.

**Multiple Network Protocol:** Supports ONVIF, GB/T28181, RTSP, RTMP protocols, RTMP push mode, quick connection to streaming server (Wowza, FMS), RTP multicast mode and network full command VISCA control protocol.

**Control Interface:** RS422 input (compatible with RS485), RS232 input/output, RS232 (cascade connection).

**Multiple Control Protocol:** Supports VISCA, PELCO-D, PELCO-P protocols and automatic identification protocols.

**Built-in gravity sensor:** Supports PTZ automatic flip function for convenient installation.

**Quiet Pan/Tilt:** High accuracy step driving motor, extremely quiet and smooth.

**Multiple presets:** Up to 255 presets (10 presets via remote control). IR Remote control included.

**Optional Wireless Remote Control:** (sold separately) 2.4G wireless remote control allows for simple control regardless of the angle, distance or infrared interference.

**Multiple Application:** Online-education, Lecture Capture, Webcasting, Video conferencing, Tele-medicine, Unified Communication, Emergency command and control systems, etc.

# Camera specs

<b>Optical Zoom</b>	12X
<b>View Angle</b>	Horizontal : 6.55° (N) ~69.4° (W) Vertical : 3.66° (N) ~42.8° (W)
<b>AV</b>	F1.6 ~ F2.8±5%
<b>Sensor</b>	1/2.8in SONY CMOS
<b>Effective Pixels</b>	8.51M megapixel 16:9
<b>Video Format</b>	<p><b>HDMI video format</b> 4KP60,4KP50,4KP30,4KP25,1080P60,1080P50,1080I60,1080I50, 1080P30,1080P25,720P60,720P50</p> <p><b>USB3.0 interface video format</b> YUY2/NV12: 1920×1080P30,1280×720P30,960×540P30,640×360P30, 640×480P30,320×176P30 MJPEG/H.264/H.265: 3840×2160P30,1920×1080P30,1280×720P30, 1024×576P30,960×540P30,800×448P30,640×360P30,640×480P30,320×176P30</p> <p><b>USB3.0 (compatible with USB2.0 video format)</b> YUY2/NV12: 640×360P30,640×480P30,320×176P30 MJPEG/H.264/H.265: 3840×2160P30,1920×1080P30,1280×720P30, 1024×576P30,960×540P30,800×448P30,640×360P30,640×480P30,320×176P30</p>
<b>Minimum Illumination</b>	0.05Lux (F1.8, AGC ON)
<b>DNR</b>	DNR 2D & 3D DNR
<b>White balance</b>	Auto/manual/ one push/ specify color temperature
<b>Focus</b>	Auto/manual/one push focus
<b>Exposure mode</b>	Auto/Manual/Shutter priority/Aperture priority/brightness priority
<b>Aperture</b>	F1.8 ~ F11 CLOSE
<b>Shutter speed</b>	1/25~1/10000
<b>BLC</b>	ON/OFF
<b>WDR</b>	OFF/ Dynamic level adjustment
<b>Video adjustment</b>	Brightness, Color, Saturation, Contrast, Sharpness, B/W mode, Gamma curve
<b>SNR</b>	≥50dB

# Input/Output specs

<b>Video interfaces</b>	HDMI, USB 3.0 (Type B compatible with USB2.0), LAN(POE), A-IN, RS232-IN, RS232-OUT, RS422 (compatible with RS485), rotary DIP switch, DC12V power supply, power switch
<b>Video compression</b>	LAN Interface: H.265, H.264 USB 3.0 Interface: YUY2, MJPEG, H.264, H.265, NV12
<b>Audio input</b>	Double track 3.5mm linear input
<b>Audio Output</b>	HDMI, LAN, USB 3.0
<b>Audio compression</b>	AAC, MP3, G.711A
<b>Network interface</b>	10M/100M/1000M Adaptive Ethernet port, POE power supply, audio and video output
<b>Network protocols</b>	RTSP, RTMP, ONVIF, GB/T28181; Network VISCA control protocol: remote upgrade, reboot and reset
<b>Control interface</b>	RS232-IN, RS232-OUT, RS422 compatible with RS485
<b>Serial communication protocol</b>	VISCA/Pelco-D/Pelco-P Baud Rate: 115200/38400/9600/4800/2400
<b>USB communication protocol</b>	UVC (video), UAC (audio)
<b>Power interface</b>	HEC3800 outlet (DC12V)
<b>Power supply</b>	AC110V-AC220V to DC12V/2.5A
<b>Input voltage</b>	DC12V±10%
<b>Input current</b>	<1A
<b>Power consumption</b>	<12W
<b>Pan rotation</b>	-170°~+170°
<b>Tilt rotation</b>	-30°~+90°
<b>Pan control speed</b>	0.1°/s~100°/s
<b>Tilt control speed</b>	0.1°/s~45°/s
<b>Preset speed</b>	Pan: 100°/s, Tilt: 45°/s
<b>Preset Number</b>	255 presets (10 presets via remote control)

## Additional specs

<b>Temperature stored</b>	-10°C~+60°C
<b>Humidity stored</b>	20%~95%
<b>Working temperature</b>	-10°C~+50°C
<b>Working humidity</b>	20%~80%
<b>Dimensions</b>	181mm(L) x 115mm(W) x 149mm(H)
<b>Weight</b>	1.15kg
<b>Application</b>	Indoor
<b>Package contents</b>	Camera, power supply, RS232 control cable, USB 3.0 cable, IR remote, guide
<b>Optional accessories</b>	Ceiling mount, wall mount, wireless remote, extra cables (sold separate)

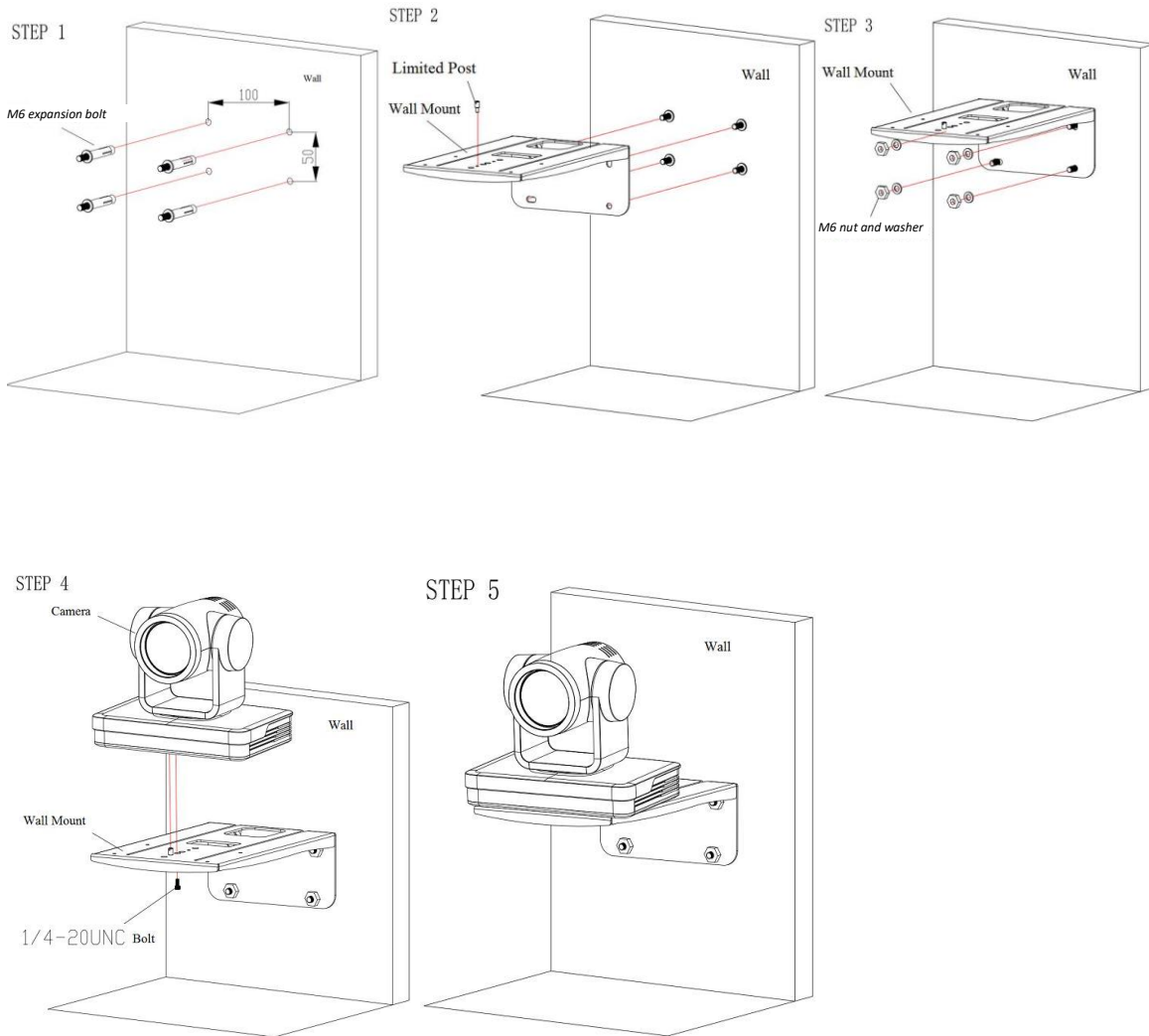
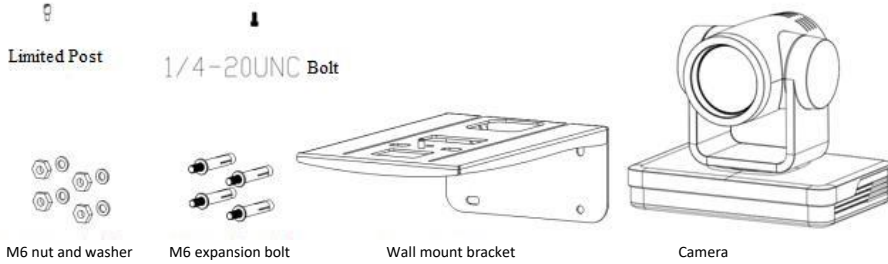


# Mounting options

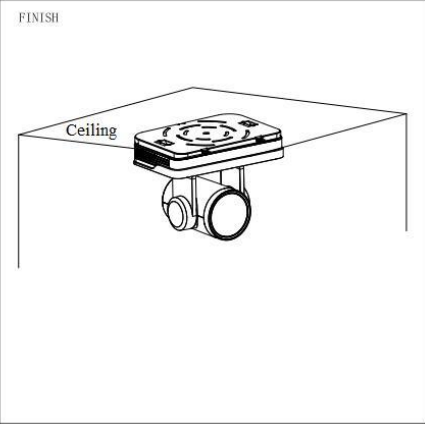
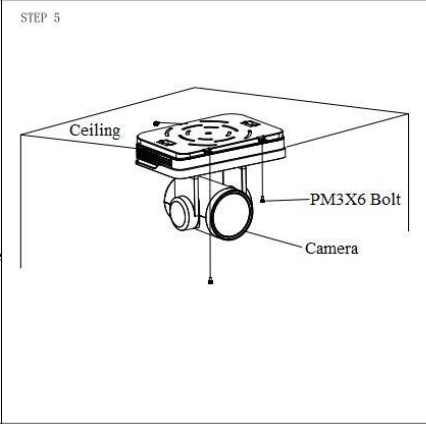
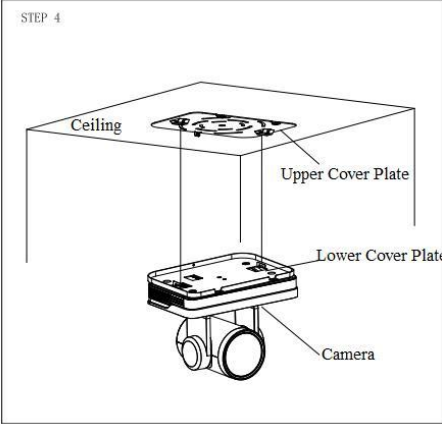
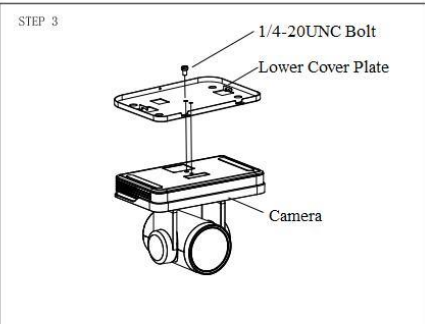
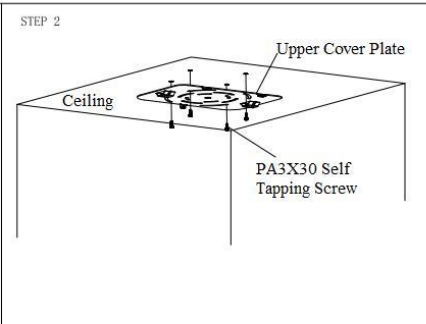
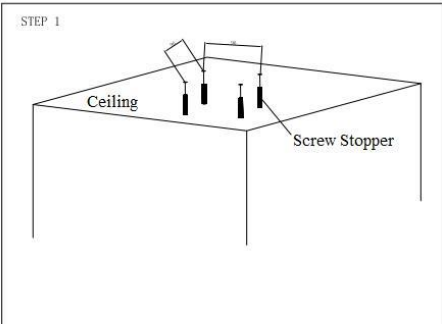
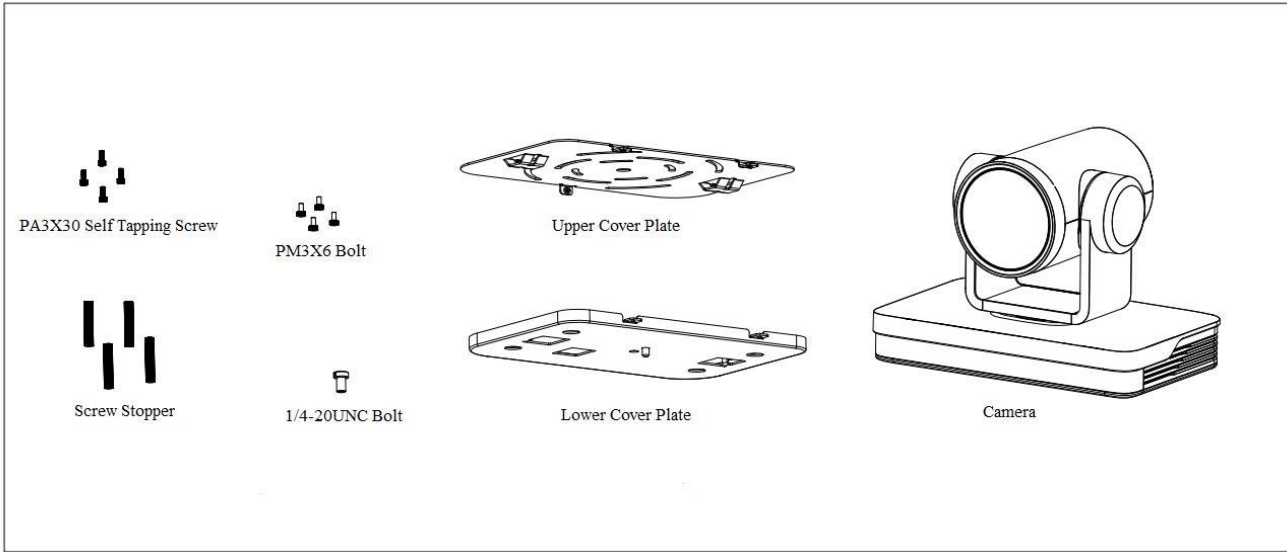
## Wall Mount

Part #: BM04-0018

(sold as a separate accessory)



**Ceiling Mount**  
**Part #: BM04-0019**  
(sold as a separate accessory)



# IR Remote Control

Using your new remote control:

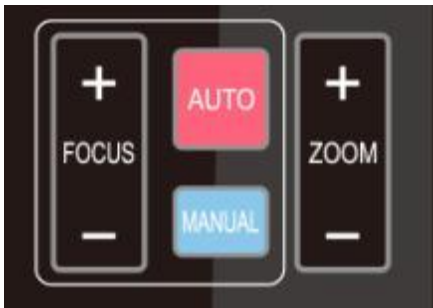


**Standby Key:** press and hold for 3 seconds to enter standby mode. Self-check mode: Long press for 3 seconds a 2<sup>nd</sup> time. If camera preset 0 is set, the camera will return to preset 0. If not, it will return "home"



## Camera Selection

Select the camera to control from 1-4



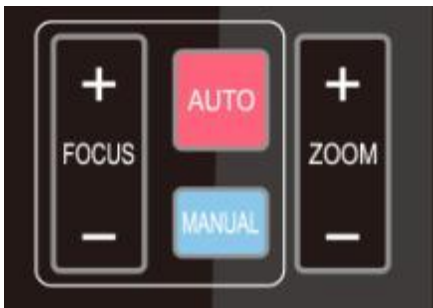
## Focus control

For auto focus press the "AUTO" key

For manual focus press the "MANUAL" key

Adjust focus with the FOCUS + and FOCUS - keys\*

\*only available in manual focus mode



## Zoom control

Adjust the zoom with the ZOOM + and ZOOM - keys\*

\*the focus will adjust once the zoom function has stopped



## Setting presets

1. Adjust the angle of the camera to preferred location

2. Press "SET PRESET" button + number 0-9 to set the preset\*

\*there are 10 preset options via remote



## Clearing presets

1. Press "CLEAR PRESET" button + the number 0-9

2. Press "#" 3 times to clear all presets



### Pan/Tilt control

1. Adjust the pan/tilt of the camera with the up, down, left and right arrows ▲▼◀▶
2. Press "HOME" to return back to the main position

### Menu

Press "MENU" to open/close the OSD menu

### Home

Press "HOME" to send the camera lens back to its central position.

Press "HOME" to confirm menu selections

Press "HOME" to enter the next menu

Press 【↑】 【↓】 buttons to select menu items

Press 【←】 【→】 buttons to modify values

### BLC on/off

Turn back light compensation on or off



### Camera remote control address setting

【\*】 + 【#】 + 【F1】 :Camera Address No.1

【\*】 + 【#】 + 【F2】 :Camera Address No. 2

【\*】 + 【#】 + 【F3】 :Camera Address No. 3

【\*】 + 【#】 + 【F4】 :Camera Address No. 4

### Key combinations

Clear all presets: 【#】 + 【#】 + 【#】

Restore factory defaults: 【\*】 + 【#】 + 【6】

Menu set to Chinese: 【\*】 + 【#】 + 【3】

Menu set to English: 【\*】 + 【#】 + 【4】

Flip switch: 【\*】 + 【#】 + 【9】

Enter aging mode: 【\*】 + 【#】 +Auto

Exit aging mode: 【#】 + 【\*】 +Auto

Restore default username, password, IP address:

【\*】 + 【#】 +Manual

### Switch video format

4KP60: 【#】 + 【#】 + 【0】

4KP50: 【#】 + 【#】 + 【1】

4KP30: 【#】 + 【#】 + 【2】

4KP25: 【#】 + 【#】 + 【3】

1080P60: 【#】 + 【#】 + 【4】

1080P50: 【#】 + 【#】 + 【5】

1080I60: 【#】 + 【#】 + 【6】

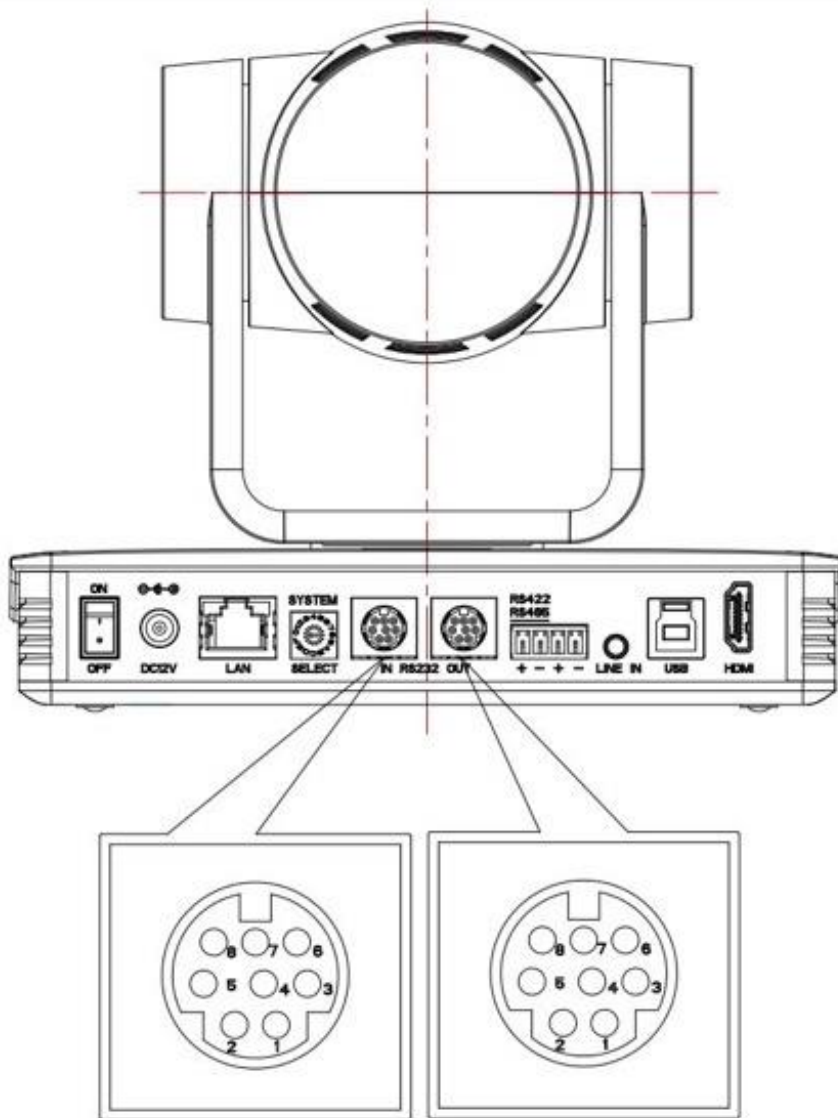
1080I50: 【#】 + 【#】 + 【7】

1080P30: 【#】 + 【#】 + 【8】

1080P25: 【#】 + 【#】 + 【9】

# RS-232 Interface

Connection to PC or Camera Controller



Camera

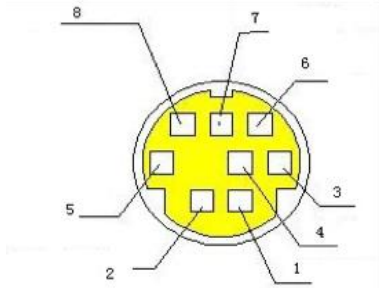
- 1.DTR
- 2.DSR
- 3.TXD
- 4.GND
- 5.RXD
- 6.GND
- 7.IR OUT
- 8.NC

WindowsDB-9

- 1.DCD
- 2.RXD
- 3.TXD
- 4.DTR
- 5.GND
- 6.DSR
- 7.RTS
- 8.CTS
- 9.RI

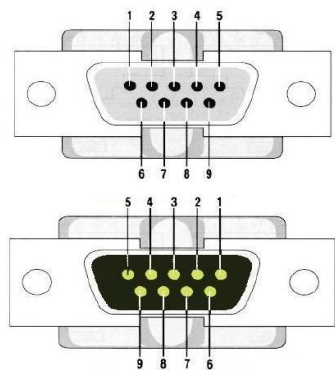


## Mini-DIN8-pin Port Definition



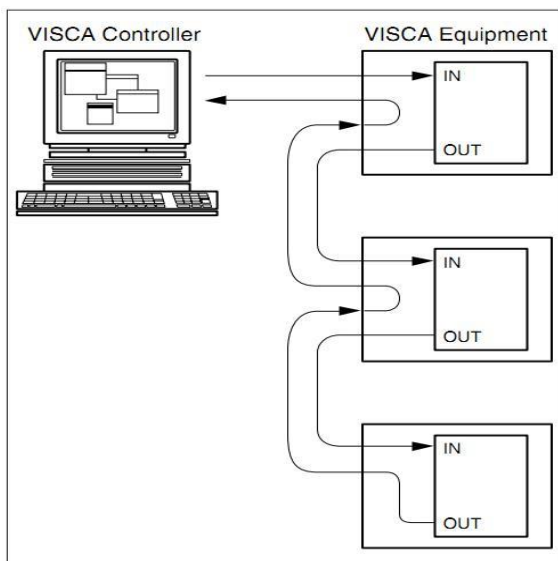
NO.	Port	Definition
1	DTR	Data Terminal Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	Signal Ground
5	RXD	Receive Data
6	GND	Signal Ground
7	IR OUT	IR Commander Signal
8	NC	No Connection

## RS232(DB9) Port Definition



NO.	Port	Definition
1	DCD	Data Carrier Detect
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	System Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

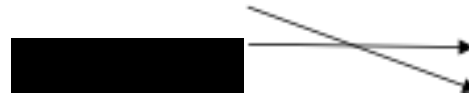
## VISCA networking as shown below



Camera cascade connection

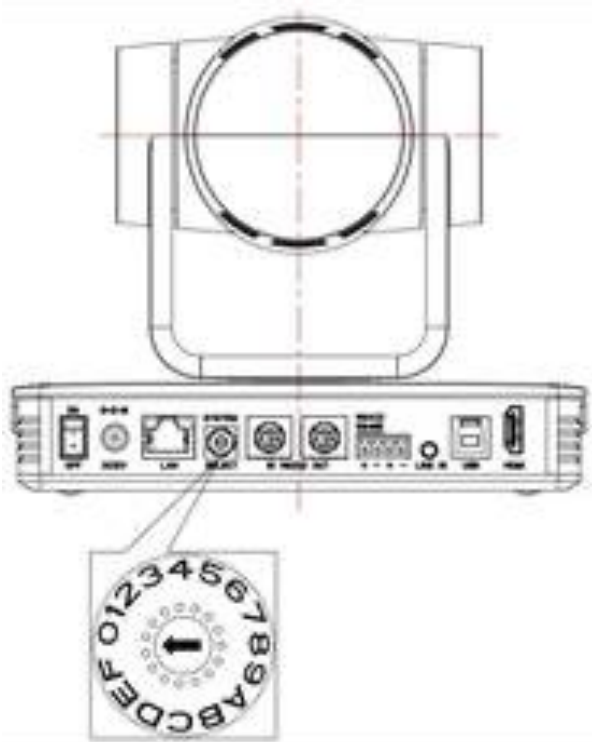
Camera 1 1.DTR 2.DSR 3.TXD 4.GND 5.RXD 6.GND 7.IR OUT 8. NC

Camera 2 1.DTR 2.DSR 3.TXD 4.GND 5.RXD 6.GND 7.OPEN 8.OPEN



Note: Camera has RS232 input and output interfaces, which can be cascaded according to the above methods.

## Rotary DIP Switch



Dial-up	video format	Dial-up	video format
0	4KP60	8	1080P30
1	4KP50	9	1080P25
2	4KP30	A	720P60
3	4K25	B	720P50
4	1080P60	C	video format to be set on the menu
5	1080P50	D	video format to be set on the menu
6	1080I60	E	video format to be set on the menu
7	1080I50	F	video format to be set on the menu

**Note:** after the video format is modified by rotating dial code, restart to implement the changes. Turn the dial to C, D, E, F, power off and restart. The menu will display the video format.

## Camera Maintenance

- 1) Please power off the camera and disconnect the power adapter and socket, if it's not used for a long run.
- 2) Use soft cloth or tissue to clean the camera cover.
- 3) Wipe it with a soft, dry cloth when cleaning the camera lens. Wipe it gently with a mild detergent if needed. Do not use strong or corrosive detergents to avoid scratching the lens and affecting the video quality.

# Troubleshooting

## No video output

- Ensure the camera power supply is connected, the voltage is normal, and the power indicator is lit.
- Restart the camera. It will enter self-check upon restart.
- Ensure the DIP switch is in normal operating mode (see Rotary DIP switch section).
- Check the video output cable and video display are connected properly.

## No image

- Check the video output cable and video display are connected properly.

## Video dithering on zoom-in/zoom-out

- Ensure the camera installation position is solid, not wobbly.
- Check surrounding area for shaking or vibrating electronics.

## Remote control not functioning

- Remote control address is set to 1. (If the machine is set to factory defaults, the remote control address will be 1 also).
- Check batteries or install new batteries.
- Ensure the camera is in normal operating mode (see Rotary DIP switch section).
- Camera control through remote is only available after exiting the menu. Close the menu if it is open. If using video output from LAN, menu will not be displayed, menu will appear 30s later, and then it can be controlled by remote control.

## Serial port not working

- Check that the camera serial device protocol, baud rate, and address is consistent.
- Check that the control cable is connected properly.
- Check that the camera working mode is in normal operating mode.

## Web pages cannot log in

- Check if the camera outputs video normally by connecting directly to the screen.
- Check whether the network cable is connected properly. (Ethernet port flashes yellow to indicate normal network cable connection).
- Check that your computer has added the segment and the segment is consistent with the IP address of the camera.
- Click "Start" and select "Run" and then type "cmd" in the computer; Click "OK" then turn on a DOS command window to enter ping 192.168.5.163. Press the Enter key to appear message as follows: Description network connection is normal.