# MS-BEAM 4K UHD ALL-IN-ONE USB Camera User Guide

## 1 Safety Precautions

- During the installation and operation, all electrical safety regulations of the country and region of use must be strictly observed.
- Please use the power adapter that comes standard with this product.
- Do not connect multiple devices to the same power adapter (exceeding capacity of the adapter may generate excessive heat or cause fire).
- Do not rotate the camera by hand, otherwise it may cause mechanical failure.
- When installing this product on a wall or ceiling, make sure the device securely and there are no obstacles within the rotation range; Do not power on until all installations are completed.
- To avoid heat build-up, please keep smooth ventilation around the device.
- If the device smokes, smells, or makes noises, please turn off the power and unplug the power cord immediately, then contact the dealer in time.
- This device is not waterproof, please keep the device dry.
- This product has no user serviceable parts, damage caused by disassembly by the user is not covered by the warranty.

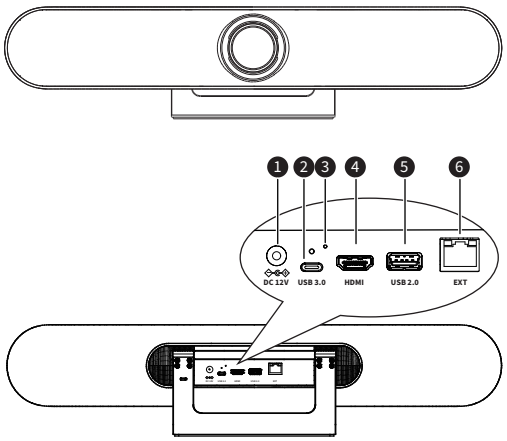
**Warning**

Operating this equipment in a residential environment may cause radio interference.

## 2 Packing List

| Name | Quantity | Name | Quantity |
|---|---|---|---|
| Camera | 1 | USB Cable | 1 |
| Power Adapter | 1 | Wall Bracket (with screw) | 1 |
| Power Cable | 1 | - | - |
| Remote Control | 1 | - | - |

## 3 Appearance and Interface




| No. | Name | No. | Name |
|---|---|---|---|
| 1 | DC 12V Interface | 4 | HDMI Interface |
| 2 | USB 3.0 Interface | 5 | USB 2.0 Interface |
| 3 | Reset Button | - | - |

## 4 Product Features

**Applicable Scene**

It is specially designed for small and medium-sized meeting rooms, especially for the Huddle Room with 4 to 6 people, to help enterprises re-tap the potential of using the small and micro meeting space inside. On one hand, it can hold meetings more efficiently, on the other hand, it can also save the rental cost.

**Product Value**

It is convenient for small and medium-sized enterprises to conduct daily business negotiation and team cooperation in different places flexibly, so as to create a relaxed, free and smooth conversation environment, make decisions quickly and improve efficiency.

**All-in-one Design**

The three-in-one design of 4K ultra HD camera, beamforming microphone and full-frequency loudspeaker reduces wiring and make video communication easy.

**4K UHD**

Using 1/2.5 inch, 8.51M pixel high quality UHD CMOS sensor, 4K (3840x2160) ultra high resolution clear image, and downward compatible with 1080P, 720P and other resolutions. It can meet the needs of users for different video experiences, and can provide clearer, real, smooth and accurate communication.

**Wide Field View**

121° wide field of view (110° horizontal field of view), 5 times zoom, optical lens customized for the conference scene, built-in electric head (horizontal and pitch ±15° motion range), no need to worry about the camera position, participants can easily enter the scene clearly.

**Beamforming Microphone**

Beam Forming (BF) microphone is built in, with a pickup distance of 6 meters. Low-distortion transverse beamforming algorithm can direct the microphone directly to the speaker, with better sound, clearer communication, fuller and more authentic.

**Audio 3A Algorithm**

Built-in audio 3A algorithm (AEC/AGC/ANS), full duplex dialogue, can meet the communication needs of different room structures, whether sitting at a conference table, sitting against the wall or standing, can have comfortable experience for calling.

**Full Frequency Speaker**

Full frequency Hi-Fi loudspeaker, professional acoustics design, reduce noise interference, provide outstanding sound effect.

**Plug and Play Type**

Through plug and play USB interface connect with the computer or business display screen, very easy to use. Less wiring, convenient video communication, reduce the user's learning cost.

**Intelligent Analysis**

Built-in intelligent analysis algorithm, listening to the speaker position, automatic framing of participants, automatic tracking of speakers, switching the speaker screen, to ensure that the speaker is always clearly in the picture.

**Multiple Interfaces**

Support HDMI and USB 3.0 audio video output simultaneously.

**Easy Installation**

Flexible installation options such as desktop, wall, and TV/display screen are available for quick installation and deployment in a crowded meeting room.

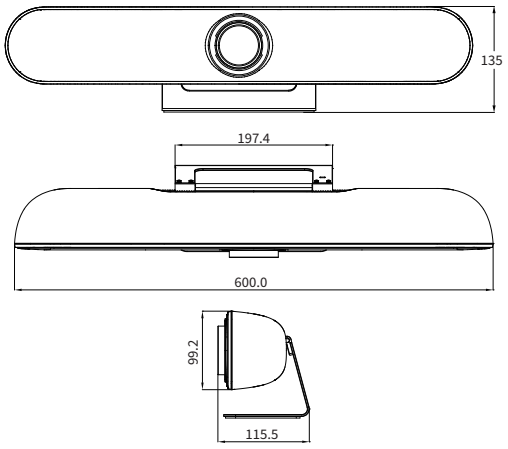
## 5 Product Specifications

| | |
|---|---|
| **Camera** | |
| Video System | 4K30, 1080P30, 720P30, etc |
| Sensor | 1/2.5-inch, CMOS, 8.51M pixel |
| Lens | 121° (DFOV), 110° (HFOV), 5x Digital Zoom, Pan/Tilt ± 15° |
| PTZ | MPT+EPTZ |
| Digital Noise Reduction | 2D&3D Digital Noise Reduction |
| Video S/N | ≥ 55dB |
| Backlight Compensation | Support |
| **Audio** | |
| Full Frequency Speaker | 96dB SPL in the case of 0.5 meter |
| Microphone Array | Beamforming microphone, pick up distance up to 6m |
| Extended MIC | Support |
| **USB Features** | |
| Connection Type | USB 3.0, downward compatible with USB 2.0 |
| Video Compression | MJPEG/YUY2 |
| USB Audio | 32K sampling rate, support UAC 1.0 |
| USB Protocol | UVC 1.1 |
| UVC PTZ Control | Support |
| **Interfaces** | |
| Video Interface | 1 x HDMI, 1.4b |
| USB Interface | 1 x USB 3.0, Type-C<br>1 x USB 2.0, Type-A |
| RJ45 Interface | 1 x RJ45 (EXT), support PSE power supply |
| Power Interface | DC 12V, 2A (max.) |
| **General Specifications** | |
| Control | 2.4G Remote Controller |
| Installation | Desktop, Wall, TV and others |
| Operating Temperature | 0°C~40°C |
| Storage Temperature | -40°C~60°C |
| Dimension | 600mm x 115.5mm x 135mm (with bracket) |
| Net Weight | About 2.5Kg |

**Note** Product specifications are subject to change without notice.

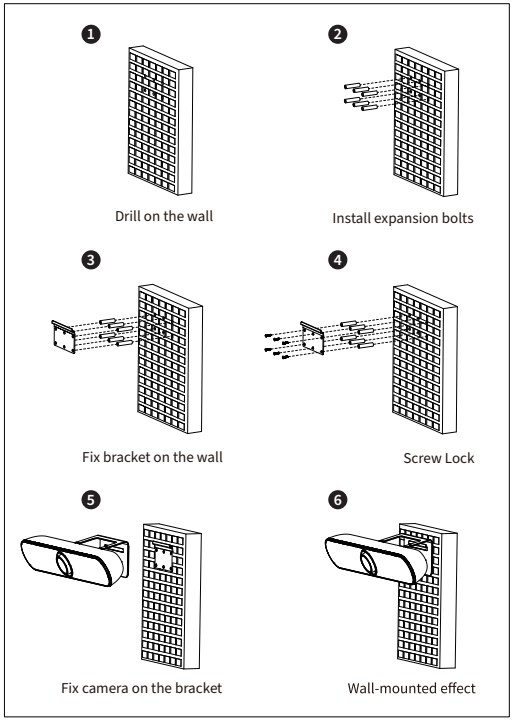
## 6 Product Dimension

Unit: mm




## 7 Installation and Connection

### 7.1 Installation

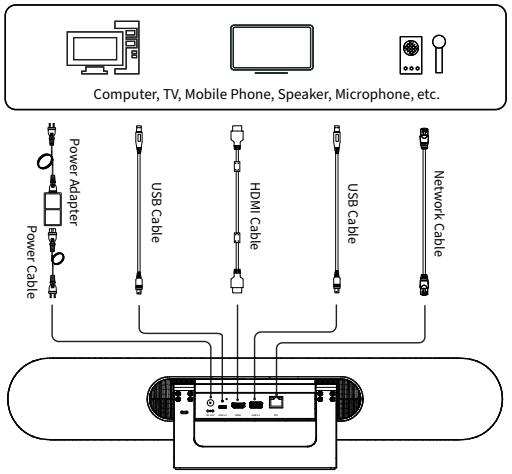



**Note**

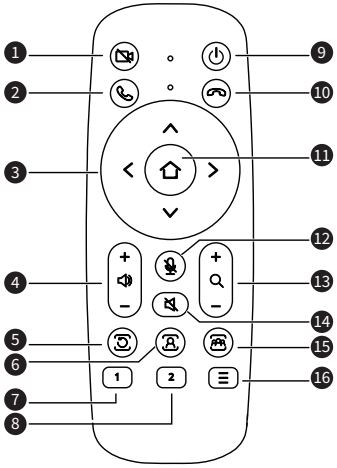
The installation diagram is for reference only, please refer to actual product for the installation accessories.

### 7.2 Connection

The cable connections shown in the following figure contains optional configurations and for reference only. Please connect the cables according to actual needs.



# 8 Remote Control



| No. | Name | Function Description |
|---|---|---|
| 1 | Camera Close Key | Press to turn off the camera, press again to resume |
| 2 | Call Key | Answer the call |
| 3 | Direction Keys | Press to move the camera to up, down, left and right directions; press the [OK] key to turn the camera back to the middle position |
| 4 | Volume +/- Keys | Press to increase or decrease the volume |
| 5 | Exit Tracking Key | Press to exit the tracking mode |
| 6 | Speaker Tracking Key | Press to enable the speaker tracking function |
| 7 | Preset 1 Key | Long press to set preset 1; short press to call preset 1 |
| 8 | Preset 2 Key | Long press to set preset 2; short press to call preset 2 |
| 9 | Standby Key | Long press camera enter to standby mode; short press to resume |
| 10 | Hang Up Key | Hang up the call |
| 11 | OK Key | Confirm selection |
| 12 | Mute Key | Turn on/off the microphone |
| 13 | Zoom Keys | Zoom in [+]; Zoom out [-] |
| 14 | Speaker Mute Key | Turn on/off the speaker |
| 15 | Participants Tracking Key | Press to enable the participants tracking function |
| 16 | Menu Key | Press to enter or exit the OSD menu |

# 9 Pairing

The remote control has been paired before delivery. If you need to pair it again, please refer to the following steps:

**Step 1** Connect the camera to the power supply, wait for the initialization to complete, and the camera can output pictures normally.

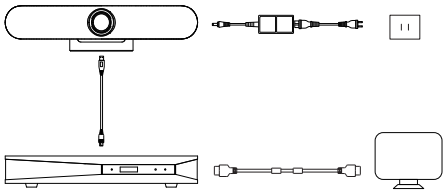
**Step 2** Clear the paired status:
Press and hold the [MENU] + [OK] key at the same time until the indicator of remote control lights with steady red.

**Step 3** Enter the pairing mode:
Use a pin to poke the [Reset] button of the camera, the camera's LED light will switch to blue running effect when it enters the pairing mode. (Note: There are only 15s operation time while entering the pairing mode, after timeout, it will exit the pairing mode automatically, and the LED is not the blue running effect ).

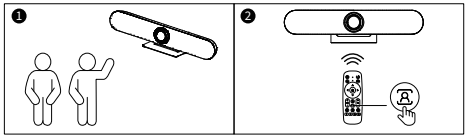
**Step 4** Start pairing:
Press and hold the [MENU] key until the indicator of remote control light with steady red. When successful paired, the LED of camera flashes with blue light. If the pairing fails, please repeat steps 2, 3 and 4 to repair.

# 10 AI Tracking Operation

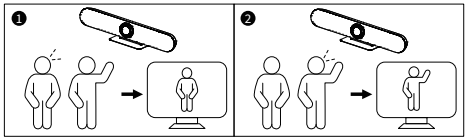
**Step 1** Connect the camera to the power source. Use a USB cable to connect it to the video conference host, and connect the video conference host to monitor via HDMI cable. Turn on the power to start using it.



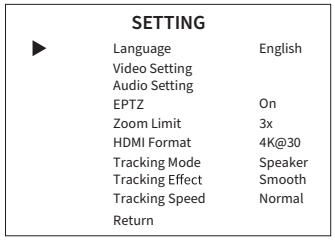
**Step 2** Press the [Speaker Tracking] key on remote control to enable the Speaker Tracking function.



**Step 3** When someone speaks in conference room, the camera automatically lock onto the speaker's position based on the sound source and provide a close-up view. If another sound source is detected, the camera will automatically capture and switch to a close-up view of that source.

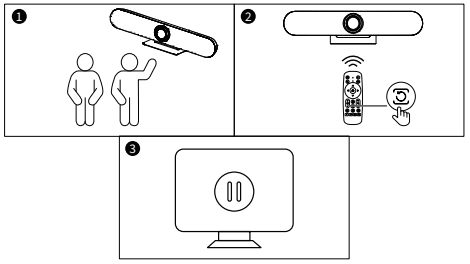


**Step 4** Press the [MENU] key on remote control to enter the camera's main menu page, move the cursor to "Setting" and press [OK] key to confirm enter the Setting page as below.




**Step 5** Move the cursor to Tracking Effect to select between "Smooth" and "Instantaneous"; Move the cursor to Tracking Speed to select "Slow", "Normal" or "Fast".

**Step 6** Press the [Exit Tracking] key on remote control to disable the Speaker Tracking function.



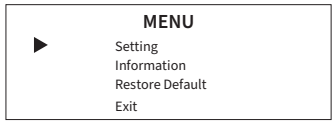
**Note**

Please refer to above operations to enable or disable the Participants Tracking function. You can also enter to the Setting menu page to select to enable or disable the Smart Gallery Tracking function.

# 11 GUI Settings

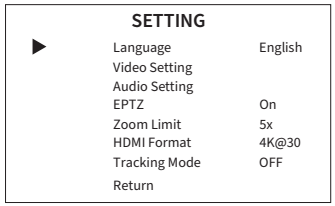
## 11.1 Memu

Press [MENU] key under normal image, the screen will display as below:




## 11.2 Setting

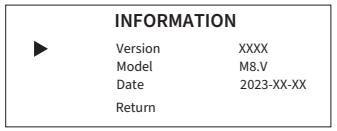
Move the cursor to "Setting" in the main menu, and press [OK] to enter the Setting page as below:




**Language**: English, Chinese, French.
**Video Setting**: Press [OK] key to confirm enter the Video Setting page to set the 2D NR, 3D NR, WDR Enable, Flip-H, OSD Mirroring.
**Audio Setting**: Press [OK] key to confirm enter the Audio Setting page to set the 3A Enable, Mic Equalizer.
**EPTZ**: On, Off.
**Zoom Limit**: 1.5x, 2x, 3x, 4x, 5x.
**HDMI Format**: 1080P60, 1080P50, 1080P30, 4K@30.
**Tracking Mode**: Off, Participants, Speaker, Smart Gallery.
**Tracking Effect**: Smooth, Instantaneous (effective only in Participants or Speaker of Tracking Mode).
**Tracking Speed**: Slow, Normal, Fast (effective only in Participants or Speaker of Tracking Mode).
**Auto Split Mode**: On, Off (effective only in Smart Gallery Tracking Mode).
**Voice Stimulus**: On, Off (effective only in Smart Gallery Tracking Mode).

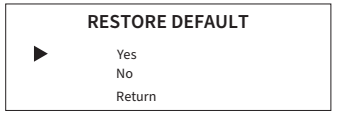
## 11.3 Information

Move the cursor to "Information" in the main menu, and press [OK] to enter the Information page as below:




## 11.4 Restore Default

Move the cursor to "Restore Default" in the main menu, and press [OK] to enter the Restore Default page as below:




**Yes / No**: Confirm or cancel restore factory settings.

**Note**

GUI menu and device information are subject to change without notice.

# 12 Maintenance & Troubleshooting

**Camera Maintenance**

- If camera is not use in long-term, please disconnect power switch after use.
- Use soft cloth or cotton paper to remove dust from the camera housing.
- When cleaning the camera lens, please use dry soft cloth to wipe, if dirt is serious, use neutral cleaner gently. Do not use strong or corrosive detergent to avoid lens scratch and affect image effect.

**Avoid Using**

- Do not shooting particularly bright objects, such as sunlight, lights, etc.
- Do not work under unstable lighting conditions, otherwise the image will flash.
- Do not use around facilities that can transmit high-power radio waves, such as television station or radio-transmitting station.

**Troubleshooting**

- The monitor shows no image

1) Ensure that the camera power supply is properly connected, the voltage is in normal and the power indicator is always on.
2) Ensure that the cable of video platform and TV in correct connection.

- Image jitters after the camera is properly connected

1) Ensure that the camera installation is in stable position.
2) Check that any vibrating machinery or object near the camera.

- Remote control does not work

1) Check and replace with new batteries.
2) Ensure that the camera working mode is correct.

# 13 FCC & IC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) L' appareil ne doit pas produire de brouillage;
(2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.