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# HT-CAM-4K-EPTZ

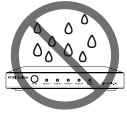
Auto Framing 4K ePTZ Camera

## User Manual

Version: 1.0



# Important Safety Instructions



1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



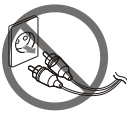
5. Do not place sources of naked flames, such as lighted candles, on the unit.



6. Clean this apparatus only with dry cloth.



7. Unplug this apparatus during lightning storms or when unused for long periods of time.



8. Protect the power cord from being walked on or pinched particularly at plugs.



9. Only use attachments / accessories specified by the manufacturer.



10. Refer all servicing to qualified service personnel.

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# Introduction

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## OVERVIEW

The HT-CAM-4K-EPTZ is a 4K ultra-HD ePTZ camera. With a 100° wide angle lens and built-in AI intelligence, the camera can frame according to the number of people in the room. And, built around a low noise CMOS image sensor, the lens provides for a clean and clear video even in low lit areas.

The HT-CAM-4K-EPTZ supports multiple audio/video compression standards and multiple soft codec applications such as Google Meet, Microsoft Teams, and Zoom. Installation is a breeze with simple plug and play (no driver needed) and can be quickly mounted to the top of a TV display, laptop monitor, or fixed to a tripod.

## FEATURES

- Ultra-HD 4K resolution with frame rate up to 30fps (MJPG or H.264) and compatible with 1080P and 720P
- ePTZ camera up to 10x digital zoom
- Built-in omnidirectional microphones with unique noise suppression and effective pickup distance up to 6 meters (approximately 20')
- Auto Framing with superior face detection to automatically frame the view according to the number of people in the room
- Wide FoV (Field of View) with 100° wide angle
- USB 3.0 output interface with simple plug and play – no driver needed
- Supports multiple audio/video compression standards, including H.264, MJPG, YUY2, NV12
- Low noise CMOS providing for a high signal-to-noise ratio for clean and clear video even in low-lit areas
- Included mold clamp allows for a variety of installation options, such as on a TV or a laptop, or mounted to a tripod
- Supports multiple applications such as personal video conferencing, collaboration meetings, enterprise video conferencing, etc.
- Supports multiple soft codec applications such as Google Meet, Microsoft Teams, and Zoom.

## Package Contents

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- 1x 4K ePTZ Camera
- 1x USB 3.0 Type-B to Type-A Cable, 3m (9.8ft)
- 1x IR Remote Control

## Product Views

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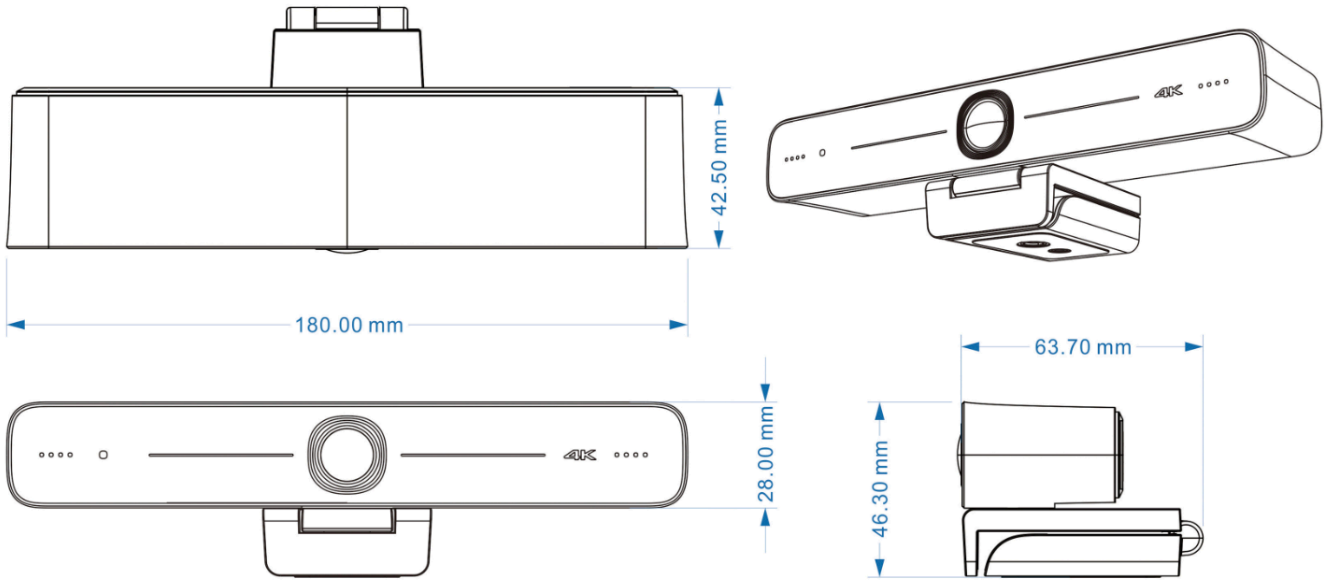
### REAR VIEW



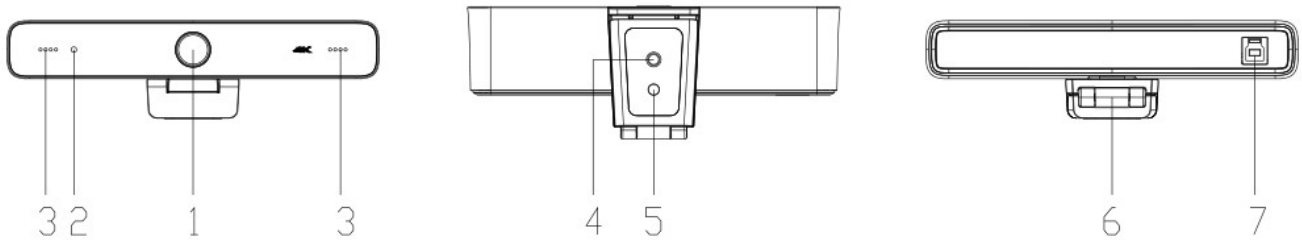
### SIDE VIEW



# DIMENSIONS

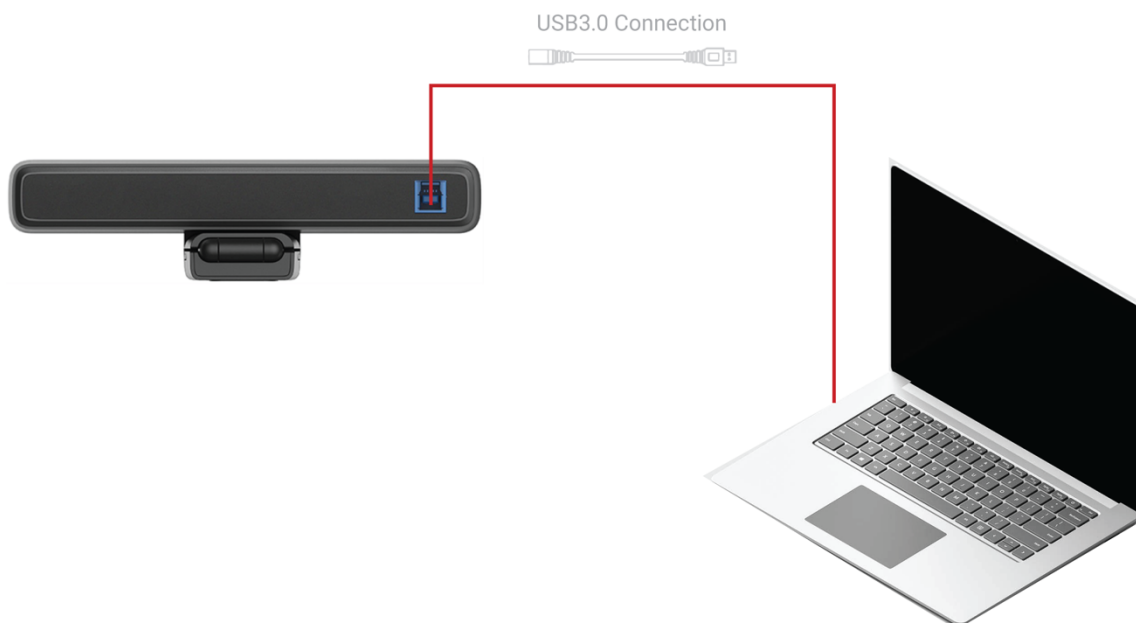


# Connectors & Indicators



No.	Name	Description
1	Camera Lens	Auto Framing with 100° wide FoV lens
2	LED	Solid blue LED when the camera is on. <b>Note:</b> this LED does not illuminate until an application (i.e. camera, Google Meet, Microsoft Teams, Zoom, etc.) is using the camera.
3	Microphones	Omnidirectional microphones with a pickup distance up to 6m (approx. 20ft)
4	Female Screw	Used for securing to a tripod.
5	Hole	Used for positioning and securing to a tripod.
6	Bracket	Used to quickly mount to the top of a TV or a laptop monitor.
7	USB 3.0	USB 3.0 Type-B output connector.

## PRODUCT WIRING and CONNECTIONS DIAGRAM



# Setup

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## **INSTALLATION**

To install and connect the HT-CAM-4K-EPTZ camera, do the following:

### **1. Step One**

Fix the camera to on top of a TV, on a laptop's monitor, on a tripod, or set it directly on a table or desk.

### **2. Step Two**

Connect the camera to the laptop, PC, video conference codec, or other USB input device using the included USB cable, plugging the USB Type-B into the camera and the USB Type-A into the connecting device.

### **3. Step Three**

Using the video conference or soft codec software select the camera as the video camera device and the microphone.



# Control – IR Remote Control

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All camera controls are accessed by using the included IR remote control.

## IR LED

The IR LED flashes when buttons are pressed



## STANDBY, MENU

The Standby Button is used to turn on/off the camera's image.  
The Menu Key turns on the camera's OSD for additional settings.



## PAN/TILT

The arrow buttons are used to rotate the ePTZ camera up, down, left, or right. A single press will move the camera one step at a time, while holding it down will continue to move the camera in the selected direction (releasing the button will stop the camera).

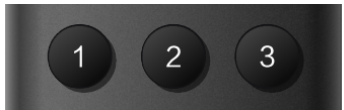
Press "OK" to change the camera to the middle position.



## PRESETS

The camera can store and recall up to 3 different presets.

- Save Preset: move the camera to the desired position and hold the desired preset button for 3 seconds.
- Recall Preset: single press the desired preset button
- Delete Preset: hold the desired preset button for longer than 5 seconds.



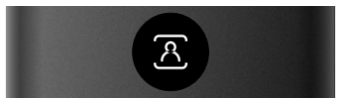
## ZOOM

Select either button to zoom in or out. A single press will zoom in/out one step at a time, while holding it down will continue to zoom in/out continuously.



## AUTO FRAMING

Turn on/off the auto framing function.



# OSD Menu

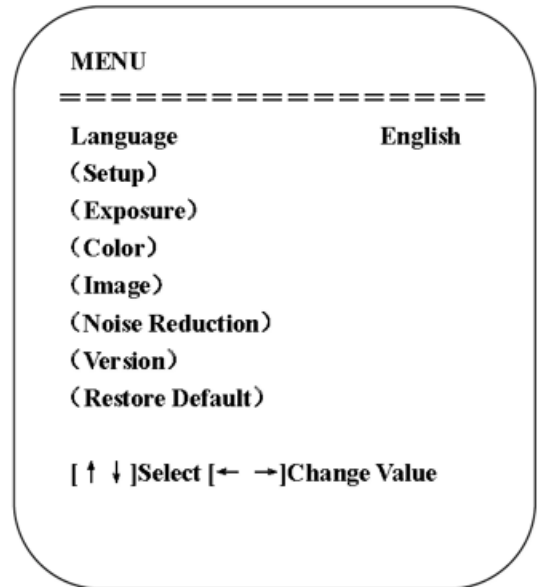
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Pressing the menu key turns on the camera's OSD menu for detailed setting changes.

## MAIN MENU

When accessing the menu and submenus, the up/down arrows on the remote move the cursor up/down to go to the desired setting/submenu, and the left/right arrows toggle between the options available for that setting.

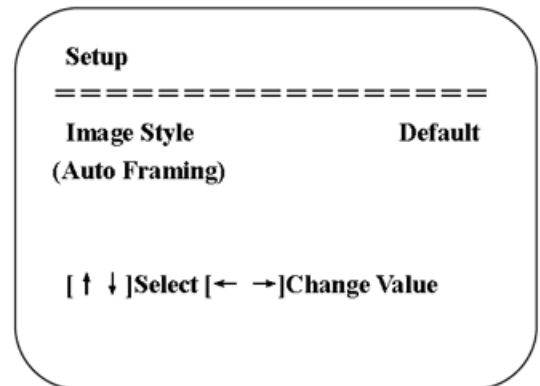
**Language:** used to change the language of the OSD menu



## SETUP

**Image Style:** used to change the image between various built-in presets.  
Selection Options:  
**Default | Standard | Clear | Bright | Soft**

**Auto Framing:** *On | Off*



## EXPOSURE

EXPOSURE	
Mode	Auto
EV	OFF
BLC	OFF
Flicker	50Hz
G.Limit	6
DRC	4

[ ↑ ↓ ]Select [ ← → ]Change Value

**Mode:** used to select exposure settings.

Selection Options: **Auto** | **Manual** | **Shutter Priority** | **Brightness Priority**

**EV:** used to manually set the camera's exposure value (only available in Auto mode)

Selection Options: **ON** | **OFF**

Compensation Levels: **-7 to 7**

**BLC:** used to control backlight compensation. (Only available in Auto mode)

Selection Options: **ON** | **OFF**

**Flicker:** used to prevent flicker on the video. (Only available in Auto, Shutter, and Brightness Priority modes)

Selection Options: **OFF** | **50Hz** | **60Hz**

**G. Limit:** used to limit the camera's gain. (Only available in Auto, Shutter, and Brightness Priority modes)

Selection Options: **0 to 15**

**DRC:** used to modify the settings of the dynamic range compression

Selection Options: **1 to 8**

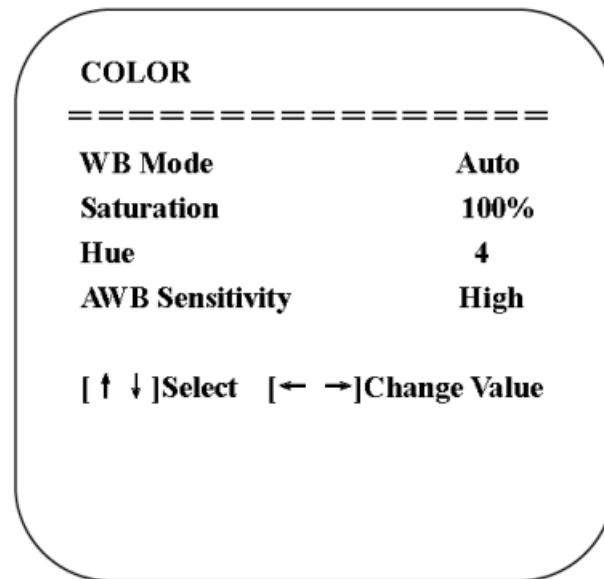
**Shutter Priority:** used to select the priority setting of the shutter speed. (Only available in Manual and Shutter Priority modes)

Selection Options: **1/30** | **1/50** | **1/60** | **1/90** | **1/100** | **1/120** | **1/180** | **1/250** | **1/350** | **1/500**  
| **1/1000** | **1/3000** | **1/4000** | **1/6000** | **1/10000**

**Brightness Priority:** used to select the priority setting of the camera's brightness. (Only available in the Brightness Priority mode)

Selection Options: **0 to 23**

## COLOR



**WB Mode:** used to control the white balance.

Selection Options: **Auto** | **Manual** | **One Push** | **Specified Color Temperature**

**Saturation:** used to set saturation levels

Selection Options: **60%** | **70%** | **80%** | **90%** | **100%** | **110%** | **120%** | **130%** | **140%** | **150%** | **160%** | **170%** | **180%** | **190%** | **200%**

**Hue:** used to control backlight compensation. (Only available in Auto mode)

Selection Options: **0 to 10**

**AWB Sensitivity:** used to control the camera's auto white balance sensitivity. (Only available in Auto mode)

Selection Options: **HIGH** | **MIDDLE** | **LOW**

## IMAGE

IMAGE	
=====	
Brightness	7
Contrast	7
Sharpness	5
Flip-H	OFF
Flip-V	OFF
B&W-Mode	Color
Gamma	Default
Low-Light Mode	Close
[ ↑ ↓ ]Select [← →]Change Value	

**Brightness:** used to modify the brightness levels (how dark or light the image is)

Selection Options: **0 to 14**

**Contrast:** used to modify the contrast levels. Higher contrast helps the image look lively; lower contrast makes the image look flat and monotonous.

Selection Options: **0 to 14**

**Sharpness:** used to modify the sharpness settings, which describes clarity of detail

Selection Options: **0 to 15**

**Flip-H:** used to digitally flip the camera horizontally (if the user wants to have the image mirror the user or not)

Selection Options: **ON / OFF**

**Flip-V:** used to digitally flip the camera vertically (if a camera is installed upside down, use this feature to flip the image right side up)

Selection Options: **ON / OFF**

**B&W-Mode:** used to change the camera from color to black & white

Selection Options: **Color / Black/White**

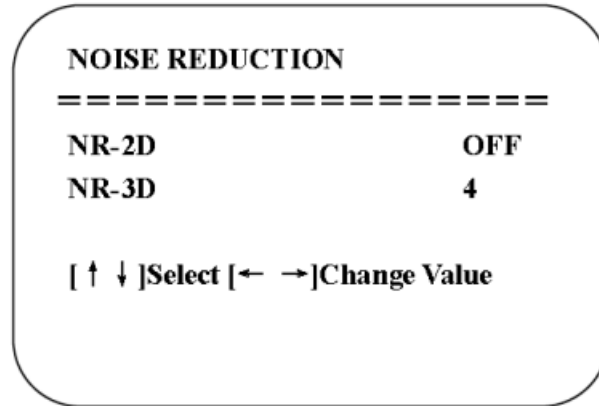
**Gamma:** used to modify the gamma settings

Selection Options: **Default | 0.34 | 0.39 | 0.47 | 0.5**

**Low-Light Mode:** used to improve the image when the light is low

Selection Options: **ON / OFF**

## NOISE REDUCTION



**NR-2D:** used to reduce noise from one frame to the next by removing any oddity that does not appear in each frame.

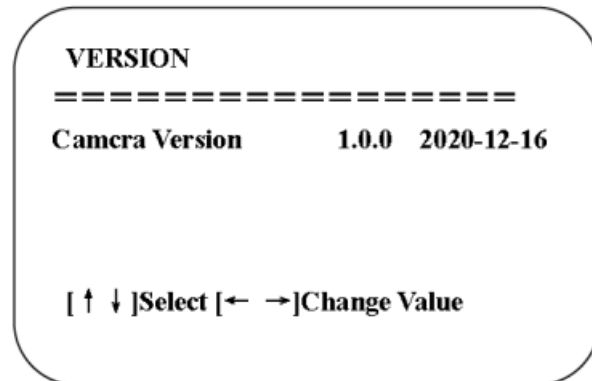
Selection Options: **Auto / Close / 1 to 7**

**NR-3D:** used to remove grainy fuzzy appearances of low light images

Selection Options: **Close / 1 to 8**

## VERSION

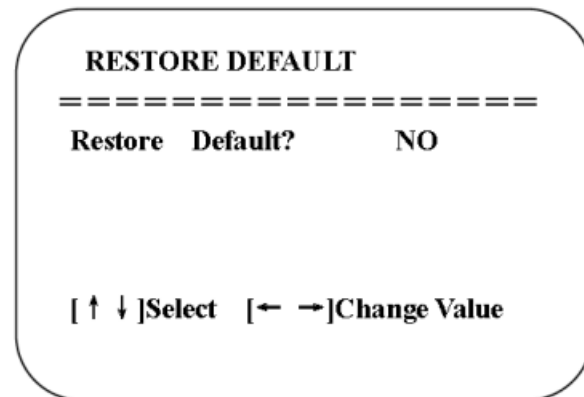
Displays the camera version.



## RESTORE DEFAULT

**Restore Default?:** used to restore factory defaults. (color style and video format are not restored to factory defaults)

Selection Options: **YES / NO**



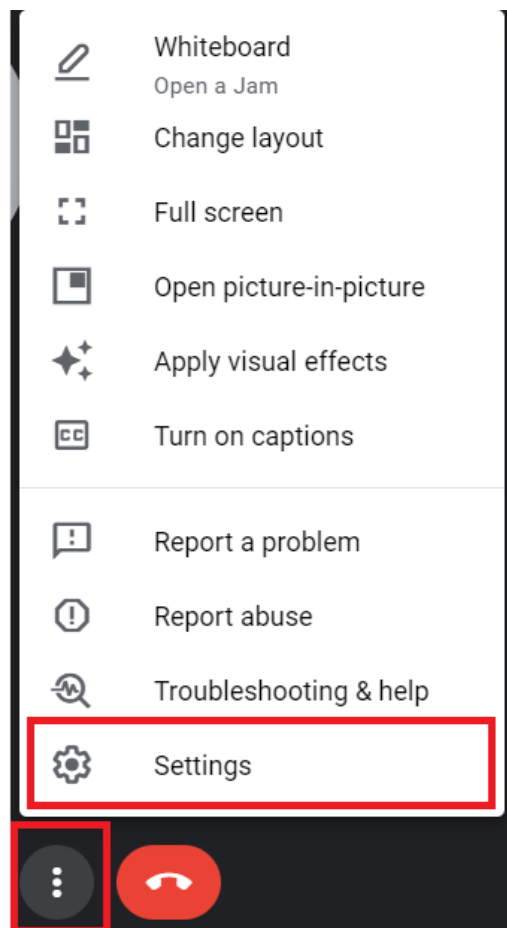
# Soft Codec Support

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The following are instructions to utilizing the HT-CAM-4K-EPTZ camera and built-in microphones in the Google Meet, Microsoft Teams, and Zoom soft codec applications. The HT-CAM-4K-EPTZ is not limited to these three. *(For soft codec applications outside of these three please refer to their user manual.)*

## GOOGLE MEET

To use the HT-CAM-4K-EPTZ camera in Google Meet, open “More Options” and then “Settings”. Select the “HD Camera” to use the video and select “Capture Input Terminal (10 - HD Audio)” to use the microphones on the HT-CAM-4K-EPTZ.



Settings

- Audio
- Video**
- General
- Captions

**Camera**

HD Camera (33f1:1002) ▼


**Adjust video lighting**  
Makes it easier to see you against a bright background

**Send resolution (maximum)**

Auto ▼

**Receive resolution (maximum)**

Auto ▼



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Settings

- Audio**
- Video
- General
- Captions

**Microphone**

Default - Capture Input terminal (10- ... ▼

**Push to talk**  
Press and hold spacebar to unmute your mic ?

**Speakers**

Speakers (Realtek(R) Audio) ▼

**Call control** ▼

🎤 🔇

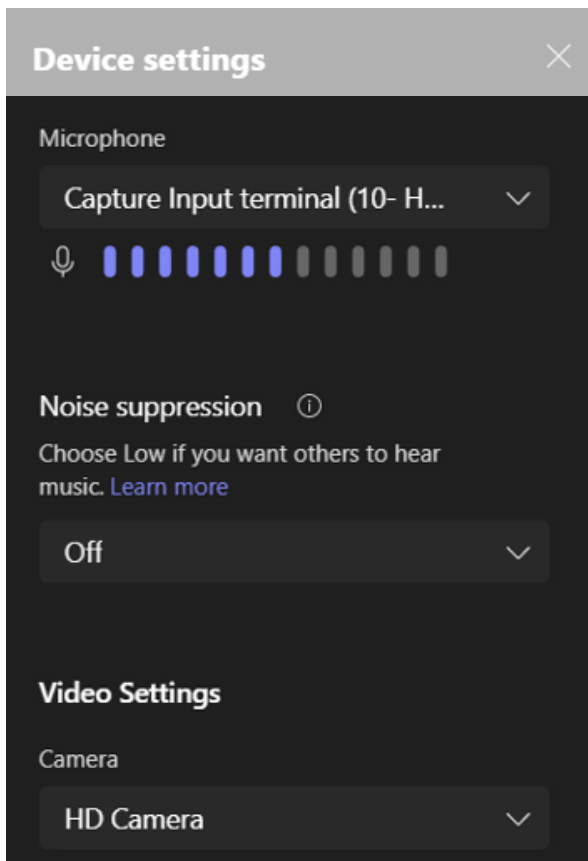
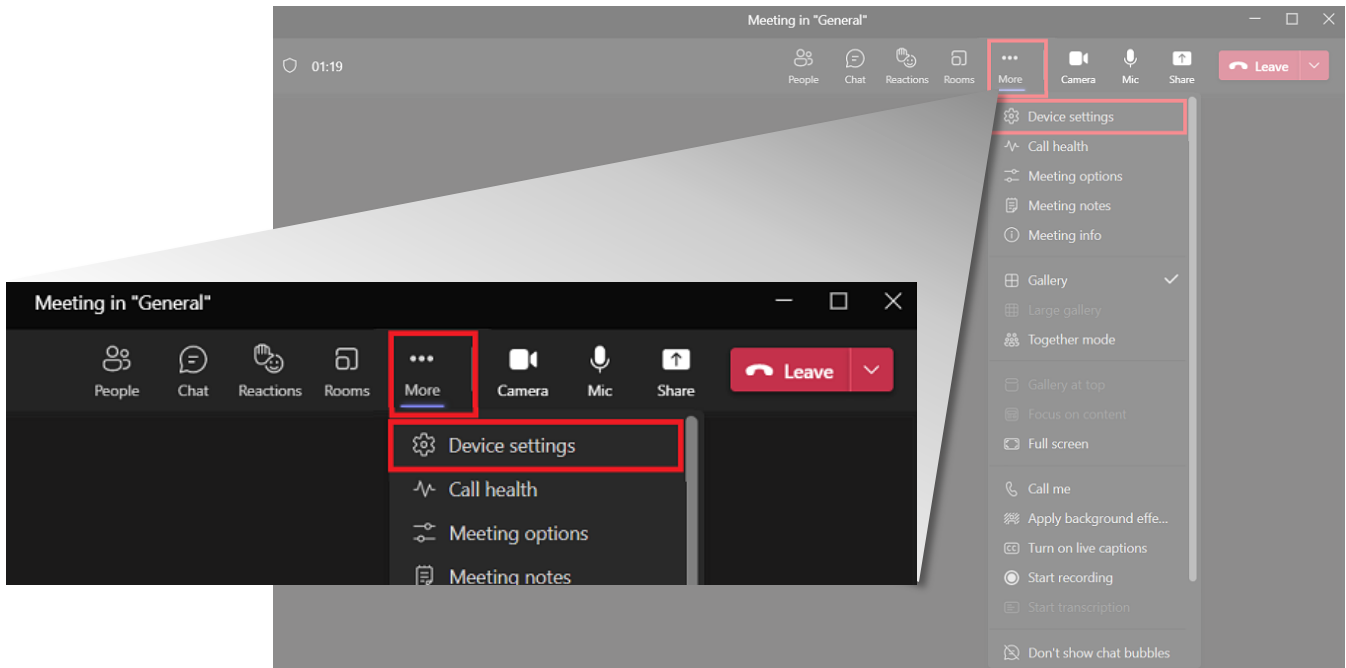
—

🔊 Test



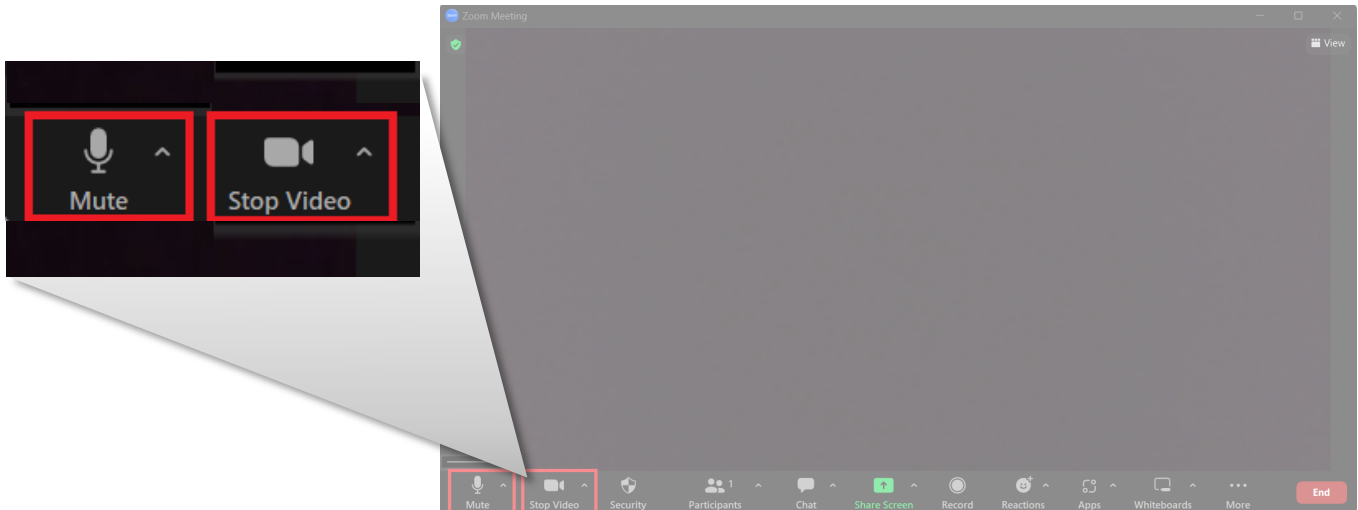
## MICROSOFT TEAMS

To use the HT-CAM-4K-EPTZ camera in Microsoft Teams, open Device Settings located in the “More” menu. Select the “HD Camera” to use the video and select “Capture Input Terminal (10 - HD Audio)” to use the microphones on the HT-CAM-4K-EPTZ.

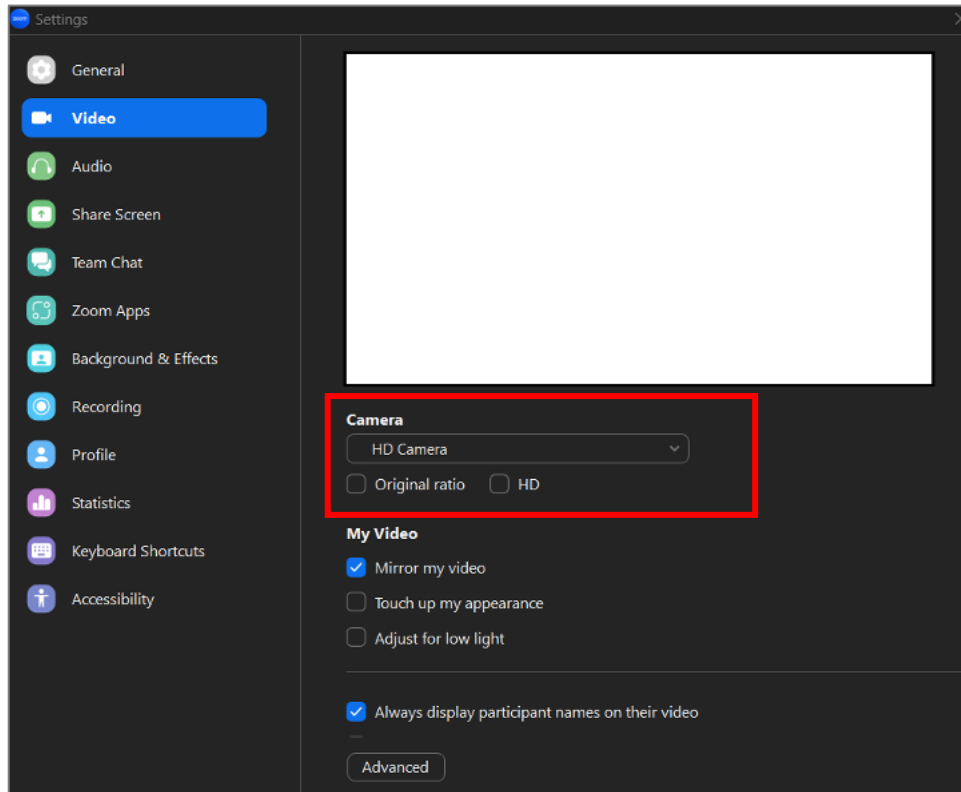


## ZOOM

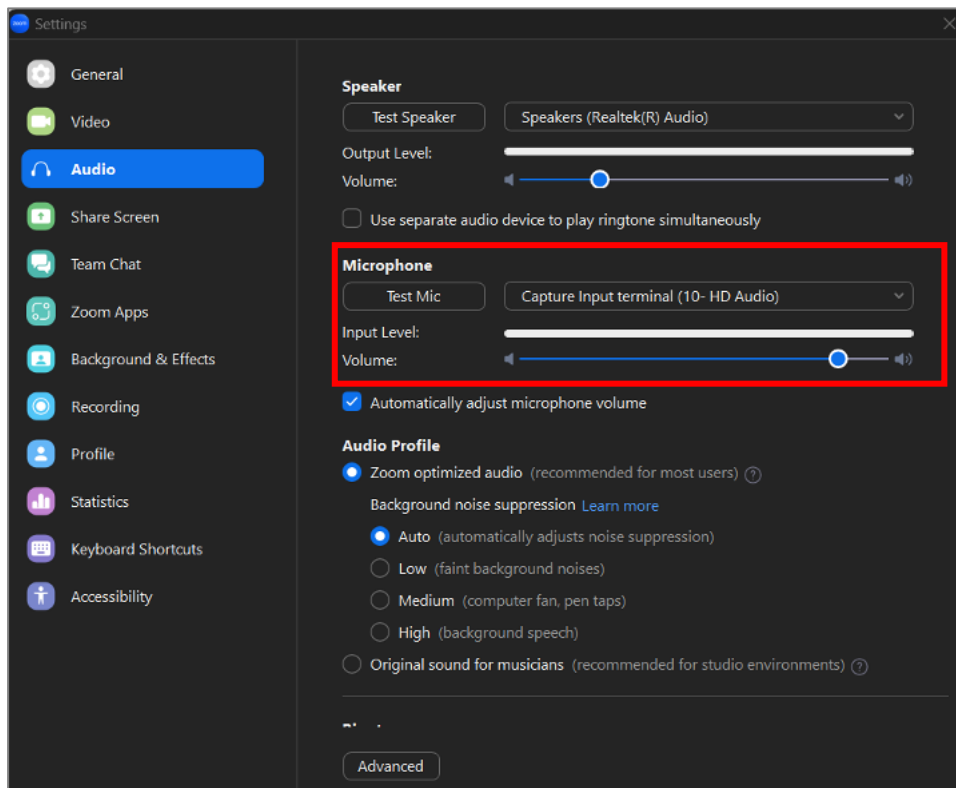
To use the HT-CAM-4K-EPTZ camera in Zoom, click on the “up” arrow on the microphone and/or camera buttons located on the bottom left part of the Zoom screen. Select the “HD Camera” to use the video and select “Capture Input Terminal (10 - HD Audio)” to use the microphones on the HT-CAM-4K-EPTZ.



# VIDEO



# AUDIO



# Troubleshooting

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1. The HT-CAM-4K-EPTZ is connected using USB 3.0 cable into a PC but there is no video from the camera shown on the soft codec application.
  - a. Confirm the blue LED light on the camera is on.
    - i. If blue LED is off:
      1. Confirm the USB 3.0 cable is securely connected on both the camera and the PC.
      2. Check the quality of the USB 3.0 cable to ensure it has not been kinked or accidentally cut.
      3. Go into the soft codec application and make sure the “HD Camera” is selected as the preferred camera.
      4. Try using a different application, such as the built-in camera application on the PC, to verify video can be seen there. (NOTE: if using the built-in camera application and video is shown, the camera will not be shown in any other application until that application is closed.)
    - ii. If blue LED is on:
      1. Verify the PC has no updates pending (Windows will often disable features when new updates have been released and those features are not enabled until updates are installed.)
      2. Restart the PC to verify it is operating correctly.
2. The HT-CAM-4K-EPTZ is connected using USB 3.0 cable into a PC but the far end cannot hear audio from the microphones.
  - a. Confirm the blue LED light on the camera is on.
    - i. If blue LED is off:
      1. Confirm the USB 3.0 cable is securely connected on both the camera and the PC.
      2. Check the quality of the USB 3.0 cable to ensure it has not been kinked or accidentally cut.
      3. Go into the soft codec application and make sure the correct microphone is selected as the preferred camera.
    - ii. If blue LED is on:
      1. Verify the microphone is not muted in the soft codec application
      2. Verify the PC has no updates pending (Windows will often disable features when new updates have been released and those features are not enabled until updates are installed.)
      3. Restart the PC to verify it is operating correctly.

# Specifications

Camera	
Sensor	1/2.8-inch high quality 4K CMOS sensor
Effective Pixels	8.28MP, 16:9
Video Interface	1 Channel USB 3.0 Output, Type-B
Audio Input	2x Built-in Microphone
Video Format	<p><b>MJPG:</b> 3480x2160@30   2560x1440@30   1920x1080@30   1600x896@30   1280x720@30   1024x576@30   960x540@30   800x600@30   800x448@30   720x576@30   720x480@30   640x480@30   640x360@30   480x270@30   352x288@30   320x240@30</p> <p><b>H264:</b> 3480x2160@30   2560x1440@30   1920x1080@30   1600x896@30   1280x720@30   1024x576@30   960x540@30   800x600@30   800x448@30   720x576@30   720x480@30   640x480@30   640x360@30   480x270@30   352x288@30   320x240@30</p> <p><b>YUY2:</b> 1920x1080@30   1280x720@30   1024x576@30   800x600@30   800x448@30   640x480@30   640x360@30   480x270@30   320x240@30</p> <p><b>NV12:</b> 1920x1080@30   1280x720@30   1024x576@30   800x600@30   800x448@30   640x480@30   640x360@30   480x270@30   320x240@30</p>
Viewing Angle	115° D x 100° H x 56° V
Focal Length	f=2.26mm
Aperture	F1.8±5%
Digital Zoom	10X
Minimum Illumination	0.1Lux (F1.8, AGC ON)
White Balance	Auto / Manual
Focus	Auto
Exposure	Auto / Manual
BLC	On / Off
SNR	≥50dB

USB	
Operating Systems	Windows 7 (1080p or lower), Windows 8.1, Windows 10; macOS 10.10 or higher, Android, Linux (UVC supported)
Video Compression Format	YUY2, NV12, MJPG, H.264
USB Audio	Supported

<b>USB</b>	
USB Communication Protocol	UVC, UAC
PTZ Control	Supports ePTZ
Hardware Requirement	2.4 GHz Intel Core 2 Duo or higher, 2GB or higher, USB 3.0 port

<b>General</b>	
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Humidity	20% to 80%, non-condensing
Power Consumption	5W (Max) (5V, 1A)
Device Dimension (W x H x D)	180mm x 42.5mm x 46.3mm / 7.09" x 1.67" x 1.82"
Product Net Weight	0.3kg / 0.66lbs



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1234 Lakeshore Suite #150, Drive, Coppell, TX 75019  
halltechav.com / support@halltechav.com  
(714)641-6607