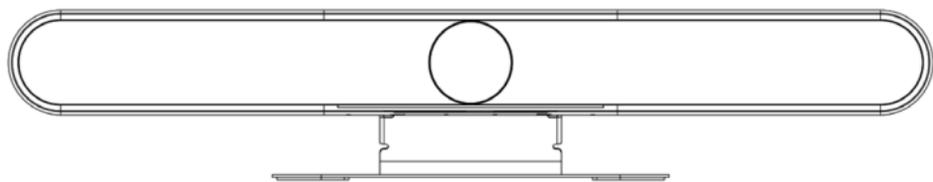# Intelligent 4K All-in-one Video Bar

HV-48
User Manual

ATTENTION

This manual introduces functions, installations and operations for this product in details. Please read this manual carefully before installation and use.

Precautions

This product can only be used in the specified conditions in order to avoid any damage to the camera:
1. Do not expose the product to rain or moisture.
2. To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
3. Do not use the product beyond the specified temperature, humidity or power supply specifications.
4. Please use a soft dry cloth to clean the camera. If the camera is ver y dirty, clean it with diluted neutral detergent; do not use any type of solvents, which may damage the surface.

Electrical Safety

Installation and use of this product must strictly comply with local electrical safety standards.

Transportation

Avoid any stress, vibration, or moisture during transportation, storage, installation and operation.

Installation

1. Do not rotate the camera head violently, otherwise it may cause mechanical failure.
2. This product should be placed on a stable desktop or other horizont al surface. Do not install the product obliquely, otherwise it may display inclined image.
3. Ensure there are no obstacles within rotation range of the holder.
4. Do not power on before completely installation.

Do not dismantle camera

We are not responsible for any unauthorized modification or dismantling.

Magnetic Interference

Electromagnetic fields at specific frequencies may affect the video image. This product is Class A. It may cause radio interference in household application. Appropriate measure is required.

Table of contents

1. Quick Start

1.1 Interfaces

Interfaces	
USB	USB audio video in out, type C
HDMI	HDMI video output
LINE IN	Audio linear input
LINE OUT	3.5mm linear output
Extension Mic	RJ45 extension mic
Power jacket	HEC3800 power socket(DC12V), input AC110V-AC220V, output DC12V/2A

1.2 Device Startup

1.2.1 Power on
Connect device to power socket with DC12V power adapter.

1.2.2 Statue Indicator Light

Green lights continuously run left to right	Boot initialization in progress
Blinking Blue Lights	HDMI video output
Lights Turn Blue and Stay 3S	Bluetooth pairing finished
Solid Green Light 3S	Working statue: When turn off Auto-framing&Voice tracking, all light turn green When turn on Auto-framing&Voice tracking, partial light turn green
Blinking Green Light	Standby statue(Device on without video)
Solid Red Light	Microphone Muted
Green Indicator L ight On/Off	Volume up/down
Partial Light Turn Green	Partial light turns green according to the voice source

1.3 Video Output

1. USB Connect device to Pcs through USB cable, and open the video software to select device to output.
2. HDMI Connect device to monitor through HDMI cable, and then select the correct input source on the monitor to output.

1.4 Audio Input

1. Built in audio It is default that the device pick up voice through built in mics.
2. Audio input through 3.5mm linear audio cable: Connect to external pickup through 3.5mm audio cable (When connecting to external pickup, audio in automatically switch into external pickup.)

1.4 Audio Output

1. Built in speaker: It is default that device output voice through built in speaker.
2. Audio output through 3.5mm linear audio cable: Connect to external speaker through 3.5mm audio cable (When connecting to external speaker, audio out automatically switch into external speaker.

2. Product Overview

2.1 Product Introduction

2.1.1 Dimension
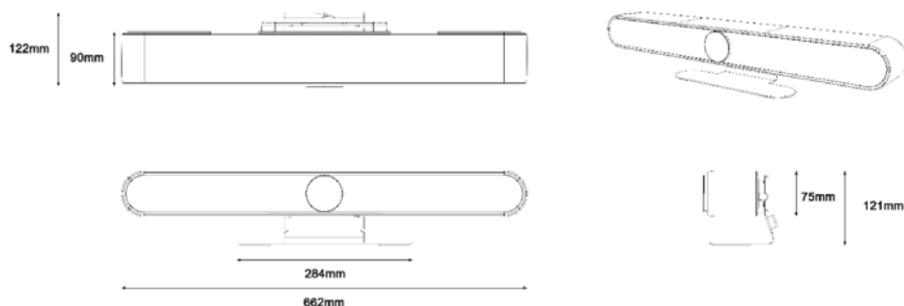
2-1 Dimension

2.1.2 Supplied Accessory

Items	Quantity	● Supplied ○ Optional
All in one video bar	1	●
USB Cable	1	●
Remote control	1	●
Quick start guide	1	●
Power adapter	1	●

2.2 Product Features

With all in one design, this device has 4K UHD camera, microphone array, high fidelity speaker and electric privacy cover. Boasting powerful functions like face recognition, voice localization, voice tracking, and intelligent noise reduction, this product could automatically adjust the image size according to the number of participants to present the optimal frame. It can also detect the speaker position in real time and lock the target while having a close up, which allows users to have hands free operatio n. This device has 6 array microphone composed of MEMS microphones, and it can also be matched with external cascading microphone and advanced 3A audio algorithm, you will have an exceptional full duplex communication experience.

• **Integrated Design :** Built in 4K UHD camera, microphone array, high fidelity speaker and electric privacy cover.
• **Ultra HD:** This device adopts 8 M high quality CMOS image sensor, able to capture 4K ultra HD image to present
true to life image, bringing excellent image resolution and clarity.
•**Distortion less** Wide Angle Lens: 120° wide angle with no distortion lens allows every participant is on the frame with no need to adjust the camera.
algorithm, sup porting AEC, AGC, ANS processing, and bringing excellent full duplex communication.
• **Automatic Privacy Cover:** Privacy cover will automatically close to ensure the privacy security.
• **Microphone Array:** Built in 6 array microphone enable speaker can be tracked in real time. THIS DEVICE break the distance limitation to provide virtual meeting as if you are there.
•**Built in Speaker:** Built in dual 10W high quality studio speaker, ensuring every participant can hear and be heard clearly.
• **Audio Processing:** The audio processing algorithm adopts high fidelity 48K audio sampling rate, lossless audio transmission technology, supports AEC, AGC, ANS processing, bringing high quality calls of 6 meters full duplex.
• **Auto Framing:** Built in face detection algorithm, automatically detect participant and provide optimal framing.
• **Bluetooth 5. 0:** Connect mobile phone and other devices through Bluetooth to be used as Bluetooth speaker and microphone.
•**Low Noise and High SNR :** Low noise CMOS ensure the ultra SNR of image. The advanced 2D, 3D noise reduction technology further reduce the noise while ensuring the image clarity.
• **Powerful Compatibility:** Compatible with Windows7, windows10, Mac OS 10.10 or higher system, applicable to major cloud based video conference platforms.

2.3 Technical Specification

Type	Item		Description
Camera	Lens	FOV	120°(D) /106°(H)/ 72°(V)
		Iris	F2.0
		Focal Length	1.89mm
		Digital Zoom	10X
	Sensor		High quality CMOS sensor, effective pixel 8 million, 16:9
	Image	Focus	Auto/Manual
		Minimum illumination	0.5Lux
		DNR	2D&3D
		BLC	On/Off
		Exposure	Parameter can be adjusted, and AE (Auto exposure) in available
		Video adjustment	Brightness, sharpness, saturation, contrast, white balance, gain, anti-flicker, low brightness compensation and other parameters can be adjusted
		Video Format	HDMI:4KP30,1080P60 compatible downward USB: 4KP30,1080P60 compatible downward
		Video Compression Format	MJPEG, YUY2, H.264, H.265, NV12
		Privacy cover	Automatic privacy cover will close when no image output and open when there are image output.
		Privacy Cover	Built in privacy cover
Audio	Microphone	Microphone	6 X MEMS Microphones

Type	Item	Description	
Audio	Microphone	Pickup Distance	6 meters
		Frequency Response	120 Hz–16 kHz
	Speaker	Speaker	Built in dual speaker
		Voltage	2*10W
		Output Voice Pressure	80±3 dB 1.0M/1.0W
		Frequency Response	100 Hz-20 KHz
	Audio Processing	AEC, AGC , ANS	
AI Function	Group Framing	Automatically adjust the screen size according to the number of partici-pants to present the best framing	
	Speaker Tracking	Track each speaker in real time, and ensure that the speaker is in the center of the screen.	
Remote control	Remote control	Infrared remote control	
Physical Interfaces	USB	USB3.0 audio video output interface, Type C Support UVC1.1, UAC1.0 and higher	
	HDMI	HDMI video output interface HDMI also compatible with HDMI2.0 stand-ard	
	LINE IN	3.5mm audio line input interface (when an external pickup is connected, the audio input is automatically switched to the external pickup)	
	LINE OUT	3.5mm line output, can be connected to external speakers (when con-necting to external speakers, the audio output will automatically switch to external speakers)	
	Expansion Mic Interface	RJ45 interface, able to connect to expansion microphone.	
	Power Interface	HEC3800 power socket (DC12V), input AC110V-AC220V output DC12V/2.5A	

Type	Item	Description
Indicator	Bar-shaped Indicator	While displaying the working status, it can also be lit where the speaker's voice comes from.
Bluetooth	Bluetooth 5.0	Can be connected to a mobile phone or other device via Bluetooth as a Bluetooth microphone and speaker
Compatibility	Available System	Windows 7, Windows 8, Windows 10, Mac OS X, Linux, Android
Power Supply Method		Supply power through power adapter
Working Condition	Storage Temperature	-10℃ ~ +70℃
	Storage Humidity	20% ~ 95%
	Working Temperature	-10℃ ~ +50℃
	Working Humidity	20% ~ 80%
	Environment	Indoor
Installation Method	Walling Mount	Comes with walling mount bracket. While mounting, the camera need to be as close to the wall as possible
	Desktop	Comes with desktop mounting bracket
	Installed on Monitor	Bracket for monitor installation(optional)

3. How to Use

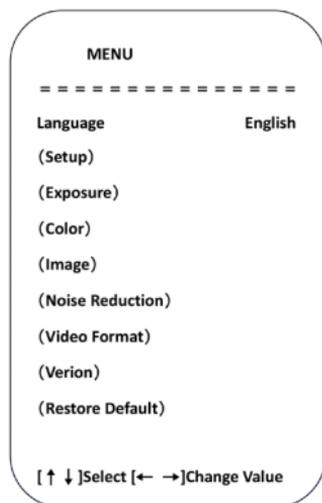## 3.1 Remote Control
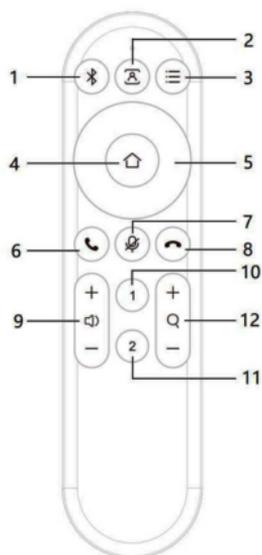
Number	Function Description
1	Bluetooth
2	Auto Framing & Voice Tracking
3	Menu
4	HOME
5	Up, down, left, right
6	Answer call
7	Microphone muted

Number	Function Description
8	Reject the incoming call
9	Volume up/down
10	Set/call out preset #1 (Long press 3 sec to set preset, short press to call out preset)
11	Set/call out preset #2 (Long press 3 sec to set preset, short press to call out preset)
12	Zoom in/out

2.1 Menu Setting

3.2.1 Main Menu
Press menu key on remote control, and use arrow to point item to be selected.

```
        MENU
= = = = = = = = = = = = =
Language              English
(Setup)
(Exposure)
(Color)
(Image)
(Noise Reduction)
(Video Format)
(Verion)
(Restore Default)


[ ↑ ↓ ]Select [← →]Change Value
```

1) Language

Move arrow to (Language), and press (← →)to change the option

2) Setting
Move arrow to (Setting), and press (HOME) to enter the exposure interface.

```
Setup
= = = = = = = = = = = = = =
Image Style          Default
Auto Framing         Close
Auto Framing Sen     Medium
Voice Location       Close
Locatiom Sen         Medium
Max Framing          5X
Locate Mode          Smart Mode
Prompt Info          Close
Menu Mirror          Close
Transfers Mode       BULK


[ ↑ ↓ ]Select [← →]Change Value
```

Image Style: Default/standard/clear/bright/soft

Auto Framing: On/off

Auto Framing Sen: High/medium/low

Max Framing: 3X/5X/10X

Voice Tracking: On/off

Voice Tracking Sen: High/medium/low

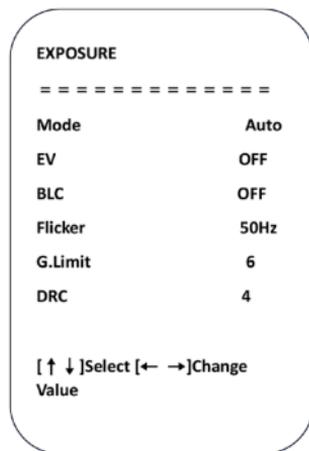**Locate Mode:** Smart mode/pan mode/movie mode/discussion mode

Prompt Info: On/off

Menu Mirror: On/off

Transfers Mode: Bulk/synchronization

3) Exposure
Move arrow to (exposure), press (HOME) to enter exposure interface.

```
EXPOSURE

= = = = = = = = = = = =

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


[ ↑ ↓ ]Select [← →]Change
Value
```

Exposure mode: Auto/manual/shutter priority/bright priority

Exposure Compensation(EV): On/off

Compensation Level: -7 -7(only available in EV mode on)

BLC: On/off (only available in auto mode)

Anti-Flicker: 50Hz, 60Hz, off (only available in auto, iris priority, bright priority mode)

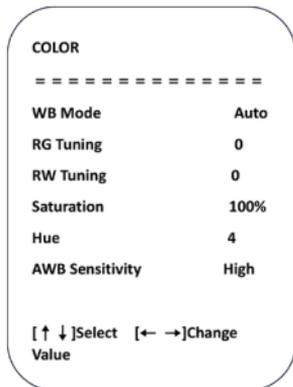**Gain Limit:** 0-15(only available in auto, iris priority, bright priority mode)

Dynamic Range: 1 8, off

Shutter Priority: 1/30, 1/50, 1/60, 1/90, 1/100, 1/120, 1/180, 1/250, 1/350, 1/500, 1/1000, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 (only available in manual, and shutter priority mode)

Bright: 0 23 (only available in bright priority)

4) Color
Move arrow to (color), and press (HOME) to enter color page.

```
COLOR
= = = = = = = = = = = = =
WB Mode              Auto
RG Tuning            0
RW Tuning            0
Saturation           100%
Hue                  4
AWB Sensitivity      High


[↑ ↓]Select   [← →]Change
Value
```

WB Mode: Auto/manual/one push/specified temperature
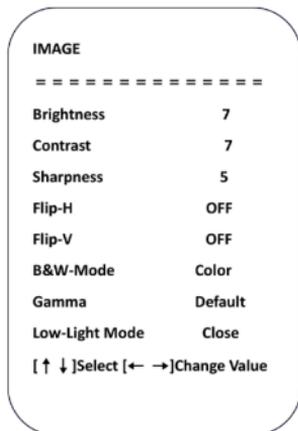
Saturation: 0 ~ 127

RG Tuning: -10 ~ 10

Blue Tuning: -10 ~ 10

AWB Sensitivity: High/medium/low(only available in auto mode)

Hue: 0 ~ 8

5) Image
Move arrow to (image), and press (HOME) to enter image page.

```
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: 0 ~ 14   **Contrast:** 0 ~ 14   **Sharpness:** 0 ~ 15

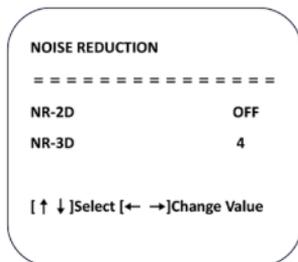**Flip-H:** On/off   **FlipV:** On/off   **B&W Mode:** Color/B&W

Gamma: Default , 0.34 , 0.39 , 0.47 , 0.50   **Low Light Mode:** On/off

6) Noise Reduction
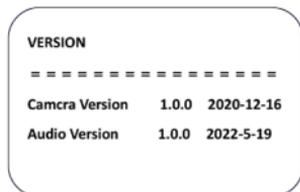Move arrow to (Noise Reduction), and press (HOME) to enter Noise Reduction page.

```
NOISE REDUCTION
= = = = = = = = = = = = = =
NR-2D            OFF
NR-3D            4

[↑↓]Select [←  →]Change Value
```

2D NR: Auto, manual 1 ~ 7   3D NR: Off, 1 ~ 8

7) Version
Move arrow to (version).

```
VERSION
= = = = = = = = = = = = = =
Camcra Version    1.0.0  2020-12-16
Audio Version     1.0.0  2022-5-19
```

8) Restore Default
Move arrow to (restore default), and press (HOME) to enter RESTORE DEFAULT page.

```
RESTORE DEFAULT
= = = = = = = = = = = = = =
Restore  Default?      NO
```
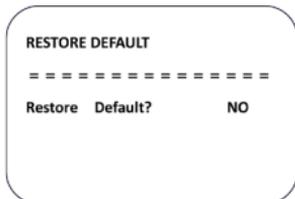
Restore default: Yes/no (color style and video format cannot be restored)

3. Maintenance and Troubleshooting

3.1 Camera Maintenance

1) Please disconnect the camera if it is not used for a long time.

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 image.

3.2 Troubleshooting

1) No video output

   a. Check whether USB cable connected well and power indicator light is ON.

   b. Whether the machine could do self-check after restarted.

   c. Restart the computer to check whether it is normal.

   d. Check whether the video output cable or video display is normal.

   f. Check whether the camera is well recognized by PC.

2) No image sometimes

   a. Check whether USB cable connected well and power indicator light is ON.

   b. Whether the machine could do self-check after restarted.

   c. Restart PC.

   d. Check whether the camera is well recognized by PC.

3) Image dithering when zoom-in or zoom-out

   a. Check whether the camera installation position is solid.

   b. Whether there is shaking machine or objects around the camera.

4) Remote Controller cannot work

   a. Re-match the camera and the wireless remote controller

   b. Set the camera address to 1.
     (The camera address would be back to 1 after restore default setting)

   c. Check whether the battery is installed on the remote controller or low .

   d. Check the camera working mode is the normal operating mode.
     (see Table 2.2 and Table 2.3)

   e. Exit the menu, the menu only displayed under MJPG/H.264/H.265 compression
     format.

4. Compliance statement

This device complies with the related CE standards.

5. Product disposal

Safety

For your own safety, this product should only be used with CE and RoHS approved equipment. Using this headset with non-approved equipment would void the warranty of this product.

Disposal of your product

Municipal waste stream. Old appliances must be collected separately in order to optimise the recovery and recycling of the materials to reduce the impact on human health and the environment. The crossed out "wheeled bin" symbol on the product reminds you of your obligation that when you dispose of the appliance, it must be separately collected. Consumers should contact their local authority or retailer for information concerning the correct disposal of their old appliance.