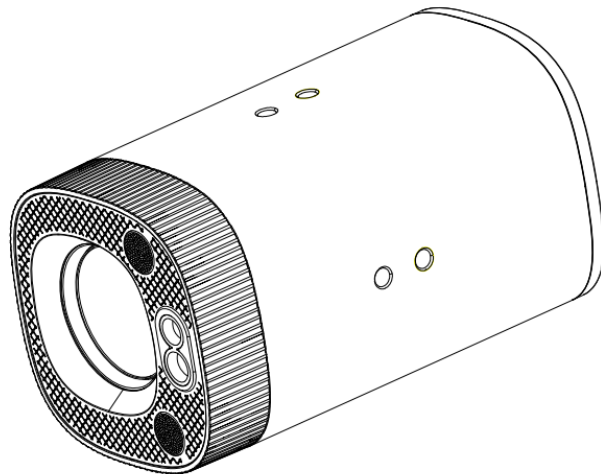




BG-PACKSHOT-C10X

HD LIVE CAMERA

User Manual



Attention

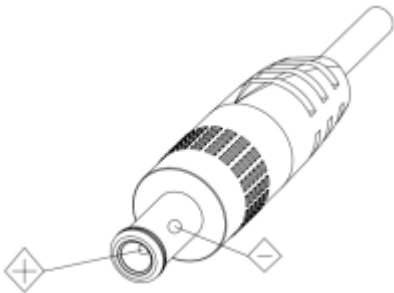
This manual introduces functions, installation and operation for this live camera. Please read this manual carefully before installation and use.

1. Caution

- 1.1 Avoid damage to product caused by heavy pressure, strong vibration or immersion during transportation, storage and installation.
- 1.2 Housing of this product is made of organic materials. Do not expose it to any liquid, gas or solids which may corrode the shell.
- 1.3 Do not expose the product to rain or moisture.
- 1.4 To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- 1.5 Do not use the product beyond the specified temperature, humidity or power supply specifications.
- 1.6 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;
- 1.7 This product contains no parts which can be maintained by users themselves. Any damage caused by dismantling the product by user without permission is not covered by warranty.

2. Electrical Safety

Installation and use of this product must strictly comply with local electrical safety standards. The power supply of the product is $\pm 12V$, the max electrical current is 2A.



3. Install

- 3.1 Do not rotate the camera head violently, otherwise it may cause mechanical failure.
- 3.2 This product should be placed on a stable desktop or other horizontal surface. Do not install the product obliquely, otherwise it may display inclined image.
- 3.3 Ensure there are no obstacles within rotation range of the holder.
- 3.4 Do not power on before completely installation.

4. Magnetic Interference

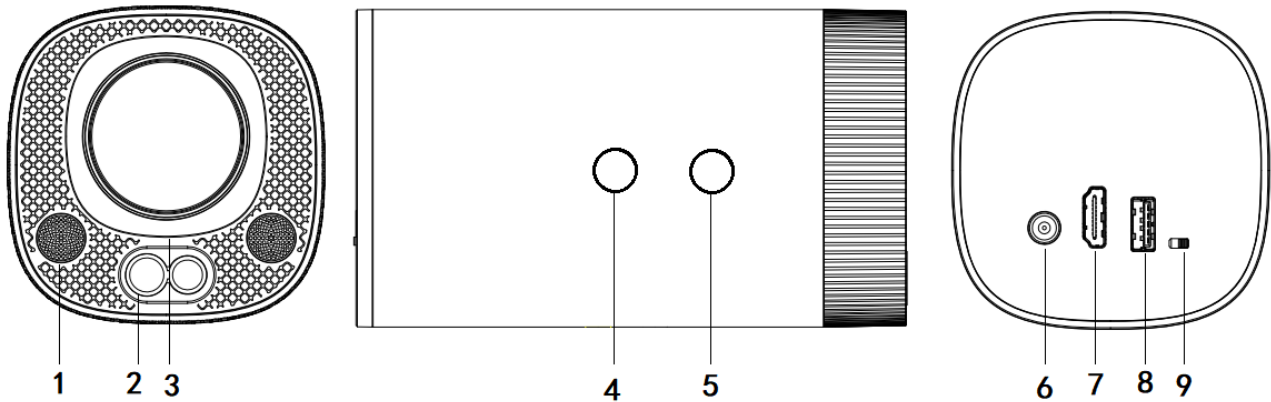
Electromagnetic fields at specific frequencies may affect the video image. This product is Class A. It may cause radio interference in household application. Appropriate measure is required.

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1. Camera Installation

1.1 Camera Interfaces



1.1 Product Interfaces

1. Built in pick-up
2. Focusing aid
3. Lens

4. Screw Hole for Tripod
5. Tripod Screw Hole
6. Power Switch

7. HDMI Interface
8. USB 3.0 Interface
9. Image Orientation Switch

1.2 Power-on Initial Configuration

- 1) Power-on: Connect DC12V power supply adapter with power supply socket
- 2) Initial Configuration: The movement first shrinks and then stretches after power on, finally returns to the front, and the camera is normally identified on the computer, indicating that the self-checking is completed.

1.3 Video Output

- 1) HDMI Video Output
 - a. HDMI video cable connection: as shown in Figure1.1 label 7
 - b. Connect the camera and the monitor via HDMI video cable, and the video output is available after the camera self-test.
- 2) USB3.0 Video Output
 - a. USB 3.0 video cable connection: as shown in Figure1.1 label 8
 - b. Connect the camera and the computer via USB3.0 video cable, open the video software and select the image device to output the video.

2. Product Overview

2.1 Product Introduction

2.1.1 Dimensions

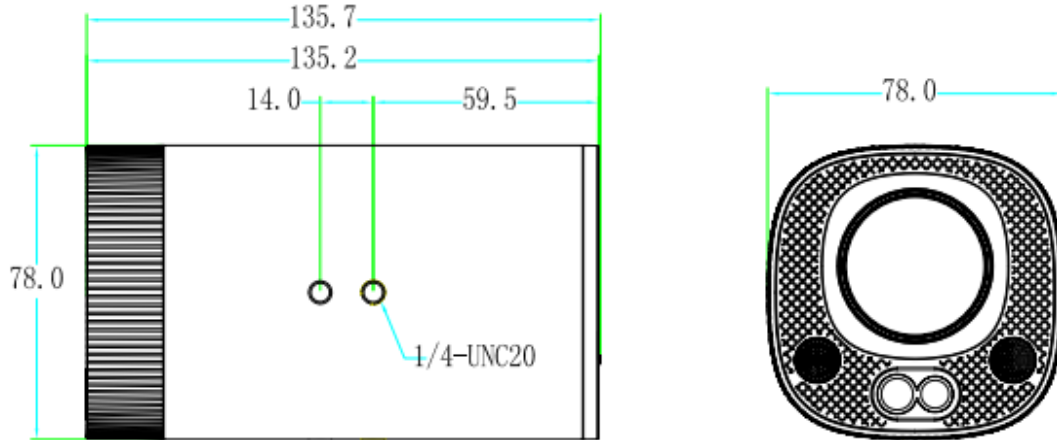


Figure 2.1 Product Dimension

2.1.2 Accessories

Please check below standard accessories when unpacking the box.

Standard Accessories
Wireless Remote Control
USB3.0 Cable
User Manual

2.2 Main Features

This product is a new HD camera for the live broadcasting industry. It features a unique image orientation switch, allowing the user to switch from landscape format to portrait format optimized for mobile devices. Equipped with advanced ISP processing algorithms it offers vivid and high resolution video with a strong sense of depth and fantastic color rendition. The camera is stable and reliable, and easy to operate and maintain. It is suitable for various live scene applications.

- **Full HD Resolution:** 1/2.8 inch high quality CMOS sensor. Resolution is up to 1920x1080 with frame rate up to 30fps.
- **Optical Zoom Lens:** 10X optical zoom lens and 68.8° wide angle lens.

- **Multiple Video Interfaces:** HDMI, USB3.0; Simultaneously output audio and video signal
- **Leading Auto Focus Technology:** Fast, accurate and stable auto focusing technology.
- **Horizontal and Vertical Screen:** Allows the user to switch formats from landscape to portrait to optimize for mobile devices.
- **Professional Image Style:** Supports beauty and jewelry style mode to tailor image to makeup and fashion applications.
- **Built-in microphone:** Dual microphone array with a 6 meter omnidirectional pickup pattern (optimal pickup distance is 3 meters), the noise suppression algorithm enhances voice capture.
- **Multiple Audio/Video Compression Standards:** Support YUY2/NV12/MJPG/H.264/H.265 video compression format.
- **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.
- **Easy to use:** No need to download drivers, USB output is plug and play with a convenient user experience.

Technical Parameters

Camera Parameter	
Sensor	1/2.8inch sensor
Effective Pixels	2 megapixel, 16: 9
Video Format	<p>HDMI video format</p> <p>1080I@60fps, 1080I@50fps, 1080P@30fps, 1080P@25fps, 720P@60fps, 720P@50fps</p> <p>USB3.0 interface video format</p> <p>Horizontal screen: 1920×1080@30fps, 1280×720@30fps, 1024×576@30fps, 960×540@30fps, 800×448@30fps, 640×360@30fps, 640×480@30fps, 320×176P30fps</p> <p>Vertical screen: 1080×1920@30fps, 720×1280@30fps, 576×1024@30fps, 540×960@30fps, 448×800@30fps, 480×720@30fps, 480×640@30fps</p>
View Angle	8.8° ~ 68°
Focus Length	f=4.34mm~41.66mm
AV	F1.85 ~ F2.63
Optical Zoom	10X
Minimum Illumination	0.1Lux(F1.8, AGC ON)
DNR	2D & 3D DNR
Super Auto noise reduction	On/Off
White Balance	Auto / Manual/ One Push /3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K
Focus	Auto/Manual/One Push Focus
Exposure	Auto/Manual
BLC	On/Off
SNR	>50dB
Vertical Screen Switch	On/Off
Focus Assist	On/Off
Minimum Object Distance	10cm(W)~100cm(N)

Input/Output Interface	
Video Output	USB Interface: Support audio signal output HDMI Interface: Support audio and video output
Video Compression Format	YUV, NV12, MJPG, H.264
Audio Input	Built-in 2 MIC pickups
Control Interface	USB Interface

Other Parameter			
Input Voltage/Current	Voltage	Power Adapter	12
		USB	5V
	Current	Power Adapter	0.425
		USB	1A(Max.)
Power Consumption	5W(Max.)		
Stored Temperature	-10°C ~ +60°C		
Stored Humidity	20% ~ 90%		
Working Temperature	-10°C ~ +50°C		
Working Humidity	20% ~ 80%		
Dimension(W*H*D)	78mm×137.5mm×78mm		
Weight	0.6KG		
Application	Indoor		
Accessories	Power Supply, Wireless Remote Control, USB3.0 Cable, User Manual		

2.3 Interfaces and Connection

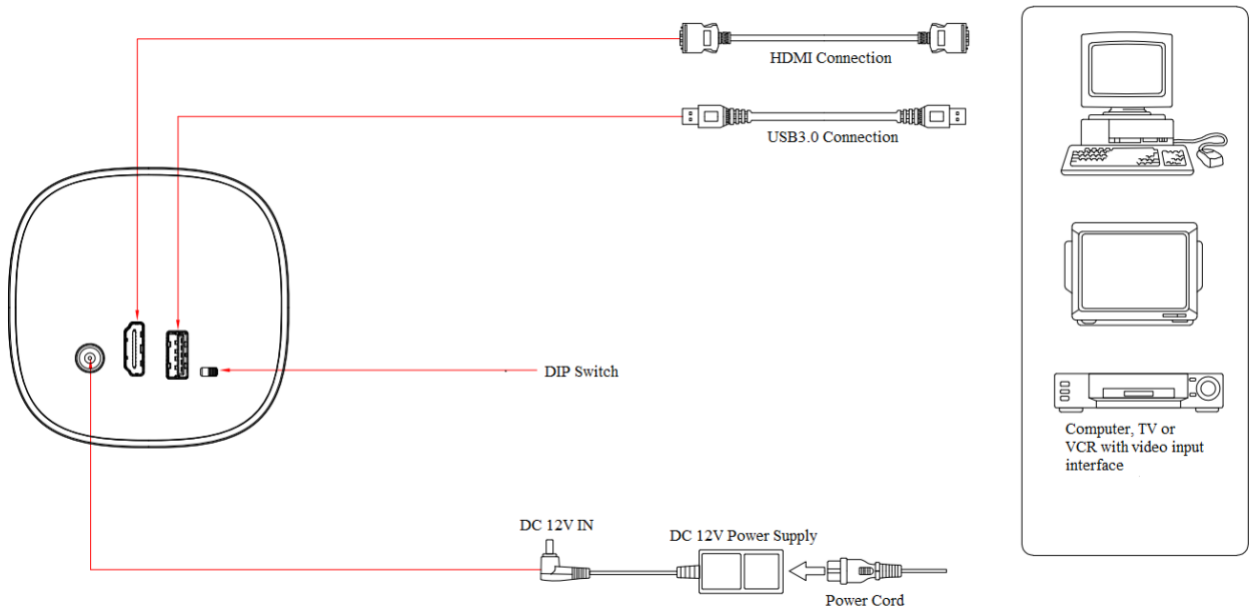


Figure 2.3 Wiring Diagram

3. Application Instruction

3.1 Remote Control



3.1.1 Match Code for Wireless Remote Control

One to One Code Matching:

Press the "set" and "*" keys combined for 5 seconds, LED indicator starts flashing. Camera receive the signal and power on, LED indicator will go off if code matching successfully. The camera can be controlled by this wireless remote control only after one to one code pairing.

Otherwise please clear the code matching of this remote control, or use other remote control to pair with the camera again.

If one to one code matching failed, the red LED light flashes for 20 seconds and then goes off, camera will stop code match and turn on sleep mode; Press any key to wake up the camera and re-match code.

Note: After code matching successfully, please select the camera address to control it.

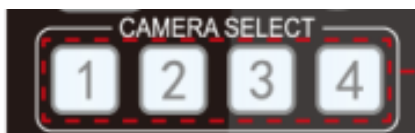
3.1.2 Keys Introduction for IR Remote Control

1. Standby Key

The camera enters standby mode if long press 3s on standby key;

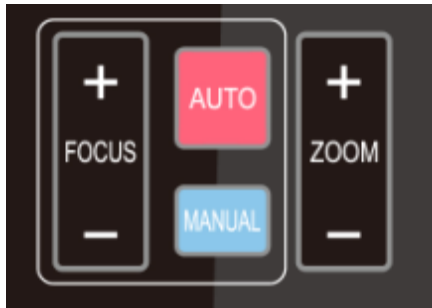
Long press 3s again on the standby key, the camera will self-check again and return to HOME position (If preset 0 position is set, the camera will return to preset 0 position).

2. Camera Selection



Select the camera address to control.

3. Focus Control



Auto: auto focus mode

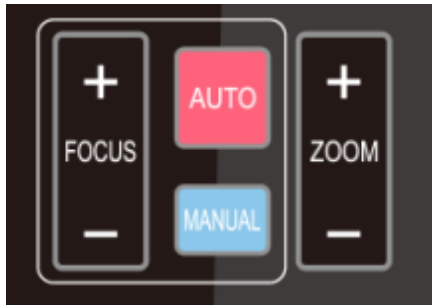
Manual: manual focus mode

Focus + (near): Press **【FOCUS +】** key (Valid only in manual focus mode)

Focus - (far): Press **【FOCUS -】** key (Valid only in manual focus mode)

Press and hold the keys, the action of focus will keep continue and stop as soon as the key is released.

4. Zoom Control



ZOOM +: press **【ZOOM +】** key to zoom in

ZOOM - : press **【ZOOM -】** key to zoom out

Press and hold the keys, the action of focus will keep continue and stop as soon as the key is released.

5. Set and Clear Presets



Set Preset: press **【SET PRESET】** button, and then press the number key 0-9 to set preset positions.

Note: 10 presets via remote control.

Call Preset: Press a number key 0-9 directly to call a preset position.

Clear Preset: press **【CLEAR PRESET】** button, and then press the number key 0-9 to clear preset positions.

Note : press the **【#】** key three times continually to clear all presets.



6. Direction Control



Up: press ▲
Down: press ▼
Left: press ◀
Right: press ▶
Back to middle position: press“ 【HOME】 ”

Press and hold the up/down/left/right key, the pan/tilt movements will keep running, from slow to fast, until it runs to the endpoint; stop as soon as the key is released.

7. Menu Setting

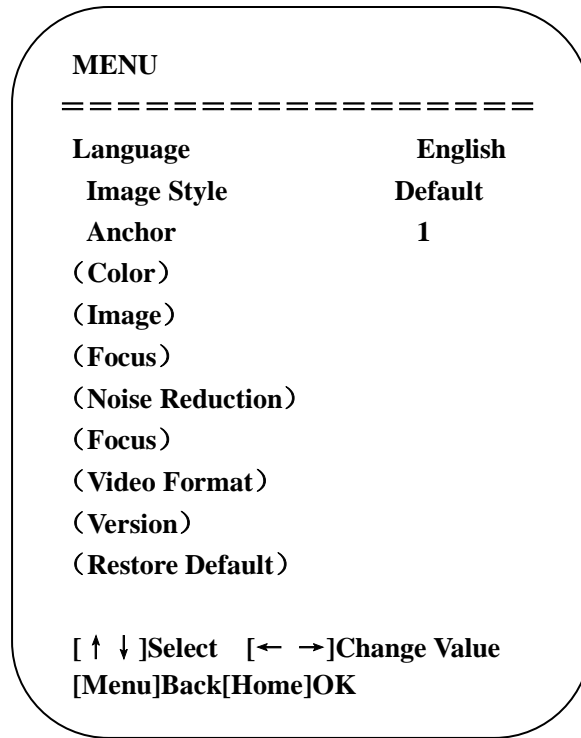


【MENU】 : Open / close the OSD menu
【HOME】 : Camera lens back to the middle position;
Confirm button; Enter next menu
【↑】 【↓】 : Choose item
【←】 【→】 : Modify values
【BLC ON/OFF】 : Turn on or off the back light compensation

3.2 Menu Introduction

3.2.1 Main Menu

In normal working mode, press 【MENU】 key to display the menu, using scroll arrow to point at or highlight the selected items.



1) Language: Move the pointer to (Language) in the main menu, and press the [←→] key to modify language.

2) Image Style: Move the pointer to (Image Style) in the main menu, and press the [←→] key to modify the style default / Beauty / Jewelry

3) Anchor: Move the pointer to (Anchor) in the main menu, and press the [←→] key to modify the 1-4 host numbers; Image parameters can be modified manually under different host numbers, and can be saved after power failure.

4) Exposure Setting

Move the pointer to the (EXPOSURE) in the Main Menu, click the **【HOME】** key and enter into the (Exposure sub menu) as shown below,

EXPOSURE	
=====	
Mode	Auto
EV	OFF
BLC	OFF
Flicker	50Hz
G.Limit	3
DRC	2
[↑ ↓]Select [← →]Change Value	
[Menu]Back[Home]OK	

Mode: Auto, Manual, Shutter priority and Brightness priority.
EV: On/Off (only available in auto mode)
Compensation Level: -7~7 (only available in auto mode when EV is ON)
BLC: ON/OFF for options (only available in auto mode)
Dynamic Range: 1~8, close
Anti-Flicker: OFF/50Hz/60Hz for options (only available in Auto/Iris **priority**/Brightness **priority** modes)
Gain limit: 0~15(only available in Auto/ Iris **priority** /Brightness **priority** mode)
WDR: Off, 1~8
ShutterPriority: 1/25,1/30,1/50,1/60,1/90,1/100,1/120,1/180,1/250,1/350,1/500,1/1000,1/2000,1/3000,1/4000,1/6000, 1/10000 (only available in Manual and Shutter priority mode)
Brightness: 0~23 (only available in Brightness **priority** mode)

5) Color

Move the pointer to the (COLOR) in the Main Menu, click the **【HOME】** and enter the (COLOR sub menu) as follow,

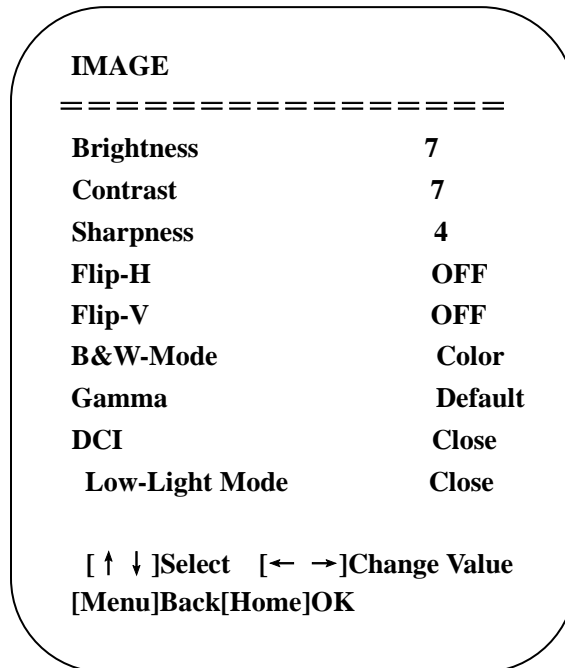
COLOR	
=====	
WB Mode	Auto
RG Tuning	0
BG Tuning	0
Saturation	100%
Hue	7
AWB Sensitivity	High
[↑ ↓]Select [← →]Change Value	
[Menu]Back[Home]OK	

WB Mode: Auto, Manual, One Push, Specified color temperature

Saturation: 60%,70%,80%,90%,100%,110%,120%,130%,140%,150%,160%,170%,180%,190%,200%
Red fine-tuning: -10~10 (only available in automatic mode)
Blue fine-tunable: -10~10 (only available in automatic mode)
RED GAIN: 0~255(only available in Manual mode)
BLUE GAIN: 0~255(only available in Manual mode)
AWB Sensitivity: high/middle/low
Chroma: 0~14

6) Image

Move the pointer to the (IMAGE) in the Menu, click the【HOME】and enter into the (IMAGE sub menu) as follow,



Brightness: 0~14
Contrast: 0~14
Sharpness: 0~15
Flip-H: On/Off
Flip-V: On/Off
B&W Mode: color, black/white
Gamma: Default/0.45/0.50/0.55/0.63
DCI: Dynamic Contrast: Off/1~8
Minimum Illumination: On/Off

7) Noise Reduction

Move the pointer to the (NOISE REDUCTION) in the Menu, click the【HOME】 and enter the (NOISE REDUCTION) as follow,

NOISE REDUCTION

=====

NR-2D	2
NR-3D	5
Dynamic Hot Pixel	OFF

[↑ ↓]Select [← →]Change Value
[Menu]Back[Home]OK

2D Noise Reduction: Auto, close, 1~7
3D Noise Reduction: Close, 1~8
Dynamic Hot Pixel: Close, 1~5

8) Focus

Move the pointer to the (FOCUS) in the Menu, click the **【HOME】** and enter the (FOCUS) as follow,

FOCUS

=====

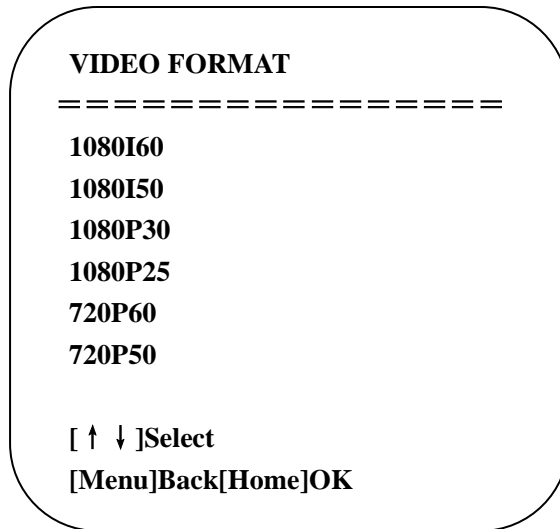
Focus Mode	Auto
Focus Auxiliary	ON
AF-Zone	Center
AF-Sensitivity	Low

[↑ ↓]Select [← →]Change Value
[Menu]Back[Home]OK

Focus Mode: Auto/manual
Focus Assist: On/Off
AF-Zone: Up/middle/down
AF-Sensitivity: High/middle/low

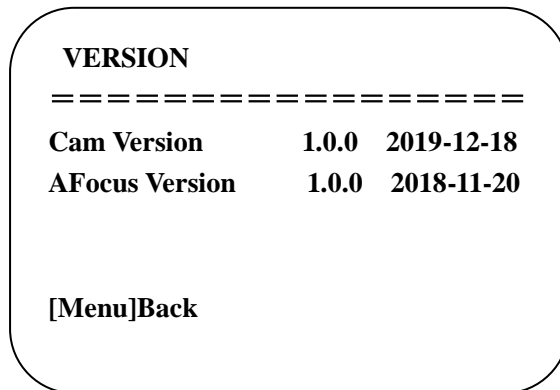
9) Video Format

Move the pointer to the (Video Format) in the Menu, click the **【HOME】** and enter the (Video Format) as follow,



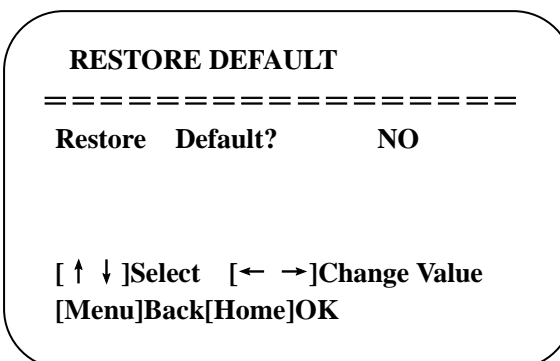
10) Version

Move the pointer to the (VERSION) in the Main Menu, click the **【HOME】** and enter the (VERSION) as follow,



11) Restore Default

Move the pointer to the (RESTORE DEFAULT) in the Main Menu, click the **【HOME】** and enter the (RESTORE DEFAULT) as follow,



Restore default: YES/NO.

Restore factory default only restores the image parameters under the current host number (Color style and video format cannot be restored to factory default)

4. Maintenance and Troubleshooting

4.1 Camera Maintenance

- 1) Please power off the camera and disconnect the power adapter and socket, if it's not used for an extended period of time.
- 2) Use soft cloth or tissue to clean the camera cover.
- 3) Wipe 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.

4.2 Troubleshooting

1)No video output

- a. Check whether the device is connected to the USB cable and whether the power indicator is on
- b. Check whether the device is in standby state, long press the power button for 3s to see whether it can be turned on
- c. Restart the computer
- d. Check the video output cable
- e. Check whether the device is recognized, unplug the device and reconnect when it is displayed in the device manager

2)Remote control not working

- a. Re-code the wireless remote control to the camera
- b. Remote control address is set to 1 (if the machine is set back to the factory defaults, remote control addresses need to be back to 1 too)
- c. Check whether the battery is installed on the remote controller or low
- d. Check the camera working mode is the normal operating mode

5. Warranty

BZBGear wants to assure you peace of mind. All BZBGear cameras and camera-related products include our Stress-Free Three-Year Warranty.

For complete warranty information, please visit BZBGear.com/warranty.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

6. Mission Statement

BZBGear manifests from the competitive nature of the audiovisual industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today's AV world without having to break the bank. BZBGear is the solution for small to medium-sized applications requiring the latest professional products in AV.

We live in a DIY era where resources are abundant on the internet. With that in mind, our team offers system design consultation and expert tech support seven days a week for the products in our BZBGear catalog. You'll notice comparably lower prices with BZBGear solutions, but the quality of the products is on par with the top brands in the industry. The unparalleled support from our team is our way of showing we care for every one of our customers. Whether you're an integrator, home theater enthusiast, or a do-it-yourselfer, BZBGear offers the solutions to allow you to focus on your project and not your budget.

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