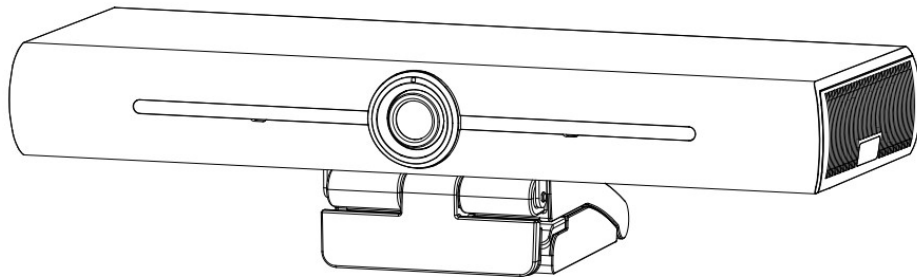www.alfatronelectronics.com

ALFATRON ELECTRONICS GmbH GERMANY

ALF-HOLA

4K UHD ePTZ Video Conference camera

Statement

This manual introduces functions, installation and operations for the camera in details. Please read this manual thoroughly before installation and use.

1. How to Use

To prevent damage to this product or any product connected to it, this product can only be used within the specified range.

1). Do not expose the product to rain, liquid or moisture.

2). To prevent the risk of electric shock, do not open the casing. 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). 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.

2. Electrical Safety

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

3. Handle with Care

Avoid damage to the product caused by heavy pressure, strong vibration or immersion during transportation, storage and installation.

4. Install with Caution

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 horizontal surfaces. Do not install the product obliquely, otherwise, it may display an inclined image.

3). If the camera is installed on TV or computer, the base can be fixed by four double-sided adhesive trays.

4). The housing of this product is made of organic materials. Do not expose it to any liquid, gas or solids which may corrode the shell.

5). Ensure there are no obstacles within rotation range of the holder.

6). Do not power on before completion of the installation.

5. Do not Disassemble the Product Without Permission

This product contains no parts which can be maintained by users themselves. Any damage caused by dismantling the product by the user without permission is not covered by warranty.

6. Magnetic Interference

Electromagnetic fields at specific frequencies may affect the image. This product is Class A and may cause radio interference in the household application. Ensure the appropriate measure are in place.

FCC Statement

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. It 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 commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

CE FC ⚠ ♻ 🚫 EAC

Do not dispose of this product with the normal household waste at the end of its life cycle. Return it

to a collection point for the recycling of electrical and electronic devices. This is indicated by the

symbol on the product, user manual or packaging. The materials are reusable according to their

markings. By reusing, recycling or other forms of utilisation of old devices you make an important

contribution to the protection of our environment. Please contact your local authorities for details

about collection points.

1. Fast Installation

1.1 Camera Interface
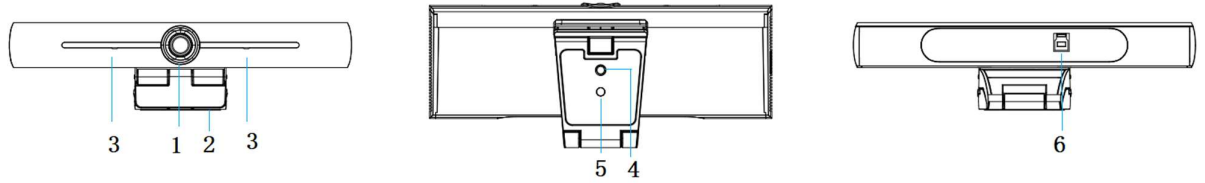
Figure 1.1 camera interface

1. Camera lens	3. Built-in MIC	5. Positioning hole
2. Bracket	4. Tripod fixing hole	6. USB 3.0 output interface

1.2 Camera Operation

1) Product Installation: Affix the device on an LCD screen, on top of computer; directly on a desk or a tripod mounting.

2) Connect the camera via USB cable to the computer, video conference terminal or other USB input device, log in the video conference software and select the camera as the video device to get image output.

2. Product Overview

2.1 Product Introduction

2.1.1 Dimensions

Figure 2.1 Camera Dimensions

2.1.2 Accessories

Check and confirm all accessories are provided as listed.

	User manual x 1
	Wireless remote controller x 1
	USB3.0 cable x 1
	Warranty card x1

2.2 Main Features

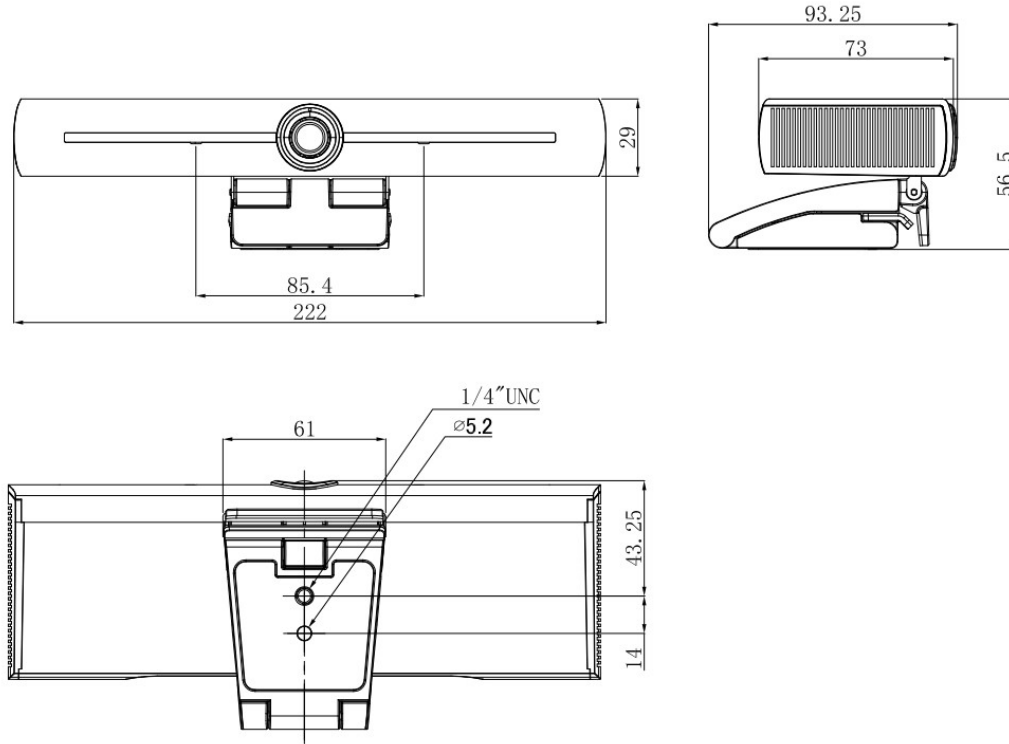This product is a new 4K UHD ePTZ video conference camera. It is built with AI functions, which can automatically frame all people in the meeting and centre them in the the scene. With flawless functionality and superior performance, adopting advanced ISP processing algorithms to provide vivid images with evenly clear brightness, strong colour layering, high resolution, and fantastic colour rendition. Easy and convenient to install and maintain, stable and reliable.

- **4K UHD:** It employs 1/2.5 inch, 8 million pixels high-quality CMOS sensor; supports 4K UHD; provides 4K@ 30fps MJPG video resolution at most, and provides clear UHD video and vivid expressions and movements. At the same time, it is compatible with 1080p and 720p resolution.

- **EPTZ:** EPTZ and 4X digital Zoom

- **Built-in microphone:** Includes 2 built-in microphones with all-round pickup. Unique noise suppression algorithm ensures your voice is perfectly clear. The effective microphone pickup distance is up to 5 meters.

- **Dual-stream output:** The USB3.0 port support mainstream and sub-stream output at the same time.

- **Auto framing:** With an excellent facial detection algorithm, the camera automatically adjusts the zoom according to the number of people in the meeting. It can frame all the meeting attendees and centre them within the scene.

- **Wide view angle without distortion:** 120° super wide view angle lens for options

- **Low Noise and High SNR:** Low Noise CMOS effectively ensures high SNR of video. Image is still clear even under low light condition.

- **Multiple Installations:** Standard equipped with mould clamp. Easy to install on any devices, such as LCD screen, PC, table and tripod.

- **Easy to Use:** No need to download driver; USB Plug and play.

- **Wide Applications:** Personal video conferencing, enterprise video conferencing, unified collaboration, etc.

2.3 Technical Specifications

Model Number	ALF-HOLA		

Camera Parameter			
Image Sensor	1/2.5 Inch High Quality 4K CMOS Sensor		
Effective Pixels	8.28MP 16:9		
Video output port	1* USB3.0, Type B, support audio output over USB3.0		
Audio input	2 built-in MIC pickups		
View Angle	126°(D)/120°(H)/85°(V)		
Video Format	Main stream: 3840×2160@30fps、 1920×1080P@30fps/25fps、 1280×720P@30fps/25fps, etc. Sub-stream:1280×720P@30fps/25fps、 640×480P@30fps/25fps；320×172P@30fps/25fps, etc.		
Min Illumination	0.1Lux (F1.8, AGC ON)		
Lens	f=2.72mm		
Aperture	F2.5		
Digital zoom	4X		
DNR	2D & 3D DNR		
Ultra-low illumination	On/off		
White Balance	Auto / Manual/ One Push/ 3000K/ 3500K/ 4000K/ 4500K/ 5000K/ 5500K/ 6000K/ 6500K/ 7000K		
Focus	Auto / Manual/ One push Focus (available on AM series)		
Exposure	Auto / Manual		
Auto framing	On/off/sensitivity		
Backlight compensation	On/off		
Dual-stream	On/off		
SNR	>55dB		
USB Feature			
Operation Systems	Windows 7(1080p at the most), Windows 8.1, Windows 10; macOS™ 10.10 or higher, Linux (Require to support UVC.)		
Video Compression format	YUY2, MJPG, H.264, H.265		
Audio over USB3.0	Support		
USB communication protocol	UVC, UAC		
PTZ control	Support EPTZ		
Hardware requirement	2.4 GHz Intel@ Core 2 Duo processor or higher，2GB RAM or more，USB 2.0 /USB3.0 port (USB 3.0 is needed for 4K)		
Other Parameters			
Input Voltage	5V		

Input Current	1A(Max.)
Power consumption	5W(Max.)
Store Temperature	-10℃～+60℃
Store Humidity	20%～90%
Working Temperature	-10℃～+50℃
Working Humidity	20%～80%
Dimension（W*H*D）	222mm×93.25mm×56.5mm
Weight	Around 0.53kg
Application	Indoor
Accessory	User Manual; Warranty card, remote controller, USB3.0 cable

2.4 Interface Instruction

2.4.1 External Interface

The interface illustration is as Figure 2.4 below:
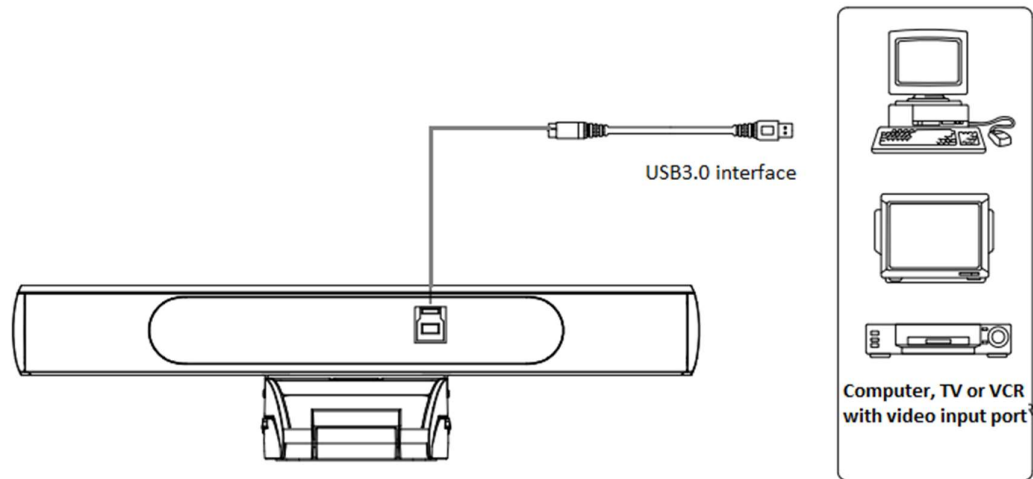
3. Application Instruction

3.1 Remote Controller

3.1.1 Keys Instruction

1. Standby Key

After a 3s long press, the camera will go into standby mode. Long press 3s again, and the camera will self-test and go back to HOME position. Note: If preset 0 is set, there is no operation within 12s, camera head will automatically point to the specified preset 0 position.

2. Camera Address Selection

Select the camera address

3. Number Key

Set or call 0-9 presets

4. *, # Key

Key combination use

Long Press 5s "SET" + "*" at the same time, the WR controller will light up, then release buttons. Power on the camera again, it will have successfully paired with WR controller.

Long Press 5s "SET" + "*" at the same time, the WR controller will light up, then release buttons.. Power on the camera again, it will cancel the pairing with WR controller.

5. Focus Control Key

Auto Focus: Enter into auto focus mode.

Manual Focus: The camera focus mode is manual

Switch the camera focus mode to manual focus by pressing [focus +] or [focus -] to adjust.

6. Zoom Control Key

Zoom＋: Lens near

Zoom－: Lens far

7. Set or Clear Preset key:

Set Preset: Set preset key + 0-9 number key

Clear Preset key: Clear preset key + 0-9 number key

8. Electronic Pan/Tilt Control Key

Press   Key: Up

Press   Key: Down

Press   Key: Left

Press   Key: Right

"HOME" Key: Return to the middle position or enter into the sub-menu

9. BLC Control Key

Back Light ON / OFF: Turn on or off the backlight

10. Menu Setting

Open or close the OSD menu

Enter/exit the OSD menu or return to the previous menu

11. Address Setting

【*】+【＃】+【F1】:Camera Address No.1

【*】+【＃】+【F2】:Camera Address No. 2

【*】+【＃】+【F3】:Camera Address No. 3

【*】+【＃】+【F4】:Camera Address No. 4

12. Key Combination Functions

1) 【#】+【#】+【#】: Clear all presets

2) 【*】+【#】+【6】: Restore factory defaults

3) 【*】+【#】+【9】: Flip switch

4) 【*】+【#】+【4】: Menu set to English

5) 【*】+【#】+【3】: Menu set to Chinese

6) 【*】+【#】+【0-9】: Switch video format

7) 【*】+【#】+Manual : Restore the default user name, password, and IP address

3.1.2 Applications

Power on the camera,   press the " SET " and " ***** " keys together for 5 seconds, the indicator light will be on. Then release the button and power on the camera again when the light is flashing. The matching process will be done when the indicator light stops flashing. Then users can control the pan/tilt/zoom, set and call preset positions via the wireless remote controller.

Key Instruction:

1. In this instruction, "press the key" means a click rather than a long-press, and a special note will be given if a long-press for more than one second is required.

2. When a key-combination is required, do it in sequence. For example," 【*】+【#】+【F1】" means press"【*】" first and then press"【#】" and last press"【F1】".

1) Camera Selection

Select the camera address to control.

2) Pan/Tilt 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 will keep running, from slow to fast, until it runs to the endpoint; the pan/tilt running stops as soon as the key is released.

3) Presets

1. Preset setting: to set a preset position, the users should press the "【SET PRESET】" key first and then press the number key 0-9 to set a relative preset,

Note: 10 preset positions in total are available via remote controller.

2. **Preset calling:** Press a number key 0-9 directly to call a relative preset.

Note: Action in vain if a relative preset position does not exist.

3. Preset clearing: to clear a preset position, the user can press the "【CLEAR PRESET】" key first and then press the number key 0-9 to clear the relative preset;

Note : press the" 【#】 " key three times continually to cancel all the presets.

4) Zoom Control

ZOOM IN: press "ZOOM ▼" key

ZOOM OUT: press "ZOOM ◀" key

Press and hold the key, the camera will keep zooming in or zooming out and stops as soon as the key is released.

5) Focus Control

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

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

Auto Focus: yes

Manual Focus: yes

Press and hold the key, the action of focus will keep

continue and stops as soon as the key is released.

6) Address Setting

【*】+【＃】+【F1】:Camera Address No.1

【*】+【＃】+【F2】:Camera Address No. 2

【*】+【＃】+【F3】:Camera Address No. 3

【*】+【＃】+【F4】:Camera Address No. 4

3.2 MENU SETTING

3.2.1 Main Menu

When using MJPG/ H.264 / H.265 compression, press 【MENU】key to display the menu, using scroll arrow to point at or highlight the selected items.

```
MENU

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

Language            English

Image Style         Default

（Exposure）

（Color）

（Image）

（Focus）

（Noise Reduction）
```
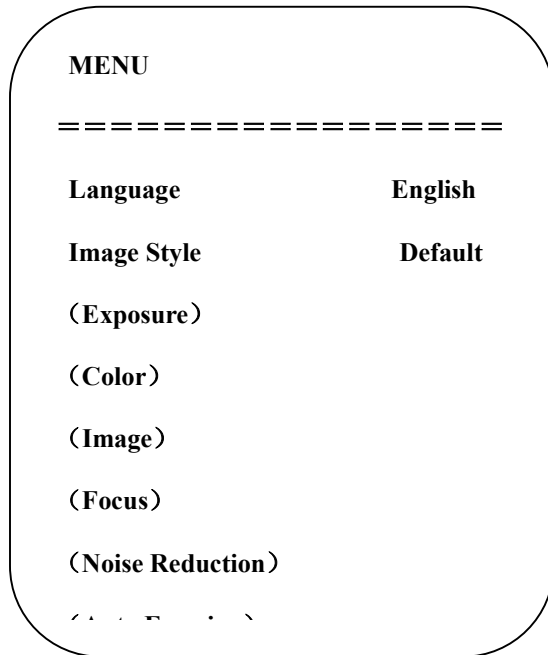
1. Language Setting：**press** 【← →】key to select Language

2. Image Style Setting: **press** 【← →】key to select the style

3. Exposure Setting

Move the pointer to EXPOSURE in the Main Menu, click the【HOME】and enter the (EXPOSURE SET) as follows:

```
 ┌─────────────────────────────┐
 │                             │
 │   EXPOSURE                  │
 │                             │
 │  ================           │
 │                             │
 │    Mode          Auto       │
 │                             │
 │    EV            OFF         │
 │                             │
 │    BLC           OFF         │
 │                             │
 │    Flicker       50Hz        │
 │                             │
 │    G.Limit       3           │
 │                             │
 └─────────────────────────────┘
```

Mode: Auto, Manual, Shutter priority, Iris 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: adjustable items: 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

Shutter Priority:
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)

4. Colour Setting

Move the pointer to COLOR in the Main Menu, click the【HOME】and enter the (COLOR SET) as follows:

```
┌──────────────────────────────┐
│                              │
│    COLOR                     │
│                              │
│    ================          │
│                              │
│    WB Mode           Auto    │
│                              │
│    RG Tuning         0       │
│                              │
│    BG Tuning         0       │
│                              │
│    Saturation        100%    │
│                              │
│    Hue               7       │
│                              │
└──────────────────────────────┘
```

WB Mode: Auto, Manual, One Push, 3000K, 3500K, 4000K, 4500K, 5000K, 5500K, 6000K, 6500K, 7000K

RG Tuning: -10~10 (only available in Manual mode)

BG Tuning: -10~10 (only available in Manual mode)

Red Gain: 0~255 (only available in Manual mode)

Blue Gain: 0~255 (only available in Manual mode)

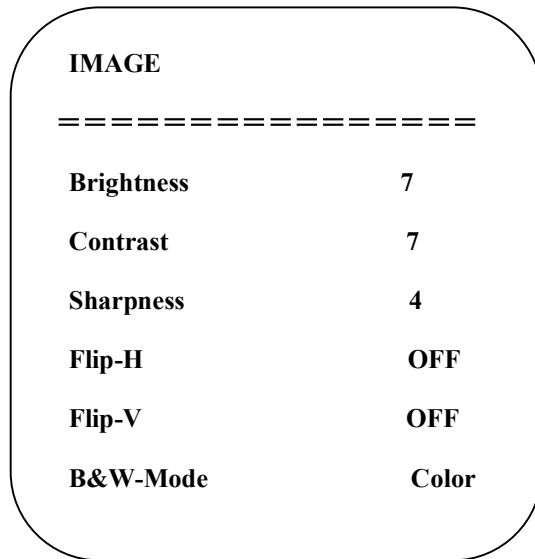**Saturation:** 60%, 70%, 80%, 90%, 100%, 110%, 120%,130%, 140%,150%, 160%, 170%, 180%, 190%, 200%

Hue: 0~14

AWB Sensitivity: high/middle/low (only available in Manual mode)

5. Image Setting

Move the pointer to IMAGE in the Menu, click the【HOME】and enter the (IMAGE) as follows,

```
┌─────────────────────────────┐
│                             │
│   IMAGE                     │
│                             │
│   ═══════════════════       │
│                             │
│   Brightness        7       │
│                             │
│   Contrast          7       │
│                             │
│   Sharpness         4       │
│                             │
│   Flip-H            OFF     │
│                             │
│   Flip-V            OFF     │
│                             │
│   B&W-Mode          Color   │
│                             │
└─────────────────────────────┘
```

Brightness: 0~14　　　　　　　　Contrast: 0~14　　　　　　　　Sharpness: 0~15

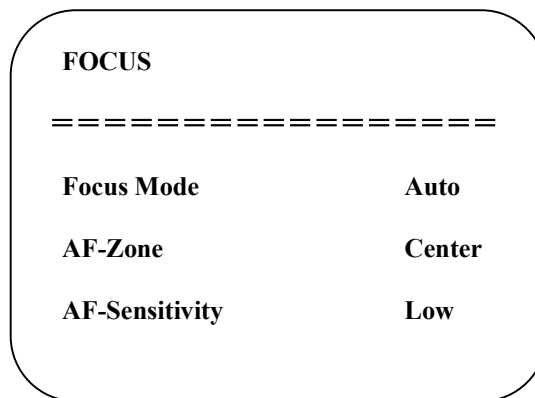Flip-H: On/Off　　　　　　　　　Flip-V: On/Off　　　　　　　　B&W Mode: colour, black/white

Gamma: default, 0.45, 0.50, 0.55, 0.63

DCI: Dynamic Contrast: Off,1～8

6. **Focus Setting**

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

```
┌─────────────────────────────┐
│                             │
│   FOCUS                     │
│                             │
│   ═══════════════════       │
│                             │
│   Focus Mode        Auto    │
│                             │
│   AF-Zone           Center  │
│                             │
│   AF-Sensitivity    Low     │
│                             │
└─────────────────────────────┘
```
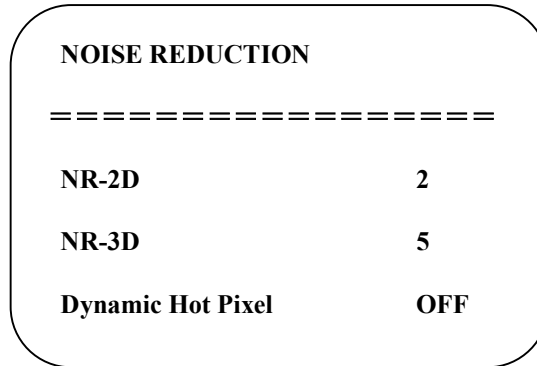
Focus Mode: Auto, manual, one-push

AF-Zone: Up, middle, down, overall

AF-Sensitivity: High, middle, low

7. Noise Reduction Setting

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

```
  NOISE REDUCTION

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

 NR-2D                    2

 NR-3D                    5

 Dynamic Hot Pixel        OFF
```
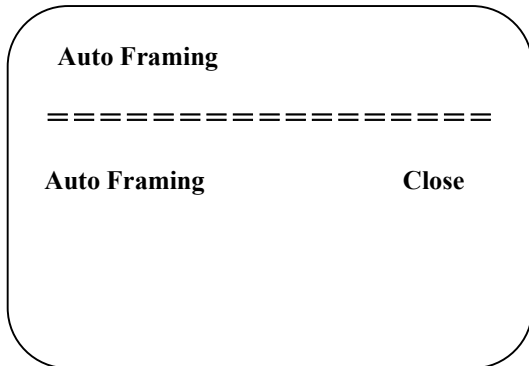
2D Noise Reduction: Auto, close, 1~7

3D Noise Reduction: Close, 1~8

Dynamic Hot Pixel: Close, 1~5

8. Auto Framing Setting

Move the pointer to Auto Framing in the Menu, click 【← →】keys to set ON/OFF.

```
  Auto Framing

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

 Auto Framing          Close
```
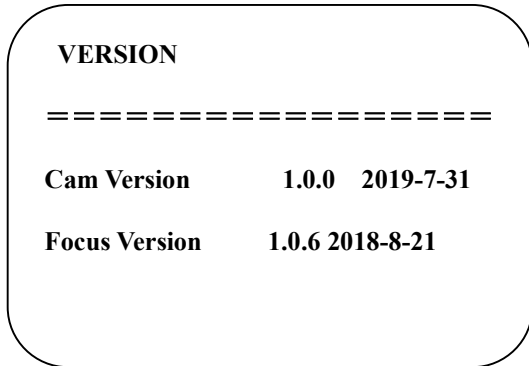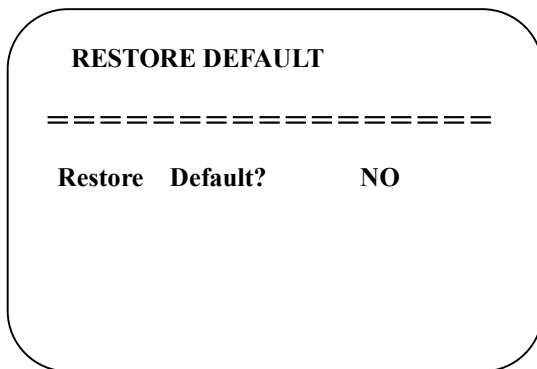
9. Dual Stream Setting

Move the pointer to Dual Stream in the Menu, click 【← →】keys to set ON/OFF.

10. Version

Move the pointer to VERSION

```
  VERSION

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

 Cam Version        1.0.0   2019-7-31

 Focus Version      1.0.6 2018-8-21
```

11. Restore Default

Move the pointer to RESTORE DEFAULT in the Main Menu, click 【HOME】and enter RESTORE DEFAULT as below:

```
  RESTORE DEFAULT

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

 Restore   Default?         NO
```

Restore default: Yes/No for options. (the video format and colour style won't be restored)

Note: If the address of former remote controller is not 1 but another one from 2,3,4, the corresponding camera address will restore to 1 when all parameters or system parameters are restored. User should change the remote controller address to be 1 (press No.1 according to the camera to get normal operation)

4.Maintenance and Troubleshooting

4.1 Maintenance

1) Please disconnect the camera if not in use 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 image;

4.2 Troubleshooting

1) No video output

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

   b. Does the camera do self-check after it has restarted.

   c. Restart PC.

   d. Check whether the camera is recognized by PC.

2) Intermittent image display

   a. Check the USB cable quality and whether it is securely connected.

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 is non-functional

   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 restoring 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.

Warranty

1.1 This limited warranty covers defects in materials and workmanship in this product.

1.2 Should warranty service be required, proof of purchase must be presented to the Company. The serial number on the product must be clearly visible and not have been tampered with in any way whatsoever.

1.3 This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by the Company to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover equipment enclosures, cables or accessories used in conjunction with this product.

This limited warranty does not cover the cost of normal maintenance. Failure of the product due to insufficient or improper maintenance is not covered.

1.4 The Company does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

1.5 Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

1.6 Unless otherwise specified, the goods are warranted in accordance with the manufacturer's product specific warranties against any defect attributable to faulty workmanship or materials, fair wear and tear being excluded.

1.7 This limited warranty only covers the cost of faulty goods and does not include the cost of labor and travel to return the goods to the Company's premises.

1.8 In the event of any improper maintenance, repair or service being carried out by any third persons during the warranty period without the Company's written authorization, the limited warranty shall be void.

1.9 A 7 (seven) year limited warranty is given on the aforesaid product where used correctly according to the Company's instructions, and only with the use of the Company's components.

1.10 The Company will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1.10.1 Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition.; or

1.10.2 Replace this product with a direct replacement or with a similar product deemed by the Company to perform substantially the same function as the original product; or

1.10.3 Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

1.11 The Company is not obligated to provide the Customer with a substitute unit during the limited warranty period or at any time thereafter.

1.12 If this product is returned to the Company this product must be insured during shipment, with the insurance and shipping charges prepaid by the Customer. If this product is returned uninsured, the Customer assumes all risks of loss or damage during shipment. The Company will not be responsible for any costs related to the removal or reinstallation of this product from or into any installation. The Company will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

1.13 Please be aware that the Company's products and components have not been tested with competitor's products and therefore the Company cannot warrant products and/or components used in conjunction with competitor's products.

1.14 The appropriateness of the goods for the purpose intended is only warranted to the extent that the goods are used in accordance with the Company's installation, classification and usage instructions.

1.15 Any claim by the Customer which is based on any defect in the quality or condition of the goods or their failure to correspond with specification shall be notified in writing to the Company within 7 days of delivery or (where the defect or failure was not apparent on reasonable inspection by the Customer) within a reasonable time after discovery of the defect or failure, but, in any event, within 6 months of delivery.

1.16 If delivery is not refused, and the Customer does not notify the Company accordingly, the Customer may not reject the goods and the Company shall have no liability and the Customer shall pay the price as if the goods had been delivered in accordance with the Agreement.

1.17 THE MAXIMUM LIABILITY OF THE COMPANY UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT.