USB2.0 HD Video Conference Camera Kit

User Manual

V1.1

(English)

Preface

Thanks for using thisUSB2.0 HD Video Conference Camera Kit.

This manual introduces the function, installation and operation of the HD camera. Prior to installation and usage, please read the manual thoroughly.

Precautions

This product can only be used in the specified conditions in order to avoid any damage to the camera:

- Don't subject the camera to rain or moisture.
- Don't remove the cover. Otherwise, you may get an electric shock. In case of abnormal operation, contact the authorized engineer.
- Never operating under unspecified temperature , humidity and power supply.
- Please use the soft dry cloth to clean the camera. If the camera is very dirty, clean it with diluted neuter detergent; do not use any type of solvents, which may damages the surface.

Note

This is class A production. Electromagnetic radiation at the specific frequency may affect the image quality of TV in home environment

Copyright Notice

Contents

Note

● **Electric Safety**

Installation and operation must accord with electric safety standard.

● **Caution to transport**

Avoid stress, vibration and soakage in transport, storage and installation.

● **Polarity of power supply**

The power supply of the product is +12V, the max electrical current is 2A .Polarity of the power supply plug drawing as follows.

● **Careful of installation**

Do not grasp the camera head when carrying the camera. Don't turn camera head by hand. Doing so may result in mechanical damage.

Don't apply in corrosive liquid, gas or solid environment to avoid damaging the cover which is made up of plastic material.

To make sure no obstacle in rotation range.

Never power on before installation is not completed.

● **Don't dismantle the camera**

We are not responsible for any unauthorized modification or dismantling.

CAUTION!

The specific frequency of electromagnetic field may affect the image of the camera!

Supplied Accessories

When you unpack, check that all the supplied accessories are included:

Camera 1PCS

AC power adaptor.. 1PCS

Power cord 1PCS

RS232 cable 1PCS

Remote controller 1PCS

User manual 1PCS

USB2.0(A Male Head to B Male Head)......... 1PCS

USB2.0(A Male Head to Micro B Male Head) 1PCS

Quick Start
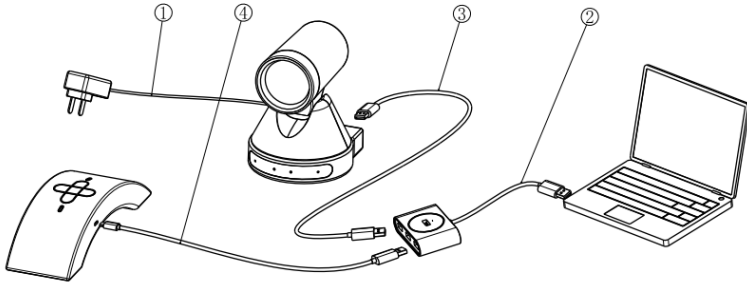
Step1. Please connecting the power adapter to the camera, then Pan-Tilt will self-checking, the lens will lens introspection on the basis of push and pull. When lens and Pan-Tilt self-checking not normal, please confirm whether the power supply to pull plug normal power.If still invalid, please see the specification of the fault phenomenon and processing or phone seeking for technical support.

Step2. USB hub connected to the PC. The first time, the PC will automatically install the driver according to the equipment.

Step3. Use the USB connect the camera with the USB hub. Connection for the first time, PC will automatically install the driver according to the equipment, Use of relevant software (such as AMCAP) to view the camera image. If you cannot view images, please pull plug USB, confirm USB is properly connected, whether the driver installed correctly. If invalid, please see the specification of the fault phenomenon and processing or phone seeking for technical support.

Step4. Using the USB cable connected the full duplex speakerphones to the USB hub. The first time, PC will automatically install the driver according to the equipment. After connection, full-duplex speaker phones's working indicator light will light up. Such as working light is not bright, please pull

out plug USB again, confirm USB is properly connected. If still invalid, please see the specification of the fault phenomenon and processing or phone seeking for technical support.

Features

- **Completely New Look**

  Designed with worm gear drive, completely new look, mini size, two colors for choosing from.

- **Full Function USB Interface**

  High speed USB interface, support compressed video output, support UVC protocol.

- **Full-duplux Speakerphone**

  Maximum 48 K Hz sampling rate audio input and output. Conversations sound realistic and natural byminimizing sound refections (reverb) and distracting with the advanced acoustic engineering reduces echo. audio artifacts.

- **1080P Full HD**

  Apply Panasonic's 1/2.7 inch, 2.07 million effective pixels high quality HD CMOS sensor, can reach maximum 1920 x 1080 high resolution and achieve quality image.

- **Ultra-high Frame Rate**

  The output frame rate up to 60fps in 1080P.

- **72.5° Wide-angle Lens + 16x Digital Zoom**

  Use 72.5° wide-angle high quality lens, support 12x optical zoom, and 16x digital zoom (optional).

- **Low-light**

  High SNR of CMOS sensor combined with 2D and 3D noise reduction algorithm, effectively reduce the noise, even under low illumination conditions, picture can still keep clean and clear.
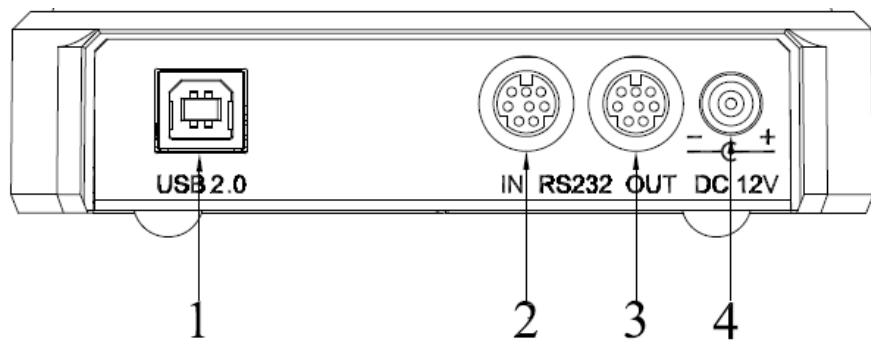
- **Remote Control**

  Using RS232/USB interface, all the parameters of the camera can be remote controlled by the high-speed communications.

Product Specification

Model	
Name	USB2.0 HD Video Conference Camera Kit
Camera	
Video System	HD: 1080p/60, 1080p/50, 1080i/60, 1080i/50, 1080p/30, 1080p/25, 720p/60, 720p/50, 720p/30, 720p/25
Sensor	1/2.7", CMOS, Effective Pixel: 2.07M
Scanning Mode	Progressive
Lens	12x, f3.5mm ~ 42.3mm, F1.8 ~ F2.8
Digital Zoom	16x
Minimal Illumination	0.5 Lux @ (F1.8, AGC ON)
Shutter	1/30s ~ 1/10000s
White Balance	Auto, Indoor, Outdoor, One Push, Manual
Backlight Compensation	Support
Digital Noise Reduction	2D&3D Digital Noise Reduction
Video S/N	≥55dB
Horizontal Angle of View	72.5° ~ 6.9°
Vertical Angle of View	44.8° ~ 3.9°
Horizontal Rotation Range	±170°
Vertical Rotation Range	±25°
Pan Speed Range	1.7° ~ 100°/s
Tilt Speed Range	1.7° ~ 69.9°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°
USB Featured	
Operate System	Windows XP, Windows Vista, Windows 7, Windows 8, Mac OS X, Linux

Color System / Compression	YUV 4:2:2 / H.264 / MJPEG
Video Format	1080p/30, 1080p/25, 1080p/15, 1080p/10, 720p/30, 720p/25, 960x540p/30, 960x540p/25, 640x360p/60, 640x360p/50
Audio on USB	Support 8K Hz,16K Hz,32K Hz,44.1K Hz ,48K Hz sampling rate audio input and output, Support AEC
USB Video Communication Protocol	UVC 1.0 ~ UVC 1.5
UVC PTZ	Support
Input/Output Interface	
USB Interface	2xUSB2.0: Type B female jack
Communication Interface	1xRS232 In: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA/Pelco-D/Pelco-P
	1xRS232 Out: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use only
	1xRS485: Share with RS232 Out, Max Distance: 1200m, Protocol: VISCA/Pelco-D/Pelco-P (optional)
Power Jack	JEITA type (DC IN 12V)
Generic Specification	
Input Voltage	DC 12V
Current Consumption	1.0A（max)
Operating Temperature	5°C ~ 40°
Storage Temperature	-40°C ~ 60°C
Power Consumption	12W（max)
MTBF	>30000h
Size	128.5mm x 118mm x 156.2mm
Net Weight	0.91Kg

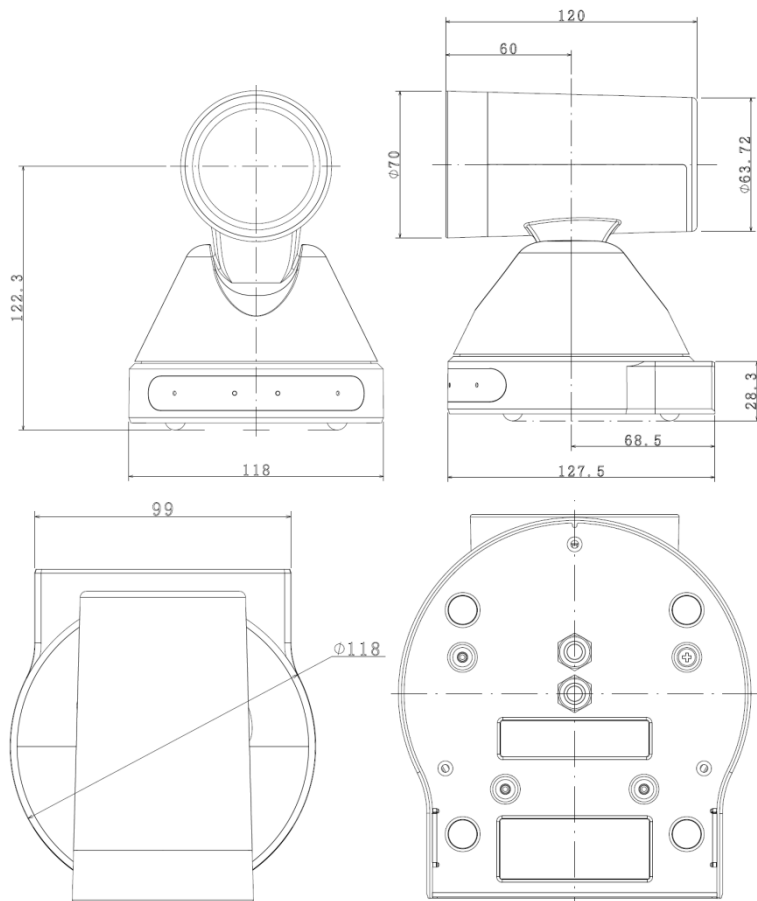**Main Unit**

1. USB2.0   3. RS232 out Interface
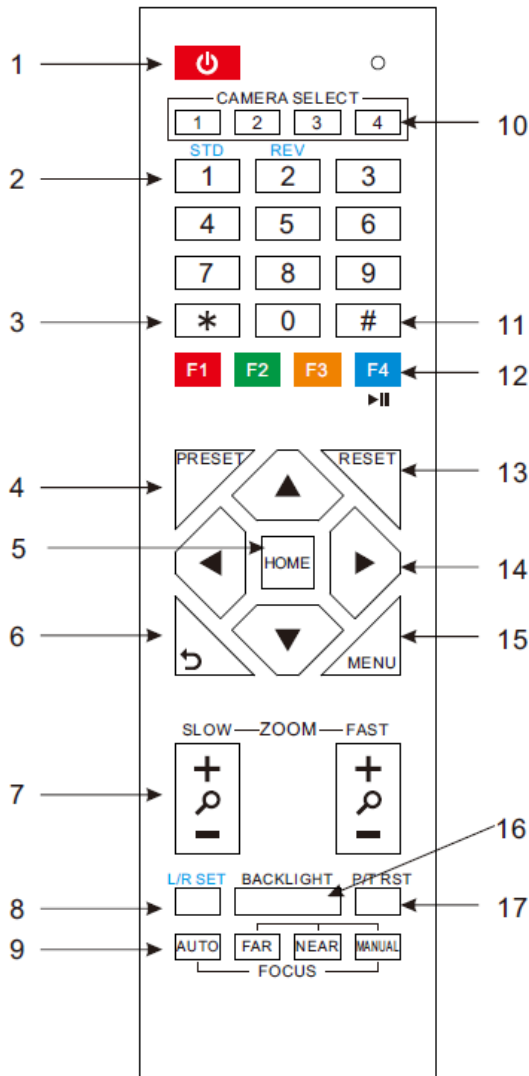
2. RS232 IN Interface   4.DC IN 12V jack

Size

IR Remote Controller Explanation

1. Standby Button

Press this button to enter standby mode. Press it again to enter normal mode. (Note: Power consumption in standby mode is approximately half of the normal mode)

2. Position Buttons

To set preset or call preset

3. *Button

Used with other buttons

4. Set/Preset Buttons

Set preset: Store a preset position

[SET PRESET] + Numeric button (0-9): Setting a corresponding numeric key preset position

5. Pan-Tilt control Buttons

Pressing the Pan-Tilt back to the middle position

6. Back buttons

Press the OSD menu return to the superior.

7. Zoom Buttons

Slow Zoom: Zoom In [+] or Zoom Out [-] slowly

Fast Zoom: Zoom In [+] or Zoom Out [-] fast

8. Pan-Tilt L/R set

Press with 1 buttons and 2 buttons setting the direction of the Pan-Tilt

L/R Set +1[STD]: set the Pan-Tilt turn the same direction as the L/R Set

L/R Set +2[REV]: set the Pan-Tilt turn the opposite direction as the L/R Set

9. Focus Buttons

Used for focus adjustment.

Press [AUTO] adjust the focuses on the center of the object automatically. To adjust the focus manually. Press [MANUAL] adjust the focus on the center of the object manual

MANUAL button, and adjust it with [Far] (Focus on far object) and [NEAR] (Focus on near object)

10. Camera Select Buttons

Press the button corresponding to the camera you want to operate with the remote controller.

11. # Button

Used with other buttons

12. Set Camera IR Address Buttons

[*]+[＃]+[F1]: Address1

[*]+[＃]+[F2]: Address2

[*]+[＃]+[F3]: Address3

[*]+[＃]+[F4]: Address4

13. Clear Preset Buttons

Clear preset: Erase a preset position

[CLEAR PRESET] + Numeric button (0-9)

Or: [*]+[#]+[CLEAR PRESET]: Erase all the preset individually

14. Pan/Tilt Control Buttons

Press arrow buttons to perform panning and tilting. Press [HOME] button to face the camera back to front

15. MENU

MENU: enter or exit OSD MENU.

16. BLC (Backlight Compensation) Button

BLC ON/OFF: Press this button to enable the backlight compensation. Press it again to disable the backlight compensation.(NOTE: Effective only in auto exposure mode)

Note: If a light behind the subject, the subject will become dark. In this case, press the backlight ON / OFF button. To cancel this function, press the backlight ON / OFF button.

17. Pan/Tilt reset

Presset Pan/Tilt self-test.

18. Image freezing function

Manually freeze: Open the freezing function after press the remote control [F4], display "Freeze" on the left upper corner character, after 5 seconds display disappear automatically. If you want to cancel the freeze, press [F4] key and then can return to normal, display "Unfreeze" on the left upper corner, after 5 seconds display disappear automatically.

Recalling the Preset image Freeze：By the OSD Menu Setting "Recalling the Preset image Freeze" function. After the function is opened, the screen will stay in before Recalling the Preset when Recalling the Preset, the screen can be switched to the preset position screen until the camera points to the preset position.

19. Shortcut Set

[*]+[＃]+[1]: OSD menu default English
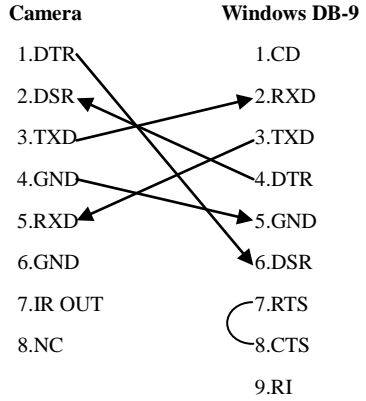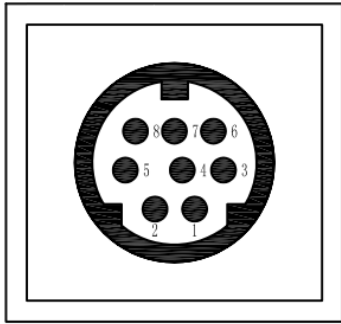
[*]+[＃]+[3]: OSD menu default Chinese

[*]+[＃]+[5]: Save OSD
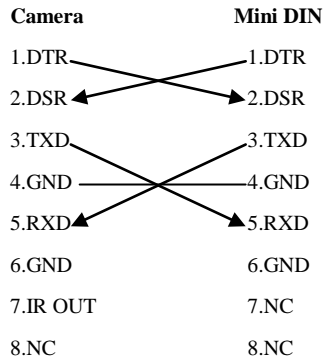
[*]+[＃]+[6]: Quickly recover the default

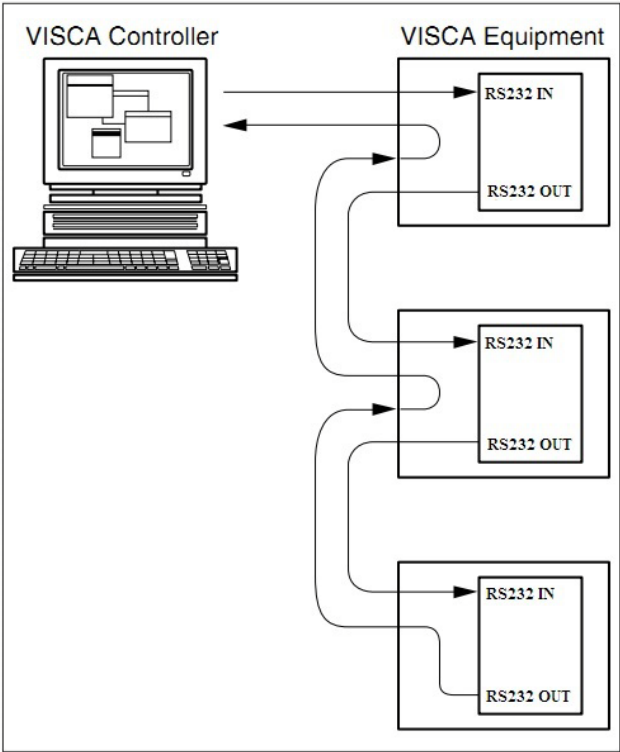[*]+[＃]+[8]: Look the camera version

[*]+[＃]+[9]: Quickly set up inversion

RS-232 Interface

Camera   Windows DB-9

1.DTR   1.CD
2.DSR   2.RXD
3.TXD   3.TXD
4.GND   4.DTR
5.RXD   5.GND
6.GND   6.DSR
7.IR OUT   7.RTS
8.NC   8.CTS
                       9.RI

No.	Function
1	DTR
2	DSR
3	TXD
4	GND
5	RXD
6	GND
7	IR OUT
8	NC

Camera   Mini DIN

1.DTR   1.DTR
2.DSR   2.DSR
3.TXD   3.TXD
4.GND   4.GND
5.RXD   5.RXD
6.GND   6.GND
7.IR OUT   7.NC
8.NC   8.NC

VISCA Network Configuration

Serial Communication Control

In default working mode, the camera is able to connect to a VISCA controller with RS232C serial interface.

➢ RS232 Communication Control:

The camera can be controlled via RS232 ,the parameters of RS232C are as follows:

Baud rate: 2400/4800/9600 bit/s.

Start bit: 1 bit.

Data bit: 8 bits.

Stop bit: 1bit.

Parity bit: none.

➢ RS485 Communication Control:

The camera can be controlled via RS485,Half-duplex mode:

Baud rate: 2400/4800/9600 bit/s.

Start bit: 1 bit.

Data bit: 8 bits.

Stop bit: 1bit.

Parity bit: none.

Pan-Tilt will rotate to the maximum position of top right after the camera started, then it return to the center, the process of initialization is finished. (Note: If the position preset 0 has been stored, the position preset 0 will be called up after initialization) Then the users can control the camera with commands in the command list.
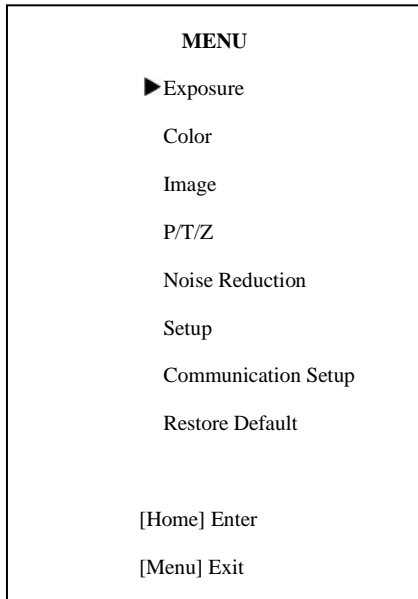
Command List

Ignore

Note:

The camera serial standard VISCA/Pelco-D/Pelco-P, if the need for the secondary development, According to standard protocol to control the camera. If you need VISCA/Pelco - D/Pelco - P protocol command list in detail, please contact the manufacturer.
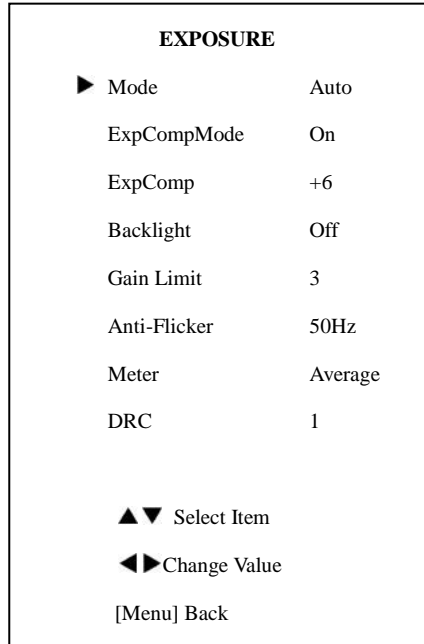
Menu Setting

1.MENU

Press [MENU] button to display the main menu on the normal screen, using arrow button to move the cursor to the item to be set. Press the [HOME] button to enter the corresponding sub-menu.

```
                   MENU
      ▶ Exposure
        Color
        Image
        P/T/Z
        Noise Reduction
        Setup
        Communication Setup
        Restore Default


        [Home] Enter
        [Menu] Exit
```

2. EXPOSURE

Move the cursor to the Exposure item in the main menu and press [home] button, EXPOSURE menu appears, as shown in the following figure.

```
                  EXPOSURE
   ▶  Mode              Auto
      ExpCompMode       On
      ExpComp           +6
      Backlight         Off
      Gain Limit        3
      Anti-Flicker      50Hz
      Meter             Average
      DRC               1


      ▲▼  Select Item
      ◀▶ Change Value
      [Menu] Back
```

Mode: Exposure mode. Optional items: Auto, Manual, SAE, AAE, Bright

ExpCompMode: Exposure compensation mode, Optional items: On, Off (Effective only inAutomode)

ExpComp: Exposure compensation value,

Optional items:-7 ~ 7(Effective only in ExpCompMode item to On)

Gain Limit: Maximum gain limit. Optional items: 0 ~ 15 (Effective only in Auto, AAE ,Bright mode)

Backlight: Set the backlight compensation, Optional items: On, Off (Effective only in Auto mode)

DRC: DRC strength, Optional items: 0 ~ 8.

Bright: Intensity control, Optional items:

00~17. (Effective only in Bright mode)

Anti-Flicker Flicker: Anti-flicker. Optional items: Off, 50Hz, 60Hz (Effective only in Auto, Bright mode)

Meter: Optional items: Average, Center, Bottom, Top

Iris: Aperture value. Optional items: F1.8, F2.0,F2.4,F2.8,F3.4,F4.0,F4.8,F5.6,F6.8,F8.0,F9.6 ,F11.0,Close（Effective only in Manual, AAE mode）

Shutt: Shutter value. Optional items: 1/30, 1/60,1/90,1/100,1/125,1/180,1/250,1/350,1/500,1/ 725,1/1000,1/1500,1/2000,1/3000,1/4000,1/6000, 1/10000 (Effective only in Manual, SAE mode)

```
                COLOR
  ▶ WB Mode        Auto
    RG Tuning      +6
    BG Tuning      +2
    Saturation     110%
    Hue            7
    AWB sens       Low


    ▲▼  Select Item
    ◀▶ Change Value
    [Menu] Back
```

3. COLOR

Move the cursor to the Color item in the main menu and press [home] button, COLOR menu appears, as shown in the following figure.

WB-Mode: White balance mode. Optional items: Auto, Indoor, Outdoor, Onepush, Manual

RG: Red gain. Optional items: 0~255（Effective only in Manual mode）

BG: Blue gain. Optional items: 0~255（Effective only in Manual mode）

RG Tuning: Red gain fine-tuning, Optional items: -10 ~ +10（Effective only in AWBsens is Low）

BG Tuning: Blue gain fine-tuning, Optional items: -10 ~ +10（Effective only in AWBsens is Low）

Sat.: Saturation. Optional items: 60% ~ 200%.

Hue: Chroma adjustment, Optional items:0 ~ 14

AWBsens: The white balance sensitivity,

Optional items: Normal, High, Low.

4. IMAGE

Move the cursor to the Image item in the main menu and press [home] button, IMAGE menu appears, as shown in the following figure.

```
                IMAGE

  ▶  Luminance        6

     Contrast         8

     Sharpness        4

     Flip-H           Off

     Flip-V           Off

     B&W-Mode         Off

     Gamma            Default

     Style            Q Style


        ▲▼  Select Item

        ◀▶ Change Value

       [Menu] Back
```
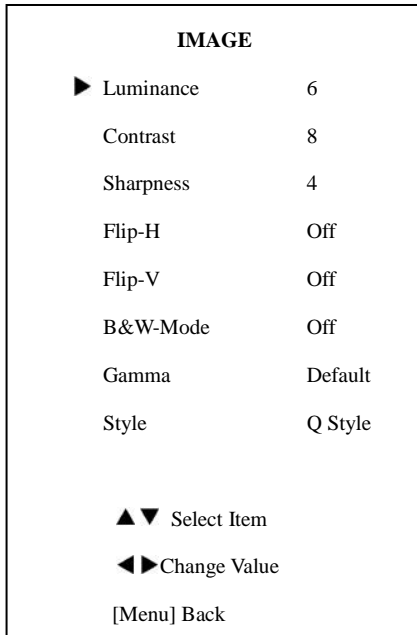
Luminance: Brightness adjustment. Optional items: 0 ~ 14

Contrast: Contrast adjustment. Optional items: 0 ~ 14

Sharpness: Sharpness adjustment. Optional items: Auto, 0 ~ 15

Flip-H: Image flipped horizontally. Optional items: On, Off.

Flip-V: Image Flip Vertical. Optional items: On, Off

B&W-Mode: Image color. Optional items: On, Off

Gamma: Optional items: Default, 0.45, 0.5, 0.56, 0.63

Style: Optional items: Norm, Clarity, Bright, Soft, 5Q, Q Style.

5.P/T/Z

```
                P/T/Z

  ▶  SpeedByZoom      On

     AF Zone          Center

     AF-Sense         High

     L/R Set          STD

     Display Info     On




        ▲▼  Select Item

        ◀▶ Change Value

       [Menu] Back
```
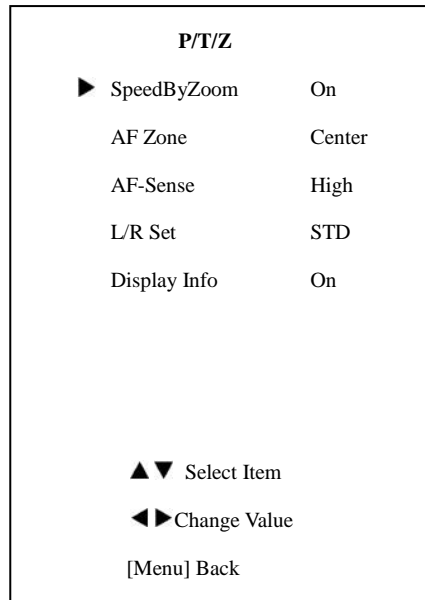
SpeedByZoom: The depth of field scale switch, Optional items: On, Off

AF-Zone: Interested in focusing area, Optional items: Top, Center, Bottom

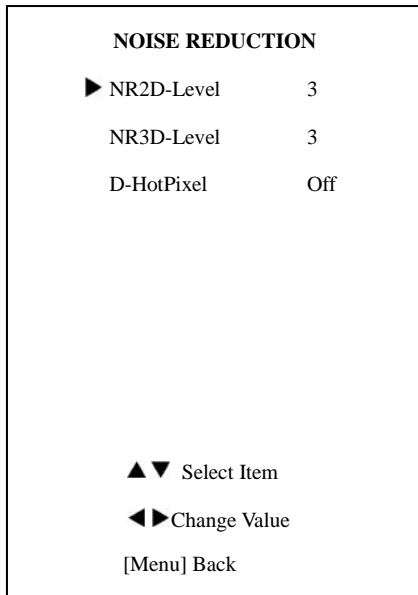AF-Sense: Automatic focusing sensitivity options, Optional items: Low, Normal, High

L/R Set: Optional items: STD, REV

Display Info Optional items: On, Off

6. NOISE REDUCTION

Move the cursor to the Noise Reduction item in the main menu and press [home] button, NOISE REDUCTION menu appears, as shown in the following figure.
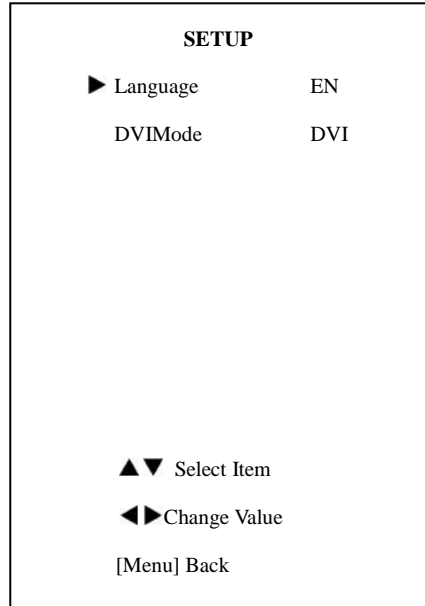
```
        NOISE REDUCTION

    ▶ NR2D-Level        3

      NR3D-Level        3

      D-HotPixel        Off






        ▲▼ Select Item

        ◀▶ Change Value

        [Menu] Back
```

NR2D-Level: 2D noise reduction. Optional items: Off, Auto, 1 ~ 5

NR3D-Level: 3D noise reduction. Optional items:　Off, 1 ~ 8

D-HotPixel: Dynamic bad points, Optional items: Off, 1 ~ 5

7. SETUP

Move the cursor to the Setup item in the main menu and press [home] button, SETUP menu appears, as shown in the following figure.

```
              SETUP

    ▶ Language          EN

      DVIMode           DVI







        ▲▼ Select Item

        ◀▶ Change Value

        [Menu] Back
```

Language: menu language, Optional items: EN, Chinese, Russian

DVI Mode, Optional items: DVI, HDMI

8. COMMUNICATION SETUP

Move the cursor to the Setup item in the main menu and press [home] button, COMMUNICATION SETUP menu appears, as shown in the following figure.

VC200-U User Manual

1. Speaker Grill

Use with functions of network audio and video on the computer, according to the software instructions for audio and video function, then you can network with each other.

2. Volume Up/Down control

In the process of conference call, can adjust the speaker volume through the volume switch.

3. Mute

In the process of conference call, mute the volume on the local, Please press the mute button, and the quiet light is lit up. Press the mute key again, the local stop mute, the quiet light is put out.

USB2.0

Camera support UVC protocol, USB2.0 output

USB2.0 support 960x540p/60 max output.

Support OS

Windows XP/2003/VISTA/7/8 and other system、Linux、Mac OS

General software

Windows: AMCAP, VLC, Debut Video Capture, etc.

Linux:V412 software driver and VLC media player, etc.

Mac OS: FaceTime. iChat, Photo Booth and Debut Video Capture, etc.

Notice:

Recommend making AMCAP version 8.0 in Windows, which software performance is more relatively stable. When using high version of AMCAP in low configuration system, it will make the stream rendering slow.

 NOTE!

When camera first time accessed by USB cable, automatically install UVC related drivers.

Maintenance and Troubleshooting

Camera Maintains

- If camera will not be used for a long time, please turn off the power switch, disconnect AC power cord of AC adaptor to the outlet.

- Use soft cloth or tissue to clean the camera cover.

- Please use the soft dry cloth to clean the lens. If the camera is very dirty, clean it with diluted neuter detergent. Do not use any type of solvents, which may damages the surface.

Unqualified Application

- No shooting extreme bright object for a long period of time, such as sunlight, light sources, etc.

- No operating in unstable lighting conditions, otherwise image will be flickering.

- No operating close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

Troubleshooting

Image

- No image

    1. Check whether the power cord is connected, voltage is OK, POWER lamp is light.

    2.Check whether the camera can self-test after startup.

    3. Check the BOTTOM switch and make sure the two switches are both set OFF.

    4. Check video cable is connected correctly.

- Abnormal display of image

    Check video cable is connected correctly.

- Image dithering even at widest zoom position

    1. Check whether camera is fixed correctly.

    2. Make sure if there are something like vibration machine or other things nearby.

Control

- IR remote controller cannot control the camera

    1. Change the battery

    2. Check the camera working mode.

    3. Check IR address of the Remote Commander is set correctly.

● Serial communication cannot control the camera

　1. Check the camera working mode.

　2. Check control cable is connected correctly.