Color Video Conference Camera

USER MANUAL

[redacted]

Thank you very much for using our color video conference camera. Please read this manual in detail anduse accordingly.

This manual introduce the function of video camera, opening and operation principle in detail.

This color video camera is high-quality and flexibility with a remote pan355° /tilt 120° operation and image flip, and DSP dealing integration module input. Support VISCA and PELCO P/D protocol.
Allowing install on the ceiling /desk and a accurate remote control of RS232/485.

[redacted]

In order to avoid camera and other connecting equipment damaged and lead to potential danger,

- please follow the rules as below:
- Only professional technician can install andmaintenance;
  Prohibit setting on the places which raining or dampness, using unit under stated temperature, humidity and power;
- Using accessories from original factory or allowed;
- Once exchange product or repair happen please use universal meter test before using;
- Please use soft anddry rag for cleaning, no strongly corrosive cleanser for avoiding mangled for outside of camera or lens;
- Take care using and no squeeze crust avoiding camera broken;
- Bracket must be endures 3 times weight of camera at least.

[redacted]

- 1080p full HD PTZ camera
- Pan 355° , Tilt 120°
- With the latest developed digital signal processor (DSP) improve the image quality of digital zoom
- Multi function IR remote controller can control PTZ, Lens and other function conveniently.
- Using PC to control camera with Sony VISCA or Pelco command
- IR remote controller, RS422C, RS232C and other control method
- 9 preset positions by remote controller, 200preset positions by PC or remote control unit, memory auto saved when power off
- The maximum speed of horizontal rotation:80° /s, Tilt:60° /s
- Providing multifunctional accurate remote control

Packing list

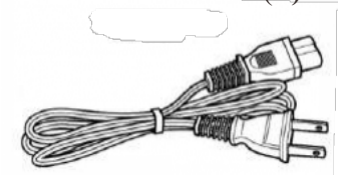
Please check up all devices inside while open package.

Video camera----------1
Power adapter----------1
Power cable ----------1
Rs232 cable----------1
Remote controller ---------1
HDMI wire----------1
USB wire----------1
Ceiling bracket ----------1

Video camera (1)

Power adapter (**1**)

Power cable (**1**)

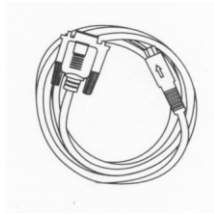


Remotecontroller(1)

HDMI wire (**1**)

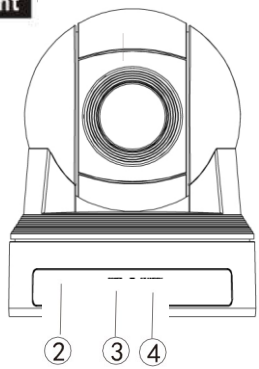
USB Wire **(1)**

RS232 cable (**1**)



G)

Front

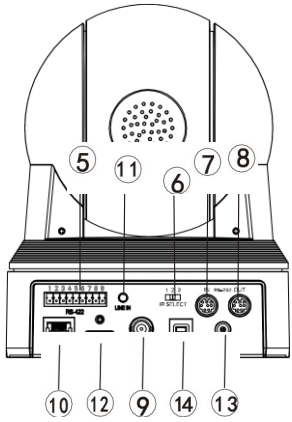


Lens

2 Sensor for the Remote Control

3 Power lamp

4 Standby lamp



5. RS-422C/485 VISCA/PELCO

6. IR select switch

7. VISCA RS-232C IN connector

8 VISCA RS-232C OUT connector

9 3G-SDI HD video output

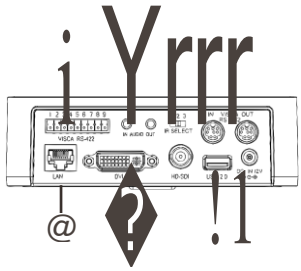
10 RJ-45 Network video output

11 Line-in

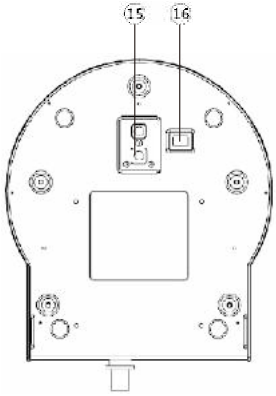
12 HDMI video output
DVI-I video output (trnasfer HDMI)

13 DC IN 12V input

14 USB video output



Bottom



15 British screw holes

16 VISCA RS-422/RS-232C BOTTOM switch
(See page 9 for details)

Remote Controller

0 CAMERA SELECT: (match to IR SELECT back)

f) FOCUS: (auto or manual)

8 MANU

0 BACK LIGHT

0 POWER

0 STD, REV: (Press L/RDIRECTION SET, and then Press 1 or 2)

f) POSITION: (Number area; PRESET: press PRESET then press 1-9 for set up preset position)

0 RESET: (Press RESET and then pressl-9 for eliminate preset position)

(i) ZOOM: (Telephoto or Wide Angle)

® PAN-TILT RESET

411 PAN-TILT ; HOME for return middle position

@ L/R DIRECTION SET

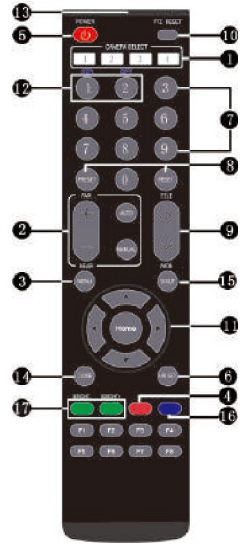
IR transmit

41) CLOSE THE MENU

C@ S-OUT: SWITCH TO 72OP5O

DATA-SCREEN: Switching color mode

(f) Brightness adjustment: bright - / bright+



Install diagram

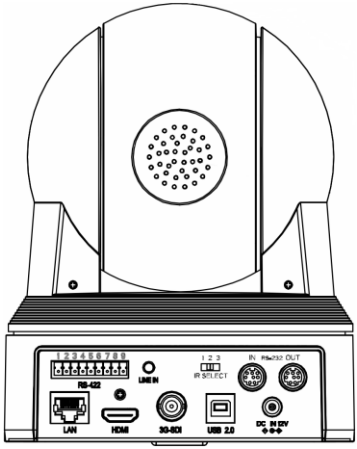
VISCA RS-422.

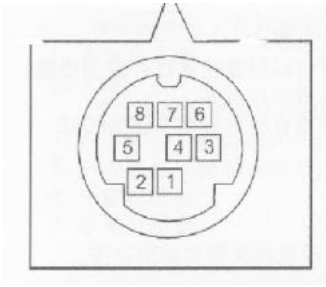
Pin 0.	Function
	TXD rN+
2	TXD IN-
3	RXD JN+(RS 485 -)
4	RXD IN- RS485+)
5	GND
6	TXD OUT+
7	TXD OUT-
8	RXD OUT+
9	RXD OUT-

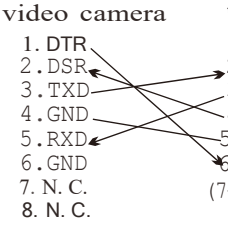
1 2 3 4 5 6 7 8 9

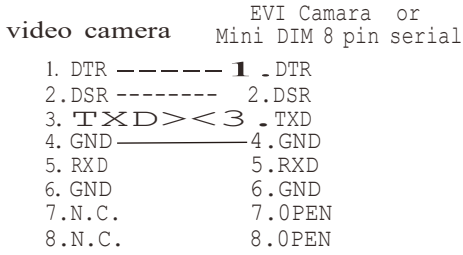
fNl€fuiIIIIP

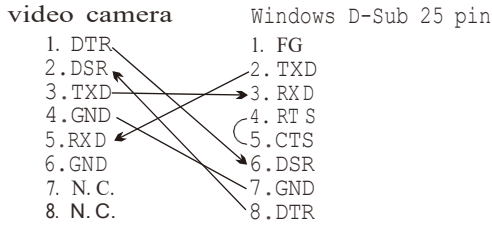
•RS-422 and RS-232 can not be used at the same time











NO	Pins	Signal
+ 1 +-	-TR--	<Data Transmission Ready(OUTPUT)
2	DSR	Data Set Ready (INPUT)
+-3--	~~TXD~~	Transmit Data(OUTPUT)
4	GND	Ground
5	RXD	Receive Data(INPUT)
6	GND	Ground
7	[[J;]N	o Connection
8	[[J;]N	o Connection

A. Pan/Ti lt control

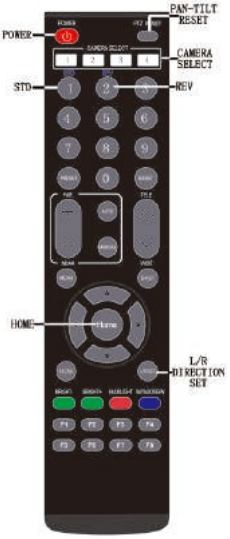
L Power on,Pan/Tilt will be in initial pos i ti on.

2, Press arrow for adjust direction, when you can watch video on screen, you can move direction by press arrow step by step or continuously for wild turning direction. If you want to fix direction, please press arrow (up or down) and arrow (left or right) at the same time.

3, Press HOME for front direction.

4, Press PAN-TILT RESET or turn off power and then turn on if direction is not you want, the direction will be change to initial position.

5, Press L/R DIRECTION SET and STD or REV at the same time, meanwhile, move right arrow, you can turn the direction to left or right.



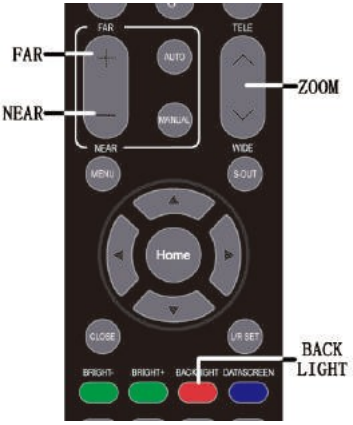
ATTENTION:

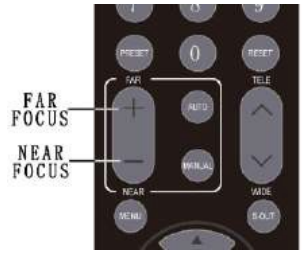
When you use more than one commander, please repeat operation accordingly.

B, Adjust Camera

FOCUS

- Press AUTO for focus auto
- Press MANUAL and then adjust far or near by switch FAR OR NEAR



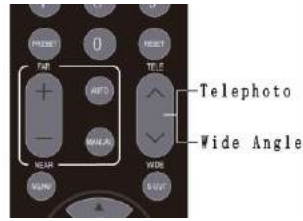


ATTENTION:

In the condition of far focus, it is natural for the image twitter slowly when operate pan/tilt.

ZOOM

Adjust T and W for zoom far or near



One Remote controller for operating few cameras

L Maximum 3 cameras can be controlled by a remote controller through back switch 1, 2, 3.

2,Press CAMERA SELECT 1 or 2 or 3, you can control each of matching 1, 2, 3 camera, 1 or 2 or 3 button willbe lighted.

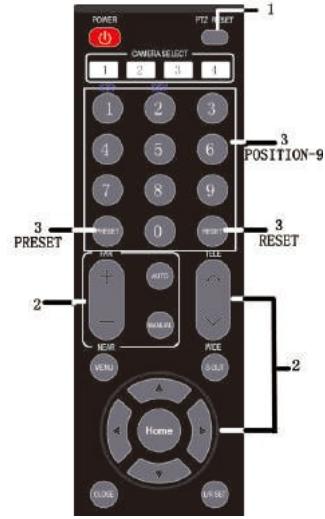
Use back light compensation

If there is lighting on the back of focusing object, the object will be looks black. So you can press BACK LIGHT for avoiding this happening, and turn off button for close.

C, Preset Position Operation

Store camera settings-presets

Up to 200 presets can be set (location, zoom, focus, and the background light)
By remote controller only can set and calling 9 preset positions.
Through a user-defined protocol Over 200 presets that can be set.



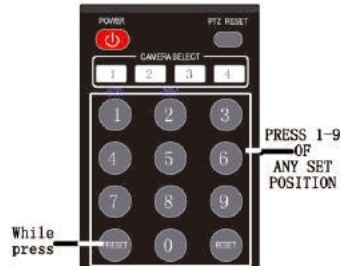
1, Recognizes that the STANDBY led is not blinking.
If the STANDBY indicator is flashing, press PAN-TILT RESET to restored

2, Adjust the camera position, zoom, focus, and the background light.

3, Press and hold the PRESET button, then press one of the POSITIONl-9.

Use preset position

Press any switch of 1-9 position



Cancel preset position

Press RESET, then press **1-9** simultaneously

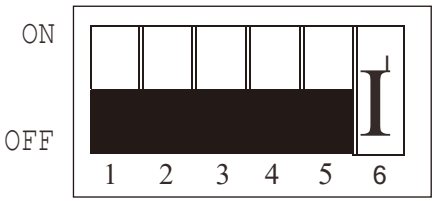
Attention

If a POSITION is storing or deleting a new set, cannot be called in the channel, set or unset.

[redacted]

Normal set or ceiling set
RS232 RS422/485 selection
the remainder being reserved switch

BOTTOM SWITCH



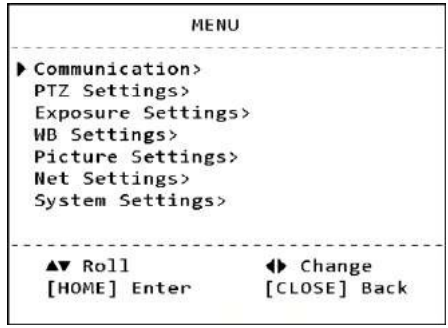
BottmoSwitch	ontrol Selection
1	NC
ON	NC
OFF	NC
2	NC
ON	NC
OFF	NC
3	Upgrade mode
ON	ON
OFF	OFF
4	NC
ON	NC
OFF	NC
5	Install method
ON	Ceiling install
OFF	Normal install
6	NC
ON	NC
OFF	NC

Note:
The third bottom switch is for upgrade, do not keep it on while using.

Communication
This option can set protocol, address, baud rate, speed scale, speed limit when the camera is communicating through serial port.

PTZ settings
This option can set PTZ related functions, including digital zoom, focus mode, remote speed, pan direction, tilt direction, filp and mirror.

Exposure settings
This option can set exposure mode including full auto exposure, manual exposure, shutter priority, iris priority, bright priority, etc.



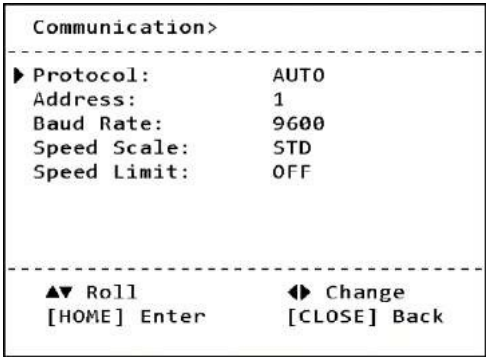
White balance settings
This option can set white balance mode including auto, manual, indoor, outdoor, one push, ATW, etc.

Picture Settings
This option allows you to set image effects, including 2D/3D noise reduction, contrast, chroma, acutance, gamma, wide dynamic range, defog, anti flicker, etc.

Network information
This option can set network information of camera, including DHCP on/off. When the DHCP is off, we can edit camera IP address, mask, gateway by using "0-9" of the IR remote controller.

System setting
This option can set camera resolution, reload preset l, RS485 search function, language, check current version and back to factory setting.

1. Communication



Communication Sub menu

Protocol: can set auto/visca/pelco-p/pelco-d

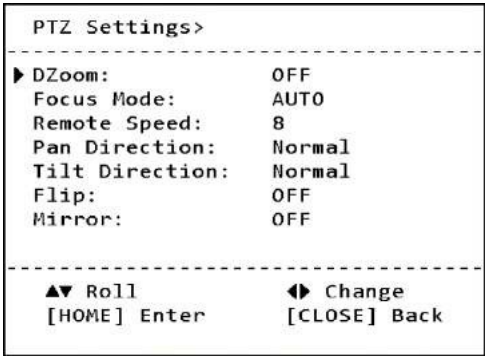
Address: can set camera serial communication address

Baud rate: canset serial communication baud rate, 2400/4800/9600/19200/38400/115200

Speed scale: can set speed range of PTZ (only take effect when using serial communication), standard/expand

Speed limit: can set on/ off of pan tilt speed and lens magnification linkage

2. PTZ settings



PTZ settings Submenu

DZoom: on / off

Focus mode: auto/manual

Remote speed: PTZ speed 1-16 (only take effect when using IR remote controller)

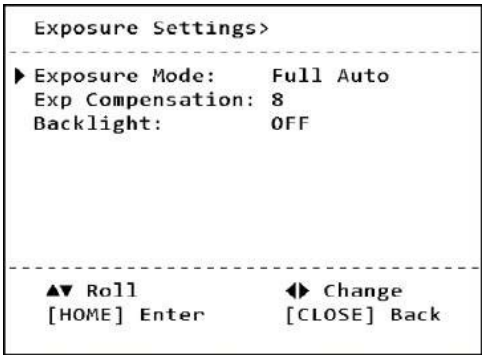
Pandirection: can set pan direction normal / reverse

Tilt direction: can set pan direction normal / reverse

Flip: can set image flip

Mirror: can set image mirroring

3.Exposure settings



Exposure settings Sub menu

Full auto: exposure compensation can be adjustable in autom od e , 0-15
Backl ight can be adjustable in auto mode, open/off

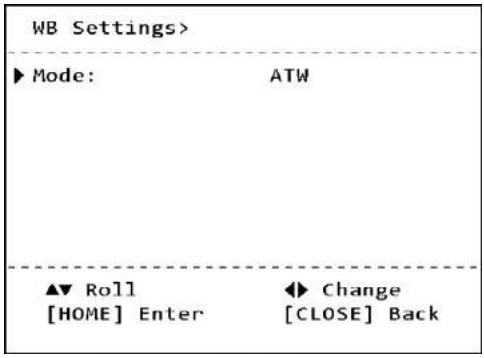
Iris pri: iris value can be adjustable in iris priority mode, Close-1/1. 8
exposure compensation can be adjustable in auto mode, 0-15
Backl ight can be adjustable in auto mode, open/off

Shutter pri: shutter value can be adjustable in shutter priority mode, 1/1-1/l0K
exposure compensation can be adjustable in auto mode, 0-15
Backl ight can be adjustable in auto mode, open/off

Bright pri: bright value can be adjustable in bright priority mode, 0-27

Manual: exposure compensation can be adjustable in manual mode, 0-15
iris value can be adjustable in manual mode, Close-1/1. 8
shutter value can be adjustable in manual mode, 1/ 1- 1/ 10K

4.White balance settings

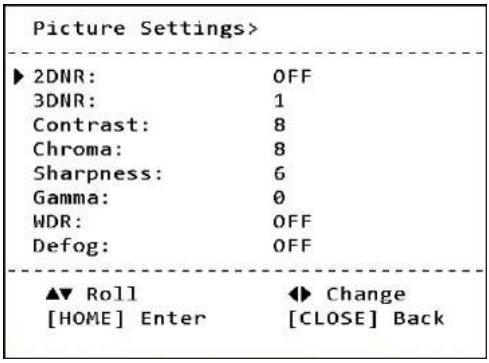


White balance settings Submenu

White balance mode: auto, manual, indoor, outdoor, one push,ATW

Manual mode:
red gain is adjustable, 0- 255
blue gain is adjustable, 0-255

Settings



Picture Settings Submenu

2DNR: 2D noise reduction, open/off

3DNR: 3D noise reduction, off / 1- 5

Contrast: can set image contrast,0-15

Chroma: can set image color saturation, 0-15

Acutance: can set image sharpness value, 0-15

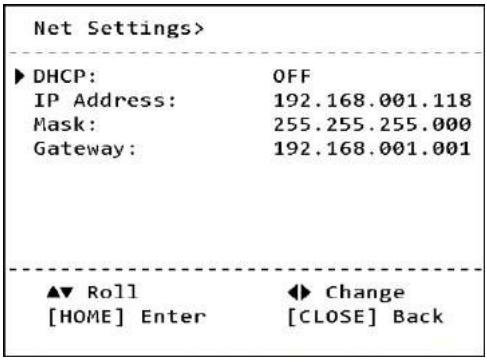
Gamma: can set image gamma, 0-4

WDR: can set wide dynamic range, off/1-6

Defog: can set defog level, off/1-15

Flicker: anti flicker frequency, off/50hz/60hz

6.Network **information**

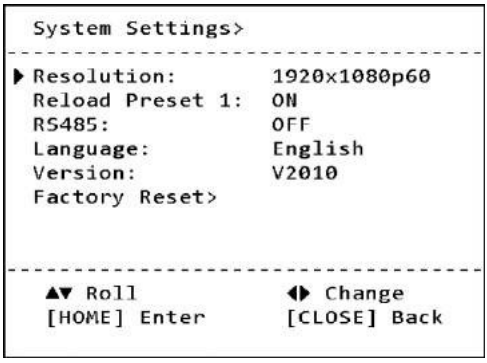


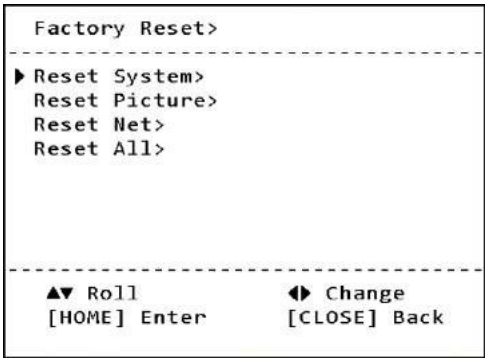
Network information Sub menu

Can check network information of camera.

Can manually edit camera IP address, mask, gateway by using "0-9" of the IR remote controller when DHCP is off.

7. System setting





System setting Sub menu

Resolution: can set
1080p50 / 60 / 59. 94,
1080i 60 / 59. 94 / 50,
1080p30 / 29. 97 / 25,
720 p60 / 50

Reload preset **1:** on/off, if preset position **1** is set for the camera, can set to call the preset position **1** function automatically after powering on,

Rs485: RS485 search function, on/off

Language: can set menu language, simplified Chinese/traditional Chinese/English

Version: current version of the camera, can be used for manufacturer to confirm the version information, without special functions

Factory reset:
Reset system, restore only parameter values except image and network parameters to factory default values
Reset picture, restore image parameter value to the factory default value
Reset Net, restore network parameter value to the factory default value
Reset all, restore all parameter values to factory defaults

[redacted]

Direct connection mode: Connect the camera directly to the computer with a network cable.

Network connection mode: Connect the camera to the Internet network, and access the network through a router or switch. Users can log in to the device through the browser.

The computer must have the network segment where the camera IP is located. If the network segment is not added, you will not be able to log in. If the default IP address of the camera is 192.168.1.118, you need to add **1** network segment to the computer. The specific method is as follows:

First open the computer network local connection properties window, select ninternet Protocol Version 4 (TCP/ IPv4)n double click or click the property ninternet Protocol Version 4 (TCP/ IPv4) *n,* enter the properties window, click nAdvancedn to enter advanced TCP/ IP Set the IP address and subnet mask in the IP address field. After the addition is complete, click **OK** to complete the IP network segment addition. Users can add corresponding network segments according to their modified camera IP address.

[redacted]

WEB login:

Enter the device IP address in the browser address bar to default to 192. 168. **1. 118,** and press Enter to enter the web client login interface. Enter admin in the [User Name] field, enter admin in the [Password] field, andpass the verification to enter the background preview interface.

Language selection: Select the language icon in the upper right corner of the login interface, click to select the web interface language type.

[redacted]

Image preview
After logging in successfully, enter the management interface. The default is to enter the video preview interface. On the left side of the preview interface, the image preview area, you can click to output the main stream, sub-stream, and the display ratio of the screen output (16:9 & 4:3) and full-screen display function.

PTZ control:
On the right side of the preview interface, the PTZ control area can specifically implement the following functions:
The gimbal rotates upward, the gimbal rotates downward, the gimbal turns to the left, thegimbal rotates to the right, the gimbal restores the initial center position, the lens zooms out, the lens zooms in and the preset position number is set. Number 0 starts counting, which is preset position 1; saves the preset position currently set; deletes the corresponding preset position; calls the corresponding preset position.

[redacted]

Click "Settings" in the upper right corner to enter the software parameter configuration interface. There are mainly the following options: video configuration, network configuration, system configuration, etc.

Video configuration
1), video coding
Encoding mode: Set the video compression format. The default primary/secondary stream compression format is H. 264/H. 265.
Stream: Set different video output modes and use different streams. Contains primary and secondary streams. The primary stream is optional 1920*1080, 1280*720, and the secondary stream is optional 1280*720, 1024*576, 640*360.

Configuration
Rate (Kb/s): Set the video bit rate (the default stream is 4096Kb/s; the default stream is 2048Kb/s; 0-15360Kb/s is optional)
Frame rate: set the video frame rate, the default frame rate is 30frames
Rate Control: Set the stream control mode, the primary/secondary stream default variable bit rate (CBR), support for selectable bit rate (VBR)
I frame interval: set the keyframe interval, the primary/secondary stream defaults to 30, 1-100 is optional.

Image parameter

The image parameter interface allows you to make the following adjustments to the image effects:
Focus: You can set the focus mode, focus distance, digital zoom on and off
Exposure: Set exposure mode, shutter speed, anti-flicker, gain, aperture and brightness
White balance: white balance mode, red and blue gain effect can be set
Image: can set mirror, flip, backlight compensation, gamma curve, wide dynamic and other functions
Picture quality: can set the screen brightness, sharpness, contrast, saturation andother functions
Noise reduction: can be set to enable 2D noise reduction, 3D noise reduction

Audio setting

The audio set t i ng interface can adjust the following parameters on audio:
Audio encode: audio function can be set, on / off
Audio type: set audio format, AAC
Sampling: set audio sampling rate, 22050/32000/44100/48000
Coderate (Kbps): set the audio code rate, 32/48/96/128
Save: After the audio parameters are modified, click "Save" button to save the modified parameters, the web interface will prompt accordingly

RTMP setting:

The RTMP setting interface canadjust the following parameters on RTMP:
RTMP state: control switch of main stream, on / off
control switch of sub-stream, on / off
Main RTMP address: fill inthelive data upload address of the live platform in this column (e.g. fill intheYoutube RTMP address,rtmp://a. rtmp. youtube. com/live2/y4f7-rgmc-bzer-0vs2), which means the main stream is used to stream on Youtube live platform;
Sub stream RTMP address: fill inthelive data upload address of the live platform in this column (e.g. fill intheYoutube RTMP address,rtmp://a. rtmp. youtube. com/live2/y4f7-rgmc-bzer-0vs2), which means the sub stream is used to stream on the Youtube live platform;
§ave: ,,after the RTMP streaming parameters are modified, click Save button to save the modified parameters, the web interface will prompt accordingly

Network Configuration

Ethernet parameters

DHCP: Set whether to enable automatic IP acquisition. Close by default
IP address: Set the IP address. The default is 192. 168. 1. 118, where IP is the address of the login web page.
Subnet mask: Set the subnet mask (default is 255. 255. 255. 0)
Default Gateway: Set the default gateway (default is 192. 168. 1. 1)
HTTP port: set the HTTP port, the default is 80
Web port: Set the web port, the default is 6087
Main stream port: Set the main stream video acquisition port. The default is 554.
Secondary stream port: Set the secondary stream video acquisition port. The default is 554.

System Configuration

Version upgrade: The page displays version information, which can only be read by the user and cannot be modified.

File upgrade: Click the upgrade icon, in the pop-up window, select the upgrade f i 1e; c1 i ck Upload upgrade, after the upgrade is successful, the device automatically restarts. Note: Ensure that the power and network of the device are properly connected during the upgrade process, otherwise the upgrade wi11 fai 1.

Restore factory: You can select "Simple Recovery" to reset the image parameters, select "Full Recovery" to reset andrestart all parameters, and select "Restart" to restart the device directly.

Account setting: You can modify the user name and password of the login management account. After modification, you need to restart andlog in again.

Technical parameter

Image Sensor	1/2.8″ Progressive CMOS	
Effective Pixels	3.1Megapixels	3.5Megapixels
Resolution HD	1080p60/50/59.94,1080p30/25/29.97,1080i60/50/59.94,720p60/50	
Signal	PAL/NTSC	
Lens	12X optical zoom	20X optical zoom
Foci	f=3.9mm(W)～46.8 mm(T)	f=4.7mm(W)～94.0 mm(T)
Horizontal View Angle	72.5° (W)～23.9° (T)	58.7° (W)～3.2° (T)
Focus System	Auto/Manual	
Minimum Illumination	0.1Lux	
Exposure Control	Auto/Manual	
Shutter	1/1～1/10000s	
Gain	Auto/Manual	
White Balance	Auto/Indoor/Outdoor/Manual	
Image Effect	Full color/black and white/image flip	
S/N Ratio	≥50db	
Pan	355° (max.speed:80° /s)	
Tilt	-30° to +90° (max.speed:60° /s)	
Video Output HD	HDMI/3G-SDI/USB 2.0/RJ-45	
Power	12V DC(10.8～13.0V DC)	
Control protocol	SONY VISCA、PELCO P/D	
Network protocol	VISCA over IP、 RTSP、RTMP、ONVIF; NDI (optional)	
Control Mode	RS-232C、RS-422/485、USB Control	
Accessories	DC 12V power adapter, IR Remote, Operation manual, RS-232C Cable,HDMI cable, USB cable, Ceiling bracket	

Technical parameter

Image Sensor	1/2.5″ Exmor CMOS	1/2.8″ Exmor CMOS
Effective Pixels	4.0Megapixels	2.14Megapixels
Resolution HD	1080p60/50/59.94,1080p30/25/29.97,1080i60/50/59.94,720p60/50	
Signal	PAL/NTSC	
Lens	20X optical zoom	30X optical zoom
Foci	f=4.7mm(W)～94.0mm(T)	f=4.3mm(W)～129.0mm(T)
Horizontal View Angle	59.5° (W)～3.3° (T)	63.7° (W)～2.3° (T)
Focus System	Auto/Manual	
Minimum Illumination	0.4Lux	0.35Lux
Exposure Control	Auto/Manual	
Shutter	1/1～1/10000s	
Gain	Auto/Manual	
White Balance	Auto/Indoor/Outdoor/Manual	
Image Effect	Full color/black and white/image flip	
S/N Ratio	≥50db	
Pan	355° (max.speed:80° /s)	
Tilt	-30° to +90° (max.speed:60° /s)	
Video Output HD	HDMI/3G-SDI	
Power	12V DC(10.8～13.0V DC)	
Control protocol	SONY VISCA、PELCO P/D	
Control Mode	RS-232C、RS-422/485、USB Control	
Accessories	DC 12V power adapter, IR Remote, Operation manual, RS-232C Cable, HDMI cable, USB cable, Ceiling bracket	