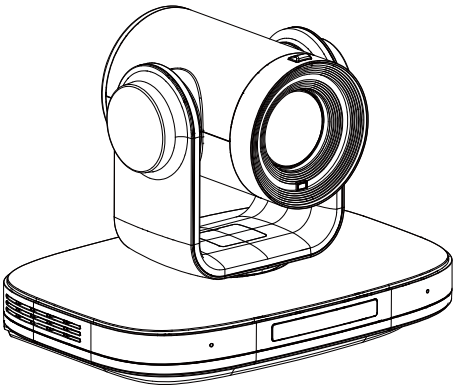
ClearTouch

4K Video Conference Camera



RL500 User Manual

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Warning

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

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1 Note

- **Electric Safety**

Installation and operation must accord with electric safety standards.

- **Use Caution to Transport**

Avoid harsh impact, vibration, or excess moisture in transport, storage and installation.

- **Polarity of Power Supply**

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



- **Installation Precautions**

Do not grasp the camera lens when carrying it. Touching the camera lens by hand may cause mechanical damage.

Do not allow contact with a corrosive liquid, gas, or solid to avoid damage. Make sure no obstacle blocks the rotation range.

Avoid powering on before all connections have been made.

- **Do not Dismantle the Camera**

We are not responsible for any unauthorized modification or dismantling.

Warning

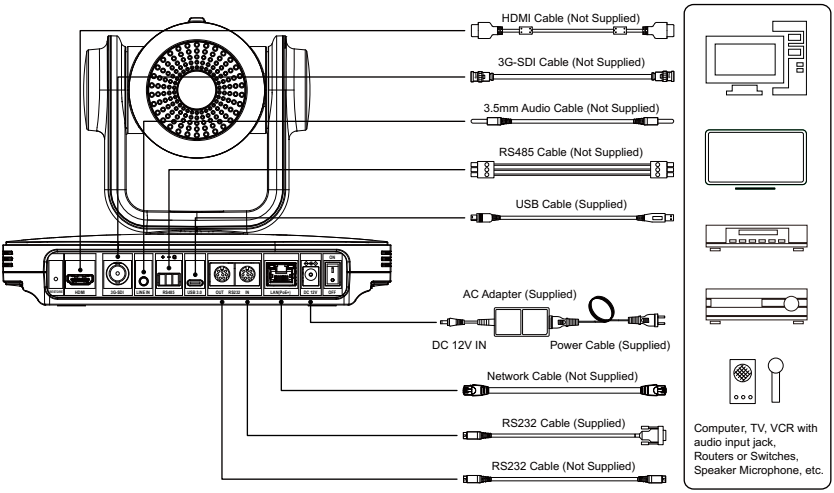
Specific frequencies of electromagnetic field may affect the image of the camera!

2 Packing List

Name	Quantity
Camera	1
Remote Control	1
Power Adapter	1
Power Cable	1
RS232 Cable	1
Type-C Cable	1
User Manual	1

3 Quick Start

1) Please check cable connections before powering on the camera.



2) Connect the power adapter to the power connector on the rear panel of the camera. A power indicator will appear on the front panel of the camera.
3) After the camera is powered on, it will run through a startup sequence which includes going up and down as well as side to side to the max of each focal point.(Note: If preset 0 is saved, PTZ will be moved to preset 0)

4 About Product

4.1 Features

- **AI Intelligent Tracking**

The built-in AI processor, using deep learning technology to use human shape features, no matter the direction of the face, can achieve smooth automatic tracking of human shape. This is helpful for automatic target tracking in lectures, teaching, and other presentation scenes.

- **4K Ultra HD**

With a new generation of SONY 1/1.8-inch, maximum 8.42 million pixels high-quality UHD CMOS sensor, 4K (3840x2160) ultra-high resolution images are available. The camera is backward compatible with 1080P, 720P and other resolutions.

- **60° Wide-angle Lens + 20x Optical Zoom**

Exclusively customized high-quality ultra-high resolution 4K super wide-angle lens, 20x optical zoom, and a horizontal FOV up to 60°.

- **HDMI 2.0**

Supports HDMI 2.0. Can directly output 4KP60 uncompressed digital video.

- **Low Light**

The application of 3D digital noise reduction algorithm greatly reduces image noise. Even under the conditions of ultra-low illumination, it will keep the picture clean and clear, and the SNR of image is as high as 55dB.

- **Multiple Interfaces**

Supports HDMI 2.0 FHD output and 3G-SDI interface. Effective transmission distance up to 150 meters (1080P30).

- **Remote Control**

Through the RS232 and RS485 serial ports, the camera can be controlled remotely.

- **Intelligent Exposure**

Effectively solve the impact of projection, TV and other equipment on the people who are photographing.

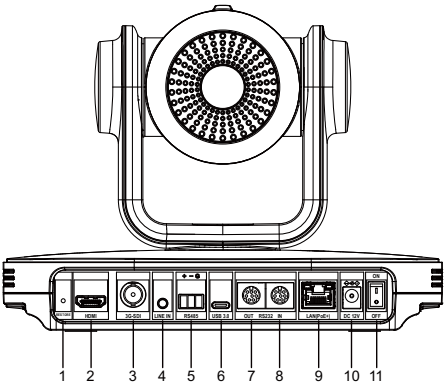
4.2 Product Specification

Camera	
Signal System	**HDMI:** 4KP25, 4KP30, 4KP50, 4KP60, 4KP59.94, 4KP29.97, 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 1080I29.97, 720P25, 720P30, 720P50, 720P60 **3G-SDI:** 1080P25, 1080P30, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 1080I29.97, 720P50, 720P60
Sensor	1/1.8 inch, CMOS, Max Effective Pixel: 8.42M
Scanning Mode	Progressive
Lens	20x, f = 6.25mm ~ 125mm, F1.58 ~ F3.95
Digital Zoom	16x
Minimum 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	3D Digital Noise Reduction
Signal Noise Ratio	≥55dB
Horizontal Angle of View	60° ~ 3.5°
Vertical Angle of View	35.7° ~ 2.0°
Horizontal Rotation Range	±162.5°
Vertical Rotation Range	-30° ~ +90°
Pan Speed Range	1.7°/s ~ 80.6°/s
Vertical Rotation Speed Range	0.7°/s ~ 24.8°/s
H & V Flip	Support
Image Freeze	Support
Number of Preset	255
Preset Accuracy	0.1°
USB Features	
Operate System	Windows 7/8/10, Mac OS X, Linux, Android
Color System / Compression	YUY2 / MJPEG / H.264 / H.265
Video Format	● YUY2: max to 1080P@30fps ● H.264 AVC/SVC: max to 2160P@60fps ● H.265 SVC: max to 2160P@30fps ● MJPEG: max to 2160P@30fps
USB Audio	Support
USB Video Protocol	UVC 1.1 ~ 1.5
UVC PTZ	Support
Network Features	
Video Compression	H.264/H.265/MJPEG
Video Stream	First Stream, Second Stream
First Stream Resolution	3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360
Second Stream Resolution	720x480, 720x408, 640x480, 640x360, 480x320, 320x240
Bit Rate Control	CBR, VBR
Frame Rate	50Hz: 1fps ~ 50fps, 60Hz: 1fps ~ 60fps
Audio Compression	G711A, AAC
Audio Bit Rate	64K, 96K, 128K
Protocols	NDI®|HX, TCP/IP, HTTP, RTSP, RTMP(S), ONVIF, DHCP, SRT, Multicast, etc.
Interface / Indicator	
LINE IN Interface	1 x LINE IN: 3.5mm Audio Interface
Communication Interface	1 x RS485: 3pin phoenix port, Max Distance: 1200m, Protocol: VISCA / Pelco-D / Pelco-P 1 x RS232 OUT: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA network use only 1 x RS232 IN: 8pin Min DIN, Max Distance: 30m, Protocol: VISCA / Pelco-D / Pelco-P
HDMI Interface	1 x HDMI: Version 2.0
LAN(PoE+) Interface	1 x RJ45: 10/100/1000M Adaptive Ethernet Port. It supports PoE+
USB Interface	1 x USB 3.0: Type-C
3G-SDI Interface	1 x 3G-SDI: BNC type, 800mVp-p, 75Ω. Along to SMPTE 424M standard
RESTORE Button	1 x RESTORE Button
Power Jack	JEITA type (DC IN 12V)
TALLY Indicator	1 x TALLY Indicator
Power Indicator	1 x Power Indicator
Status Indicator	1 x Status Indicator
Display Screen	1 x Display Screen
Power Switch	1 x Power Switch

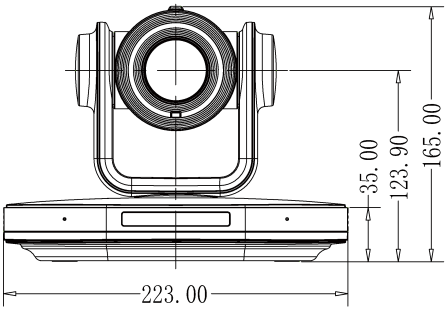
General Parameter	
Input Voltage	DC 12V / PoE+(802.3at)
Operating Temperature	0°C ~ 40°C
Storage Temperature	-40°C ~ 60°C
Power Consumption	18W (Max)
Size	223 x 154.8 x 165 (mm)
Net Weight	1.8Kg

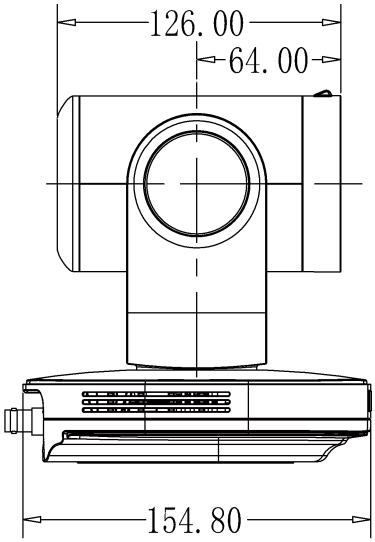
4.3 Interfaces and Buttons

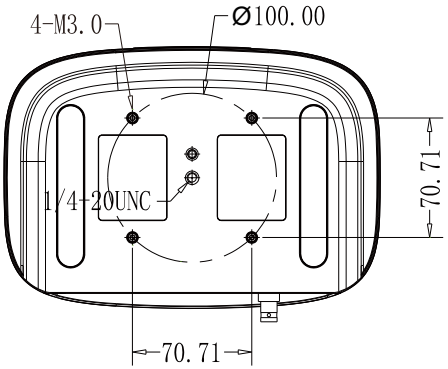


Item	Name
1	RESTORE Button
2	HDMI Interface
3	3G-SDI Interface
4	LINE IN Interface
5	RS485 Interface
6	USB 3.0 Interface
7	RS232 OUT Interface
8	RS232 IN Interface
9	LAN(PoE+) Interface
10	DC 12V Interface
11	ON/OFF Button

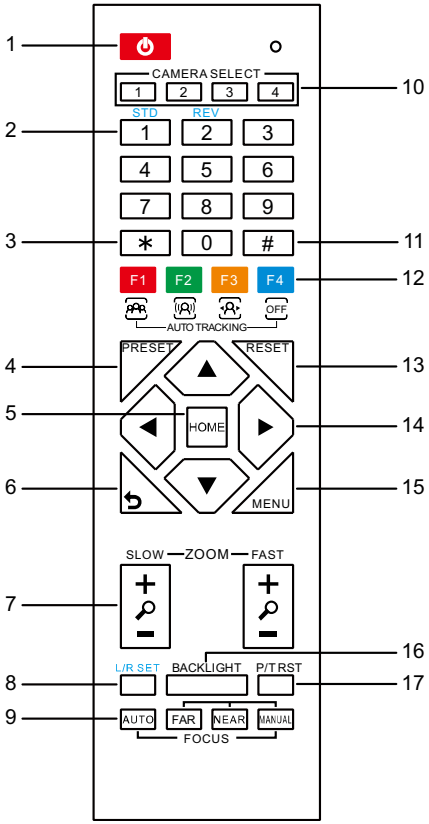
4.4 Dimensions







4.5 Remote Control



Key Description
1. Standby Key
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. Number Key
To set preset or call preset.
3. *Key
Used in conjunction with other buttons.
4. Preset Key
Set preset: Store a preset position. [PRESET] + Numeric button (0-9): Sets a corresponding numeric key preset position.
5. HOME Key
Confirm menu selection or return the PTZ back to the middle (home) position
6. Return Key
Return to the last level menu
7. Zoom Key
Slow: Zoom In [+] or Zoom Out [-] slowly Fast: Zoom In [+] or Zoom Out [-] quickly
8. Left/Right Setting Key
Press with 1 button and 2 button setting the direction of the Pan-Tilt. ● Simultaneously press L/R Set + 1[STD]: set the Pan-Tilt turn the same direction as the L/R Set. ● Simultaneously press L/R Set + 2[REV]: set the Pan-Tilt turn the opposite direction as the L/R Set.
9. Focus Key
Used for focus adjustment. Press [AUTO] adjust the focuses on the center of the object automatically. Press [MANUAL] adjust the focus on the center of the object manually. MANUAL button and adjust it with [Far] (Focus on far object) and [NEAR] (Focus on near object).
10. Selection Key
Select the number for control of the camera (same remote can control up to 4 cameras).
11. #Key
Used in conjunction with other buttons.
12. Auto Tracking Key
[F1]: Not enabled [F2]: Not enabled [F3]: Start AI Intelligent Tracking [F4]: Stop AI Intelligent Tracking
13. Reset Key
Clear preset: Erase a preset position. [RESET] + Numeric button (0-9) Or: [*]+[#]+[RESET]: Erase all the preset individually.
14. PTZ Control Key
Press arrow buttons to perform panning and tilting. Press [HOME] button to face the camera back to middle/home position.
15. Menu Key
MENU: enter or exit OSD MENU.

16. Backlight Key

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

17. PTZ Reset Key

Preset Pan/Tilt self-test.

Image Freezing Function

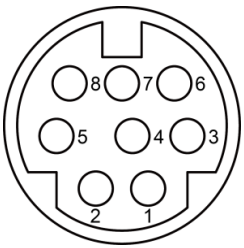
Manually freeze: Open the freezing function after pressing [*]+[#]+[2] on the remote control, a “Freeze” message will appear on the left upper corner. It will disappear after five seconds. If you want to cancel the freeze, press [*]+[#]+[2] key and then picture can return to normal. An “Unfreeze” message will appear on the left upper corner It will disappear after five seconds.

Recalling the Preset image Freeze: From the OSD Menu, select “Image Freeze” to set 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.

Shortcut Set

[*]+[＃]+[1]: OSD menu default English
[*]+[＃]+[3]: OSD menu default Chinese
[*]+[＃]+[4]: Display current IP address
[*]+[＃]+[6]: Quickly recover the default
[*]+[＃]+[8]: View the camera version
[*]+[＃]+[9]: Quickly set up inversion
[*]+[＃]+[MANUAL]: Restore default IP address

4.6 RS232 Interface



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

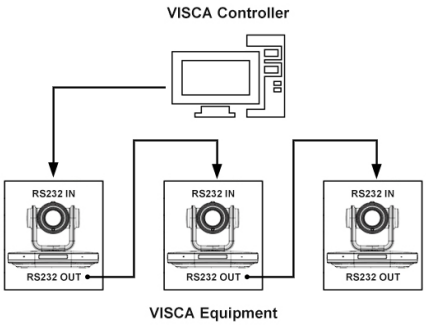
The correspondence between the camera and Windows DB-9 pin:

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

The correspondence between the camera and the Mini DIN pin:

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

4.7 VISCA Network



4.8 Serial Communication Control

- **RS232 Communication Control**

The camera is controlled via RS232. The RS232 serial port parameters are as follows:
Baud rate: 2400/4800/9600/38400;
Starting Position: 1 bit
Data bit: 8 bits
Stop bit: 1 bit
Check digit: None

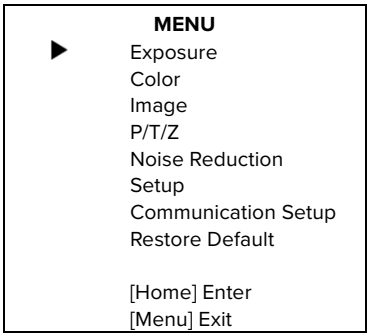
- **RS485 Communication Control**

Control camera via RS485, half duplex mode:
Baud rate: 2400/4800/9600/38400;
Starting position: 1 bit
Data bit: 8 bits
Stop bit: 1 bit
Check digit: None

5 GUI Settings

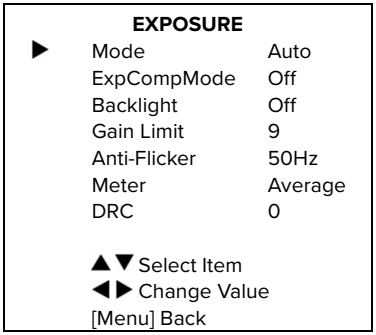
5.1 MENU

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



5.2 EXPOSURE

Move the main menu cursor to [Exposure], and press [HOME] to enter the exposure page, as shown in the following figure:



Mode: Auto, Manual, SAE, AAE, Bright.
ExpCompMode: On, Off (Effective only in Auto mode).
ExpComp: -7 ~ 7 (Effective only in ExpCompMode item to On).
Backlight: On, Off (Effective only in Auto mode).
Bright: 0 ~ 17 (Effective only in Bright mode).
Gain Limit: 0 ~ 15 (Effective only in Auto, SAE, AAE, Bright mode).
Anti-Flicker: Off, 50Hz, 60Hz (Effective only in Auto, AAE, Bright mode).
Meter: Average, Center, Smart, Top.
Iris: 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).
Shutter: 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).
Gain: 0 ~ 7 (Effective only in Manual mode).
DRC: 0 ~ 8.

5.3 COLOR

Move the main menu cursor to [Color], and press [HOME] to enter the color page, as shown in the following figure:

COLOR		
▶	WB Mode	Auto
	RG Tuning	0
	BG Tuning	0
	Saturation	100%
	Hue	7

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

WB-Mode: Auto, Indoor, Outdoor, One Push, Manual.
RG Tuning: -10 ~ +10 (Effective only in Auto mode).
BG Tuning: -10 ~ +10 (Effective only in Auto mode).
Saturation: 60% ~ 200%.
Hue: -10 ~ +10.
RG: 0 ~ 255 (Effective only in Manual mode).
BG: 0 ~ 255 (Effective only in Manual mode).

5.4 IMAGE

Move the main menu cursor to [Image], and press [HOME] to enter the image page, as shown in the following figure.

IMAGE		
▶	Luminance	7
	Contrast	7
	Sharpness	6
	Flip-H	Off
	Flip-V	Off
	B&W-Mode	Off
	Style	Default

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

Luminance: 0 ~ 14.
Contrast: 0 ~ 14.
Sharpness: Auto, 0 ~ 15.
Flip-H: On, Off.
Flip-V: On, Off.
B&W-Mode: On, Off.
Style: Default, Norm, Bright, PC.

5.5 P/T/Z

Move the main menu cursor to [P/T/Z], and press [HOME] to enter the P/T/Z page, as shown in the following figure:

P/T/Z		
▶	SpeedByZoom	On
	AF-Zone	Front
	AF-Sense	High
	L/R Set	STD
	Display Info	On
	Image Freeze	Off
	Digital Zoom	Off
	Call Preset Speed	24
	Pre Zoom Speed	5

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

SpeedByZoom: On, Off.
AF-Zone: Front, Top, Center, Bottom.
AF-Sense: Low, Normal, High.
L/R Set: STD, REV.
Display Info: On, Off.
Image Freeze: On, Off.
Digital Zoom: Off, 2x, 4x, 8x, 16x.
Call Preset Speed: 1 ~ 24.
Pre Zoom Speed: 0 ~ 7.

5.6 NOISE REDUCTION

Move the main menu cursor to [Noise Reduction], and press [HOME] to enter the noise reduction page, as shown in the following figure:

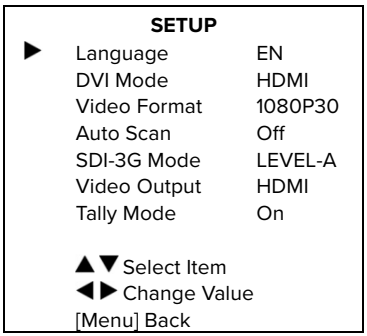
NOISE REDUCTION		
▶	NR3D-Level	6

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

NR3D-Level: Off, 1 ~ 9.

5.7 SETUP

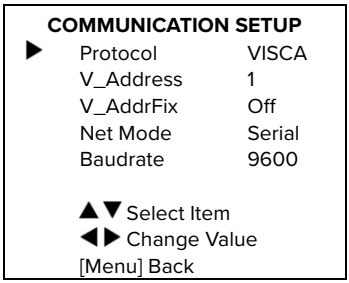
Move the main menu cursor to [Setup], and press [HOME] to enter the setup page, as shown in the following figure:



Language: EN, Chinese, Russian.
DVI Mode: DVI, HDMI.
Video Format: 4KP25, 4KP29.97, 4KP30, 4KP50, 4KP59.94, 4KP60, 1080P30, 1080P25, 1080P50, 1080P60, 1080P59.94, 1080P29.97, 1080I50, 1080I60, 1080I59.94, 720P60, 720P59.94, 720P50.
Auto Scan: On, Off.
SDI-3G Mode: LEVEL-A, LEVEL-B
Video Output: HDMI, SDI.
Tally Mode: On, Off.

5.8 COMMUNICATION SETUP

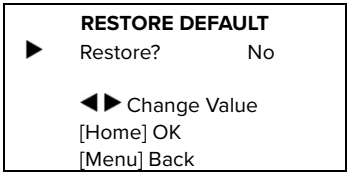
Move the main menu cursor to [Communication Setup], and press [HOME] to enter the communication setup page, as shown in the following figure:



Protocol: Auto, VISCA, PELCO-D, PELCO-P.
V_Address: 1 ~ 7 (Effective only in Auto, VISCA protocol).
V_AddrFix: On, Off (When set to On, useless in 88 30 01 FF Command).
P_D_Address: 0 ~ 254 (Effective only in Auto, PELCO-D protocol).
P_P_Address: 0 ~ 31 (Effective only in Auto, PELCO-P protocol).
Net Mode: Serial, Paral.
Baudrate: 2400, 4800, 9600, 38400.

5.9 RESTORE DEFAULT

Move the main menu cursor to [Restore Default], press [HOME] to enter restore default page, as shown in the following figure:



Restore: Yes, No.

Note GUI menu and parameters are subject to change without notice.

6 Network Function

6.1 Operating Environment

Operating System: Windows 7/8/10, Mac OS X, Linux, Android
Network Protocol: TCP/IP
Client PC: P4/128M RAM/40G HDD/ support scaled graphics card, support DirectX 8.0 or more advanced version.

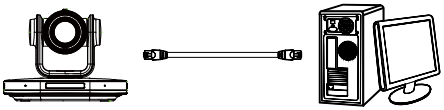
6.2 Equipment Installation

1) Connect video conference camera to your internet or to your PC via network cable.
2) Turn on DC 12V power.

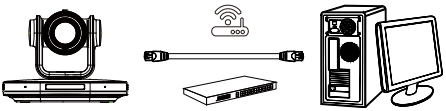
3) If the network connection is normal, the link light (green) at the network interface will light up within 5 seconds, and the data indicator (orange) will flash, indicating that the physical connection of the camera is successful.

6.3 Internet Connection

There are two main ways to connect the video conference camera.



Connect by Network Cable



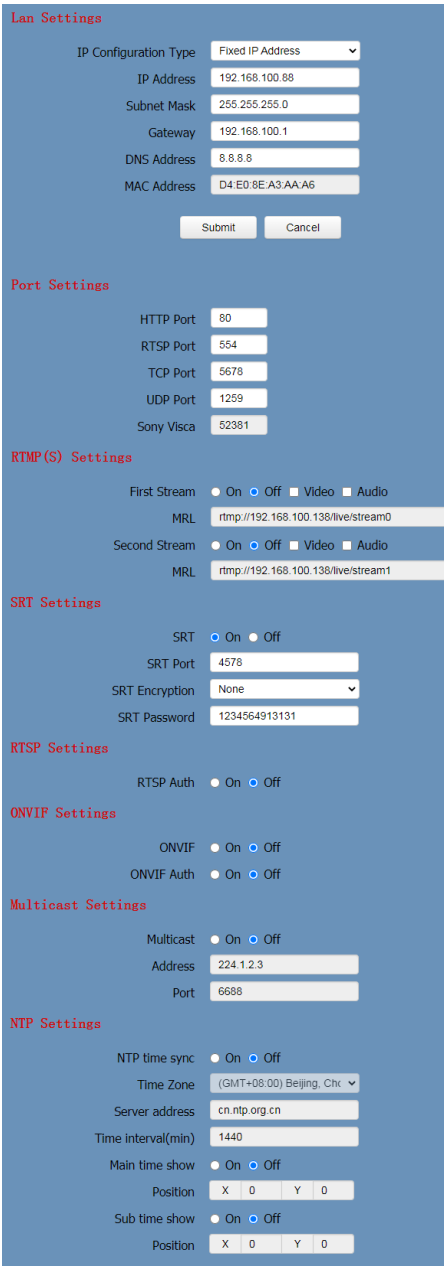
Connect by Switch/Router

6.4 Camera Controlled by LAN

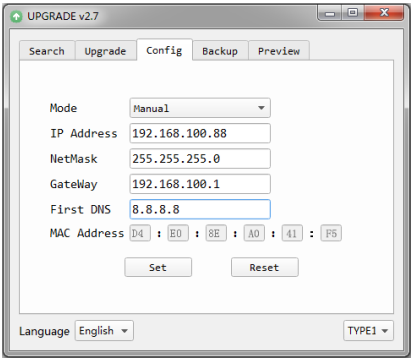
6.4.1 Setup IP Address

If you don't know the IP, follow these steps:
Method 1: Press * and # and 4 on remote in sequence. The camera IP address will be shown on the display.
Method 2: Connect camera to PC with the network cable, Use “upgrade_En.exe” (available at this link: https://drive.google.com/file/d/1kKLrsi-kcZDzThckyHuzyzdSz-t75MO_/view?usp=sharing)

Change IP address, two methods shown below:
Method 1: Login the web page, select “Network > Lan Settings”, change IP address, subnet mask and gateway. Click “Submit” and restart the camera.



Method 2: Open “upgrade_En.exe”, change IP and click “Set”. After modifications, the video conference camera will restart.



Change IP address:

Step 1 Search the IP address of camera.

Step 2 Select the IP of the camera you want to change.

Step 3 Select the config dialog of upgrade applets.

Step 4 Change the IP address, netmask and gateway, then click “Set”.

Step 5 Finish.

6.4.2 Visit/Access Camera

Input http://192.168.100.88 into the web browser, input the username and password into the login box:

Username: admin

Password: admin



After login, sample screenshot:



Tips

IE browser does not support H5, you need to use VLC plug-in to view videos. Please visit VLC website (http://www.videolan.org/vlc), download and install the 32-bit VLC media player. After install, visit video conference camera to have normal image display. Other mainstream browsers already support H5 and do not need to install the VLC plug-in.

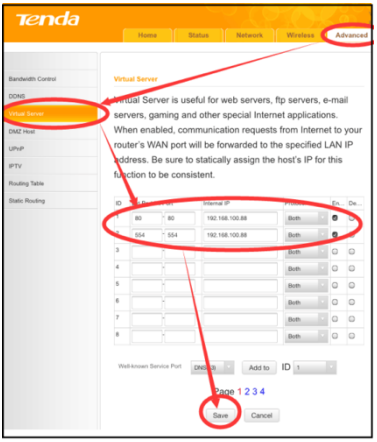
6.5 Camera Controlled by WAN

6.5.1 Setup IP Controlled by Dynamic DNS

Two dynamic DNS: Dyndns.org, 3322.org.

Router Port Mapping:

Take Tenda router for example, enter the Router Home Page (interface page), select “Advanced”- “Virtual Server”, add a new port number in “Ext Port”, add a new port number in “Int port”, put camera IP address to “Internal IP”, then select “Save”, shown as below:



6.5.2 Dynamic DNS Visit Camera

Set domain name to camera, setup the parameter, then dynamic DNS can access camera. Access link: http://hostname: port number. For example, setup host computer name: youdomain.f3322.org, the camera port number is 89, the access link should be http://youdomain.3322.org:89.

Tips

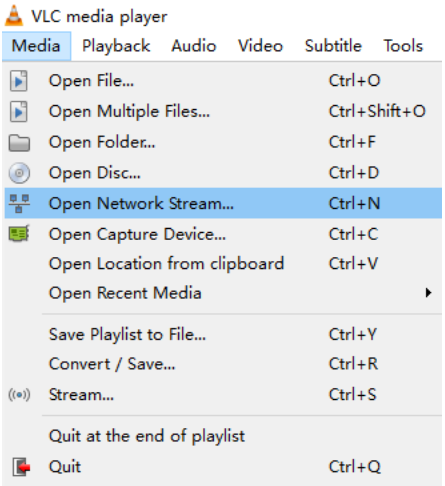
If the camera port default is 80, then it is not necessary to input port number, use host name to access camera directly.

6.5.3 VLC Stream Media Player Monitor

Visit VLC Media Server Procedure

Step 1 Open VLC media player.

Step 2 Click “Media > Open Network Stream”, or click “Ctrl + N”; as below:



Step 3 Input URL address:

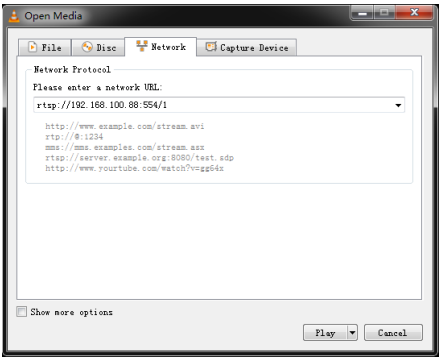
rtsp://ip: port number/1 (First stream);

rtsp://ip: port number/2 (Second stream).

Step 4 Click “Play”.

Tips

The RTSP port number default is 554. If the camera port default is 80, then it is not necessary to input port number of the URL.



6.6 Camera Parameter Setup

6.6.1 Homepage Introduction

Menu

All pages include two menu bars:

Real time monitoring: displays video image.

Parameter setup: displays function buttons.

A. Video Viewing Window

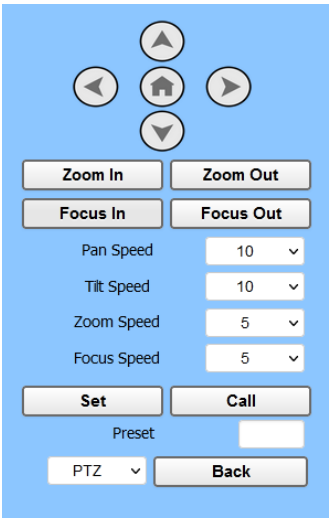
Video viewing window will match the resolution of the video camera. The larger the resolution, the bigger the playing area is. Double click the viewing window to show full screen; double click again to return to normal size.

Status bar in viewing window shown below:



1) Video playback pause button: control real-time video pause, stop the last picture, click recoverable video again.
2) Audio control buttons: can adjust the volume or set silent mode.
3) Full screen enable/disable button.

B. PTZ Setup



1) Pan and Tilt Control

Up, Down, Left and Right arrows and the home button allow you to manually drive the camera to the desired position.

2) Zoom

Zoom In and Zoom Out buttons allow for wide or narrow view of the space.

3) Focus

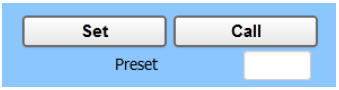
Focus In and Focus Out buttons allow for fine manual focus adjustment if the camera has any problems auto focusing on the difficult object.

4) PTZ Speeds

Pan speed can be set at any rate between 1 ~ 24, Tilt speed can be set at any rate between 1 ~ 20. Zoom and Focus speeds can be set at any rate between 0 ~ 7.

5) PTZ Presets

After manually setting up a shot that you would like to return to later, you can save presets for quick recall of these positions. Type a number between 0 and 254 into the Preset box.
Click the "Set" button to save the current location with that preset number. Click the “Call” button to cause the camera to return to that position. This enables smooth, quick, and convenient control without the need to manually drive the camera.
You can set up presets with these steps.
Method: Type a number into the preset box.

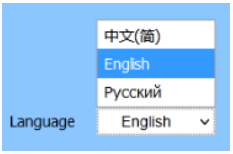


Preset: Optional items: 0 ~ 254.

6) PTZ / OSD Dropdown

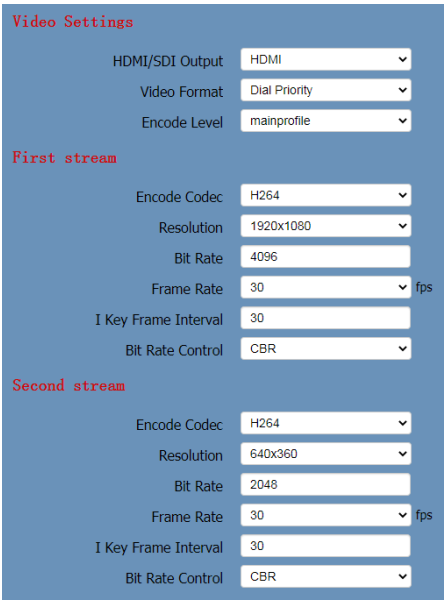
From the dropdown menu, click the OSD option to open the on-screen display menu of the camera. This will give you control from within the IP interface.

C. Language Selection



Click either “Chinese”, “English” or “Russian” to change the language of the webpage.

6.6.2 Video Settings



1) HDMI/SDI Output

Supports HDMI and SDI output methods.

2) Video Format

Supports 50Hz (PAL), 60Hz (NTSC) and Dial Priority three formats.

3) Encode Level

Supports mainprofile and highprofile.

4) Encode Protocol

Supports H.264, H.265 and MJPEG three protocols.

5) Resolution

First stream support 3840x2160, 1920x1080, 1280x720, 1024x576, 720x480, 720x408, 640x480, 640x360. Second stream support 720x480, 720x408, 640x480, 640x360, 480x320, 320x240; The higher the resolution is, the clearer the image will be, and more network bandwidth will be taken.

6) Bit Rate

The user can specify the bit rate. Generally speaking, the larger the bit rate, the clearer the image. However, network bandwidth needs to be considered in conjunction with the bit rate. When the network bandwidth is narrow and the bit rate is configured larger, the video stream cannot be transmitted normally, and the visual effect is worse.

7) Frame Rate

User can specify the size of the frame rate, generally, > frame rate = smoother image;
< Frame rate = shakier image.

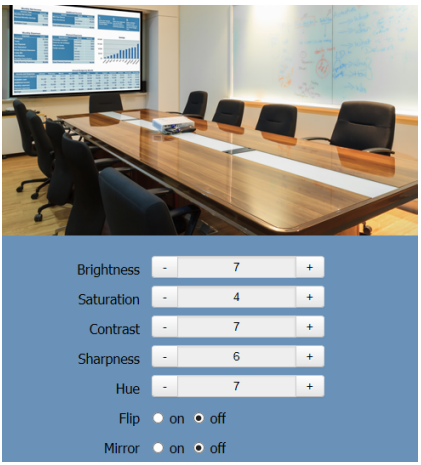
8) I Key Frame Interval

Set interval between 2 points. The bigger the interval, the lower the response from viewing window.

9) Bit Rate Control

CBR (Constant Bit Rate): Video coder will be coding according to preset speed.
VBR (Variable Bit Rate): Video coder will adjust the speed based on preset speed to gain the best image quality.

6.6.3 Image Settings



1) Brightness

Image bright 0 ~ 14, adjust with "+" or "-" as needed. Default value is 7.

2) Saturation

Saturation 0 ~ 14, adjust with "+" or "-" as needed. Default value is 4.

3) Contrast

Contrast 0 ~ 14, adjust with "+" or "-" as needed. Default value is 7.

4) Sharpness

Sharpness 0 ~ 11, adjust with "+" or "-" as needed. Default value is 6.

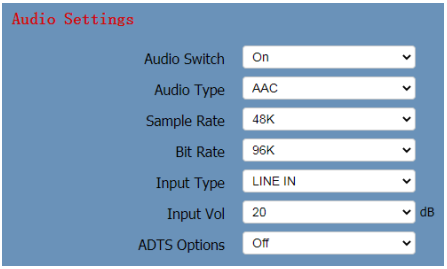
5) Hue

Hue 0 ~ 14, adjust with "+" or "-" as needed. Default value is 7.

6) Flip & Mirror

Click Flip "On" or "Off" to rotate the image.
Click Mirror "On" or "Off" to mirror the image.
Default value is "Off".

6.6.4 Audio Settings



1) Audio Switch

Turn on or off audio switch.

2) Audio Type

Audio type AAC, G711A.

3) Sample Rate

Optional items: 44.1K, 48K.

4) Bit Rate

Optional items: 64K, 96K, 128K.

5) Input Type

Optional items: LINE IN.

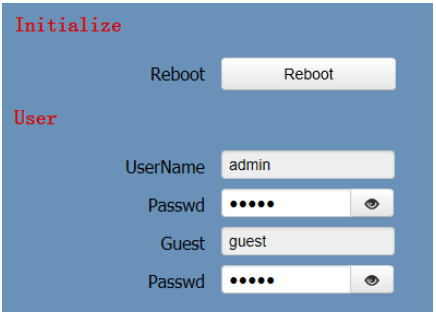
6) Input Vol

The volume of the channel input.

7) ADTS Options

Optional items: On, Off.

6.6.5 System Settings



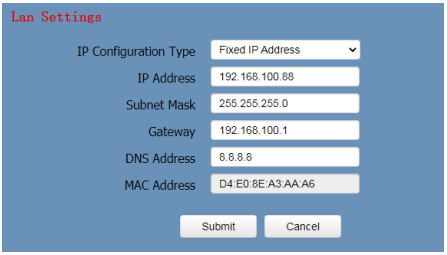
1) Reboot

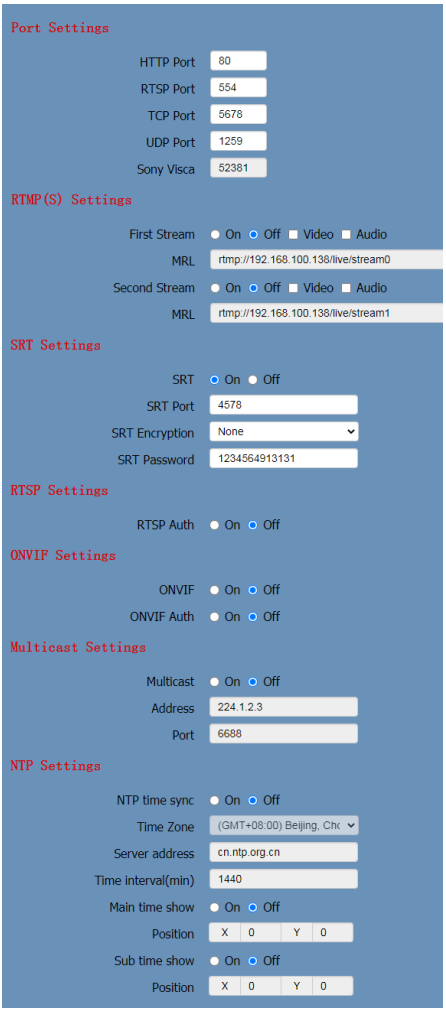
Click the "Reboot" button, system restart.

2) Username and Password

The user can modify the password (letters and numbers only) for the web interface.

6.6.6 Network Settings





1) Lan Settings

The default IP address is 192.168.100.88; the MAC address cannot be modified.

2) Port Settings

A. HTTP Port

IP address identifies the network device, the device can run multiple web applications, each network program using network port to transmit data, so data transmission to be carried out between ports. Port setting determines which port to transmit. Be consistent with the port number when port mapping (default port: 80).

B. RTSP Port

The video conference camera support RTSP protocol, use the VLC tools broadcast, default port: 554.

C. TCP Port

Support TCP connection to control camera, default port: 5678.

D. UDP Port

Support UDP protocol, default port: 1259.

E. Sony Visca

Support Sony Visca, default value: 52381.

3) RTMP(S) Settings

Setting the MRL of RTMP, select enable or disable video and audio. You can select control code stream of “On”, “Off”, “Video”, “Audio” between in the two streams.

4) SRT Settings

Turn On/Off SRT, Setting the SRT Port, SRT Encry and SRT Password.

5) RTSP Settings

Turn On/Off RTSP Auth.

6) ONVIF Settings

Turn On/Off ONVIF and ONVIF Auth.

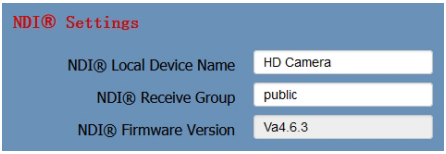
7) Multicast Settings

Turn On/Off multicast. Setting the multicast address (default value is 224.1.2.3) and port (default value is 6688, then 6688 is the multicast port of the first stream; 6690 is the multicast port of the second stream).

8) NTP Settings

Turn On/Off NTP time sync, main time show and sub time show. Setting NTP server address, time interval, main stream position and sub stream position.

6.6.7 NDI® Config



1) NDI® Local Device Name

Setting the NDI® Local Device Name.

2) NDI® Receive Group

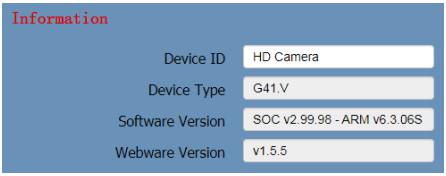
Setting the NDI® Receive Group.

3) NDI® Firmware Version

View NDI® Firmware Version.

6.6.8 Device Information

Display the current device information.



6.7 Download the Upgrade Program

If you need the camera upgrade program, please go here: https://drive.google.com/file/d/1kKLrsi-kcZDzThckyHuzyzdSz-t75MO_/view?usp=sharing

Note WEB interface and parameters are subject to change without notice.

7 Maintenance and Troubleshooting

Camera Maintenance

- If the camera will not be used for a long time, please turn off power switch and disconnect it from the power source.
- Please use a microfiber cloth to clean the camera cover.
- Please use a dry microfiber cloth to clean the lens. If the camera is very dirty, clean it with non-invasive cleaning solutions. Do not use any type of solvents, which may damage the surface.

Unqualified Application

- Do not capture extremely bright objects for a long period of time, such as sunlight, light sources, etc.
- Do not operate in unstable lighting conditions, otherwise the image will be flickering.
- Do not operate close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

Troubleshooting

Image

- The display shows no image:

1) Check that the camera power supply is connected, the voltage is normal, and the power indicator light is always on.
2) Turn off the power switch to check whether the camera is initializing.
3) Check the cables.
4) Check for appropriate drivers within the OS.

- Sometimes without image:

Check the cables and connections.

- Image has jitter when the camera lens is at max pan/tilt/zoom:

1) Check whether the camera is installed on a stable surface.
2) Check for vibrating machinery or objects near the camera.

- There is no video image in web Browser:

IE browser does not support H5, you need to use VLC plug-in to view videos. Please visit VLC website (http://www.videolan.org/vlc) to download and install the 32-bit VLC media player. After it is installed, visit video conference camera will have normal image display. Other mainstream browsers already support H5 and

do not need to install the VLC plug-in.

- Unable to access video conference camera through Browser:

1) Use a PC to access the network to test whether the network access is working properly. The camera and PC must be able to ping each other on the network.
2) Disconnect the network, connect video conference camera and PC separately, and reset the IP address of PC.
3) Check IP address, subnet mask, and gateway settings for video conference camera.
4) Check whether the MAC address has conflicts.
5) Check whether the web port is modified. The default is 80.

- Forgotten IP address or login password:

Note: (The default IP address: 192.168.100.88; default username: admin; default password: admin). Press [*]+[#]+[4] on the remote to display the current IP address.

Control

- Remote control is not functioning:

1) Check and replace the battery for the remote control.
2) Check whether the CAMERA SELECT mode is correct.
3) Check whether the IR (remote) indicator light is flashing.

- Serial port cannot control:

1) Check whether the camera protocol, address, and baud rate are correct.
2) Check connections of the control line.