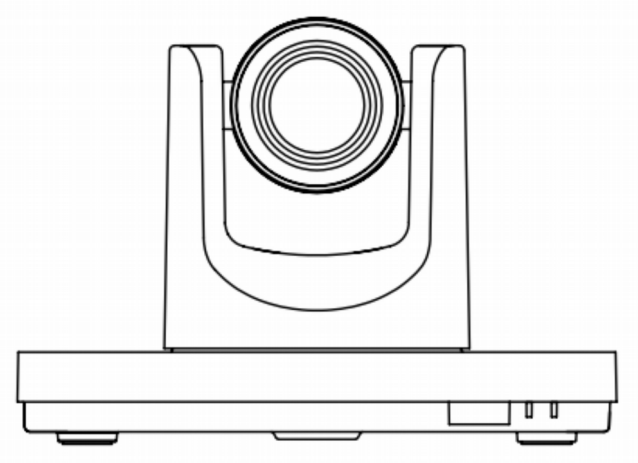
Professional PTZ HD Camera



User Manual

V1.2 (English)

Preface

Thanks for using Walogy OWL x12 HD SDI Camera.

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 neutral 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.

Table of Contents

Note..... 5
Supplied Accessories.....6
Quick Start.....7
Features..... 9
Main Unit..... 10
Size..... 11
IR Remote Controller Explanation..... 12
USE IR Remote Controller..... 14
1. Pan/Tilt Control..... 14
2. Zoom.....14
3. Focus Control..... 15
4. Backlight Switch..... 15
5. Presets Set/Clear.....15
6. Recalling the Preset..... 16
7. Camera Selection.....16
8. Camera IR Address Set..... 16
RS-232 Interface..... 17
VISCA Network Configuration..... 17
Serial Communication Control.....18
Menu Setting.....19
1. MENU..... 19
2. EXPOSURE..... 19
3. COLOR.....20
4. IMAGE..... 20
5. P/T/Z.....21
6. NOISE REDUCTION..... 21
7. SETUP.....22
8. RESTORE DEFAULT.....22
Ethernet Access.....23
1. Operating Environment..... 23
2. Equipment Installation..... 23
3. Setup IP address..... 23
Maintenance and Troubleshooting.....24

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!

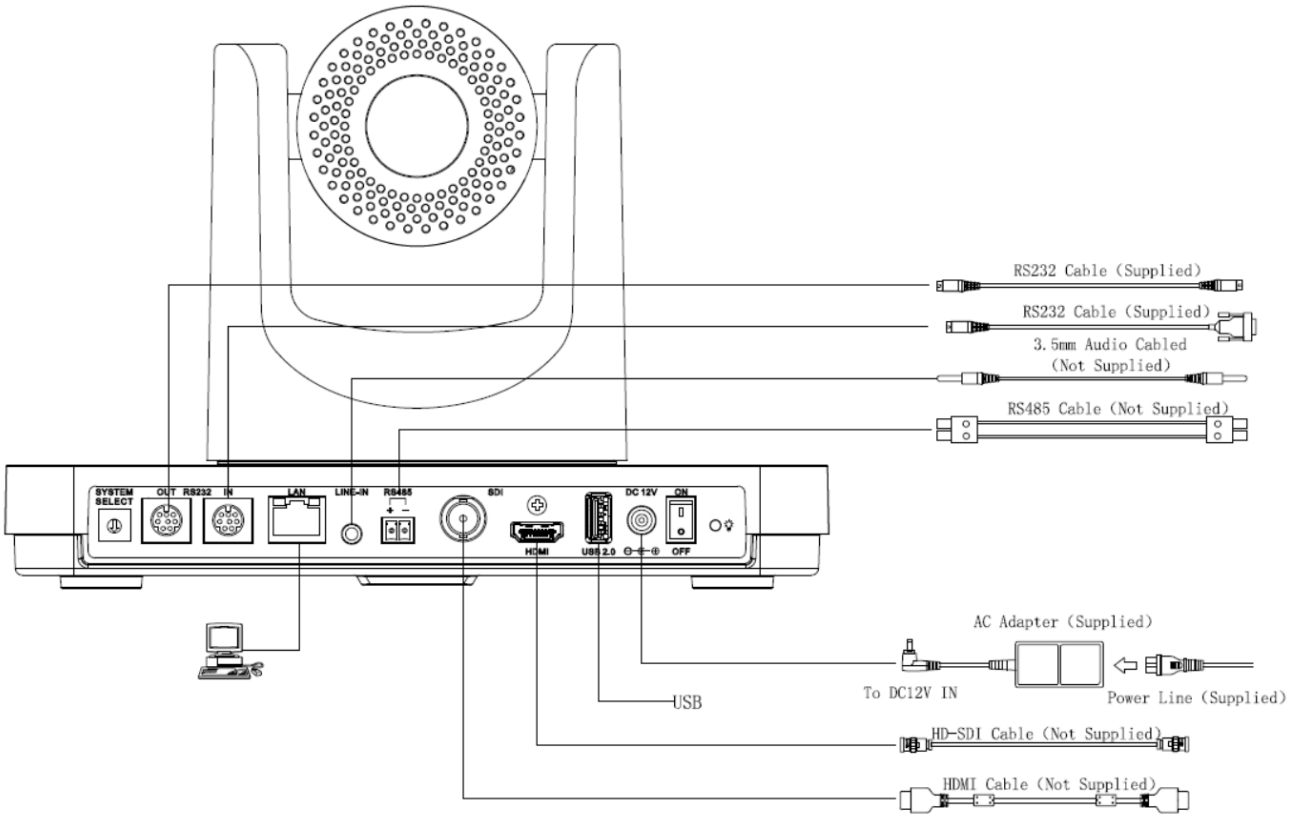
Supplied Accessories

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

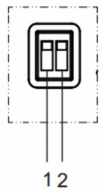
Quick Start

Step1. Please check connections are correct before starting



Step2. Setting of the bottom switches

Set both of the switch1 and switch2 to „OFF“. That is „Normal Working Mode“.



	SW-1	SW-2	Mode
1	OFF	OFF	Normal Mode
2	ON	OFF	Not Use
3	OFF	ON	Not Use
4	ON	NO	Not Use

Step3. Setting of the system select switch The option of video format:

Video System			
0	1080p60	8	720p30
1	1080p50	9	720p25
2	1080i60	A	-
3	1080i50	B	-
4	720p60	C	-
5	720p50	D	-
6	1080p30	E	-
7	1080p25	F	-

CAUTION:

1. After changing the switch, you need to restart the camera to take effect.
2. 720 p30 and 720 p25 only under the HDMI output.

Step4. Press the Switch ON/OFF button on the rear of the camera, the power lamp light.

Step5. 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)

Features

- **H.265 Support**

  The first H.265 encoding support conference video camera in the world, enabling full HD 1080p/60 video stream by ultra-low bandwidth.

- **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, up to 120fps output in 720P (supported by network only), 640x480P can be as high as 240fps (supported by network only, 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.

- **Both Video interfaces at the same time**

  Support HDMI output, 3G-SDI interface, effective transmission distance up to 100 meters.

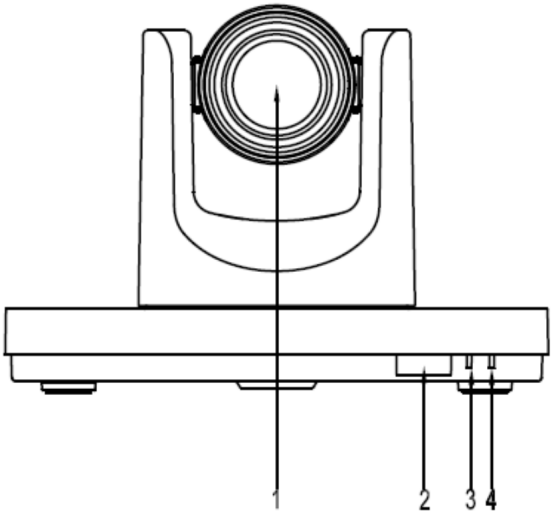
- **20x Optical + 32x Digital Zoom**

  Use TAMRON high quality super telephoto lens, support 20x or 12x optical zoom depends of the models and 32x digital zoom.

- **Remote Control**

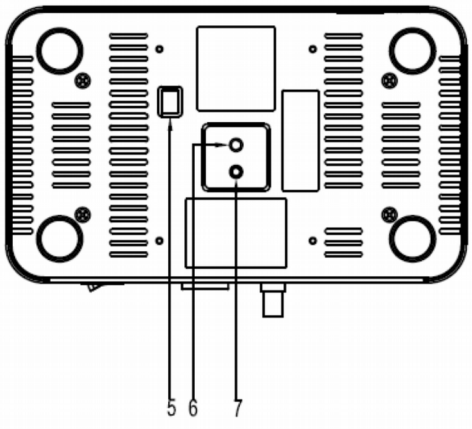
  Using RS232/485 interface, all the parameters of the camera can be remote controlled by the high-speed communications.

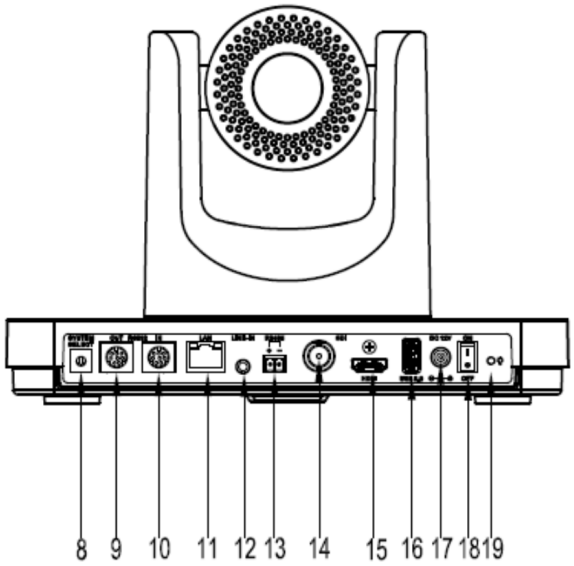
Main Unit



1. Lens
2. Sensor for the Remote Commander 3. Power lamp
4. Stanby lamp

5. Bottom switches
6. Tripod screw hole
7. Fixing screw hole

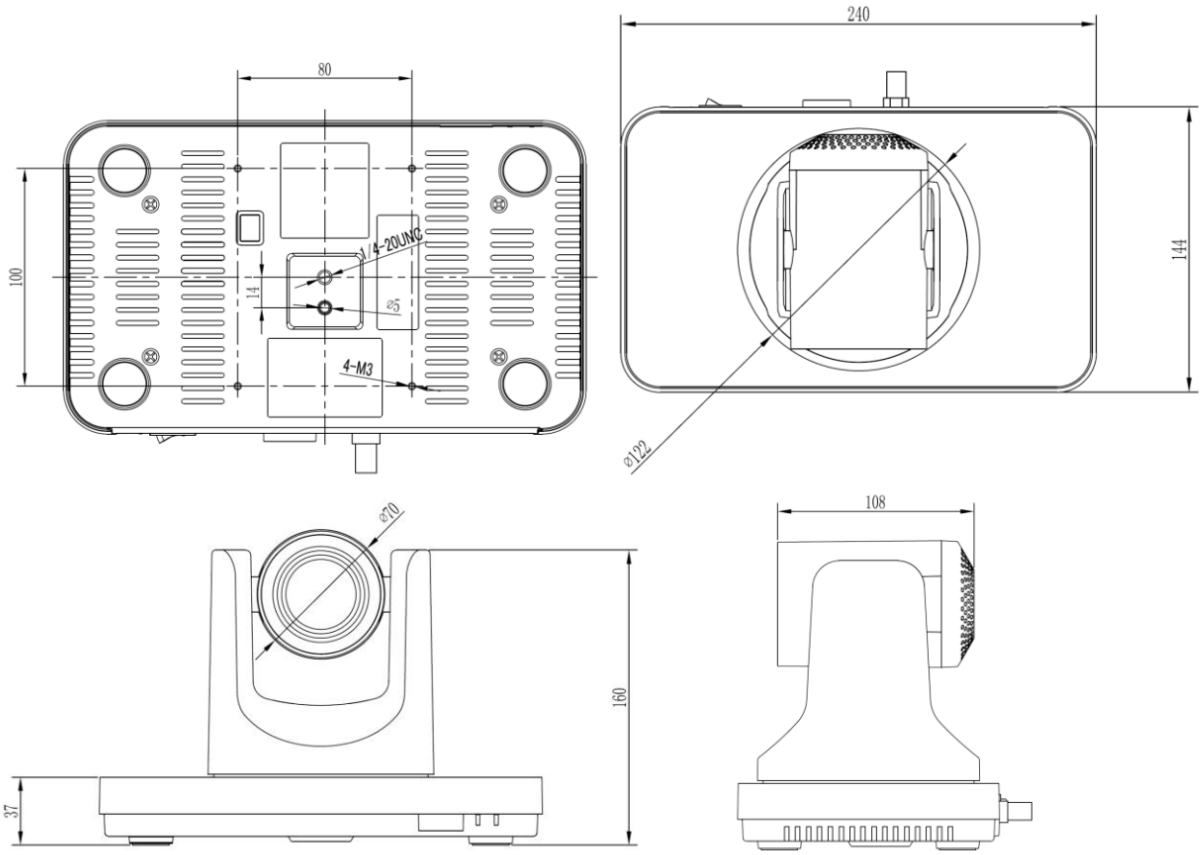




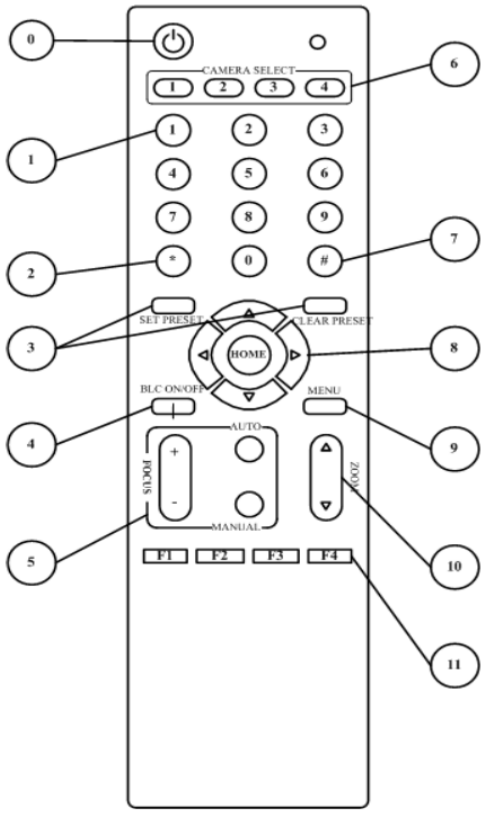
8. System select switch
9. RS232 OUT interface
10. RS232 IN interface

11. RJ45 interface
12. Line in interface
13. RS485 interface
14. SDI interface
15. HDMI interface 16.USB2.0
17. DC IN 12V interface 18. Power switch
19. POWER lamp

Size



IR Remote Controller Explanation



0. 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)

1. Position Buttons
To set preset or call preset

2. * Button

3. Set/Clear Preset Buttons
Set preset: Store a preset position
[SET PRESET] + Numeric button (0-9): Setting a corresponding numeric key preset position
Clear preset: Erase a preset position
[CLEAR PRESET] + Numeric button (0-9)
Or: [*]+[#]+[CLEAR PRESET]: Erase all the preset individually

4. 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)

5. Focus Buttons.
Used for focus adjustment.
Press [AUTO] adjust the focuses on the center of the object automatically. To adjust the focus manually, press the [MANUAL] button, and adjust it with [Focus+] (Focus on far object) and [Focus-] (Focus on near object)

6. Camera Select Buttons
Press the button corresponding to the camera you want to operate with the remote controller.

7. # Button

8. Pan/Tilt Control Buttons
Press arrow buttons to perform panning and tilting. Press [HOME] button to face the camera back to front

9. Menu Setting
Menu button: Press this button to enter or exit the OSD menu

10. Zoom Buttons
Zoom ▲: ZoomIn Zoom▼: ZoomOut

11. Set Camera IR Address Buttons
[*]+[#]+[F1]: Address1 [*]+[#]+[F2]: Address2 [*]+[#]+[F3]: Address3 [*]+[#]+[F4]: Address4

12. Image freezing function
Open the freezing function after press [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.

USE IR Remote Controller

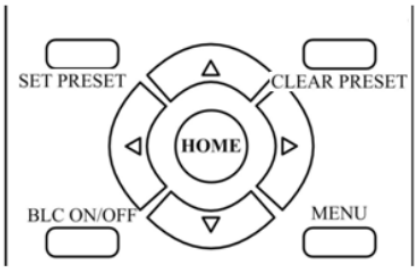
When the camera is working, you can use remote controller to perform panning, tilting, zooming and focusing, store and call back preset positions.

Button Instruction:

1. In this instruction, „press the button“ means the press and relax the two actions. Such as „press [HOME] button“ means to press the [HOME] key and then relax action, and a special note will be given if a hold down for more than one second is required.

2. When a button-combination is required, do it in sequence. For example, „[*] + [#] + [F1]“means press [*] first and then press [#] and press [F1] at last.

1. Pan/Tilt Control

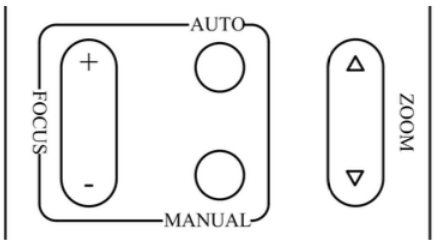


Move up:	Press [▲]
Move down:	Press [▼]
Move left:	Press [◀]
Move right:	Press [▶]
Face the camera back to front:	Press [HOME]

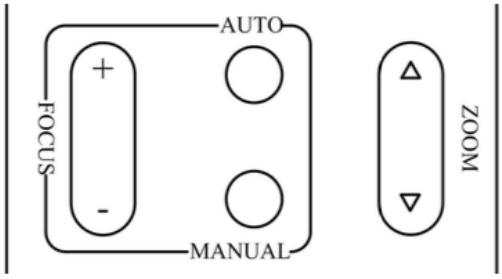
Press and hold the Up/down/left/right button, the camera will keep rotating from slow to fast, until it run to the mechanical limit; the camera stops as soon as the button is released.

2. Zoom

Zoom Out: Press [ZOOM ▼]
ZoomIn: Press [ZOOM ▲]
Press and hold the button, the camera will keep zooming IN or zooming OUT and it stops as soon as the button is released.



3. Focus Control



Focus Far: Press [FOCUS+] button
(NOTE: Effective only in manual focus mode)

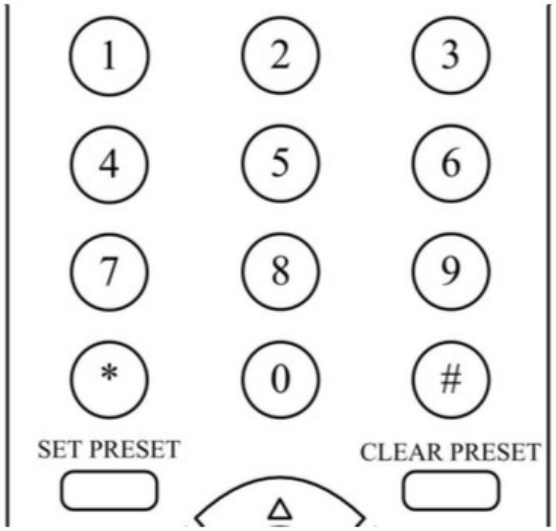
Focus Near: Press [FOCUS-] button
(NOTE: Effective only in manual focus mode)

Press and hold the button, the action of focus continues and stops as soon as the button is released.
AUTO: Change focus mode to AF, adjusting the focus automatically.
MANUAL: Change focus mode to MF, adjusting the focus manually.

4. Backlight Switch

BLC ON/OFF: Press this button to enable the backlight compensation. Press it again to disable the backlight compensation. (Note: Backlight is only effective in full auto exposure mode)

5. Presets Set/Clear



1. To store a preset position: The users should press the [SET PRESET] button first and then press the numeric button 0-9.

(10 preset positions in total are available.)

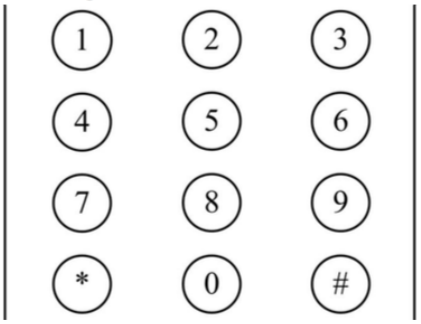
2. To erase the memory content of a preset position: The users should press the [CLEAR PRESET] button first and then press the numeric button 0-9.

Note:
Press [*]+[#]+[CLEAR PRESET] will erase all preset individually positions in the memory.

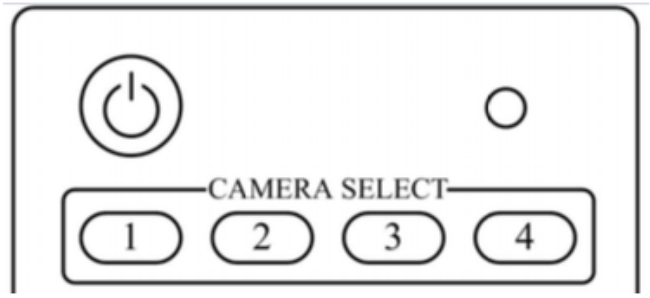
6. Recalling the Preset

Press any of the numeric buttons 0-9 directly to recall stored preset positions and settings.

Note:
No action is executed if a relative preset position is not stored.



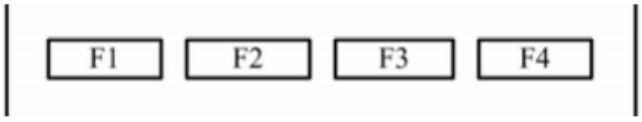
7. Camera Selection



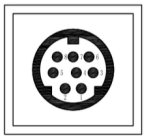
Press the button corresponding to the camera you want to operate.

8. Camera IR Address Set

[*]+[#]+[F1]: Address1
[*]+[#]+[F2]: Address2
[*]+[#]+[F3]: Address3
[*]+[#]+[F4]: Address4



RS-232 Interface

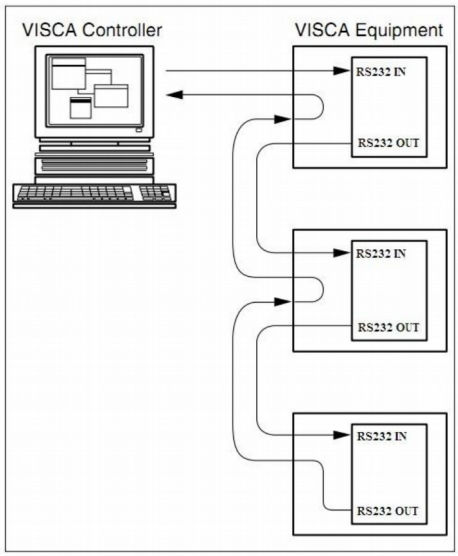


Camera	Mini DIN
1.DTR	1.DTR
2.DSR	2.DSR
3.TXD	3.TXD
4.GND	4.GND
5.RXD	5.RXD
6.GND	6.GND
7.IR OUT	7.NC
8.NC	8.NC

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

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

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.

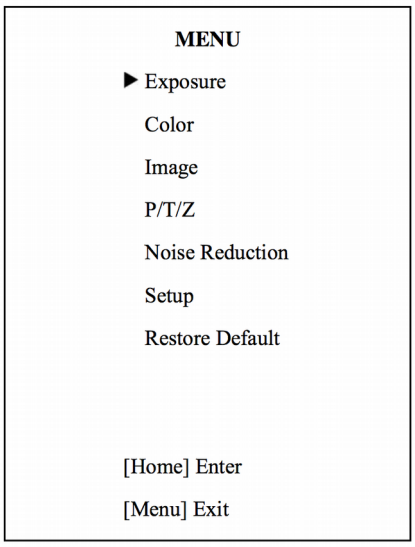
Pan-Tilt will rotate to the maximum position of top right after the camera started, then it return to the center, the process of initialization is finished.

(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.)

Menu Setting

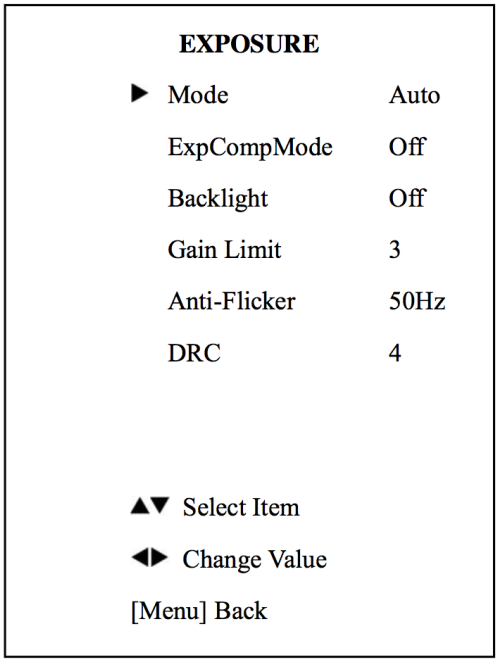
1. MENU

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.



2. EXPOSURE

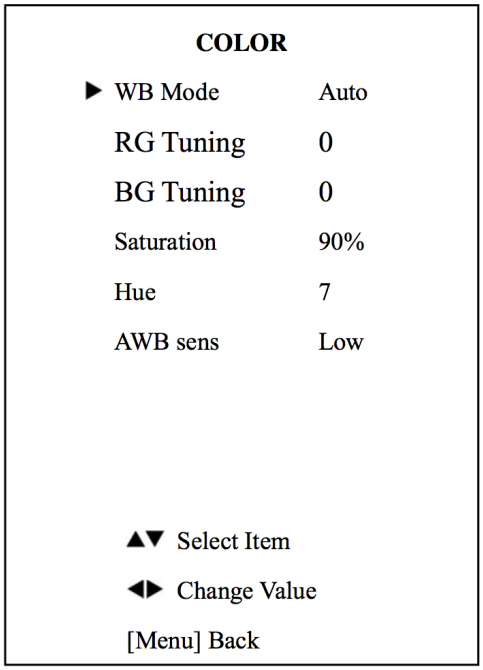
Move the cursor to the Exposure item in the main menu and press [home] button, EXPOSURE menu appears, as shown in the following figure.



Mode: Exposure mode. Optional items: Auto, Manual, SAE, AAE, Bright
ExpCompMode: Exposure compensation mode, **Optional items:** On, Off (Effective only in Auto mode)
ExpComp: Exposure compensation value, **Optional items:**-7 ~ 7(Effective only in ExpComp Mode 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)
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)

3. COLOR

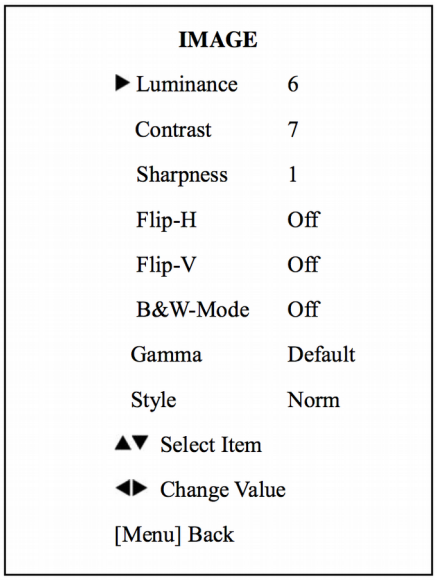
Move the cursor to the Color item in the main menu and press [home] button, COLOR menu appears, as shown in the following figure.



WB-Mode: White balance mode. Optional items: Auto, 3000K/Indoor, 4000K,5000K/Outdoor, 6500K-1,6500K-2,6500K-3,One Push, 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 AWB sens is Low)
BG Tuning: Blue gain fine-tuning, Optional items: -10 ~ +10(Effective only in AWB sens is Low)
Sat.: Saturation. Optional items: 60% ~ 200%.
Hue: Chroma adjustment, Optional items:0 ~
AWB sens: The white balance sensitivity, Optional items: Normal, High, Low.

4. IMAGE

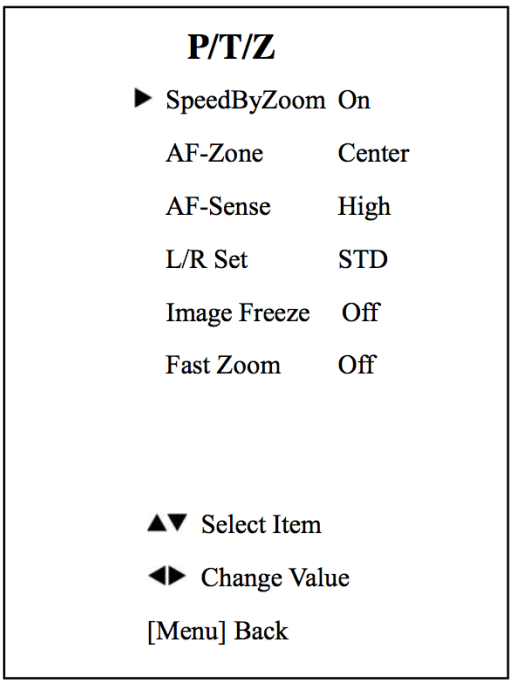
Move the cursor to the Image item in the main menu and press [home] button, IMAGE menu appears, as shown in the following figure.



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.
LDC: Optional items: On, Off.

Note:
1080p60 and 1080p50 not support the lens distortion.

5. P/T/Z



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

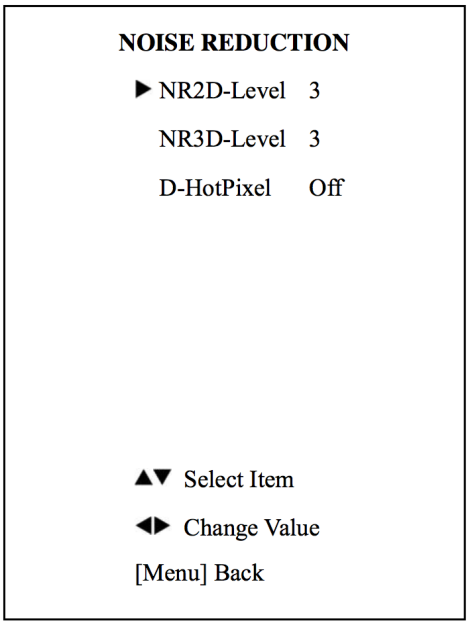
L/R Set: Optional items: STD, REV Image

Freeze: Optional items:On, Off

Fast Zoom: 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.



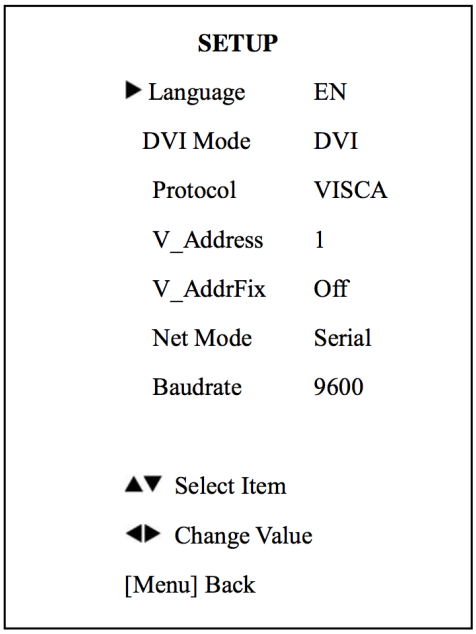
NR2D-Level:
2D noise reduction. Optional items: Off, Auto, 1 ~ 5

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.



DVI Mode, Optional items: DVI, HDMI
Protocol: Control protocol type. Optional items: AUTO, VISCA, PELCO-D, PELCO-P
V_Address: Protocol address, To be decided according to the agreement, AUTO, VISCA protocol
Optional items: 1 ~ 7
P_D_Address: PELCO-D protocol Optional items: 0 ~ 254
P_P_Address: PELCO-P protocol Optional items: 0 ~ 31
V_AddrFix: If I can change through the serial port of infrared switch, Optional items: On, Off (When set to On, useless in 88 30 01 FF Command)
Net Mode: Set the serial port control networking,
Optional items: Serial, Parallel
Baudrate: Serial port baud rate. Optional items: 2400, 4800, 9600

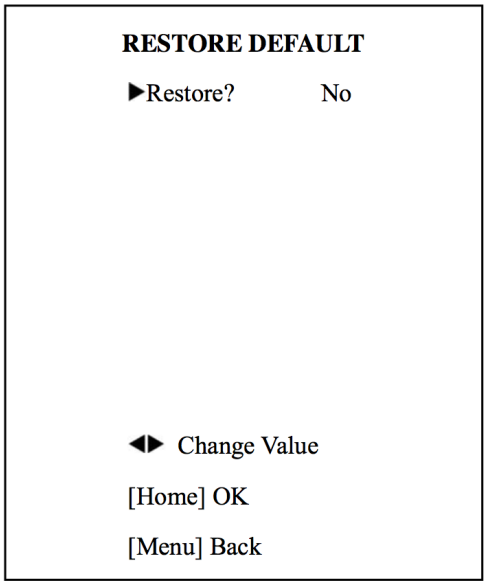
8. RESTORE DEFAULT

Move the cursor to the Restore Default item in the main menu and press [home] button, RESTORE DEFAULT menu appears, as shown in the following figure.

Restore: Confirm restore factory settings. Optional items: Yes, No

Note: Press [HOME] button to confirm, All parameter restore default, Include IR Remote address and VISICA Address

Save: Save Options. Optional items: Yes, No.



Ethernet Access

1. Operating Environment

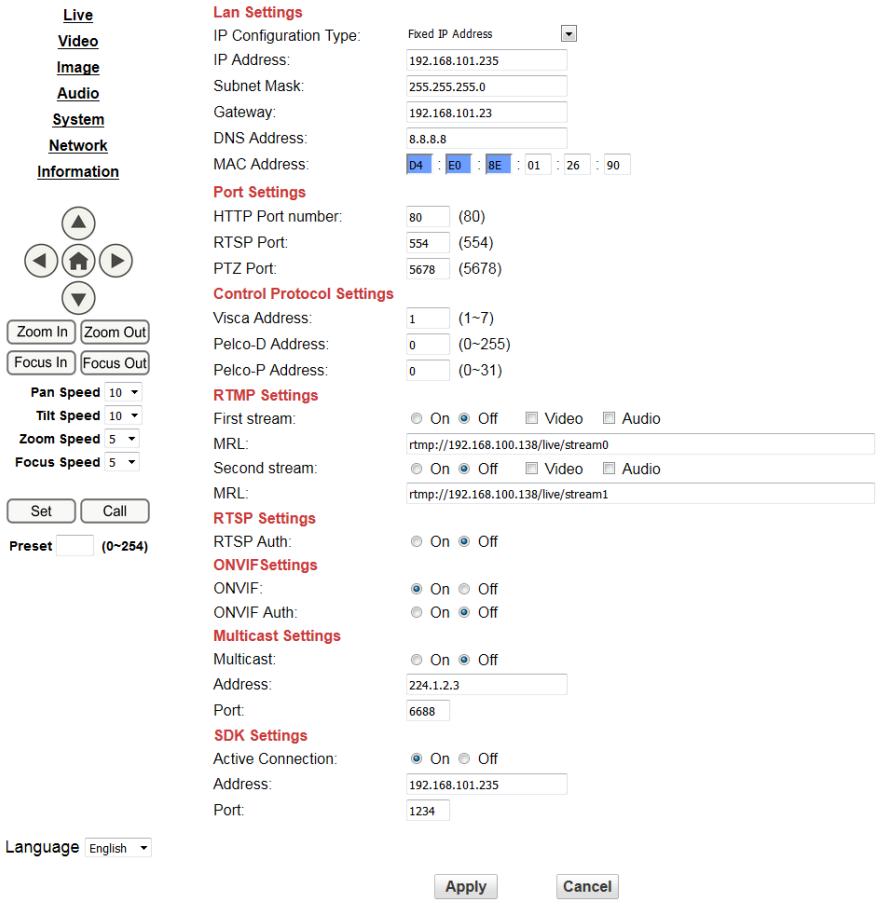
Operating System: Windows 2000/2003/XP/ vista/7/8/10
Network Protocol: TCP/IP
Client PC: i3/2GbRAM/60GB HD/ support scaled graphics card, support DirectX8.0 or more advanced version.

2. Equipment Installation

1) Connect internet camera to your internet or to your PC directly via internet cable.
2) Turn on DC12V power.
3) The orange light of internet port lit on, green light flashing, and the physical connection finished.

3. Setup IP address

IP camera default IP address"192.168.101.200"
The username and password are “admin”



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

- **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
    1. 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.
- **Sound**
  - No sound
    1. Please check audio connection to host PC.
    2. Please check IP Camera audio parameter setup, if intercepting function on.

- **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.

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