

DIGIMIC PTZ980
3G-SDI Full-HD PTZ Camera
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Note: Changes or modifications to this equipment not expressly approved by Brähler Systems could void the FCC's authority to operate this equipment.

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Index	
About this manual	5
Symbols	5
General information.....	5
Important notes	6
Safety instructions.....	6
Safety information	7
DIGIMIC Camera System.....	8
System components.....	8
Construction.....	9
Power on initial configuration.....	10
Video Output	11
1) Video Output from LAN	11
2) HDMI Video Output	11
3) 3G-SDI Video Output	11
Bracket mount.....	11
1) Wall mount step	11
2. Upside down mount step	12
Main Features.....	14
Camera Performance.....	14
Network performance.....	14
Technical Specification	15
Interface Instruction	17
External Interface	17
RS-232 Interface.....	17
Bottom Dial Switch	19
Application Instruction.....	20
Video Output	20
Power-On Initial Configuration	20
Video Output.....	20
Remote Controller	21
Applications.....	22
MENU SETTING	26
Main Menu	26
System Setting	26
Camera Setting	27

EXPOSURE SETTING	28
COLOR SETTING	29
IMAGE	30
FOCUS	30
NOISE REDUCTION	31
P/T/Z	31
Video Format	32
Version	32
Restore Default	33

About this manual

Keep these operating instructions together with the device. If you pass the device on to a third party, also pass on this manual.

Symbols

The following means of presentation are used in this manual:



Indicates instructions which, if not observed, endanger your health, the functionality of your device or the safety of your data.



Indicates additional information and tips.

Text

Texts in bold and/or underlined are texts or terms that should be highlighted.

General information



Read this manual carefully and attentively. Pay particular attention to information marked with the above symbols.



All brand names (marked with *) are registered trademarks of their respective owners.



The warranty expires if the device is defective due to improper intervention.

Important notes

Safety instructions

- Read this manual!
- Keep the manual in a safe place
- Note the warnings given
- Follow the instructions
- Do not use the device near water.
- Clean the device only with a dry, clean cloth.
- Do not block the ventilation slot.
- Only install the device according to the instructions in this manual.
- Do not operate in the vicinity of heat sources such as radiators, stoves or other heat-generating devices (e.g. amplifiers).
- This unit is supplied with an IEC power cord and molded power plug. This is for your safety! Do not attempt to replace the supplied cable yourself if it does not fit on your socket. Consult a competent electrician instead. The electrician can replace the cable by a cable that corresponds to the mains sockets of your country. Or have obsolete sockets replaced by new ones.
- Protect the power cord from being crushed or kicked, especially at plugs, sockets, and points where cables enter the unit.
- Only use accessories and accessories that are suitable according to the manufacturer.
- Unplug this equipment during lightning storms or when it is not going to be used for a long time.
- Have all maintenance work carried out by qualified personnel. Servicing is required if the apparatus has been damaged in any way, such as power-supply cord or plug has been damaged, the apparatus has been dropped, is exposed to moisture, or does not operate normally.
- Electric Safety: Installation and operation must accord with electric safety standard
- Caution to transport: Avoid stress, vibration and soakage in transportation, storage and installation.
- Polarity of power supply: The power supply of the product is $\pm 12V$, the max electrical current is 2A .Polarity of the power supply drawing.
- Careful of installation: Never move the camera by seizing the camera head. Don't rotate camera head by hand; otherwise, mechanical trouble will occur. This series item must be put on the smooth desk or platform, and it cannot be installed slant ways; If the camera is installed on TV or computer, the base can be fixed by four double-sided adhesive trays. Don't apply incorrosive liquid, as or solid environment to avoid the cover which is made up of organic material. To make sure no obstacle in rotation range. Never power on before installation is completed.
- Don't disassemble discretionarily: We are not responsible for any unauthorized modification or dismantling.
- Attention: Electromagnetic field under certain rate may affect camera image!

Safety information

Warning!



To reduce the risk of fire or electric shock, do not expose the appliance to rain or moisture. Do not open the appliance! There are potentially dangerous voltages inside. Refer all servicing to qualified service personnel.

Watch your step!



Use only accessories recommended by the manufacturer to avoid fire, electric shock or other hazards. Do not remove any parts of the housing to avoid the risk of electric shock. There are no user serviceable parts. Refer all servicing to qualified service personnel.

Disconnection from mains

To disconnect the appliance from the power supply, unplug the appliance from the wall outlet.

Overload!



Do not overload your sockets and cables. This can lead to fire and electric shock.

Objects and liquids

Never insert objects of any kind into the openings of the unit. This may result in dangerous voltage or short-circuit parts, resulting in fire or electric shock. Do not spill any liquids on the product. If liquid is spilled on the product, unplug the product from the wall outlet and have it inspected by a technician.

Maintenance and care

There are no user serviceable parts! Do not attempt to repair the unit yourself. Never remove or open covers - this may expose you to dangerous voltages or other hazards. Leave all maintenance work to qualified personnel.

Only clean the device with a dry, clean cloth. Do not use detergents or other liquids.

Spare parts

If spare parts become necessary, make sure that the technician on site uses spare parts that are approved by the manufacturer or have the same characteristics as the original parts. The use of unsuitable spare parts may result in fire, electric shock and other hazards.

Safety Check

After maintenance or repair of the device, a safety check must be carried out to ensure that the device is in a safe operating condition.

Disposal



This symbol on the product, instruction manual or packaging indicates that electrical and electronic equipment should be disposed of separately from household waste at the end of its useful life. There is a collection system for recycling within the EU or outside the EU. For further information please contact the local authorities or the retailer where you purchased the product.



Ensure that used batteries are disposed of in accordance with local regulations. Never throw batteries into a fire (danger of explosion) and do not dispose of them in the trash can.

If devices are to be scrapped, remove all components such as batteries, housings, printed circuit boards and cables. Dispose of all individual components in accordance with local waste disposal regulations.

DIGIMIC Camera System

Thank you for choosing the camera system for your DIGIMIC microphone system. You have invested in future-proof camera and conference technology.

DIGIMIC is an autonomous solution without a PC that configures itself completely automatically. DIGIMIC meets the requirements of studio technology and thus goes far beyond the actual standard of conference technology. It goes without saying that the system can be linked to the PC at any time and can thus be controlled via software. Various functions can be implemented via the TCP/IP interface, such as microphone control, name management and voting.

The individual microphone units of the CMic series as well as the DDol32 interpreter console are almost self-explanatory in operation. Delegates and interpreters can thus concentrate on the real thing - the conversation.

In combination with the software brählerOS or CamControl2, the video switcher MS-SDI16 and the Brähler PTZ980 cameras, you have always perfectly set the stage for your conference. Up to 16 cameras can be connected to the Switcher and controlled via the software. Your delegates are thus always taken into the picture from the best possible angle.

System components

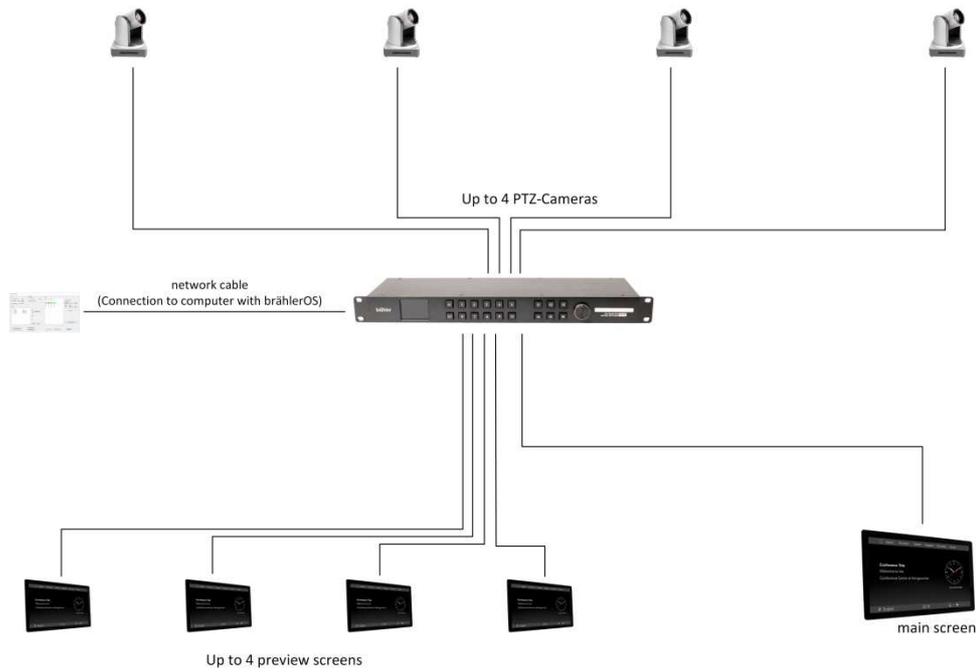
- Video-Switcher MS-SDI16
 - DCen32/DCen32 mini
 - CMic ID/CChair ID
 - CMic One/CChair One
 - SMic070 und SMic133
 - DLine32
 - DSwitch
 - DExt
 - DDol32
 - CSX4 und DIGIMIC CS
 - Brähler Microphones (TMD/01; TM58/6)
 - System accessories (cables etc.)
- Software components such as BrählerOS, CamControl2, DIGIVOTE2, DCen Weaver, etc.



For further information on the individual system components of the DIGIMIC family and their operation, please refer to the corresponding operating instructions.

Construction

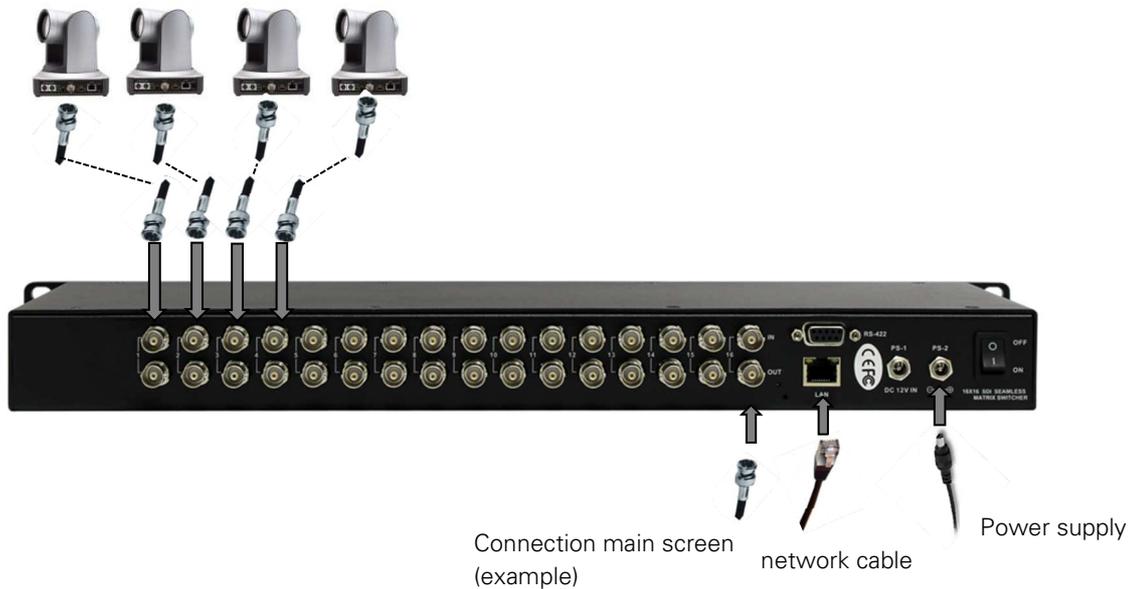
Example system image



The camera can be rotated, panned and zoomed. With a combination of several cameras, almost any angle of a conference room can be optimally staged.



Connect the video switcher and the desired number of cameras to a power source. Use only suitable cables and plugs. Connect the cameras to the video switcher (IN) using a matching SDI cable - camera 1 to output 1, camera 2 to output 2, and so on. Connect the cameras to your computer using the network cable. Position the cameras at their destination. If desired, connect (preview) screens to the video switcher (OUT).



If required, the cameras can be adjusted in addition via an external controller. This is useful, when speakers move away from predefined camera positions. If necessary, connect the external control to your computer via a network cable. (For operation of the camera control, please refer to the operating instructions of the corresponding device.)

The camera system is now ready for use.

Power on initial configuration

- 1) Power on: Connect DC12V power supply adapter to the power supply socket.
- 2) Initial configuration: Power on with power indicator light on and remote control receiver light blinking, camera head moves to very left and very bottom position first, then moves to a HOME position (intermediate position of both horizontal and vertical). When remote control receiver light stops blinking, the self-checking is finished
Note: If you set preset 0, when Power on self-test is completed, the camera automatically moves to the preset 0 position.

Video Output

1) Video Output from LAN

Webpage Login: Open your browser and enter the cameras default IP address **192.168.5.163** into the address bar (factory default). The login page should appear, then enter the user name *admin* and password *admin* (factory default)

Click on the "player is not installed, please download and install!" and follow the installation steps for installation. Now can carry out PTZ control, preset save and restore, configuration and other operations.

2) HDMI Video Output

Connect the camera via HDMI video cable to a suitable HDMI monitor; video output is available after camera self-test.

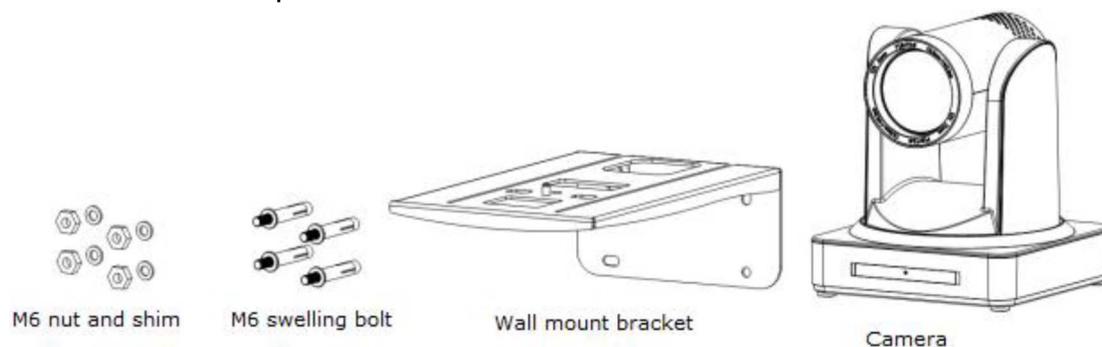
3) 3G-SDI Video Output

Connect the camera via 3G-SDI video cable to a suitable 3G-SDI monitor; video output is available after camera self-test.

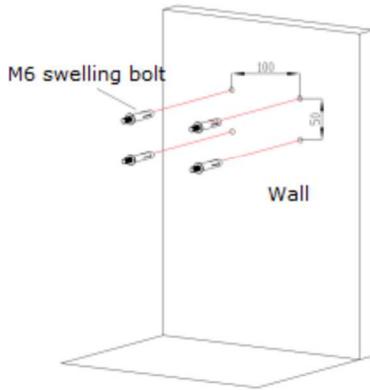
Bracket mount

Note: Bracket can only be wall mounted or upside down mounted on template and concrete wall, but cannot be installed on plasterboard.

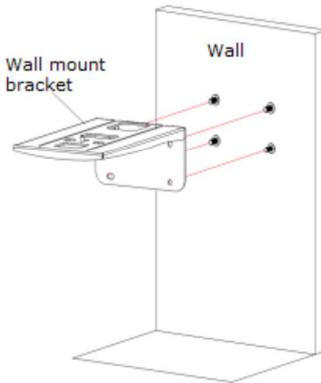
1) Wall mount step



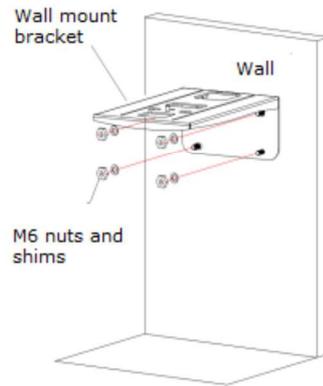
Step 1



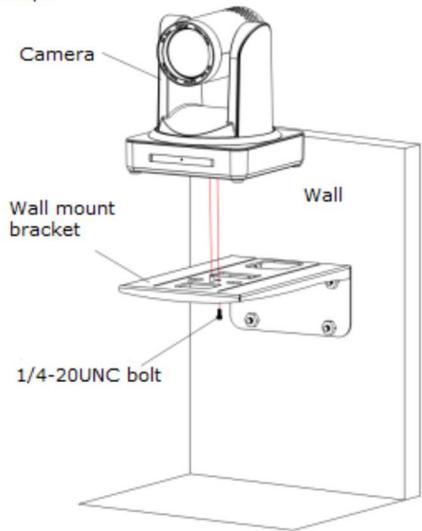
Step2



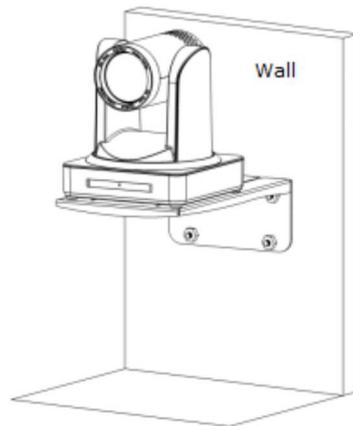
Step3



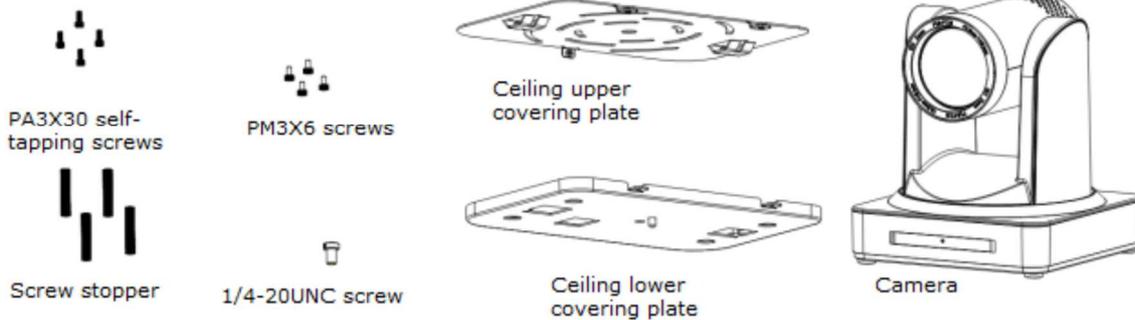
Step4



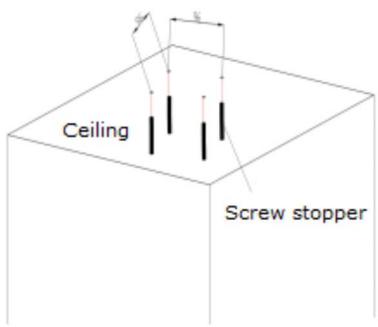
Finish



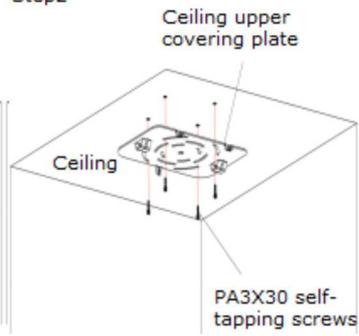
2. Upside down mount step



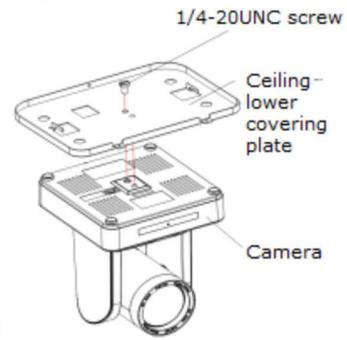
Step1



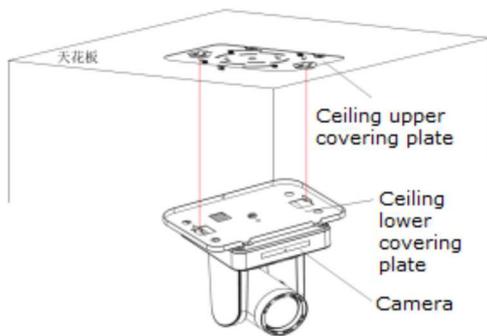
Step2



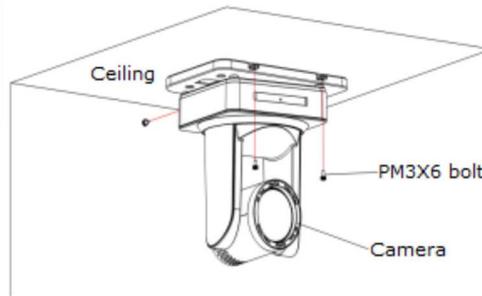
Step3



Step4



Step5



Main Features

Camera Performance

This series camera offers perfect functions, superior performance and rich interfaces. The features include advanced ISP processing algorithms to provide vivid images with a strong sense of depth, high resolution and fantastic color rendition. It supports H.265/H.264 encoding which makes motion video fluent and clear even with less than ideal bandwidth conditions.

1. **Superb High-definition Image:** It employs 1/2.8inch high quality CMOS sensor. Resolution is up to 1920x1080 with frame rate up to 60 fps.
2. **Various Optical Zoom Lenses:** It has 12X/20X optical zoom lens for options.
3. **Leading Auto Focus Technology:** Leading auto focus algorithm makes lens a fast, accurate and stable auto-focusing.
4. **Low Noise and High SNR:** Low Noise CMOS effectively ensure high SNR of camera video. Advanced 2D/3D noise reduction technology is also used to further reduce the noise, while ensuring image sharpness.
5. **Quiet PTZ:** By adopting high accuracy step driving motor mechanism, it works extremely quiet and moves smoothly and very quickly to a designated position.
6. **Multi-Format Video Outputs:** support HDMI, 3G-SDI, USB, wired LAN and wireless LAN interfaces. The 3G-SDI is available for 100m transmission at 1080p60 format.
7. **Multiple Remote Controls:** There is IR remoter and 2.4G wireless remote for options. The 2.4G wireless remote controller will not be affected by angle, distance or IR interference. Support transparent transmission function.
8. **Low-power Sleep Function:** Support low-power sleep/wake up, the consumption is lower than 500mW under sleep mode.
9. **Support Multiple Control Protocol:** Support VISCA, PELCO-D, PELCO-P protocols which can also be automatically recognized. Support VISCA control protocol through IP port.
10. **RS-232 Cascade Function:** ST series support RS-232 cascade function which is convenient for installing.
11. **255 Presets Positions:** Up to 255 presets (10 presets by remoter).
12. **Wide Application:** Tele-education, Lecture capture, Webcasting, Video conferencing, Tele-training, Tele-medicine and Interrogation

Network performance

1. **Audio Input Interface:** Support 16000,32000,44100,48000 sampling frequency and AAC, MP3, PCM audio coding.
2. **Multiple Audio/Video Compression:** Support H.264/H.265 video compression; AAC, MP3 and PCM audio compression; Support compression of resolution up to 1920x1080 with frame up to 60 fps and 2 channel 1920x1080p with 30 fps compression.
3. **Multiple network protocol:** Support ONVIF, RTSP, RTMP protocols and RTMP push mode, easy to link streaming media server (Wowza, FMS)

Technical Specification

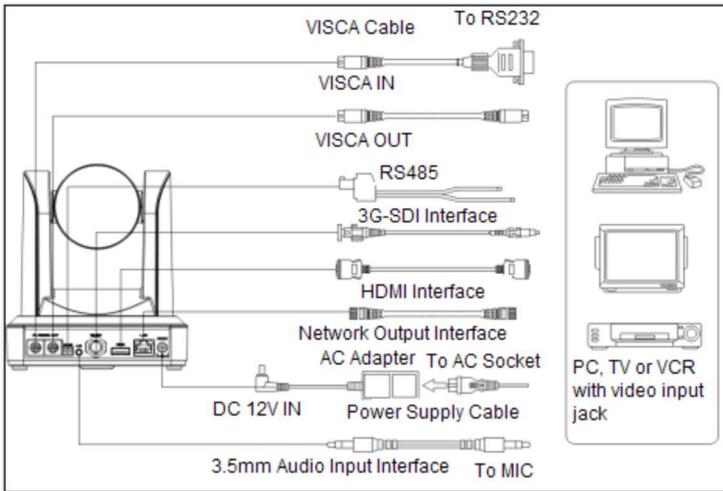
Model	PTZ980
Camera Parameter	
Sensor	1/2.8 inch high quality HD CMOS sensor
Effective Pixels	16: 9 2.07 megapixel
Video Format	1080P60/50/30/25/59.94/29.97; 1080I60/50/59.94; 720P60/50/30/25/59.94/29.97
Optical Zoom	12X, f=3.9~46.1mm
View Angle	6.3° (tele) 72.5° (wide)
AV	F1.8 – F2.4
Digital Zoom	10X
Minimum Illumination	0.5Lux(F1.8, AGC ON)
DNR	2D & 3D DNR
White Balance	Auto / Manual/ One Push/3000K/4000K/5000K/6500K
Focus	Auto/Manual
Aperture	Auto/Manual
Electronic Shutter	Auto/Manual
BLC	ON/OFF
WDR	OFF/ Dynamic level adjustment
Video adjustment	Brightness, Color, Saturation, Contrast, Sharpness, B/W mode, Gamma curve
SNR	>55dB
Input/Output Interface	
Video Interfaces	HDMI、3G-SDI、LAN
Image code stream	Double stream outputs simultaneously
Video Compression format	H.264, H.265
Control Signal Interface	RS-232 Ring through RS232 output, RS-485
Control Protocol	VISCA/Pelco-D/Pelco-P; Baud Rate: 115200/9600/4800/2400bps
Audio input Interface	Double track 3.5mm linear input;
AudioCompression Format	AAC/MP3/PMC Audio compression
HD IP Interface	100M IP port(100BASE-TX); support IP Visca control protocol
Network Protocol	RTSP/RTMP,ONVIF
Power Interface	HEC3800 outlet (DC12V)

PTZ Parameter	
Pan Rotation	±170°
Tilt Rotation	-30°~+90°
Pan Control Speed	0.1 -180°/sec
Tilt Control Speed	0.1-80°/sec
Preset Speed	Pan: 60°/sec, Tilt: 30°/sec
Preset Number	255 presets(10 presets by remote controller)
Other Parameter	
Supply Adapter	AC110V-AC220V to DC12V/2A
Input Voltage	DC12V±10%
Input Current	1A (Max)
Consumption	12W (Max)
Store Temperature	-10°C to +60°C
Store Humidity	20% -95%
Working Temperature	-10°C to +50°C
Working Humidity	20%–80%
Dimension	150mmx150mmx167.5mm
Weight	1.4kG
Working Environment	Indoor
Remote Operation (IP)	Remote Upgrade, Reboot and Reset
Accessory	Power Supply、RS232 Control Cable
Optional Accessory	Bracket

Interface Instruction

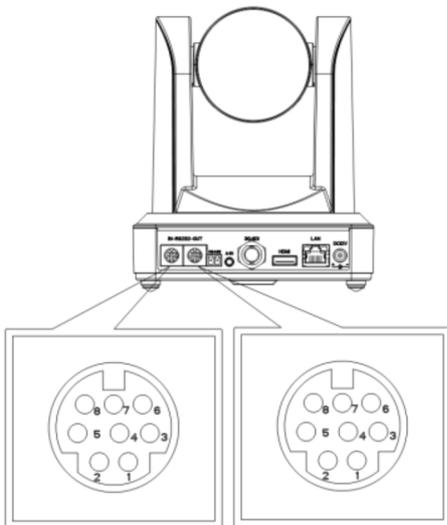
External Interface

External interface of PTZ980: RS232 Input/Output, RS485 Input, Audio Input, 3G-SDI Output, HDMI Output, LAN, DC12V Power Interface.



RS-232 Interface

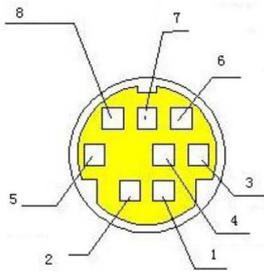
232C interface specification as shown below



Computer or keyboard and camera connection method	
Camera	WindowsDB-9
1.DTR	1.DCD
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

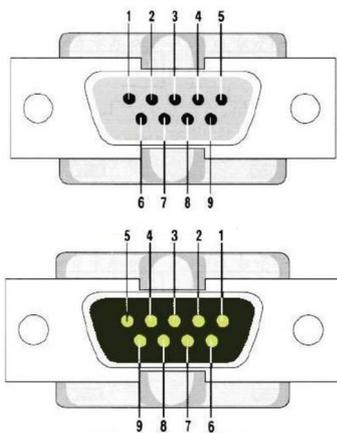


RS-232 Mini-DIN 8-pin Port Definition



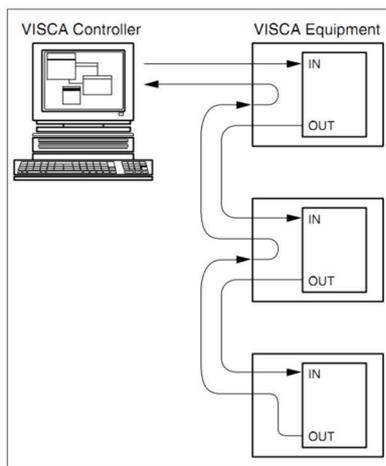
NO.	Port	Definition
1	DTR	Data Terminal Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	System Ground
5	RXD	Receive Data
6	GND	System Ground
7	IR OUT	IR Commander Signal
8	NC	No Connection

RS232 (DB9) Port Definition



NO.	Port	Definition
1	DCD	Data Carrier Detect
2	RXD	Receive Data
3	TXD	Transmit Data
4	DTR	Data Terminal Ready
5	GND	System Ground
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

VISCA networking as shown below:

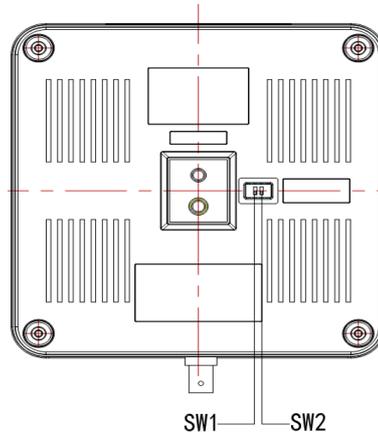


Camera cascade connection method	
Camera 1	Camera 2
1.DTR	1.DTR
2.DSR	2.DSR
3.TXD	3.TXD
4.GND	4.GND
5.RXD	5.RXD
6.GND	6.GND
7.IR OUT	7.OPEN
8. NC	8.OPEN



The camera has a RS232 input and output interface, so you can cascade as the above way.

Bottom Dial Switch



Dial Switch setting

No.	SW 2	SW 1	Explanation
1	OFF	OFF	Software Upgrade Mode
2	ON	ON	Working Mode

Application Instruction

Video Output

Power-On Initial Configuration

Connecting the power, camera will have initial configuration, R indicator light will be flashing. When the camera return to the HOME position (middle position for P/T), and lens finish zoom in/out, the auto-testing is finished. IR led will also stop flashing. If the preset 0 is set, camera will rotate to the 0 preset position after initial configuration.

Video Output

Connect to the video output cable: the user select the output mode according to the machine model.

1) network output: connect this product and your computer through network cable, then open the browser, enter the camera IP address (factory default 192.168.5.163) in the address bar, then to the login page and input a user name and password (factory default are "admin") ,Finally enter the preview page, and the image comes out.



If you forget your user name, password, IP address, you can manually restore the default by the remote controller key combination * #

2) 3G-SDI output or HDMI output: Connect the monitor with the corresponding video output interface, then the monitor output image.

Remote Controller



Keys Instruction

1. Standby Key

After 3S long press, the camera will step into standby mode. Long press 3S again, the camera will self-test again and back to HOME position. (Note: If power-on mode is turned on and Preset 0 is set, and there is no operation within 12s, it will automatically point to the specified preset position.

2. Camera Address Selection

Select the camera **address** which wants to be controlled

3. Number Key

Set or run 0-9 presets

4. *,# Key

Key combination use

5. Focus Control Key

Auto Focus: Enter into auto focus mode.

Manual Focus: The camera focus mode is manual

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

6. Zoom Control Key

Zoom +: Lens near

Zoom -: Lens far

7. Set or Clear Preset key:

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

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

8. Pan/Tilt Control Key

Press Key :Up

Press Key :Down

Press Key :Left

Press Key: Right

"HOME" Key: Return to the middle position or enter into the next level menu

9. BLC Control Key

Back Light ON / OFF: Turn on or off the back light

10. Menu Setting

Open or close the OSD menu

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

11. Camera IR Remote Control Address Setting

【*】 + 【#】 + 【F1】 :Camera Address No.1

【*】 + 【#】 + 【F2】 :Camera Address No. 2

【*】 + 【#】 + 【F3】 :Camera Address No. 3

【*】 + 【#】 + 【F4】 :Camera Address No. 4

12. Key Combination Functions

- | | |
|--|--|
| 1) 【#】 + 【#】 + 【#】 :Clear all presets | 2) 【*】 + 【#】 + 【6】 :Restore factory defaults |
| 3) 【*】 + 【#】 + 【9】 :Flip switch | 4) 【*】 + 【#】 + Auto : Enter into the aging mode |
| 5) 【*】 + 【#】 + 【3】 :Menu set to Chinese | 6) 【*】 + 【#】 + 【4】 :Menu set to English |
| 7) 【*】 + 【#】 + Manual : Restore the default user name, password, and IP address | 8) 【#】 + 【#】 + 【0】 :Switch the video format to 1080P60 |
| 9) 【#】 + 【#】 + 【1】 : Switch the video format to 1080P50 | 10) 【#】 + 【#】 + 【2】 :Switch the video format to 1080I60 |
| 11) 【#】 + 【#】 + 【3】 :Switch the video format to 1080I50 | 12) 【#】 + 【#】 + 【4】 :Switch the video format to 720P60 |
| 13) 【#】 + 【#】 + 【5】 :Switch the video format to 720P50 | 14) 【#】 + 【#】 + 【6】 :Switch the video format to 1080P30 |
| 15) 【#】 + 【#】 + 【7】 :Switch the video format to 1080P25 | 16) 【#】 + 【#】 + 【8】 :Switch the video format to 720P30 |
| 17) 【#】 + 【#】 + 【9】 :Switch the video format to 720P25 | |

Applications

Finishing initialization, it can receive and execute the IR commands. Press the remote controller button, the indicator light is flashing; release the button, the indicator light stops flashing. Users can control the pan/tilt/zoom , setting and running preset positions via the IR remote controller.

Key Instruction:

1. In this instruction, “press the key” means a click rather than a long-press, and a special note will be given if a long-press for more than one second is required.
2. When a key-combination is required, do it in sequence. For example, “ **【*】 + 【#】 + 【F1】** ” means press “ **【*】** ” first and then press “ **【#】** ” and last press “ **【F1】** ”.

1. Camera Selection



Select the camera address to control.

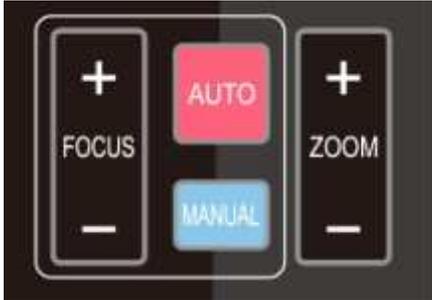
2. Pan/Tilt Control



Up: press ▲ Down: press ▼
 Left: press ◀ Right: press ▶▶▶
 Back to middle position: press “ **【HOME】** ”

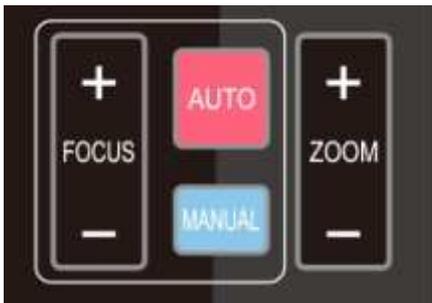
Press and hold the up/down/left/right key, the pan/tilt will keep running, from slow to fast, until it runs to the endpoint; the pan/tilt running stops as soon as the key is released.

3. Zoom Control



ZOOM IN: press "ZOOM + " key
 ZOOM OUT: press "ZOOM - " key
 Press and hold the key, the camera will keep zooming in or zooming out and stops as soon as the key is released.

4. Focus Control



Focus (near): Press " 【focus+】 " key
 (Valid only in manual focus mode)
 Focus (far): Press " 【focus-】 "key
 (Valid only in manual focus mode)
 Auto Focus: Support
 Manual Focus: Support
 Press and hold the key, the action of focus will keep continue and stops as soon as the key is released.

5. BLC Setting



BLC ON / OFF: support

6. Presets Setting, Running, Clearing



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

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

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

Note: Action in vain if a relative preset position is not existed.

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

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



Camera Remote Controller Address Setting



【*】 + 【#】 + 【F1】 :Camera Address No. 1

【*】 + 【#】 + 【F2】 :Camera Address No. 2

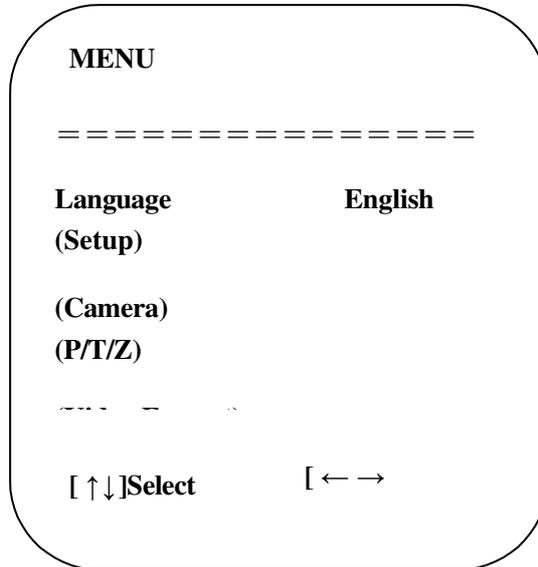
【*】 + 【#】 + 【F3】 :Camera Address No. 3

【*】 + 【#】 + 【F4】 :Camera Address No. 4

MENU SETTING

Main Menu

In normal working mode, press 【MENU】 key to display the menu, using scroll arrow to point at or highlight the selected items.



LANGUAGE: Language setting, Chinese / English

SETUP: System setting

CAMERA OPTION: Camera

setting **PTZ OPTION:** Pan tilt

setting **VERSON:** camera

version setting **Restore Default:**

Reset setting

[↑↓] Select: for selecting menu

[←→] Change Value: for modify

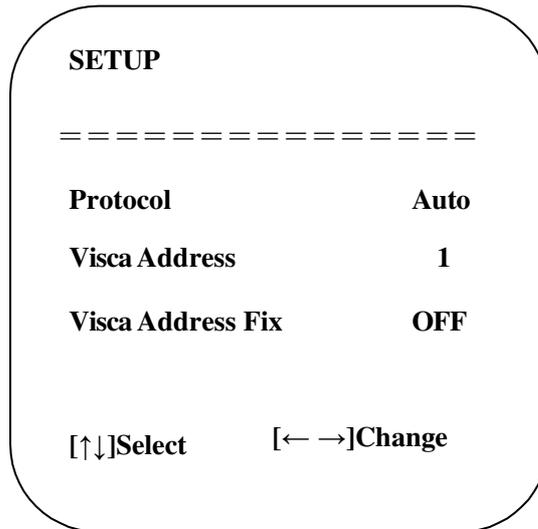
parameters **[MENU] Back:** Press

[MENU] to return **[Home] OK:** Press

[Home] to confirm

System Setting

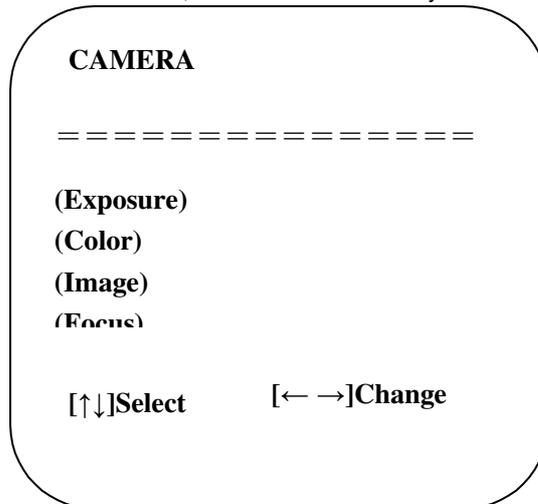
Move the pointer to the (Setup) in the Main Menu, click the 【HOME】 key and enter into the (System Setting) as shown below,



PROTOCOL: VISCA/Pelco-P/Pelco-D/Auto
Visca ADDR: VISCA=1~7 Pelco-P=1~255 Pelco-D = 1~255
Baud rate: 2400/4800/9600/115200
Visca Address Fix: On/Off

Camera Setting

Move the pointer to the (CAMERA) in the Main Menu, click the **[HOME]** key and enter the (CAMERA) as follow,



EXPOSURE: Enter into Exposure setting
COLOR: Enter into color setting
Image: Enter into image setting
Focus: Enter into focus setting
Noise Reduction: Enter into noise reduction

EXPOSURE SETTING

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

EXPOSURE	
=====	
Mode	Auto
EV	OFF
BLC	OFF
Anti-Flicker	50Hz
Gain Limit	3
WDR	5

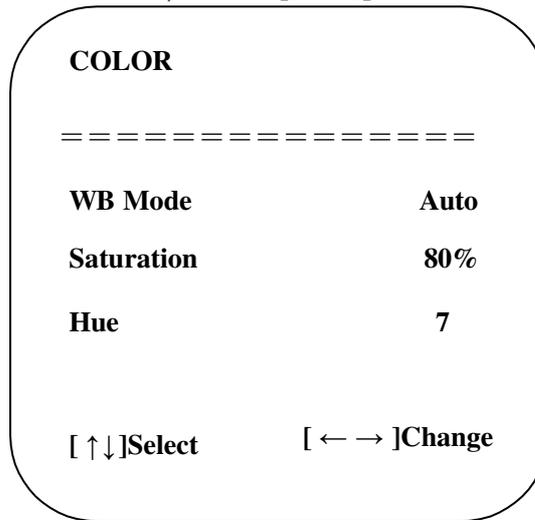
- Mode** : Auto, Manual, Shutter priority, Iris priority and Brightness priority.
- EV** : On/Off (only available in auto mode)
- Compensation Level**: -7~7 (only available in auto mode when EV is ON)
- BLC**: ON/OFF for options (only available in auto mode)
- Anti-Flicker**: OFF/50Hz/60Hz for options (only available in Auto/Iris **priority**/Brightness **priority** modes)
- Gain Limit**: 0~15(only available in Auto/ Iris **priority** /Brightness **priority** mode)
- WDR**: Off,1~8

Shutter

- Priority**:1/25,1/30,1/50,1/60,1/90,1/100,1/120,1/180,1/250,1/350,1/500,1/1000,1/2000,1/3000,1/4000,1/6000,1/10000(only available in Manual and Shutter priority mode)
- IRIS Priority**:OFF,F11.0,F9.6,F8.0,F6.8,F5.6,F4.8,F4.0,F3.4,F2.8,F2.4,F2.0,F1.8(only available in Manual and Iris priority mode)
- Brightness**: 0~23 (only available in Brightness **priority** mode)

COLOR SETTING

Move the pointer to the (COLOR) in the Main Menu, click the **[HOME]** and enter the (COLOR SET) as follow,



WB Mode:Auto,3000K,4000K,5000K,6500K,Manual,One Push

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

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

Saturation: 60%,70%,80%,90%,100%,110%,120%,130%

Hue: 0~14

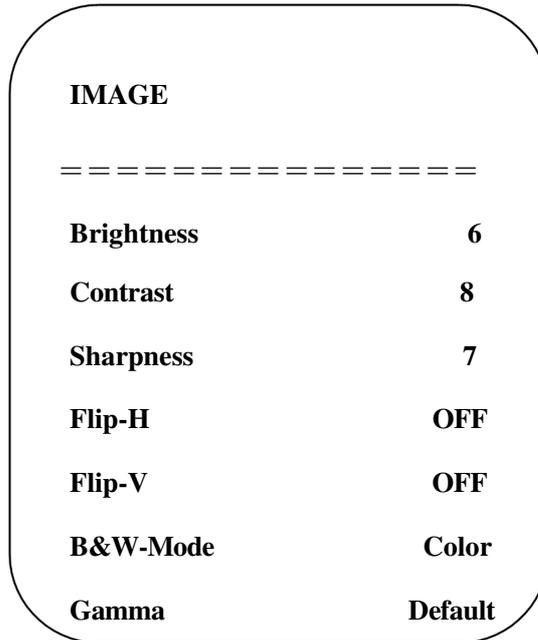
AWB Sensitivity: high/middle/low

Color Style: Default, style1~4.

Color Temp: high/middle/low

IMAGE

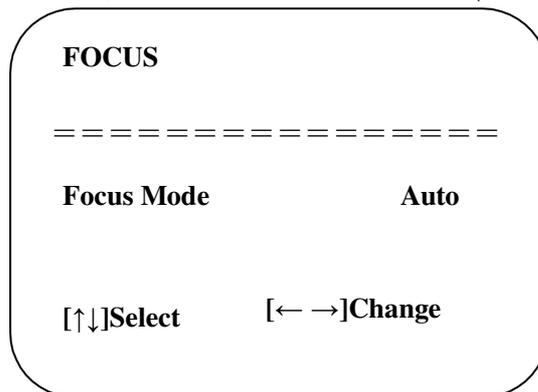
Move the pointer to the (IMAGE) in the Menu, click the **【HOME】** and enter the (IMAGE) as follow,



- Brightness:** 0~14
- Contrast:** 0~14
- Sharpness:** 0~15
- Flip-H:** On/Off
- Flip-V:** On/Off
- B&W Mode:** color, black/white
- Gamma:** default, 0.47, 0.50, 0.52, 0.55
- DZoom:** digital zoom options: On/Off
- DCI: Dynamic Contrast:** Off, 1~8

FOCUS

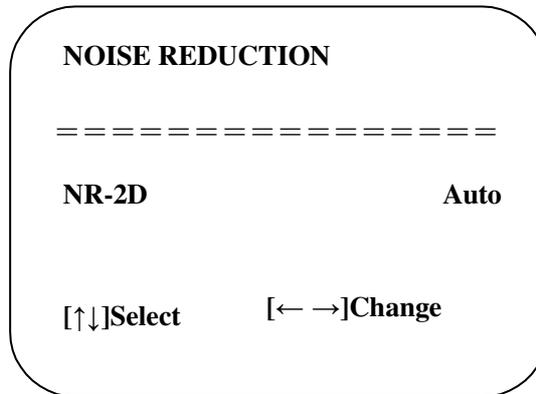
Move the pointer to the (FOCUS) in the Menu, click the **【HOME】** and enter the (FOCUS) as follow,



- Focus Mode:** Auto, manual
- AF-Zone:** Up, middle, down
- AF-Sensitivity:** High, middle, low

NOISE REDUCTION

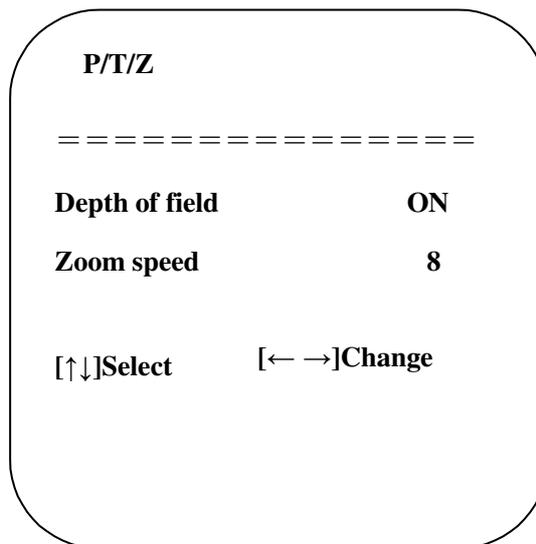
Move the pointer to the (NOISE REDUCTION) in the Menu, click the 【 HOME 】 and enter the (NOISE REDUCTION) as follow,



- 2D Noise Reduction:** Auto, close, 1~7
- 3D Noise Reduction:** Close, 1~8
- Dynamic Hot Pixel:** Close, 1~5

P/T/Z

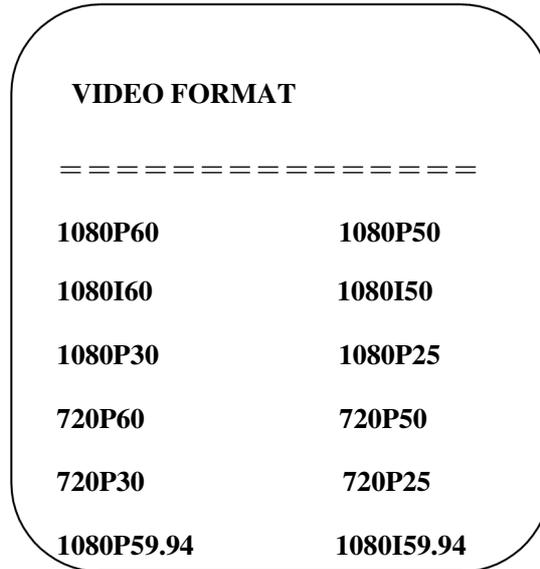
Move the pointer to the (P/T/Z) in the Main Menu, click the 【 HOME 】 and enter the (P/T/Z) as follow,



- Depth of Field:** Only effective for remote controller, On/ Off; (When zoom in, the PT control speed by remoter will become slow),
- Zoom Speed:** Set the zoom speed for remote controller, 1~8
- Image Freezing:** On/Off
- Accelerating Curve:** Fast/slow

Video Format

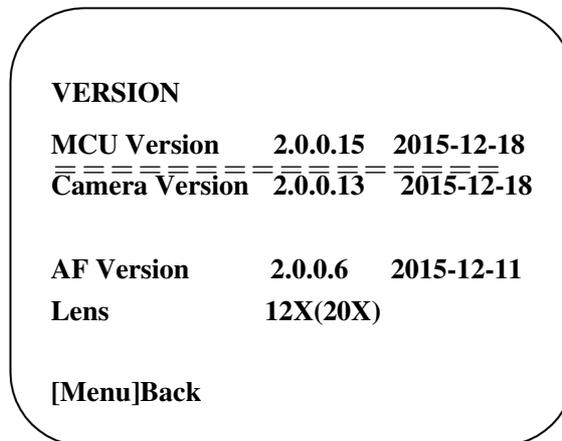
Move the pointer to the (Video Format) in the Menu, click the [HOME] and enter the (Video Format) as follow,



Note: 1. S: 1080P60 Downward Compatibility; M: 1080P30 Downward Compatibility
2. Exit menu after modifying parameter to save it after powered off

Version

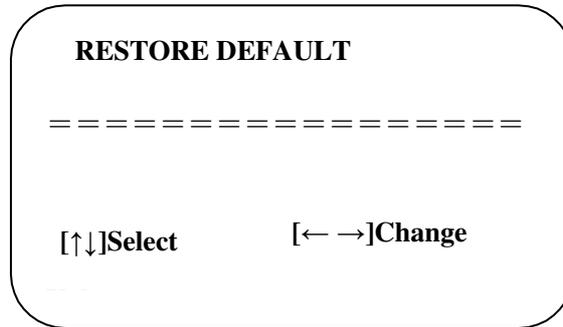
Move the pointer to the (VERSION) in the Main Menu, click the [HOME] and enter the (VERSION) as follows



MCU Version: Display MCU version information
Camera Version: Display camera version information
AF Version: Display the focus version information
Lens: Display the lens zoom

Restore Default

Move the pointer to the (RESTORE DEFAULT) in the Main Menu, click the **[HOME]** and enter the (RESTORE DEFAULT) as follow,



Restore default: options: yes/no; after restoring default, the video format won't be restored.

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