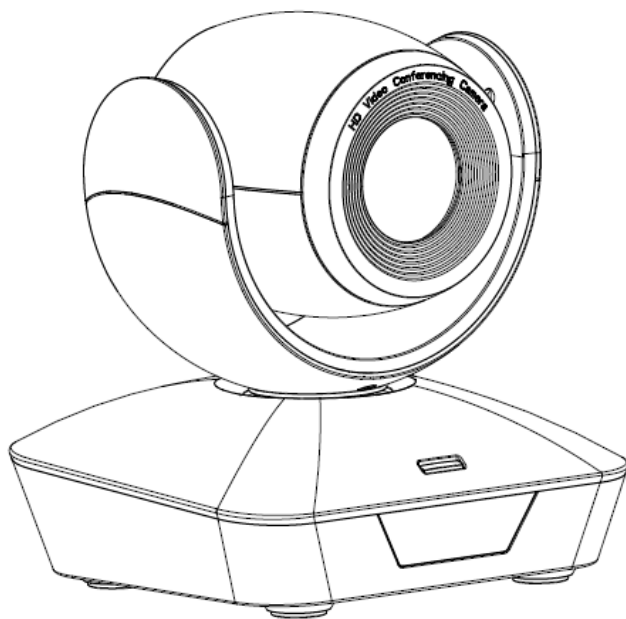


Dual SDI ePTZ Camera User Manual



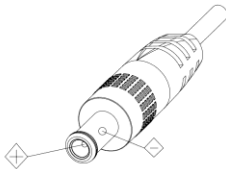
Version V1.0
(English)

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SAFETY GUIDES

1. Before operation, please fully read and follow all instructions in the manual. For your safety, always keep this manual with the camera.
2. The camera power input range is 100-240VAC(50-60Hz), ensure the power supply input within this rate before powering on.
3. The camera power voltage is 12VDC, rated current is 0.5A. We suggest you use it with the original power supply adapter supplied by the factory.
4. Please keep the power cable, video cable and control cable in a safe place. Protect all cables especially the connectors.
5. Operational environment: 0°C -50°C, humidity less than 90%. To avoid any danger, do not put anything inside the camera, and keep away from the corrosive liquid.
6. Avoid stress, vibration and damp during transportation, storage and installation.
7. Do not detach the camera housing and cover. For any service, please contact authorized technicians.
8. RF cable and control cable should be individually shielded, and cannot be substituted with other cables. Do not direct the camera lens towards strong light, such as the sun or the intensive light.
9. Use a dry and soft cloth to clean the camera housing. Applied with neutral cleaning agent when there is need to clean. To avoid damage on the camera lens, never use strong or abrasive cleaning agents on the camera housing.
10. Do not move the camera by holding the camera head. To avoid mechanical trouble, do not rotate the camera head by hand.
11. Put the camera on fixed and smooth desk or platform, avoid leaned installation.
12. Power Supply Polarity(Drawing)



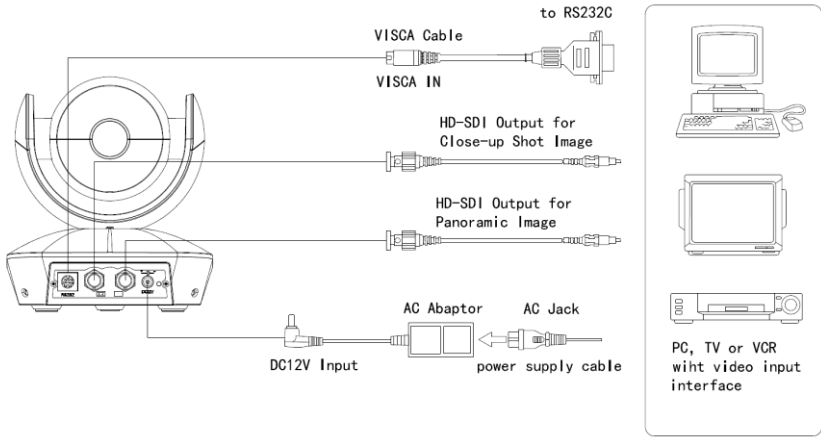
ACCESSORIES

Check all bellow items when open the package:

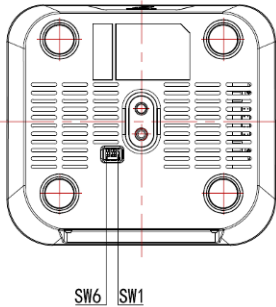
Camera	1
Power Adapter	1
Power Cable	1
RS232 Control Cable	1
Remote Controller	1
User Manual	1
Double-sided Adhesive.....	1
Certificate.....	1

QUICK START

1. Check all cable connections before power on.



2. Dial Switch Setting (at the bottom of the camera):



Dial Switch (ARM)				
	SW-1	SW-2	SW-3	Function
1	ON	ON	ON	Working Mode
2	ON	OFF	ON	Panoramic Image Upgrading Mode
3	ON	OFF	OFF	Close-up Shot Image Upgrading Mode
4	OFF	OFF	---	ARM Upgrading Mode
5	Others			Invalid

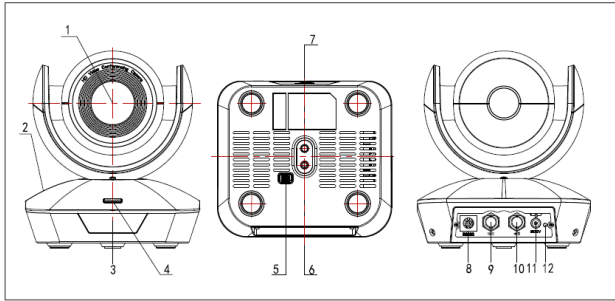
PRODUCT HIGHLIGHTS

- Adopts advanced Ambarella DSP, 1/1.8 inch 12MP image sensor, and high quality 4K fixed optical lens, provides fluent and crystal image quality
- Fast switching between different video formats: less than 1 second
- No mechanical rotation, no mechanical wear
- Dual 1080P HD output, both panoramic and close-up image simultaneously output
- Fixed lens with different focal length optional, 2x electronic zoom
- Easy firmware upgrade-(field-upgradable)
- Effective RS232/485 serial control
- Up to 128 presets
- With powerful functional remote controller
- IR transfer/IR pass function: except receiving the camera remote controller signal, the camera can also receive other codec's IR remote control signal, and pass these IR control signal to the codec's IR receiver (via VISCA IN port).
- Multi-language OSD menu: English & Chinese

PRODUCT SPEC

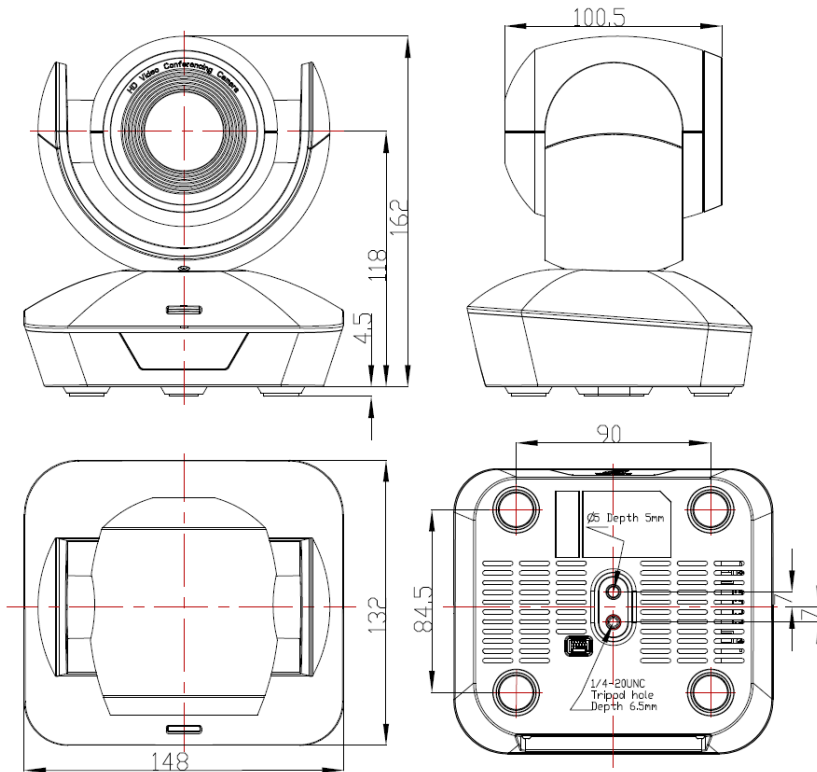
Video Format	1080P30,1080P25
Video Port	Dual SDI ports: Panoramic & close-up shot Image
Sensor	1/1.8inch , 12.4MP CMOS sensor
Lens	5mm,8mm,12mm,16mm optional
Pan/tilt Rotation	Pan: ±480 pixel; Tilt: ±270pixel; support up-side down installation
Pan/tilt Speed	16 levels speed (0x01-0x10)
Preset	10 via IR remote setting, 128 via VISCA control
Control Port	RS232/RS485 , USB3.0/USB2.0
Min. Lux	0.01 Lux
White Balance	Auto/Indoor/Outdoor/One Push/Auto Tracking/Manual/ sodium lamp/ fluorescent lamp
Focus	Fixed
Iris	Fixed
Shutter	Auto/Manual
WDR	Supported
BLC	Supported
2D Noise Reduction	Supported
3D Noise Reduction	Supported
Input Voltage	12VDC
Dimension	220mm×173mm×117mm
Net weight	0.9KGS (2LBS)

CAMERA INTERFACE



- | | | |
|---------------------|------------------------|-------------------------------|
| 1.Camera Lens | 5.Dial Switch | 9.Panoramic SDI Output |
| 2.Camera Base | 6.Tripod Screw Hole | 10.Close-up Shot SDI Output |
| 3.IR Receiver Panel | 7.Installation Hole | 11.12VDC Power Input |
| 4.Indicator Light | 8.RS232(VISCA IN) Port | 12.Power Indicator Light(Red) |

DIMENSION (MM)



IR REMOTE CONTROLLER



LED Function Instruction

Press any button and shows in red color: Current selection is to control the camera;
Press any button and shows in green color: Current selection is to control the codec;
Press any button and shows in blue color: Current selection is to control the TV;

Power button

Red button: in normal work mode, short press one time, camera will enter standby mode; short press again, the camera will start self-configuration and go to HOME position; it will go to No.0 preset position if that was set;

Green button: Codec power button(need to learn the button coding);

Blue button: TV power button(need to learn the button coding);



Focus (Left): +/-

Manual focus, only valid under manual focus model;

Zoom (Right): +/-

Control the lens zoom rate;

Navigate : Up/Down/Left/Right

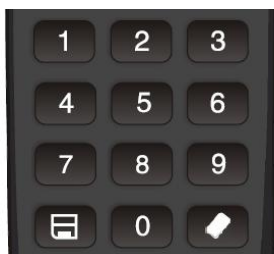
In normal working mode, use navigate key to control pan/tilt;

Confirm/Home button:

In normal working mode, short press to let the camera go back to Home position.



Menu button: show the camera version



Number buttons

Set Preset: Long press(3seconds) the number button to save preset;

Clear Preset: Clear+number button to clear the relative preset;

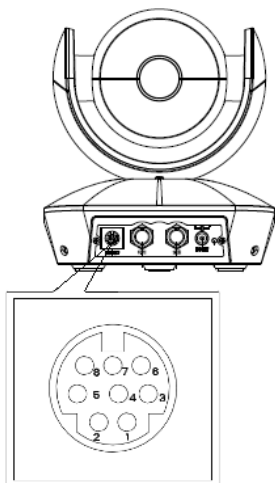
Long press(3seconds) the Clear button to clear all preset;

Run Preset: Short press the number button to run the relative preset.

LEARNING FUNCTION:

1. Press the green button, the LED indicator light will show in green color for 1 second, means switch to video terminal/codec control mode;
2. **Single Button Coding:** long press(3seconds) Home +number"1" button simultaneously, the green indicator LED will light, enter button learning mode, press the buttons which need to be learned, LED will start flickering(1HZ), now can start button learning: get the codec remote point to the camera remote's infrared tube(about 10cm distance), then press the button which need to be learned, the LED re-flickering when learning finishes ; press other buttons which also need to be learned; Press the Home+"0" buttons simultaneously to exit and save all remote data. If the button learning fails, the camera will enter normal working mode after 15seconds, LED will extinguish.
3. **All Button Coding:** long press (3seconds) Home+number"2" button simultaneously, the green indicator LED will start flickering(1HZ), to enter all button learning mode; get codec remote point to the camera remote's infrared tube(about 10cm distance), to start all button coding mode, the LED will extinguish when learning finished. If the button learning fails, the camera will enter normal working mode after 15seconds, LED will extinguish.
4. **All Button Sending Mode:** long press (3seconds) the Menu+ number "3" button simultaneously, the remote will enter all button sending mode.
5. Similar operation for the TV control mode learning.

VISCA IN(RS232) PORT



No.	Function
1	DTR
2	DSR
3	TXD
4	GND
5	RXD
6	A(+)
7	IR OUT
8	B(-)

VISCA IN & RS485 Connection

VISCA IN		RS485
1	DTR	
2	DSR	
3	TXD	
4	GND	GND
5	RXD	
6	A(+)	A(+)
7	IR OUT	
8	B(-)	B(-)

SERIAL PORT CONFIGURATION:

Parameter	Value	Parameter	Value
Baud rate	2400/4800/9600/115200	Stop Bit	1bit
Start Bit	1 bit	Verify Bit	None
Date Bit	8 bit		

VISCA PROTOCOL

PART 1 CAMERA RETURN COMMAND

Ack/Completion Message		
	Command Packet	Note
ACK	z0 41 FF	Returned when the command is accepted.
Completion	z0 51 FF	Returned when the command has been executed.

z = camera address+8

Error Messages		
	Command Packet	Note
Syntax Error	z0 60 02 FF	Returned when the command format is different or when a command with illegal command parameters is accepted
Command Not Executable	z0 61 41 FF	Returned when a command cannot be executed due to current conditions. For example, when commands controlling the focus manually are received during auto focus.

Part2 CAMERA CONTROL COMMAND

Command	Function	Command Packet	Note
AddressSet	Broadcast	88 30 01 FF	Address setting
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear
CAM_Power	On	8x 01 04 00 02 FF	Power ON/OFF
	Off	8x 01 04 00 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	p = 0(low)~7(high) pqrs: Zoom Position (0(wide) ~0x0080(tele))
	Tele(Standard)	8x 01 04 07 02 FF	
	Wide(Standard)	8x 01 04 07 03 FF	
	Tele(Variable)	8x 01 04 07 2p FF	
	Wide(Variable)	8x 01 04 07 3p FF	
CAM_WB	Direct	8x 01 04 47 0p 0q 0r 0s FF	
	Auto	8x 01 04 35 00 FF	
	Indoor	8x 01 04 35 01 FF	
	Outdoor	8x 01 04 35 02 FF	
	OnePush	8x 01 04 35 03 FF	
	ATW	8x 01 04 35 04 FF	
	Manual	8x 01 04 35 05 FF	
	Outdoor Auto	8x 01 04 35 06 FF	
Sodium Lamp Auto	8x 01 04 35 07 FF		
Sodium Auto	8x 01 04 35 08 FF		
CAM_RGain	Reset	8x 01 04 03 00 FF	Manual Control of R Gain

Command	Function	Command Packet	Note
	Up	8x 01 04 03 02 FF	pq: R Gain (0~0xFF)
	Down	8x 01 04 03 03 FF	
	Direct	8x 01 04 43 00 00 0p 0q FF	
CAM_Bgain	Reset	8x 01 04 04 00 FF	Manual Control of B Gain
	Up	8x 01 04 04 02 FF	
	Down	8x 01 04 04 03 FF	
	Direct	8x 01 04 44 00 00 0p 0q FF	pq: B Gain (0-0xFF)
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode
	Manual	8x 01 04 39 03 FF	Manual Control mode
	Shutter	8x 01 04 39 0A FF	Shutter mode(Manual control)
CAM_Shutter	Reset	8x 01 04 0A 00 FF	Shutter Setting
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq: Shutter Position (0~0x15)
CAM_Gain	Reset	8x 01 04 0C 00 FF	Gain Setting
	Up	8x 01 04 0C 02 FF	
	Down	8x 01 04 0C 03 FF	
	Direct	8x 01 04 0C 00 00 0p 0q FF	pq: Gain Positon (0~0x0E)
CAM_Bright	Reset	8x 01 04 0D 00 FF	Bright Setting
	Up	8x 01 04 0D 02 FF	
	Down	8x 01 04 0D 03 FF	
	Direct	8x 01 04 4D 00 00 0p 0q FF	pq: Bright I Positon ()
CAM_WDR	On	8x 01 04 3D 02 FF	WDR ON/OFF
	Off	8x 01 04 3D 03 FF	
	Direct	8x 01 04 D3 0p FF	pq: WDR Position (1~0x06)
CAM_BackLight	On	8x 01 04 33 02 FF	BackLight On
	Off	8x 01 04 33 03 FF	BackLight Off
CAM_Aperture	Reset	8x 01 04 02 00 FF	Aperture Control
	Up	8x 01 04 02 02 FF	
	Down	8x 01 04 02 03 FF	
	Direct	8x 01 04 42 00 00 0p 0q FF	pq: Aperture Gain (0~0x04)
CAM_Memory(preset)	Reset	8x 01 04 3F 00 0p FF	p: Memory Number(=0 to 127) Corresponds to 0 to 9 on the Remote Commander
	Set	8x 01 04 3F 01 0p FF	
	Recall	8x 01 04 3F 02 0p FF	

Command	Function	Command Packet	Note
CAM_ColorGain	Direct	8x 01 04 49 00 00 0p FF	(0~0x0E)
CAM_2D Noise Reduction	Direct	8x 01 04 53 0p FF	(0~0x05)
CAM_3D Noise Reduction	Direct	8x 01 04 54 0p FF	(0~0x03)
FLICK	50HZ	81 01 04 23 01 FF	
	60HZ	81 01 04 23 02 FF	
Freeze	Freeze On	81 01 04 62 02 FF	Freeze On Immediately
	Freeze Off	81 01 04 62 03 FF	Freeze Off Immediately
	Preset Freeze On	81 01 04 62 22 FF	Freeze On When Running Preset
	Preset Freeze Off	81 01 04 62 23 FF	Freeze Off When Running Preset
SYS_Menu	Menu On	8x 01 06 06 02 FF	Turn on the menu
	Menu Off	8x 01 06 06 03 FF	Turn off the menu
IR_Transfer	Transfer On	8x 01 06 1A 02 FF	Receive IR(remote commander) CODE from VISCA communication ON/OFF
	Transfer Off	8x 01 06 1A 03 FF	
IR_Receive	On	8x 01 06 08 02 FF	IR(remote commander)receive ON/OFF
	Off	8x 01 06 08 03 FF	
	On/Off	8x 01 06 08 10 FF	
Pan_tiltDrive	Up	8x 01 06 01 VV WW 03 01 FF	VV: Pan speed 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed 0x01 (low speed) to 0x14 (high speed) YYYY: Pan Position(TBD) ZZZZ: Tilt Position(TBD)
	Down	8x 01 06 01 VV WW 03 02 FF	
	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	Upleft	8x 01 06 01 VV WW 01 01 FF	
	Upright	8x 01 06 01 VV WW 02 01 FF	
	DownLeft	8x 01 06 01 VV WW 01 02 FF	
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03 03 FF	
	AbsolutePosition	8x 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	RelativePosition	8x 01 06 03 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
Pan-tiltLimitSet	Set	8x 01 06 07 00 0W 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	W:1 UpRight 0:DownLeft YYYY: Pan Limit Position(TBD)
	Clear	8x 01 06 07 01 0W 07 0F 0F 0F 07 0F 0F 0F FF	ZZZZ: Tilt Limit Position(TBD)

PART 3 INQUIRY COMMAND

Command	Command Package	Return Message	Note
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off(Standby)
CAM_WBModelInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	Indoor mode
		y0 50 02 FF	Outdoor mode
		y0 50 03 FF	OnePush mode
		y0 50 04 FF	ATW
		y0 50 05 FF	Manual
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_AEModelInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter priority
		y0 50 0B FF	Iris priority
		y0 50 0D FF	Bright
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position
CAM_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompModelInq	8x 09 04 3E FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position
CAM_ApertureInq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Aperture Gain
CAM_MemoryInq	8x 09 04 3F FF	y0 50pp FF	pp: Memory number last operated.
SYS_MenuModelInq	8x 09 06 06 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_IDInq	8x 09 04 22 FF	y0 50 0p 0q 0r 0s FF	pqrs: Camera ID
CAM_VersionInq	8x 09 00 02 FF	y0 50 ab cd mn pq rs tu vw FF	
		y0 50 03 FF	Off
Pan-tiltMaxSpeedInq	8x 09 06 11 FF	y0 50 ww zz FF	ww: PanMaxSpeed zz: Tilt Max Speed
Pan-tiltPosInq	8x 09 06 12 FF	y0 50 0w 0w 0w 0w 0z 0z 0z 0z FF	www: PanPosition zzzz: Tilt Position

Note: 【x】 means the camera address ; 【y】 = 【x + 8】 .

Shutter Speed		60/30mode	50/25mode			
	21	1/10000	1/10000			
	20	1/6000	1/6000			
	19	1/4000	1/3500			
	18	1/3000	1/2500			
	17	1/2000	1/1750			
	16	1/1500	1/1250			
	15	1/1000	1/1000			
	14	1/725	1/600			
	13	1/500	1/425			
	12	1/350	1/300			
	11	1/250	1/215			
	10	1/180	1/150			

	9	1/125	1/120			
	8	1/100	1/100			
	7	1/90	1/75			
	6	1/60	1/50			
	5	1/30	1/25			
	4	1/15	1/12			
	3	1/8	1/6			
	2	1/4	1/3			
	1	1/2	1/2			
	0	1/1	1/1			
Gain	0	0dB		Gain	8	16dB
	1	2dB			9	18dB
	2	4dB			10	20dB
	3	6dB			11	22dB
	4	8dB			12	24dB
	5	10dB			13	26dB
	6	12dB			14	28dB
	7	14dB			15	30dB

PELCO-D PROTOCOL

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
Up	0xFF	Address	0x00	0x08	Pan Speed	Tilt Speed	SUM
Down	0xFF	Address	0x00	0x10	Pan Speed	Tilt Speed	SUM
Left	0xFF	Address	0x00	0x04	Pan Speed	Tilt Speed	SUM
Right	0xFF	Address	0x00	0x02	Pan Speed	Tilt Speed	SUM
Upleft	0xFF	Address	0x00	0x0C	Pan Speed	Tilt Speed	SUM
Upright	0xFF	Address	0x00	0x0A	Pan Speed	Tilt Speed	SUM
DownLeft	0xFF	Address	0x00	0x14	Pan Speed	Tilt Speed	SUM
DownRight	0xFF	Address	0x00	0x12	Pan Speed	Tilt Speed	SUM
Zoom In	0xFF	Address	0x00	0x20	0x00	0x00	SUM
Zoom Out	0xFF	Address	0x00	0x40	0x00	0x00	SUM
Focus Far	0xFF	Address	0x00	0x80	0x00	0x00	SUM
Focus Near	0xFF	Address	0x01	0x00	0x00	0x00	SUM
Set Preset	0xFF	Address	0x00	0x03	0x00	Preset ID	SUM
Clear Preset	0xFF	Address	0x00	0x05	0x00	Preset ID	SUM
Call Preset	0xFF	Address	0x00	0x07	0x00	Preset ID	SUM
Query Pan Position	0xFF	Address	0x00	0x51	0x00	0x00	SUM
Query Pan Position Response	0xFF	Address	0x00	0x59	Value High Byte	Value Low Byte	SUM
Query Tilt Position	0xFF	Address	0x00	0x53	0x00	0x00	SUM
Query Tilt Position Response	0xFF	Address	0x00	0x5B	Value High Byte	Value Low Byte	SUM
Query Zoom Position	0xFF	Address	0x00	0x55	0x00	0x00	SUM
Query Zoom Position Response	0xFF	Address	0x00	0x5D	Value High Byte	Value Low Byte	SUM

PELCO-P PROTOCOL

Function	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Up	0xA0	Address	0x00	0x08	Pan Speed	Tilt Speed	0xAF	XOR
Down	0xA0	Address	0x00	0x10	Pan Speed	Tilt Speed	0xAF	XOR
Left	0xA0	Address	0x00	0x04	Pan Speed	Tilt Speed	0xAF	XOR
Right	0xA0	Address	0x00	0x02	Pan Speed	Tilt Speed	0xAF	XOR
Upleft	0xA0	Address	0x00	0x0C	Pan Speed	Tilt Speed	0xAF	XOR
Upright	0xA0	Address	0x00	0x0A	Pan Speed	Tilt Speed	0xAF	XOR
DownLeft	0xA0	Address	0x00	0x14	Pan Speed	Tilt Speed	0xAF	XOR
DownRight	0xA0	Address	0x00	0x12	Pan Speed	Tilt Speed	0xAF	XOR
Zoom In	0xA0	Address	0x00	0x20	0x00	0x00	0xAF	XOR
Zoom Out	0xA0	Address	0x00	0x40	0x00	0x00	0xAF	XOR
Focus Far	0xA0	Address	0x00	0x80	0x00	0x00	0xAF	XOR
Focus Near	0xA0	Address	0x01	0x00	0x00	0x00	0xAF	XOR
Set Preset	0xA0	Address	0x00	0x03	0x00	Preset ID	0xAF	XOR
Clear Preset	0xA0	Address	0x00	0x05	0x00	Preset ID	0xAF	XOR
Call Preset	0xA0	Address	0x00	0x07	0x00	Preset ID	0xAF	XOR
Query Pan Position	0xA0	Address	0x00	0x51	0x00	0x00	0xAF	XOR
Query Pan Position Response	0xA0	Address	0x00	0x59	Value High Byte	Value Low Byte	0xAF	XOR
Query Tilt Position	0xA0	Address	0x00	0x53	0x00	0x00	0xAF	XOR
Query Tilt Position Response	0xA0	Address	0x00	0x5B	Value High Byte	Value Low Byte	0xAF	XOR
Query Zoom Position	0xA0	Address	0x00	0x55	0x00	0x00	0xAF	XOR
Query Zoom Position Response	0xA0	Address	0x00	0x5D	Value High Byte	Value Low Byte	0xAF	XOR

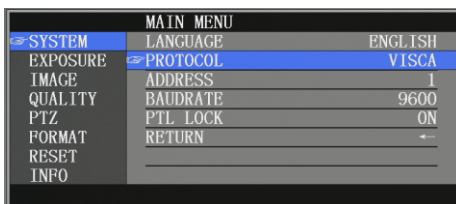
OSD MENU

1. under working mode, press the menu button  on the IR remote, to enter the OSD menu ;



2. Use the navigate button to select the main menu. Once been selected, the main menu will change to blue color background, and the right side will show all parameters under this sub menu :

3. Press the right navigate button to enter sub menu, use up and down navigate button to select parameter;



4. Press the menu button again to return to previous menu; Press it continuously to exit the OSD menu.

Before exiting, will show up a window to remind whether need to save all settings(use left and right button to set)

5.OSD Menu Setting List

SYSTEM	LANGUAGE	Chinese, English,
	PROTOCOL	VISCA, PELCO-P, PELCO-D
	ADDRESS	1~7
	BAUDRATE	2400, 9600, 115200
	PTL LOCK	Protocol Lock: Lock the protocol, to avoid accidental change
	RETURN	Return to previous menu

EXPOSURE	EXPOSURE MODE	Set exposure mode
	SHUTTER	Shutter speed:1/8~1/10000, only valid under manual mode
	GAIN	Gain setting:0dB~28dB , only valid under manual mode
	FREEZE	Close, 50Hz, 60Hz
	BRIGHT	Set brightness value
	BLC	Set back light compensation level
	GAMMA	Set gamma value
	RETURN	Return to previous menu

IMAGE	WB MODE	Set white balance mode
	B GAIN	Blue Gain Level: 0~255,only available under manual white balance mode
	R GAIN	Red Gain Level: 0~255,only available under manual white balance mode
	FREEZE	ON, OFF
	DEFOG	Set image permeability
	RETURN	Return to previous menu

QUALITY	2D NR	2D Noise Reduction: OFF/ON;
	3D NR	3D Noise Reduction: OFF/AUTO、2~5
	SHARPNESS	Sharpness setting: 0~15, the higher value, the higher resolution.
	CONTRAST	Image Contrast level setting
	SATURATION	Image Saturation level setting
	HIGHLIGHT	ON/OFF, improve the image quality under backlight environment
	D WDR	Set wide dynamic rage value
	RETURN	Return to previous menu

PTZ	FLIP	Set mounting mode: Up, Down
	PTZ SPD	Set pan tilt speed
	RATIO DIS	Display the current zoom rate or not
	RETURN	Return to previous menu

VIDEO FORMAT	1080P25	Press the right button to switch
	1080P30	

RESET	CAM RESET	Camera reset
	PT RESET	Pan tilt reset
	RETURN	Return to previous menu

INFO	IMAGE VER	Image firmware version
	IMAGE DATE	Image firmware date
	CONTROL VER	Control firmware version
	CONTROL DATE	Control firmware date
	FORMAT	Current video format output
	BAUDRATE	Current baud rate
	RETURN	Return to previous menu

