2. Packing List

HD AI Auto Tracking Conference Camera

User Manual



Version V1.0









User Manual





User Manual

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Remote Control





USB Cable

★Attentions for Remote Control

Enter into Standby mode by pressing Reset the PTZ Preset position setup keys, in [PRESET] and [RESET] The camera rotates horizontally in regular installe ra rotates horizontally in reversed install PTZ move according to the arrow indicates. Press [] PTZ will back to the middle position \bigcirc Return to up level menu or exit me Enter or exit OSD Menu after pressed When entering single object tracking mode, press th PTZ Control Keys to select the object Press O to o Press to exit single object trackin and return to auto-framing mode. urn/off auto-framing mode Zoom in + or out - slowly Zoom in + or out - quickly Support, press this key for 10 seco Auto/Manual/Far/Near Focus Default: Auto Focus oht Adjustment Adjust the brightness of the image Reserved Enable the picture left/right fli Switch between three Normal, PC, Bright

1. Please check whether the indicator corresponding to the camera selection area is on or not.

2. If the remote control doesn't work, please replace batteries.

3. Make sure the Number keys on the camera selection area are consistent with the remote control address in the menu.

Hu AWB Sens: Low/Normal/High RG Tuning: -10-10 BG Tuning: -10-10 Saturation: 60%-200%

1. Product Description

1.1 Front



1.2 Back



	① DC 12V
	@ RS-485
	3 RS-232i
	@ RS-232
	⑤ USB3.0
	6 HDMI
	⑦ SDI
	⑧ Line-in
	④ Line-out
	1 LAN

3.Performance Characterics

		Camera	
Sensor		1/2.8"	
Effective Pixels		2.07MP	
Video Signals	1080P60, 1080P59.94, 1080P50, 1080P30,	1080P29.97, 1080P25, 1080I60, 1080I59	.94, 1080l50, 720P60, 720P59.94, 720P
Zoom	12x optical zoom	20x optical zoom	30x optical zoom
Lens	f=4.2mm ~ 50.4mm	f=4.6mm ~ 92mm	f=4.6mm ~ 138mm
Aperture	F1.8 ~ F2.8	F1.8 ~ F3.6	F1.8 ~ F3.6
Horizontal Angle	70.2° ~ 6.52°	62.3° ~ 3.46°	62.3° ~ 2.31°
Vertical Angle	42.6° ~ 3.76°	36.1° ~ 1.92°	36.1° ~ 1.29°
Diagonal Angle	77.5° ~ 7.53°	69.5° ~ 3.86°	69.5° ~ 2.63°
Digital Zoom		8X	
Video Output		USB 3.0. HDMI, RJ45, SDI	
Signal Standard		NTSC/PAL	
Control Interface		RS232, RS485, USB, NET	
Shutter		1/30s ~ 1/10000s	
White Balance	Δ	to Indoor Outdoor One Push Manual Vi	18
Backlight Compensation	70	Support	
Digital Noise Reduction		2D&3D Digital Noise Reduction	
Baud Rate		2400/4800/9600/10200/38400	
Control Protocol		VISCA Palco, D Palco, P	
LICE Drotocol		10/0 1 1	
Misingel Illuminatio			
Minimal Illumination		0.5 LUX @ (F1.8, AGC ON)	
SNR		≥50dB	
Horizontal Rotation		350° (±1/5°) 0.1°/8~100'/8	
Vertical Rotation		180° (±90°)0.1°/8~80°8	
H & V Flip		Support	
Image Freeze	Support		
PoE	Support		
Number of Preset	255		
Preset Accuracy		0.1°	
	1	IPC Features	
Video Encoding Format	H.264/H.265/MJPG		
Video Stream	Main Stream, Sub Stream		
Main Stream Resolution	192	0x1080, 1280x720, 1024x576 , 940x540,	etc.
Sub Stream Resolution	1280x720, 1024x576, 720x480, 720x408,etc.		
Video Bit Rate		32Kbps ~ 102400Kbps	
Bit Rate Type	Variable Rate, Fixed Rate		
Frame Rate		50Hz: 1fps ~ 50fps, 60Hz: 1fps ~ 60fps	
Audio Compression		AAC	
Audio Bit Rate		96Kbps, 128Kbps, 256Kbps	
Network Protocol	NDI HX2,SRT,	TCP/IP, HTTP, RTSP, RTMP, Onvif, DHCP	, Multicast, etc.
Input/Output Interface			
HD Output	1xHDMI		
	1x3G-SDI: BN	C type, 800mVp-p, 75Ω, Along to SMPTE	424M standard
LAN	1xRJ45:10M/100M Ethernet Interface.PoE (802.3af)		
Audio Interface		1-ch: 3.5mm Audio Interface. Line In	
		1-ch: 3.5mm Audio Interface. Line Out	
USB		1xUSB3.0: Type B female jack	
Communication Interface	1xRS232 In: 8nin M	in DIN. Max Distance: 30m. Protocol: VIS0	CA/Pelco-D/Pelco-P
	1xRS232 Out: 8pin M	in DIN Max Distance: 30m Protocol: VIS	CA network use only
	1xRS485: 2nin Phoeni	x Port Max Distance: 1200m Protocol: VI	SCA/Pelco-D/Pelco-P
Power lack	TXN3403.2pmPhoen	IFITA type (DC IN 12/)	CONTROLOGICAL CONT
- Ower Jduk	1	Ganazia Specification	
Dennes Conselo		Generic opecification	
Power Suppry		DG 12V/2A	
Power Consumption		12W	
vvork Temperature		0°C ~ 40°C	
Work Humidity		0~95% RH	
Product Size	247.1*152*169.6mm/285*217*197mm(before / after packing)		
Product Weight	1.37kg/2.45kg (net / gross weight)		

5. Camera Menu Setup

5.1 Exposure

М	
→ Exposure	
Color	
Image	
P/T/Z	
Noise Reduction	n
Setup	
Information	
Restore Defaul	t
[HOME] [MENU]	Enter Exit

Press the [MENU] button on the Remote to enter/exit the main menu of the camera. Press the 🛆 button to enter sub-menu.

→Mode	Auto
ExpCompMode	On
ExpComp	-1
Gain Limit	3
Meter	Average
Backlight	Off
DRC	2
Anti-Flicker	Off

ExpComp Mode: On/Off (only effective under Auto/AAE mode) ExpComp Range: -7~7(only effective under ExpComp mode) Gain Limit: 0-15 Meter: Average/Center/Smart/Top Backlight: On/Off (only effective under Auto/AAE mode) DRC: 0-8 Anti-Flicker: Off/50HZ/60HZ

- -→ M SI Iri G

____ Sh Ga Me



D

DF







B Gain: 0-255



Color _ _ _ _ _ _ →WB Mode VAR Colortemp 6500K RG Tuning 3 BG Tuning 1 Saturation 100% Hue

5.3 Image









EX	POSURE
ode	Manual
hutter	1/125
s	F1.8
ain	2
RC	2

Iris: 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 effective under Manual/SAE mode

Shutter: 1/60-1/10000 (Only effective under Manual/SAE mode)

EXPOSURE	
ode	SAE
utter	1/125
in Limit	3
ter	Average
C	2

EXPOSURE		EXPOS	SURE
de	AAE	→Mode	Bright
5	F1.8	Bright	8
ain Limit	3	Gain Limit	3
eter	Average	Meter	2
RC	2	DRC	verage
ti-Flicker	Off	Anti-Flicker	Off

Bright: 0-17 (Only effective under Bright mode)

Color		
WB Mode	Auto	
[→] AWB Sens	Low	
RG Tuning	3	
BG Tuning	1	
Saturation	100%	
Hue	7	

WB Mode: Auto/Indoor/Outdoor/OnePush/Manual/VAR

Hue: 0-14

Color		Color	
B Mode	Indoor	WB Mode	Outdoor
ituration	100%	Saturation	100%
le	7	Hue	7
Color		Col	or
B Mode	OnePush	WB Mode	Manual
VB Sens	Low	R Gain	120
G Tuning	3	B Gain	130
G Tuning	1	Saturation	100%
aturation	100%	Hue	7
le	7		

R Gain: 0-255

Colortemp: 2500K-8000K

IMAGE	
minance	7
ntrast	7
arpness	4
W-Mode	Colorful
p-H	On
p-V	Off
mma	0.5
age style	Default

Luminance: 0-14 Contrast: 0-14 Sharpness: Auto/0-15 B&W Mode: Colorful、B&W Flip-H: On/Off Flip-V: On/Off Gamma: Ext/Default/0.45/0.5/0.56/0.63 Image Style: Default/Clarity/Norm

5.4 PTZ

P/T/	z
→D-Zoom Limit	Off
Speed By Zoom	On
L/R Set	STD
Display Info	On
Image Freeze	Off
Call Preset Speed	24
Pre zoom Speed	5
Pt By Speed	Slow

D-Zoom Limit: Off/x2/x4/x8 Speed by Zoom: On/Off L/R Set: STD/REV Display Info: On/Off Image Freeze: On/Off Call Preset Speed: 1-24 Pre Zoom Speed: 0-7 Pt By Speed: Slow/Medium/Fast 5.5 Noise Deduction

NOI	SE REDUCTION
→2D NR	Auto
3DNR	Auto
2D NR: Off/Auto/1	-5

3D NR: Off/Auto/1-8 5.6 Setup

SETUP				
→Language	English			
Video Setting				
Audio Setting				
Focus Setting				
USB Setting				
Communication Se	etting			
Tracking Setting				
Other Setting				

Language: Chinese/English

5.6.1 Video Setup

VIDEO SETUP			
→DVI Mode	HDMI		
Format Mode	OSD		
HDMI Format	1080P60		
SDI Mode	Level A		
DVI Mode · DVI/HDMI			

Format Mode: OSD/DIP/50HZ/60HZ

HDMI Format:1080P60/1080P59.94/1080P50/1080P30/1080P29.97 /1080P25/1080I60/1080I59.94/1080I50/720P60/720P59.94/720P50 Only effective under the OSD Format Mode. When in DIP Format Mode, set with the DIP switches and corresponding table on the bottom of the camera) SDI Mode: Level A/Level B

5.6.2 Audio Setup

AUDIO SETUP			
	AUDIO SOURCE	LINE	
1	NPUT VOL	30	
	AUDIO OUT	HDMI/SDI	
INPUT	VOL: 0-30		

AUDIO OUT: HDMI/SDI.LINEOUT.Off 5.6.3 Focus Setup

FOCUS SETUP				
→AF-Sense	High			
AF-Zone	Center			
AF-Sense: High/Low/No	ormal			

AF-Zone: Front/Top/Center/Bottom 5.6.4 USB Setup

FOCUS SETUP				
→H264Enable	Off			
USB Mode	BULK			
UVC Standby Mode	Off			
Wakeup Pos	Preset 0			

H264 Enable: On/Off USB Mode: BULK/ISOC UVC Standby Mode: On/Off Wakeup Pos: Preset 0/Preset UVC

5.6.5 Communication Setup

COMMUNICATION SETUP				
→Protocol VISCA				
VAddress 1				
VAddrFix Off				
Net Mode Serial				
Baudrate 9600				
IR Addr General				

Protocol: VISCA/PELCO-D/PELCO-P V Address: 1-7 V AddrFix: On/Off Net Mode: Serial/Paral Baudrate: 9600/19200/38400/2400/4800 IR Addr: General/NO.1/NO.2/NO.4/NO.4

COMMUNICATION SETUP			COMMUNICA	TION SETUP	
	→ Protocol	PELCO-D		→ Protocol	PELCO-P
	P-DAddr	1		P-PAddr	1
	Baudrate	9600		Baudrate	9600
	IR Addr	General		IR Addr	General
P-D Addr: 0-254		F	P-P Addr: 0-31		

5.6.6 Tracking Setup

TRACKING SETUP			
→ Tracking Enable	Off		
Tracking Overlay	On		
Delay Time	1		
Tracking Enable: On/Off			

Tracking Overlay: On/Off

Delay Time: 1-60 5.6.7 Other Setup

Other Octup		_		
OTHER SETUP			OTHER SETUP	
Auto Inversion	On		Auto Inversion On	
Preset Tour	Off		Preset Tour On	
OSD Flip	Off		ResidenceTime 2	
OSD TimeOut	Off		Call Preset Speed 12	
		_	OSD Flip Off	
	OTHER SETU Auto Inversion Preset Tour OSD Flip OSD TimeOut	OTHER SETUP Auto Inversion On Preset Tour Off OSD Flip Off OSD TimeOut Off	OTHER SETUP Auto Inversion On Preset Tour Off OSD Flip Off OSD TimeOut Off	OTHER SETUP OTHER SETUP Auto Inversion On Preset Tour Off OSD Flip Off OSD TimeOut Off OSD Flip Off OSD TimeOut Off

Auto Inversion: On/Off Preset Tour: On/Off

OSD TimeOut Off Residence Time: 1-60 Call Preset Speed: 1-24 OSD Flip: On/Off OSD TimeOut: Off, 2.5 minutes

5.7 Information





6. Common Operation Instructions

6.1 Camera Select

Refer to the dial-up at the bottom of the camera and choose camera address number that you want to control (1-4). 1 2 3 4

6.2 Camera Direction Control

- Turning up
- ➤ Turning down
- Turning left <

Turning to default

Turning right



Note: Press the direction key when you need to adjust the angle. If you want to move the camera slowly, just click the direction key; If you want to move the camera fast at a large scale, just long-press the button; If you want to adjust the Pan-Tilt direction, just press and hold the L/R button for 10S.

6.3 Camera Focusing Mode Control

【AUTO FOCUS】 Switch the focus mode to AUTO

[MANUAL FOCUS] Switch the focus mode to MANUAL

[FAR] Far focus manually

[NEAR] Near focus manually



6.4 Camera Zoom Control

Press any one of the 4 【ZOOM】 to make the zoom functioning. These 4 keys are not applicable for fixed focus cameras.



6.5 Preset Setup, Call, Cancel

(1) Reserve Preset: Press [PRESET], then press one of the numbers (0-9) to reserve a preset that correspond to the NUMBER.

Note: You can setup 10 presets at most by the remote control. (2) Call Preset: Press the NUMBER (0-9) directly to call the reserved preset. Note: It won't work if there's no preset reserved in the corresponded number

(3) Remove Preset: Press [RESET], then press one of the number (0-9) to remove a preset that corresponds to the NUMBER.



6 6 Al Mode

1.Press [AI] button to enter autoframing mode,

and start Auto Tracking; Press [AI] button again to turn off autoframing.

2. When in autoframing mode, press 📋 to track single object. A red box will appear on the object tracked. Switch between different objects by pressing the PTZ Control Keys. Press 🗅 button to start Single Object Tracking, when the object is confirmed.

3.Press \square to exit Single Object Tracking mode and return to general autoframing.

6.7 DIP Switch Setup

DIP	HDMI	SDI
0x00	1080p60	1080p60
0x01	1080P59.94	1080P59.94
0x02	1080p50	1080p50
0x03	1080p30	1080p30
0x04	1080p29.97	1080p29.97
0x05	1080p25	1080p25
0x06	1080160	1080160
0x07	1080159.94	1080159.94
0x08	1080150	1080150
0x09	720P60	720P60
0xA	720P59.94	720P59.94
0xB	720P50	720P50
0xC	RSVD	RSVD
0xD	RSVD	RSVD
0xE	RSVD	RSVD
0xF	RSVD	RSVD

(1)Default Format Mode: DIP. Setting path: MENU-SETUP-VIDEO SETU (2)Two options for Format Mode: DIP and OSD

(3)When choosing DIP, the corresponding resolutions for the DIP values on the table above will be output. Default resolution is 1080P60, when DIP is between 0xC and 0xF.

VIDE	O SETUP
DVI Mode	HDMI
→ Format	DIP
SDI Mode	Level A

(4)When choosing OSD,HDMI Format at the next line will display the video resolution, and the resolution is optional.



6.8 RS-232 Interface Distribution



6.9 RS-485 Interface Distribution



7. Network Function

7.1 Equipment installation

Connect HD video camera to your internet or your PC via network cable, or connect by Switch/Router

You can log into the camera's web interface with the default or modified IP. (Different models have different IP, please check the default IP at the bottom of the camera.)

7.1.1 How to query the IP address of your PC (Note the text in the box)





• Off

If you set a data limit, Windows will set the metered connection setting for you to help you stay under your limit

Automatic (DHCP)

Set a data limit to help control data usage on this network

IP settings



Properties

Link speed (Receive/Transmit): 1000/1000 (Mbps) Link-local IPv6 address: fe80::b1b8:1f9a:3e4d:4899%3 IPv4 address: 192.168.110.73 IPv4 DNS servers: 192.168.110.1 Primary DNS suffix: lan Manufacturer: Realtek

7.2 How to add networking:

- 7.2.1 Open the computer network local connection attribute window
- select "Internet Protocol Version 4 :TCP/IPv4;
- 7.2.2 Double-or-right-click " Internet Protocol Version 4 (TCP/IPv4) ;
- 7.2.3 Enter the Internet Protocol Version 4 (TCP/IPv4) window.
- 7.2.4 Change the computer's IP to 192.168.0.200 so that the computer IP and camera IP are on the same network segment.

PS:If no network segment is added, You will fail to login. The default IP address of the product is 192.168.0.206. "0" network segment needs to be added to the computer. The IP address cannot conflict with the IP address of other computers or products. Before adding, please verify whether the IP already exists.



7.3 Input http:// 192.168.0.206 to IE(better with IE or Google web browser), a login window pop up, input user name: admin, password: admin, language, English, shown as below, whether the IP already exists.

7.3.1 When logging in for the first time, will be prompted to change your password. Users can change the passwords and save it.



7.3.2 After successfully login, you will enter the Video viewing interface. In the setting interface, you can set Pan and tilt control, Zoom, Focus, and set, call, clear of preset positions, etc.





7.5.1.1 Change the camera IP address to: 192.168.110.206 7.5.1.2 Default Gateway: 192.168.110.254 7 5 1 3 Alternate DNS: 192 168 110 7 7.5.1.4 Preferred DNS: 192.168.110.8

following interface:

Video Coding Encode Typ Resolutio Bit-rate Type: GOP: Bit Rate: Frame rate: Qfactor:



7.4 Video streaming

7.4.1Select "Setup"- "Video Settings"- "System Settings" to enter the

	Main Stream			Sub-stream	
ng:	H264	<u> </u>	Video Coding:	H264	}
pe:	MainProfile	~	Encode Type:	MainProfile v	-
	1920x1080	~	Resolution:	1280x720 ~	-
e:	CBR	~	Bit-rate Type:	CBR v	
	60	(1-1200)fps	GOP:	30	(1-1200)fps
	4096	✓ (32-102400)Kbps	Bit Rate:	1024 ~	(32-102400)Kbps
	60	(1-60)	Frame rate	30	(1-60)
	95	(70-95)	Qfactor.	95	(70-95)
		Save F	Refresh		

7.4.2 RTSP video streaming

Select "Setup"- "Network Settings"- "RTSP" to enter following interface:

	ldentity Authentication	
Port	554	
One-Stream:	rtsp://192.168.13.71:554/live/av0	
Sub-Stream:	rtsp://192.168.13.71:554/live/av0	
	Save Refresh	

Configure parameters according to the network environment.

- For example, Camera default IP Address: 192.168.0.206 here is the way
- to get RTSP video streaming,
- Default RTSP main streaming address:
- rtsp://192.168.0.206:554/live/av0(av0 Main)
- Default RTSP sub streaming address: rtsp://192.168.0.206:554/live/av1(av1 Sub)

7.4.3 RTMP video streaming

Select "Setup"- "Network Settings"- "RTMP" to enter following interface:

	Enable RTMP
One-Stream:	rtsp://192.168.13.71:554/live/av0
Sub-Stream:	rtsp://192.168.13.71:554/live/av0
	Save Refresh

- Enable and turn on the RTMP video stream to the server
- Server URL: server address, which can be domain name or IP address Streaming code: Persistent Stream Key/Name
- 7.5 Modify the camera IP and computer IP on to the same network segment, so that the computer network is not affected.
- 7.5.1Select "Setup"- "Network Settings"- "Local Network" to enter the following interface:

7.5.2 Return PC's IP to the original IP address, and select Obtain an IP address automatically

ernet协	议版本4 (TCP/IPv4) Prope	rties				×
eneral	Alternate Configuration					
You car this apa for the a	n get IP settings assigned aut ability. Otherwise, you need to appropriate IP settings.	omatical o ask you	ly if : ir ne'	our n	etwork s administ	upports ator
	otain an IP address automati	ally				
IP ad	idress:					
Subnet mask:						
Default gateway:						
O	otain DNS server address au	Itomatia	ly			
OUs	e the following DNS server a	addresse	es:			
Prefe	erred DNS server:					
Alternate DNS server:						
V	alidate settings upon exit				Adva	inced
		1		OK		Cancel

7.6 Software upgrade (upgrade if there is a new version)

7.6.1 Select "Setup"--"Maintenance" --"System Upgrade" to enter the following interface:

System Edition		
SOC		9.0.0
Restart		Reboot
Upgrade		
Uparade File	Upload	Upgrade

7.6.1.1 Open upgrade file to Upgrade automatically if needed.

7.6.1.2 Restart the camera and prompts "Upgrade succeeded". Log in to the network and check whether the software version is consistent with the upgrade file to ensure that the upgrading is successful. Then click "Restore factory default" to restart and restore the parameters to the factory default setting. (IP default 192.168.0.206, User default: admin, password default: admin)

7 7 VISCA over IP

VISCA Protocol is transmitted through IP to reduce RS232/RS485 cabling(the controller must support IP communication) Communication Port Specification: Control Port: R.I45 IP Protocol: IPV4 Transmission Protocol: Sony VISCA; IP address: Setting through the web Port address: Sony VISCA(52381 Application Range: Under the same network segment

8. Installation Instructions

8.1 Surface Installation

Put the camera on the desk flatly, and make sure the camera is in a horizontal position. If you want to put the camera on an oblique surface, please make sure the angle of inclination is less than 15 degrees to ensure the camera pan and tilt work in normal operation.



8.2 Wall Mount Installation

Wall moun
Wall mount bracket (This side is to the wall.) Mounting the bracket
Screw hole
Rotate the camera clockwise to install it.

9. Trouble Shooting

Before requesting service to service engineer, please refer to the following methods to remove failures. If the failures still can't be solved, please contact us for assistance.

- Q: The video of the camera cannot be displayed on the screen. A: Please check the connection between power cable, video cable, camera and monitor, fix the connector on each end.
- Q: It's unable to Pan, Tilt and Zoom camera.
- A: Because the menu was displayed on monitor. Please re-operate after exiting the menu.
- Q: Why the camera rotates for about 10 seconds after power on?
- A: This is the normal self-test of the camera.
- Q: Poor Image quality while using in church or other low-light conditions. A: Press menu (ON/OFF) to adjust backlight effect to suit the church lighting properly.
- Q: Remote control is not working or insensitive.
- A: 1)Not work, please replace batteries.
- ②Not sensitive: Choose the correct "IR select" number to corrspond to the camera. Control the camera within 10m (32.8ft). Remove the obstacles. Aim at the sensor which is in front of the camera when controlling it.
- Q: USB interface is not identifiable.
- A: Please check if the USB cable and extension cable are well connected or not. If yes, change to another USB interface and try to connect adain
- Q: It won't be controlled via RS-232/RS-485 when camera connect to PC.
- A: Make sure it is a correct connection between the camera and PC.
- (Reference to RS-485 and RS-232 Pins distribution on page 12). Q: Why no ceiling mount bracket?
- A: Camera comes with wall mount, ceiling mount or tripod brackets need to buy separately.
- Q: Does this camera has built-in mic?
- A: No, this camera comes with no built-in mic.
- Q: Can we control the camera only by the remote control?
- A: You can control the camera by remote control, keyboard controller
- (joystick), and software.