

Practical Training Recording and Broadcasting Solution



Twin-arm design, 2 PTZ optional



Replaceable and removable design



Practical training recording and broadcasting



High performance energy storage power supply



Built-in 30W high performance speaker(optional)



Embedded self-developed recording and broadcasting motherboard and system







Practical Training Recording and Broadcasting Solution


A customized video recording and teaching system for vocational education training rooms is designed primarily for relevant vocational specialties. It utilizes a mobile cart as the carrier, along with audio and video equipment to ensure flexibility in various scenarios. The HD camera captures clear images, while the microphone records high-quality sound. Teachers have the freedom to operate the camera and microphone at any time during teaching, enabling them to record both their actions and explanations simultaneously. The storage system also supports real-time synchronous uploading, making it convenient for students to watch and review class materials.

Composition of the Solution



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1 practical training recording and broadcasting
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2 smart blackboard
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3 wireless microphone



High Integration and Portable Mobility

With a movable practical training cart as the carrier and an attached detachable long-endurance battery, it integrates devices such as a direct recording and broadcasting host, a touch - control directing screen, a teaching display screen, a 4K camera, a wireless microphone, and a sound-amplifying device.



Multi-angle Simultaneous Recording and Same-screen Demonstration

It provides 2-camera, 3-camera setups and single-screen/double-screen combination modes. Meanwhile, an operable universal arm is equipped to enable precise and multi-angle shooting during the teaching process. The practical operation process can be synchronized to the large screen, allowing students to clearly and fully see the teacher’ s demonstration operations.



Cut Deployment costs

Directly upgrade based on existing training laboratories. No need for complicated renovation or wireless cable layout. It saves costs for training laboratory transformation and upgrading.

Reconstruct Practical Operation Processes

It can synchronously record and locally play back teachers' operation processes. All details of the processes are recorded, facilitating review and helping improve teaching quality.

Reduce Teaching Burdens and Improve Efficiency

With technical support such as comparative teaching and full- process recording and broadcasting, teachers don't need to repeatedly conduct single-mode teaching. While reducing teaching burdens, it helps stimulate creativity.

Bid Farewell to On-Site Crowded Observation Teaching

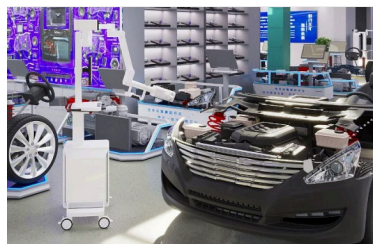
Operation processes are displayed in a timely manner, allowing students to watch in real-time. Reducing crowd-gathering observation, it enables effective and comprehensive learning.

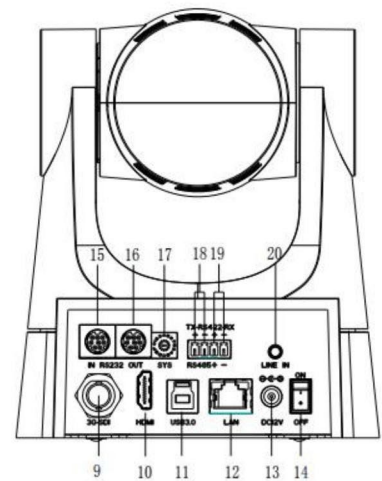
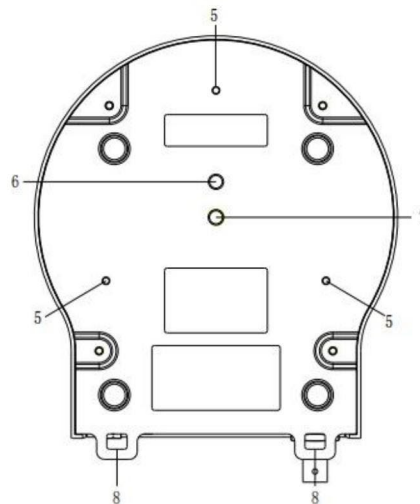
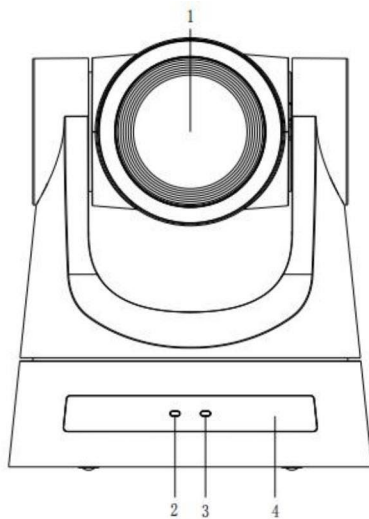
High Flexibility and Mobility

The solution is simply deployed, with full wireless support. It can be easily moved and put into use right after power-on. Applicable to multiple majors like science & engineering, art, and nursing, it promotes the development of comprehensive high-quality resources.

Accumulate High-Quality Resources

Supporting micro-lesson mode, it takes high-quality practical training processes as cases to form personalized, standardized, and systematic teaching resources.



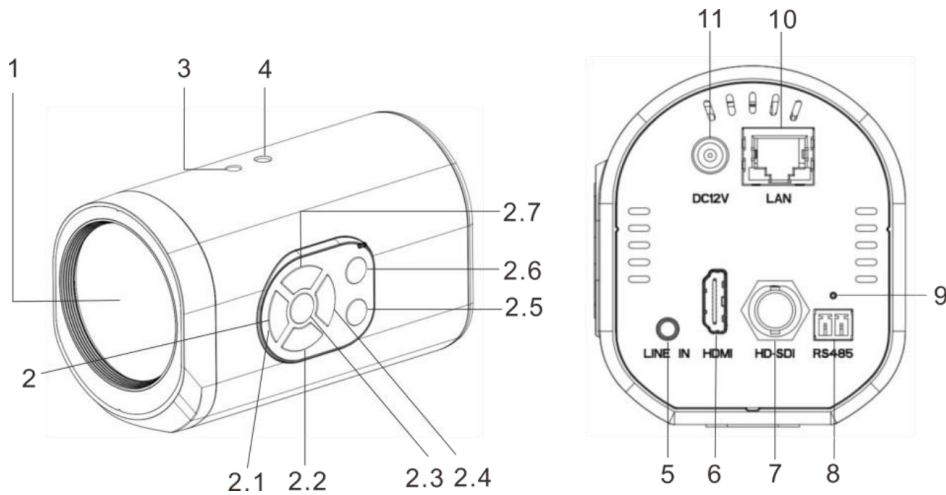


Interface:

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|----------------------------------|------------------|-------------------|
| 1、 Lens | 8、 Safety buckle | 15、 RS232 IN |
| 2、 Power Indication light | 9、 SDI out put | 16、 RS232 OUT |
| 3、 Status Indication light | 10、 HDMI IN | 17、 Rotary switch |
| 4、 IR receiver | 11、 USB3.0 | 18、 RS485 IN |
| 5、 Limit hole | 12、 LAN | 19、 RS422 IN |
| 6、 Tripod mounting location hole | 13、 DC12V | 20、 Line-IN |
| 7、 Tripod mounting screws hole | 14、 Power switch | |



Features of Camera	
Video compression formats	LAN supports: H.264、 H.265 USB 3.0 supports: MJPG、 H264、 YUY2、 NV12
Audio input	Dual-channel 3.5mm line input
Audio output	HDMI、 SDI、 LAN、 USB3.0
Audio compression formats	AAC、 MP3、 G.711A
LAN	10M/100M/1000M,Adaptive Ethernet port, supports POE power supply, and supports audio and video output
Internet Protocol	RTSP、 RTMP、 ONVIF、 GB/T28181、 VISCA OVER IP、 IP VISCA、 RTMPS、 SRT, OTA、 Remote reboot、 Remote reset
Control ports	RS232-IN、 RS232-OUT、 RS422(RS485)
Serial communication protocol	VISCA/Pelco-D/Pelco-P Baud rate:115200/38400/9600/4800/2400
USB communication protocol	UVC, UAC
Power input	DC12V
Power adaptor	Input AC110V~AC220V ; Output DC12V/2.5A
Voltage	DC12V±10%
Electric currency	<1A
Consumption	<12W
PTZ Control	
Horizontal rotation	-170°~+170°
Vertical rotation	-30°~+90°
H-Speed control	0.1°/s ~ 35°/s
V-Speed control	0.1°/s ~ 30°/s
Speed to preset point	H: 35°/s, V: 30°/s
Preset points	Maximum 255 points(10 remote controls)



Interface of practical camera:

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|----------------------|-----------------------------|---------------------------|
| 1、 Lens | 2.5、 Freeze | 6、 HDMI |
| 2、 Physical buttons | 2.6、 Auto Focus | 7、 HD-SDI |
| 2.1、 BRI+/Menu Left | 2.7、 ZOO+/MenuUp | 8、 RS485 |
| 2.2、 ZOO-/Menu Down | 3、 Installation Limit hole | 9、 Power Indication Light |
| 2.3、 Menu/Enter | 4、 Installation screws hole | 10、 LAN |
| 2.4、 BRI-/Menu Right | 5、 Audio In | 11、 DC12V |



Features of Practical Camera	
Video output	HDMI、SDI、LAN
Audio Input	Line IN
Image coding	Dual-stream code output
Control port	RS485 , 2PIN Phoenix connector,VISC
Video compressing format	H.264
Lan	100M (10/ 100BASE-TX) POE power supply, support audio/video output
Internet protocol	RTSP、RTMP、ONVIF、GB/T28181 络VISCA; OTA\Remote reboot\Remote reset
Power connector	5.0 slot (DC12V)
Power adaptor	Input AC110V-AC220V Output DC12V/2A
Voltage	DC12V±10%
Image sensor	1/2.8 inch HQ 4K CMOS
Pixel	851M、16: 9
Video	HDMI : 3840*2160P30/25;1080P60/50/30/25/59.94/29.97;720P60/50/59.94fps; 3G-SDI : 1080P60/50/30/25/59.94/29.97;720P60/50/59.94fps; LAN : H264: 3840*2160P30/25;1080P60/50/30/25/59.94/29.97;720P60/50/59.94fps;
Lens optical zoom	12x digital zoom f = 3.9 ~ 46.8mm
View angle	7.42° (T) ~ 78.58° (W) (D) 6.48° (T) ~ 70.82° (W) (H) 3.66° (T) ~ 42.72° (W) (V)
f-number	F1.6 – F2.8
Minimum illumination	0.5Lux(F1.8, AGC ON)
DNR	2D & 3D
White balance	Manual/Auto/One click white balance/Specify color temperature
Lens focusing	Manual/Auto/One-click focus, supporting TOF laser ranging module, assisting with focusing
Shutter、aperture	1/25-1/20000、Auto/Manual
BLC	On/Off Backlight compensation
Dynamic Range	OFF/Dynamic Range Adjustment
Video adjustment	Brilliance、Color、Saturation、Contrast、Sharpness、White&Black
SNR	≥50dB



Wireless Microphone



Transmitter		
1	Product	Portable wireless microphone
2	Usage Scenario	Indoor
3	Communication Frequency	2.4G
4	Channels	\
5	Transmitter Power	9dBm
6	Distance	< 20m
7	Latency	< 20mS
8	SINR	≥85dB
9	Distortion	<0.5%@1KHz
10	Frequency response range	100Hz-12KHz(±2db)
11	Pair	Close up 2.4G pairing
12	Power supply	Built-in Li battery , 100mA
13	Power duration	Formal version: 6h±15min
14	Usage Scenario	Indoor
15	Indicator	1、 Connection (1) Disconnected、 pairing Green light blinking; (2) Connected Green light stays on; (3) Low battery&connected red light stays on; Note:Low battery&disconnected Green light blinking 2、 Charging (Red light stays on, Finished red light gone)



		3、Mute Orange light stays on
Receiver		
1	Product	Portable wireless pairing module
2	Usage Scenario	Indoor
3	Communication frequency	2.4G
4	Channels	\
5	Distance	<20m
6	Phoenix Connector	VCC,GND , + , - ,
7	Pairing mode	Close up pairing
8	Power supply	(1) 5V direct current supply (2) USB supplying , 5V
9	Indicator	Power on: 1、Right light stays on, device standby: 2、Pairing :Green light blinking Connected : Green light stays on and the buzzer will make a "beep" sound
Charging Case		
1	Product	Portable wireless microphone charging case
2	Usage Scenario	Indoor
3	Battery remaining indication	Shows up after transmitters in the case
4	Power supply	5V, 2hours finish the charging for the transmitters
5	Duration	2 times for full charge of microphone (Capacity: 300mAH)

