



# RIPA R51 CAMERA

Version:1.1

Data Sheet

Ripa Technologies Pty Ltd

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## PRODUCT SUMMARY

R51 camera has advanced ISP processing algorithms to provide vivid images with a strong sense of depth, high resolution, and fantastic color depth rendition. It has built-in H.265/H.264 encoding to ensure smooth video performance in constrained bandwidth conditions.



Figure 1 R51 Camera

## FEATURE HIGHLIGHTS

- **Ultra HD Imaging:** Equipped with a 1/2.8-inch, 8.42-megapixel high-quality image sensor, the camera supports a maximum resolution of 3840x2160 and can output up to 60 frames per second.
- **Multiple Optical Zoom Lenses:** Available in 12X, 20X, and 30X optical zoom lens options.
- **Leading Auto Focus Technology:** Advanced autofocus algorithms enable the lens to achieve fast, accurate, and stable focusing.
- **Low Noise and High Signal-to-Noise Ratio:** The low-noise CMOS sensor ensures a super-high signal-to-noise ratio for video. Advanced 2D and 3D noise reduction technologies further
- **Multiple Video Output Interfaces:** Supports HDMI, SDI, USB, and wired LAN (POE+ function available). SDI supports transmission over 100 meters at 1080P60 resolution.
- **Multiple Audio and Video Compression Standards:** Supports H.265/H.264 video compression, as well as AAC and G.711A audio compression. Supports compression at up to 1920x1080 resolution and 60 frames per second.
- **Audio Input Interface:** Supports AAC and G.711A audio encoding. AAC encoding supports sample rates of 16000, 32000, 44100, and 48000 Hz, while G.711A encoding only supports 8000 Hz.
- **Multiple Network Protocols:** Supports ONVIF, GB/T28181, RTSP, SRT and RTMP protocols, NDI (Optional). RTMP push mode is supported for easy connection to streaming media servers (e.g., Wowza, FMS). RTP multicast mode is supported, as well as network full-command VISCA control protocol.
- **AI Dynamic Tracking:** Equipped with top-tier automatic tracking and framing technology, integrating face and human shape recognition algorithms. This feature provides tracking capabilities for environments such as meeting rooms, classrooms, and churches.
- **Control Interfaces:** RS485 and RS232 interfaces. RS232 supports cascading, making it easier for installation and use.
- **Multiple Control Protocols:** Supports VISCA, PELCO-D, and PELCO-P protocols, with automatic protocol recognition.
- **Super Silent PTZ:** Utilizes high-precision stepper motors and precise motor driver controllers to ensure smooth, noise-free PTZ (pan-tilt-zoom) operation at low speeds.
- **Low Power Sleep Function:** Supports low-power sleep/wake-up mode with power consumption below 400mW during sleep.
- **Built-in OLED Display:** Displays output resolution, IP address.
- **Multiple Preset Positions:** Supports up to 255 preset positions (10 presets available via remote control).

TECHNICAL SPECIFICATIONS

Model	R51-12	R51-20	R51-30
<b>Equipment, lens parameters</b>			
<b>Image Sensor</b>	1/2.8-inch high-quality CMOS sensor		
<b>Effective pixel</b>	8.42 million、16: 9		
<b>Video Signal</b>	<p><b>HDMI/SDI/LAN Interface video format:</b></p> <p>3840x2160/1920x1080P60/59.94/50/30/29.97/25; 1080P60/59.94/50/30/29.97/25; 720P60/59.94/ 50</p> <p><b>USB Interface video format:</b></p> <p>YUY2/NV12:1920 x 1080/1280 x 720/1024 x 576/800 x 600/800 x 448/640 x 480/640 x 360/480 x 270/320 x 180P30/25/20/15/10/5</p> <p>H264/H265/MJPG: 3840x2160/1920 x 1080/1600 x 896/1280 x 720/1024 x 576/960 x540/800 x600/800 x 448/720 x576/720 x480/640 x480/640 x360/352 x288/320 x240P60/50/30/25/20/15/10/5fps</p>		
<b>Optical</b>	12X	20X	30X
<b>Zoom Lens</b>	f=4.1~49.2mm	f=5.05~91.49mm	F=5.2~148.4mm
<b>Field of View</b>	6.72° (N) 70.4° (W)	3.81° (N) 60.04° (W)	2.14° (N) 58.1° (W)
<b>Aperture Ratio</b>	F1.8 – F2.68	F1.8 – F2.9	F1.3 – F4.8
<b>Digital Zoom</b>	16 X		
<b>Minimum Illumination</b>	0.5Lux(F1.8, AGC ON)		



## RIPA R51 Camera

<b>Digital Noise Reduction</b>	2D & 3D
<b>White Balance</b>	Auto/Manual/One-Key White Balance 3000K/3500K/4000K/4500K/5000K/5500K/6000K/6500K/7000K
<b>Focus</b>	Auto/Manual/One-Key Focus
<b>Aperture</b>	Auto/Manual
<b>Electronic Shutter</b>	Auto/Manual
<b>Backlight Compensation</b>	On/Off
<b>Dynamic Range</b>	Off/Dynamic Range Adjustment
<b>Video Adjustment</b>	Parameters such as brightness, sharpness, saturation, contrast, white balance, anti-flicker, and low-light compensation are adjustable.
<b>SNR</b>	>50dB

Interface function performance	
<b>Product Interfaces</b>	HDMI、SDI、LAN(POE+ support)、USB3.0、A-IN、RS232-IN、RS232-OUT、RS485、DC12V Power source
<b>Video Output Interface</b>	HDMI、SDI、LAN、USB3.0
<b>Video</b>	LAN: H.264、H.265 USB 3.0: MJPG、H264、H.265、YUY2、NV12



## RIPA R51 Camera

<b>Compression Format</b>	
<b>Video Bitrate</b>	64-40960
<b>Bitrate Control</b>	Fixed bitrate, variable bitrate.
<b>Frequency</b>	50Hz: 1fps ~ 50fps 60Hz: 1fps ~ 60fps
<b>Audio Input Interface</b>	Dual-channel 3.5mm linear input.
<b>Audio Output Interface</b>	HDMI, LAN, USB3.0, SDI
<b>Audio Bitrate</b>	96Kbps, 128Kbps
<b>Audio Compression Format</b>	AAC、G.711A
<b>Network Interface</b>	100M network port, POE+ power supply optional, supports audio and video output.
<b>Network</b>	RTSP、RTMP、ONVIF、GB/T28181,SRT, NDI(Optional);
<b>Protocol</b>	Supports network VISCA control protocol; Supports remote upgrade, remote restart, remote reset.
<b>Control Interface</b>	RS232-IN、RS232-OUT、RS485
<b>Serial Communication Protocol</b>	VISCA/Pelco-D/Pelco-P; Supports baud rate. 115200/38400/9600/4800/2400



## RIPA R51 Camera

<b>USB Communication Protocol</b>	UVC (Video Communication Protocol), UAC (Audio Communication Protocol)
<b>Power Interface</b>	HEC3800 power socket (DC12V)
<b>Power Adapter</b>	Input AC110V~AC220V ; Output DC12V/1.5A
<b>Input Voltage</b>	DC12V±10%
<b>Input Current</b>	≤1.2A
<b>Total Power Consumption</b>	≤13.8W

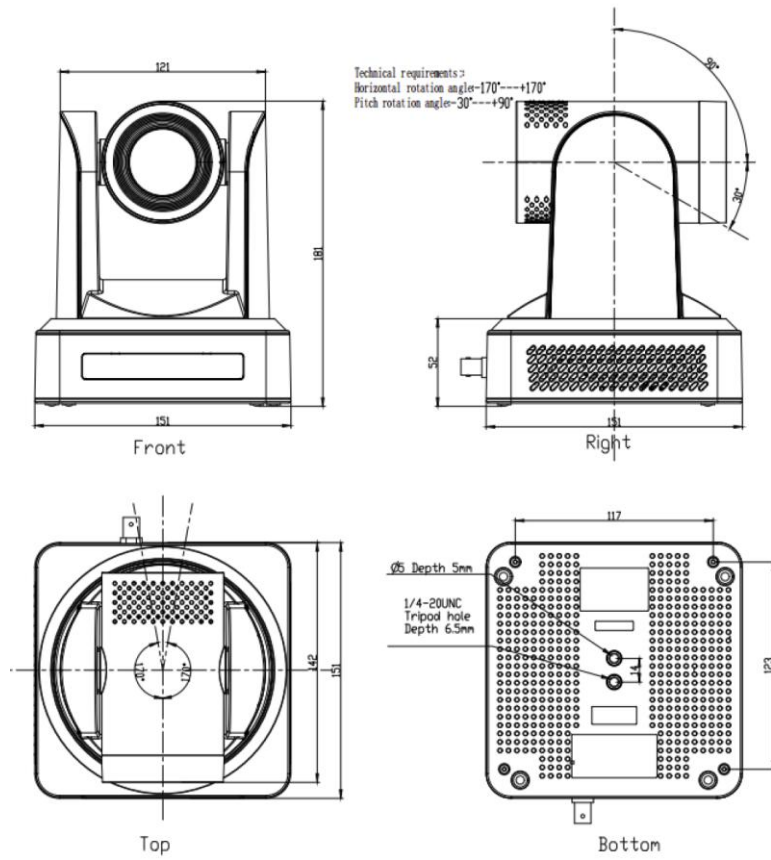
<b>Pan-Tilt Parameters</b>	
<b>Pan Rotation</b>	-170° ~ +170°
<b>Tilt Rotation</b>	-30° ~ +90°
<b>Pan Control Speed</b>	0.1°/s ~ 60°/s
<b>Tilt Control Speed</b>	0.1°/s ~ 30°/s
<b>Preset Speed</b>	Pan: 60°/s, Tilt: 30°/s
<b>Number of Presets</b>	Users can set up to 255 preset positions (10 via remote control)



## RIPA R51 Camera

Other Parameters	
<b>Storage Temperature</b>	-10°C ~ +70°C
<b>Storage Humidity</b>	20% ~ 95%
<b>Working Temperature</b>	-10°C ~ +50°C
<b>Working Humidity</b>	20% ~ 80%
<b>Dimensions</b>	150 (L) mm×150mm (W) ×167.5mm (H)
<b>Weight (approx.)</b>	1.4kg
<b>Operating Environment</b>	Indoor

PRODUCT DEMENSION



PRODUCT IMAGE LIBRARY



ORDERING GUIDE

Product part code is RP-R51-12, RP-R51-20, RP-R51-30