Red Line Product

BOLIN

# R9 Series
# Indoor PTZ Line Flagship


## Redefining The Indoor PTZ Camera Experience

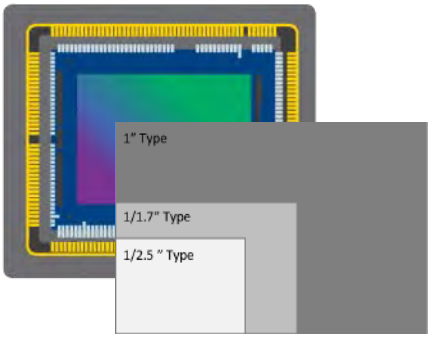
# IMAGE MODULE

The R9 series indoor PTZ camera has three imaging solutions: a large 1" 4K30 image sensor with amazing quality, a 4K60 sensor with exceptional performance in high-speed environments, or the Full HD option with great low light and superior image stabilization for tough (challenging) environments. There is an image option for every scenario.

## SKU: **EXU418F**
4K30,1080p60

Sony Image Block

- 1 inch type Exmor R CMOS large sensor
- 14.4 Megapixels
- Best Image Quality in its Class
- Zeiss Vario-Sonnar T lens, Zoom Range 18X(4K)/24X(FHD)
- Optical Image Stabilizer
- Black Level
- Color Matrix
- ND Filter
- True WDR




Size of the 1 Inch Sensor Comparison

## SKU: **EXU230H**
1080p60

Sony Image Block

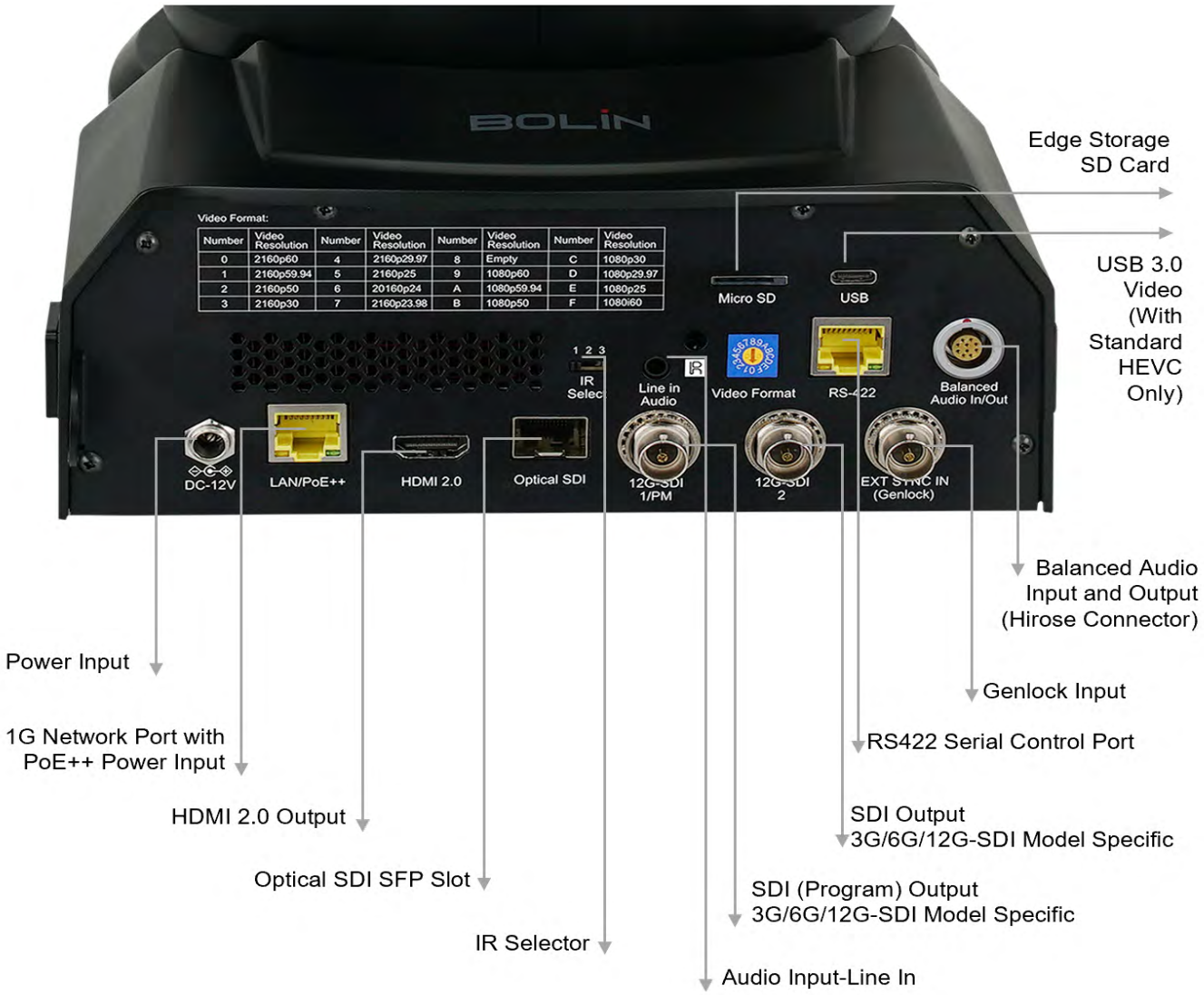
- 1/1.8 inch STARVIS 2 sensor
- Pro AV Optimised High Resolution Image Quality
- 30X 8M High Resolution Optical Zoom Lens
- Advanced AF Performance
- High Color Performance in Super Low Light Conditions
- Super Image Stabilization


## SKU: **EXU420F**
4K60

Sony Sensor

- 1/2.5 Inch CMX715 High Class Sensor
- Crisp and Clean UHD Image Quality
- Crisp with 20X High Resolution Optical Zoom
- AI Face Detection Auto Focus/Exposure

# OUTPUT




- Dual 12G-SDI
- HDMI 2.0
- 4K IP Streaming - AVC/HEVC
- SFP Optical SDI
- External Synchronization Genlock
- Audio embedded with all video output
- XLR broadcast audio input/output
- USB3.0 video output (Standard HEVC Only)
- On-screen character generator

## True Tri-Output

Simultaneously output SDI, HDMI, and IP, which can be set to independent formats for different application use.

## Full Broadcast SDI Format and Standard (Model Specsific)

3840x2160/59.94p/60p
3840x2160/50p
3840x2160/29.97p/30p
3840x2160/25p
3840x2160/23.98p
3840x2160/24p
1920x1080/59.94p/60p
1920x1080/59.94i/60i
1920x1080/50p
1920x1080/50i
1920x1080/29.97p/30p
1920x1080/25p
1920x1080/23.98p/24p
1280x720/59.94p/60p
1280x720/50p

SMPTE 292(1.5Gb/s)
SMPTE 424
SMPTE 425-A(3Gb/s)
SMPTE 2081(6Gb/s)
SMPTE 2082-0/1(12Gb/s)
with SMPTE 352 SDI Metadata
.

## SITUATION-USING SDI/HDMI (Tradition AV System)

Planning an AV system structure or installation using SDI/HDMI video cables?
***Do these issues sound familiar?***

- Signal loss over long distances
- The need for multiple SDI/HDMI amplifiers and splitters.
- Adding hardware workaround using SDI/HDMI matrixes and routers.
- Having to extend an AV installation, by adding cables, display, and endpoints.
- Looking to utilize advanced AV Over IP solutions, but the video bandwidth is too high for a standard 1G network infrastructure.
- Large cable count and hardware management issues within the space
- Unstable/high failure rate due to too many connected devices

***If the answer is "Yes",***
- A FAST HEVC solution could easily replace a traditional SDI/HDMI installation saving you time and money, by having almost no compromises on the ultimate video signal quality of an SDI/HDMI installation.

### SDI/HDMI REPLACEMENT - FAST HEVC

| SDI (12G-SDI) | Key Words |
|---|---|
| Uncompressed video/Audio delivery | Analog/Traditional |
| AV signal running around 12 Gigabits/per second | High bit rate |
| Uncompressed up to 4K/60 delivery | High cost |
| Negligeable latency AV delivery | No-Latency |
| High-quality AV delivery | Lossless |
| One cable - One signal AV delivery | 1 to 1 |
| Robust, reliable BNC connector and costly coaxial cable | Expensive |
| Up to 260ft (80m) range cable run without signal loss | Limited |
| Hardware device based, high power consumption | High heat |
| Supports all ancillary data | Vintage |
| Point to point hardware connection | 1 To 1 |
| Costly solution for long distance broadcast | Expensive Build |
| Predictable and very reliable | Rigid |
| High quality audio | Hi-Fi |

| Key Words | IP Streaming (4K60) - FAST HEVC Codec |
|---|---|
| IT/Future | Codec based format (AVC/HEVC) audio/video delivery |
| Adaptive bitrate | Fast adaptive bitrate AV encoding |
| Lower cost | Slightly compressed UHD 4K delivery |
| Visually No-Latency | Ultra low latency - less than 2 frame/s (30ms, visualy zero-latency) |
| Visually Lossless | 4K60 (4:2:2 – 8/10/12bit, visually lossless) |
| 1 to Many | 20-200Mbps bandwidth (45Mbps at streaming 4K60 4:2:2/12bit, visually lossless) |
| More affordable | Ethernet connector (RJ45) and CAT6 network cable |
| Flexible Build | Flexible network infrustructure up to 290ft (90m) |
| Low heat | Hardware FPGA codec with low power consumption and software decode application applicable |
| Modern | Support some ancillary and metadata |
| 1 To Many | Flexible one to many possibilities-Multicast |
| Flexible Build | Highly flexible and lower cost IP streaming plus PoE |
| Agile | Agile, flexible, and scalable |
| High Quality | Various high quality audio codecs |

# Two options of IP streaming codec:

1. Standard AVC/HEVC (H.264/265), software SOC based codec
2. Fast AVC/HEVC (H.264/265), hardware FPGA based codec

- Up to 4K60
- SDI Replacement
- Dual stream, Multicast Support
- RTSP, RTMP, RTMPS, SRT, ONVIF
- IP Control protocol: Visca Over IP, Onvif
- Compatible With Standard AVC/HEVC
- Software Decode and Hardware Decode
- H.264/265 open platform, codec from Xilinx MPSoC

**FAST HEVC**

High Quality
Low Bandwidth
Low Latency

***FPGA hardware codec, utilizing Xilinx Zynq™ UltraScale+™ EV MPSoC to deliver***

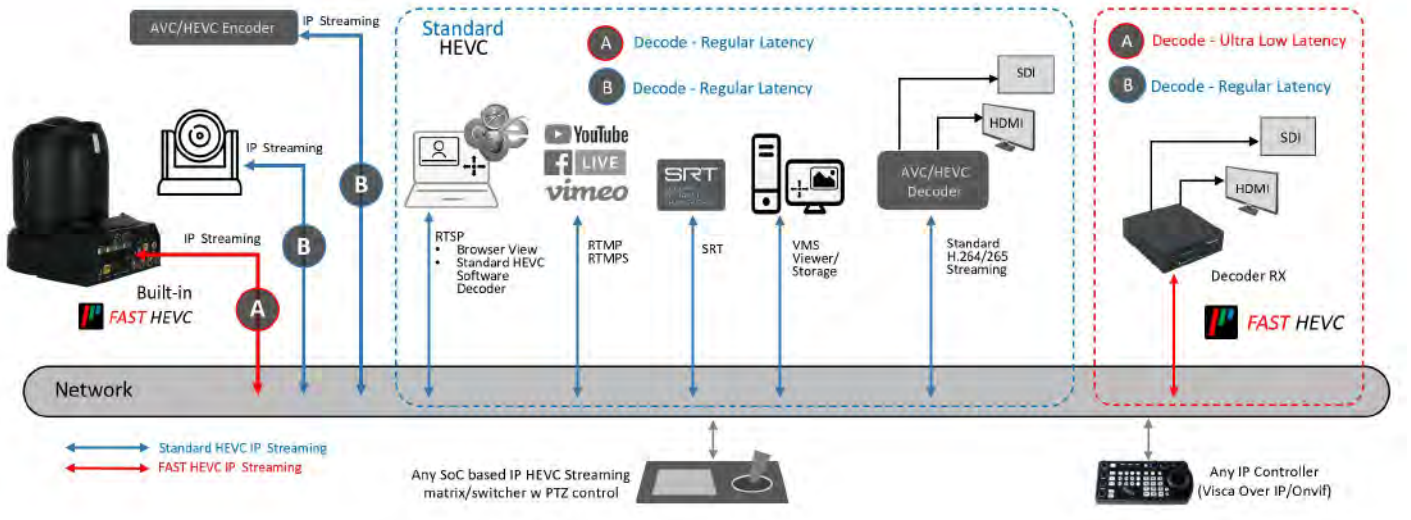
***Only 45Mbps bandwidth that streaming 4K60 at 4:2:2 12bit in less than 2 frame/s (32ms) latency***

## *Comparison-The Facts of FAST HEVC Performance

| Fundation | Platform | Codec | 1080p59.94/60 | | | 2160p59.94/60 | | |
|---|---|---|---|---|---|---|---|---|
| | | | Quality (Up To) | Latency (Point-to Point) | Bandwidth | Quality (Up To) | Latency (Point-to Point) | Bandwidth |
| H.264/265 AVC/HEVC | Software SOC | Stand HEVC | 420SP(NV12) | 4 frame/70ms | 8Mbps | 420SP(NV12) | 25 frame/430ms | 16Mbps |
| | Hardware SOC | Stand HEVC | 4:2:2/12bit | 2 frame/30ms | 8Mbps | NA | | |
| | Hardware FPGA | FAST HEVC | 4:2:2/12bit(NV16) | 2 frame/25ms | 8-30Mbps | 4:2:2/12bit(NV16) | 2 frame/30ms | 16-65Mbps |
| NDI | Hardware FPGA | Full NDI | 4:2:2/10bit | 3 frame/50ms | 150Mbps | 4:2:2/10bit | 4 frame/70ms | 300Mbps |
| Dante AV-Ultra | Hardware FPGA | JPEG 2K | 4:2:2/12bit | 1 frame/6ms | 250Mbps | 4:2:2/12bit | 1 frame/8ms | 550Mbps |

*Results may vary depending on network configuration and management settings.

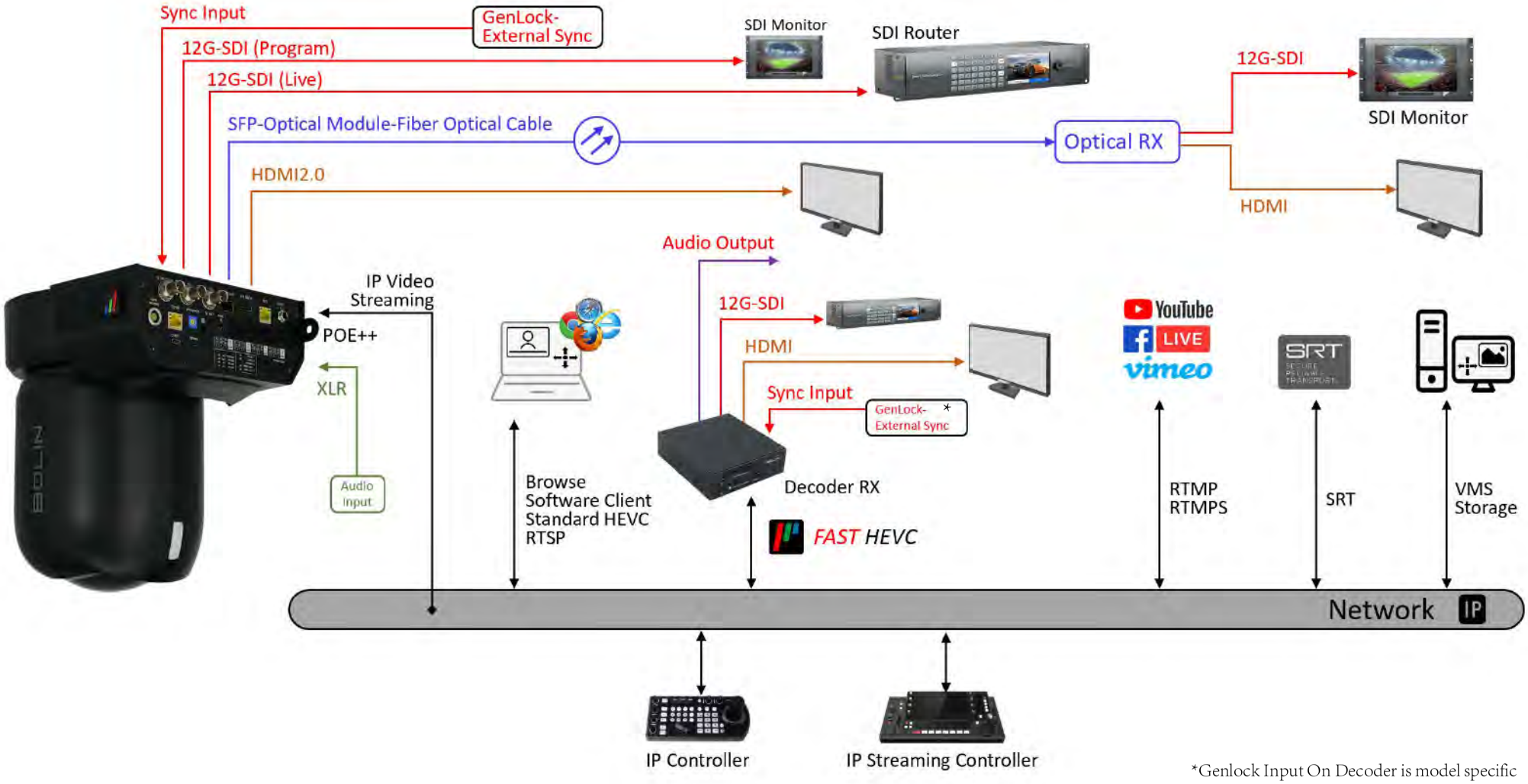
## Open Platform




Bolin FAST HEVC codec camera can be decoded by standard HEVC decoder but will not have Ultra Low Latency

HEVC codec camera/device can be decoded by Bolin FAST HEVC decoder but will not have Ultra Low Latency

# WORKFLOW




*Genlock Input On Decoder is model specific

# MOVEMENT

## Smooth and Accurate Movement

- PAN: 340° (-170° to +170°); Fully proportional speed 0.01° to 100°/s
- TILT: 120° (-30° to +90°); Fully proportional speed 0.01° to 50°/s
- Preset:  255 positions, Speed 100°/s,
  0~5 Level Adjustable, Accuracy: 0.03°
- Picture Profile Preset
- Motionless Preset
- PTZ Trace Memory
- Quiet - Less than NC35


# FEATURES

- On-screen character generator
- All firmware upgrade via IP
- Front and Rear Tally Light
- POE++ and 12VDC/AC
- Built-in handle
- Genlock
- HDMI cable secure mount
- Available Color: Black, White

## Move, with you

- Industry-First unique portable body design
- Facilitates your video production installation.

**Move • With You**

# SPECIFICATIONS

| | R9-230H | R9-418F | R9-420F |
|---|---|---|---|
| Codec | HEVC | FAST HEVC | FAST HEVC |
| Camera Image | 30X Full HD | 18X 4K30/FHD | 20X 4K60 |
| Image Maker | Sony | Sony | Bolin |
| Image Sensor | CMOS image sensor 1/1.18 type STARVIS 2 sensor | 1.0-type back-illuminated Exmor R CMOS sensor | IMX715, CMOS image sensor 1/2.8 type |
| Number of effective pixels | 2712 x 1538, 4.17MP | 14.2 MP | 8.29MP, 8.29 MP |
| Picture elements | 2688 x 1520, 4.09MP | 3840 x 2160, 8.29 MP | 3840x2160 |
| Lens | Enhanced optical zoom 30X | Zeiss Vario-Sonnar T lens, Zoom Range 18X(4K)/24X(FHD) | 20X |
| Tele Convert Mode | - | - | - |
| Digital Zoom | 12X | - | 16X |
| Horizontal Angle of View | 58.1˚ (Wide) - 2.3˚ (Tele), | 64.6˚ (Wide) - 6.1˚ (Tele), | 78.59° (W)~4.92° (T) |
| Vertical Angle of View | 34.9˚ (Wide) - 1.7˚ (Tele), | 39.2˚ (Wide) - 3.4˚ (Tele), | 48.39° (W)~2.79° (T) |
| Focal Length | f= 6.5 mm (WIDE) to 162.5 mm (TELE) | f=9.3 to 111.6mm, F2.8(Wide) ,F4.5(Tele) | f= 3.55 mm (WIDE) to 63.58 mm (TELE) |
| Min. object distance | 100mm (Wide), 1200mm (Tele) | 80mm (Wide), 1000mm (Tele) | 50cm |
| Aperture | F1.6 (Wide) to F4.8 (Tele), 16 steps | F2.8 Constant (W)~F4.5(T), 16 Steps | F2.0 (Wide) to F3.8 (Tele) |
| Min. Illumination | ICR-Off, 0.009 lx (1/30 sec, 50%, High Sensitivity On); ICR-On, 0.00008 lx (1/30 sec, 50%, High Sensitivity On) | 0.5 lx (1/30 sec, 50%, High Sensitivity On) 2.0 lx (1/30 sec, 50%, High Sensitivity Off) | 0.5lux（color），0.1lux（black） |
| Shutter Speed | 1/1 sec to 1/10000 sec (22 steps) | 1/1 sec to 1/10000 sec (28 steps) | 1/1 sec to 1/10000 sec (22 steps) |
| Focus | Spot Focus, Auto / Manual / One Push Trigger /Full Scan one push trigger / Near Limit / Spot Light Avoidance | Spot Focus, Auto Focus(Trigger/Interval), Manual Focus(Variable Speed), One Push Trigger, Near Limit, | Auto, Push, Manual |
| White Balance | Auto / ATW / Indoor / Outdoor / One Push WB / Manual / One push Triger / Outdoor Auto / Sodium Vapor Lamp Auto / Sodium Vapor Lamp / Sodium Vapor Lamp Outdoor Auto | AUTO, ATW, Indoor, Outdoor, One Push WB, Manual WB, Outdoor Auto, Sodium Vapor Lamp（Fix/Auto/Outdoor Auto） | Auto, Indoor, Outdoor,OPW,ATW, Manual |
| Exposure | Full Auto / Gain Limit Setting / Shutter Priority / Iris Priority / Manual / EV compensation | Full Auto, Gain, Shutter Priority, Iris Priority, Manual, Bright | Auto, Manual, Shutter /Iris /Brightness priority |
| Features | High Sensitivity, Backlight Compensation, HLC, E-FLIP, Mirror, Day/Night | High Sensitivity, Backlight Compensation, HLC, E-FLIP, Mirror, Day/Night | Backlight Compensation, E-FLIP, Mirror, Day/Night, Flicker ,Contrast, Effect, SHARPNESS |
| WDR | Yes | YES(130dB), Shown as VISIBILITY ENHANCER in OSD | 120db |
| ND Filter | - | Yes | - |
| Image Stabilizer | Yes, Super, Super+ | YES, Optical Image Stabilizer | Yes |
| Color Gain | Yes (15 step) | Yes (15 step) | Yes |
| Color Hue | Yes (15 step) | Yes (15 step) | Yes |
| Gamma | Standard / Straight gamma | Standard/Straight/Pattern | Yes |
| Gamma Level | - | Yes (15 step) | 0-4 |
| Black Level | - | Yes (97 step) | - |
| Black Gamma | - | Yes (15 step) | - |
| Color Matrix | - | Off/Standard/High Saturation/FL light | Yes |
| Noise Reduction | On/Off (level 5 to 1 / Off, 6 steps), 3D / 2D | On/Off (level 5 to 1 / Off, 6 steps), 2D/3D | On/Off (level 5 to 1 / Off, 6 steps), 3D / 2D |
| S/N Ratio | ≥50db | ≥50db | ≥50db |
| HLC | Yes | Yes | - |
| E-Flip | Yes | Yes | Yes |
| Privacy Zone Masking | Yes | Yes | - |
| Defog | Yes, (off, low, mid, high) | Yes, (off, low, mid, high) | Yes |
| High Sensitivity | Yes | Yes | Yes |
| Slow AE Response | Yes | Yes | - |
| Day/Night | Yes | Yes | Yes |
| Backlight Compensation | Yes | Yes | Yes |
| Low Latency Mode | Yes | - | - |
| AI Face Detection Focus | - | - | Yes |
| AI Face Auto Exposure | - | - | - |
| Scene Style | - | - | Default, Clear, Bright, Soft, Bolin |
| Focus Zone | - | - | Face Priority, All Area, Upper/Central/Lower Area |
| **Mechanical** | | | |
| Pan Movement | PAN: 340° (-170° to +170°); Fully proportional 0.05° to 100°/s | | |
| Tilt Movement | TILT: 120° (-30° to +90°); Fully proportional 0.05° to 75°/s | | |
| Speed Proportional | Pan/Tilt Speed proportional to zoom range | | |
| Preset Position | 255 positions, Speed 100°/s, 0~5 Level Adjustable, Accuracy: 0.1° | | |
| Preset Memory | Picture Profile Preset-Preset Memory for image parameters: Backlight Compensation, White Balance, R-Gain/B-Gain, Auto Exposure, Bright, Iris, Shutter, Gain, Aperture, Effect, Noise Reduction, Mirror, Gamma, Ex-COMP, Color Hue, Contrast etc.) | | |
| Motionless Preset | YES, ON/OFF | | |
| PTZ Trace Memory | YES, 12 | | |
| Cruise | YES, 4 | | |
| Quietness | NC35 Compliant | | |
| Home Position | Yes | | |
| FreeD | Yes, FreeD protocol for AR/VR camera tracking, via serial control/IP (Via fw upgrade) | | |
| Environmental | Indoor, IP65 | | |
| **Interface** | | | |
| HDMI Video Output | HDMI 2.0 Type A | | |
| SDI Video Output | 3G-SDI, SMPTE424M /SMPTE292M /SMPTE 296M standards, 75Ω BNC x 2，SDI/PM for output to has OSD display | 6G-SDI, SMPTE424M /SMPTE292M /SMPTE 296M / SMPTE 274M /SMPTE ST-2081 standards, 75Ω BNC x 2，SDI/PM for output to has OSD display | 12G-SDI, SMPTE424M /SMPTE292M /SMPTE 296M / SMPTE 274M /SMPTE ST-2081 /SMPTE ST-2082 standards, 75Ω BNC x 2，SDI/PM for output to has OSD display |
| SDI Optical Fiber Output | Optical 12G-SDI (Module Excluded). Detachable slot, Connector: Duplex LC (optional via ST, LC or SMPTE) | | |
| | Laser Unit: Single-mode 1,310nm DFB-LD transmitter and PIN receiver Complaint with MSA SFP+ Specification SFF-8402. | | |
| Network LAN Port | RJ45X1, Standard 10M/100M/1000M Base-TX Ethernet, LAN connector for IP control/video output/audio output/System FW Upgrade | | |
| Synchronization System | Internal/External synchronization (BBS/Tri-level sync) | | |
| External Sync Input | Genlock, BNC connector, BBS (Black Burst Sync), tri-level sync supported | | |
| Audio Input | Balanced XLR (Hirose Connectorvia Atomos 10-Pin LEMO Type to XLR Breakout Cable) with 48V Phantom power | | |
| | 3.5mm TRRS for bidirection audio intercom | | |
| Audio Output | Balanced XLR (via Atomos 10-Pin LEMO Type to XLR Breakout Cable), embedded with HDMI, SDI, USB and IP | | |
| | 3.5mm TRRS for bidirection audio intercom | | |
| Tally Light | Red, Green Color/Front and Rear | | |
| Dip Switch | Video Resolution Dip Switch x1 | | |
| System Firmware Upgrade | Upgrade via IP for camera system MCU, Driver, FPGA and Encoder | | |
| Power Connector Type | INPUT: DC12V, connect with screw secure (Type - 5.5mm×2.1mm Male DC Power Plug Connector & Screw Lock Female Panel Socket Mount Adapter) | | |
| | INPUT: RJ45, PoE++ (IEEE802.3bt) | | |
| Control Interface | RJ45X1-RS422, RJ45X1-IP Control, IR Remote Control | | |
| Control Protocol | Serial: VISCA, PELCO P/D; IP: VISCA Over IP, ONVIF; FreeD (via Hw Upgrade) | | |

# SPECIFICATIONS

| | R9-230H | R9-418F | R9-420F |
|---|---|---|---|
| Codec | HEVC | FAST HEVC | FAST HEVC |
| **HDMI Video Signal System** | | | |
| HDMI Video Format | 1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p | 3840 x 2160/29.97p/30P<br>3840 x 2160/25p<br>3840 x 2160/23.98p<br>3840 x 2160/24p<br>1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p | 3840 x 2160/59.94p/60P<br>3840 x 2160/50p<br>3840 x 2160/29.97p/30P<br>3840 x 2160/25p<br>3840 x 2160/23.98p<br>3840 x 2160/24p<br>1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p |
| Color Precision | 12bit(HDMI), YUV4:2:2, YUV4:2:0 | | |
| Color Space | YUV、RGB | | |
| OSD Menu Display | Yes, with image insert | | |
| On-Screen Title | Yes, video embedded On-Screen title character generator | | |
| **SDI Signal Format** | | | |
| SDI Video Format | 1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p | 3840 x 2160/29.97p/30P<br>3840 x 2160/25p<br>3840 x 2160/23.98p<br>3840 x 2160/24p<br>1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p | 3840 x 2160/59.94p/60P<br>3840 x 2160/50p<br>3840 x 2160/29.97p/30P<br>3840 x 2160/25p<br>3840 x 2160/23.98p<br>3840 x 2160/24p<br>1920 x 1080/59.94p/60p<br>1920 x 1080/59.94i/60i<br>1920 x 1080/50p<br>1920 x 1080/50i<br>1920 x 1080/29.97p/30p<br>1920 x 1080/25p<br>1920 x 1080/23.98p/24p<br>1280 x 720/59.94p/60p<br>1280 x 720/50p |
| Color Precision | 10bit(SDI), YUV 4:2:2 | | |
| Color Space | YUV | | |
| Standard | SMPTE 292M，SMPTE 296M (1.5Gb/s), SMPTE 424M, SMPTE 274M，SMPTE 425-A (3Gb/s), SMPTE 2081(6Gb/s), SMPTE 2082-1（12Gb/s）standard / 75 Ω (BNC x 1), With SMPTE352 SDI Metadata Supported | | |
| True Dual Output | HDMI and SDI signal can be output with different format | | |
| OSD Menu Display | Yes | | |
| On-Screen Title | Yes, video embedded On-Screen title character generator | | |
| **USB Signal Format** | | | |
| USB Port | USB 2.0 Type-C | – | USB 2.0 Type-C |
| Encoder | H.264, MJPEG | – | H.264, MJPEG |
| USB Video Format | 1920x1080p60/50/30/25<br>1280x720p60/50 | – | 3840 x 2160p/60/50/30/25<br>1920x1080p60/50/30/25<br>1280x720p60/50 |
| Compatible Integration | UVC, UAC | – | UVC, UAC |
| **Network** | | | |
| Video Compression (Codec) | MJPEG,H.264/H.265 by SoC | AVC-H.264/HEVC-H.265/MJPEG/MP4 by FPGA | |
| IP Resolution/Frame Rate | 1920x1080p60/50/30/25, 1280x720p60/50 | 3840x2160p30/25, 1920x1080p60/50/30/25, 1280x720p60/50 | 3840x2160p/60/50/30/25, 1920x1080p60/50/30/25, 1280x720p60/50 |
| True Dual Output | IP, HDMI, and SDI signal can be set with different format | IP, HDMI, and SDI signal can be set with different format | |
| IP Protocols | TCP/IP, ICMP, ARP, RTP, UDP, HTTP, DNS, DHCP, FTP, NTP, SRT | TCP/IP、IGMP、ICMP、ARP、QoS、SNMP、UDP、 HTTP、 DNS、 DHCP、 FTP、 NTP、 UPNP，SRT | |
| Application Protocols | RTMP(S)、RTSP、 RTSP Encryption、SRT、MP2TS over UDP (Unicast, Multicast) | RTMP、RTSP、RTP Streaming (Unicast, Multicast)、MP2TS over UDP (Unicast, Multicast) 、TS over RTP、TS over SRT, WebRTC, RTSP Encryption | |
| Color Format | - | 10bit, YUV 4:2:2 | |
| Multi-stream | 3 stream | 2 stream | |
| Audio Compression | AAC-LC,G.711A/G.711U<br>Broadband Audio Encoding(Duplex Communicate Supported, Audio/Video synchronization) | 64Kbps(G.711) / 16Kbps(G.722.1) / 16Kbps(G.726) / 32-128Kbps(MP2L2) / 32-128Kbps(AAC-LC) Selectable | |
| OSD | Customized OSD | Customized OSD | |
| Compatible Integration | ONVIF2.4 (Profile S), VISCA Over IP | ONVIF2.4 (Profile S/G/T), VISCA Over IP | |
| Bandwidth ( results may vary depending on network configuration and management settings.) | 8Mbps, 1080p60 | 30-50Mbps, 4kp60 12 bit 4:2:2<br>10-20Mbps, 1080p60 12 bit 4:2:2 | |
| Latency (Overall latency may increase depending on network configurations) | 10 frame (e.g. 1080p60 latency is < 170ms glass to glass | 2-3 frame (e.g. 2160p60 latency is < 45ms glass to glass | |
| Browser Support | Cross Browser Compatibility - HTML5 support for Microsoft Edge, Google Chrome, Firefox, and Safari | | |
| **General** | | | |
| Operating Temperature | –10 °C to 50 °C（14°F to 122°F) | | |
| Operating Humidity | ≤80% Suitable for Use (no condensation) | | |
| Power Input | DC12V, PoE++(Compatible with IEEE802.3bt, Type 4 Class8) | | |
| Power Consumption | Min: 29W (Static state with no movement)<br>Max: 40W（Fully loaded operation） | Min: 29W (Static state with no movement)<br>Max: 50W (Fully loaded operation) | |
| Installation Method | Stand-alone (Upright) or suspended (Pendent) or Tripod | | |
| Mount | Ceiling mount, Wall mount, Tripod | | |
| Handle | Built-in for portable use application | | |
| Size of Tripod Screw Hole | 1 x 1/4" safety bond point | | |
| Body Color | Black, White | | |
| Dimension-Camera | 201*253*249mm(W*D*H), 201*253*256(with feet mats) | | |
| Net Weight | 3.8kg (8.36lb) | | |
| Accessories Included | IR Remote controller x1, Power adapter and power cord (US, EU, UK), Mounting screws x3, RJ45 to RS422 Extension cable, Thanks card x1 | | |
| Accessories Optional | Wall mount bracket<br>Ceiling mount bracket<br>Quick mounting plate<br>Tripod mount adaptor<br>Cable Connection Junction Box<br>Stabilizer Platform | | |

# ACCESSORIES

Items marked * are optional to purchase

VCC-RC-2
IR Remote Controller

VCC-P12-4
12VDC 4A Power Adapter

VCC-CC45RS
RJ45 To RS232/RS422/485 Adapter

C-PMSB
*Pendant Mount for Drop Ceiling
/Hard Surface Ceiling

C-WM3B
*Wall Mount Bracket-Size 3

C-WM2B-CV
*Wall Mount Cover-Size 3

C-WPLB
*Wall Mount Plate

BL-CM-01
*Ceiling Mount Bracket

BL-PP97
*97W POE POWER INJECTOR

# ORDER INFORMATION

- R9-418F (4K30/FHD, 18X/24X, FAST HEVC, Black)
- R9-420F (4K60, 20X, FAST HEVC, Black)
- R9-230H (Full HD, 30X, HEVC, Black)
- R9-418F/W (4K30/FHD, 18X/24X, FAST HEVC, White)
- R9-420F/W (4K60, 20X, FAST HEVC, White)
- R9-230H/W (Full HD, 30X, HEVC, White)

## DIMENSIONS

Unit: mm