RovoCam

Integrated UltraHD/HD Camera
with HDBaseT

AJA
VIDEO SYSTEMS

RovoCam

RovoCam's HDBaseT interface delivers pristine UltraHD/HD uncompressed video, audio, control and power over a single CAT 5e/6 cable.

Integrated UltraHD/HD Camera with HDBaseT
Simple Installation, Using One Cat5e/6 Cable

RovoCam is AJA's first compact block camera for industrial, corporate, security, ProAV and broadcast applications.

Gorgeous UltraHD and HD imagery is obtained with superior Sony® optics with built-in 12x optical and up to 20x zoom with Sony Super Resolution Zoom, auto and manual focus.

Housed in a rugged machined aluminum case with multiple mounting options, RovoCam delivers the flexibility, power and feature set to accommodate a variety of applications.

A single Cat 5e/6 cable carries all uncompressed video, 2-Channel audio, VISCA camera control, and power for the simplest installation ever due to RovoCam's integrated HDBaseT interface.

Delivering this much functionality and power with single cable connectivity dramatically simplifies the installation, camera setup and footprint requirements.

RovoRx-SDI, RovoRx-HDMI and Corvid HB-R, companion HDBaseT receivers, offer the simplest reception options for RovoCam with 6G/3G-SDI and or HDMI outputs to drive displays, and all video/audio signals, power, and control offered over HDBaseT.

RovoControl software from AJA offers a free, simple interface for controlling RovoCam's essential camera features on Mac®, Windows® and Linux® and offers multi-camera support as well as unique electronic PTZ HD scene selection and output from RovoCam's full UltraHD raster.

RovoCam

HDBaseT

RovoCam features an integrated HDBaseT transmitter. Not only does HDBaseT offer long cable runs over standard Cat 5e/6 cable, it also passes RovoCam's gorgeous UltraHD/HD imagery, audio, control of the camera, and power to the unit across significant distances.

Simple to install, simple to operate.

UltraHD and HD Resolution

RovoCam offers flexible image resolutions with fantastic Sony optics and powerful zoom capabilities providing UltraHD up to 29.97p or high frame rate HD support up to 60p.

RovoCam utilizes Sony's back illuminated 1/2.3 type 8.9 megapixel CMOS sensor for excellent performance and image fidelity.

Hands On Control

RovoCam is simple to control via flexible software and hardware support. RovoCam offers local RS-232 connectivity, while Sony VISCA protocol support, video, audio and camera control can be carried over a single Cat 5e/6 cable through HDBaseT. Whether you prefer simple software or the immediacy of a compatible joystick, the choice is yours.

RovoControl

RovoControl is free software from AJA for Mac and Windows, designed to be a simple application for controlling one or multiple RovoCams, offering easy control of all the main camera features like zoom, iris and focus.

RovoControl uniquely offers electronic PTZ for moving an HD 1080p box around the UltraHD frame, allowing Pan and Tilt for HD output.

RovoCam

Connections

Cold Shoe Mount

Mic

RS-232

HDBaseT

PiP
(Plug in
Power)

RovoCam

Tech Specs

Camera Module

- Sony FCB-ER8300

Video Formats

- (UltraHD) 3840 x 2160p 25, 29.97
- (HD) 1080p 50, 59.94
- (HD) 1080i 25, 29.97
- (HD) 720p 50, 59.94
- 720 x 480p 59.94
- 720 x 576p 50

Pixel Format

- YUV 4:2:2, RGB 4:4:4

Sensor

- Progressive scan CMOS, 1/2.3 3840 x 2160 8.93 mega pixels

Image Processor

- Noise reduction (2D/3D)
- Visibility Enhancer ICR (Day and Night) Slow AE
- High Sensitivity
- Gamma
- Character Generator
- Defog
- Color Enhancement Picture Effect
- Spherical Privacy Zone Masking
- E-Flip

Lens

- Focal Length: 3.9mm to 36.8mm

Focus

- Auto, Manual, One push trigger mode

Lens Control

- Zoom, Focus, Iris, IRCS

F Value

- 1.8 to 2.0

Horizontal Angle of View

- 70.7 degrees (wide)
- 6.2 degrees (telephoto)

Magnification

- 12x optical, 20x or 24x with Super Resolution Zoom

Digital Zoom

- 12x

Super Resolution Zoom

- (UltraHD) 1.67x (max 20x combined with 12x optical zoom)
- (HD) 2.0x (max 24x combined with 12x optical zoom)

White Balance

- Auto, ATW, Indoor, Outdoor, One Push, Manual, Sodium lamp

Video Output Digital

- HDBaseT (RJ-45, Requires Receiver Unit such as RovoRx-HDMI)
- Cat 5e 70m (230 ft) or Cat 6a 100m (328 ft)

Audio Input Analog

- 1 x 3.5mm TRS Input with 3V PiP (Plug in Power)

Control

- 1 x 3.5mm TRS Input for RS-232/VISCA camera control

  *RS-232 can also pass the control from the RovoRx-HDMI unit as well

User Interface

- VISCA Compatible Control Software and Hardware
- AJA Control Software
- 1 x USB to 3.5mm TRS cable for RS-232 control

Size (w x d x h)

- 2.8" x 5.9" x 3.6" (71mm x 149.9mm x 91.4mm) (Including tripod mount and cold shoe)

Weight

- 2.2 lbs (1.0 kg)

Power

- 10-12Vdc 2 pin pluggable terminal block, 0.6A max 6W typical, 8W max or Power over HDBaseT
- Conforming to IEEE802.3af-2003 mode A, 6W typical, 8W max

Environment

- Safe Operating Temperature Range: 0C to 40C (32F to 104F)
- Operating Relative Humidity: 10-90% non-condensing
- Operating Altitude: <3,000 meters (<10,000 feet)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)

RovoRx-SDI

RovoRx-SDI
Receive and Distribute

RovoRx-SDI is an UltraHD/HD HDBaseT Receiver with four integrated 6G/3G-SDI outputs and HDMI video and audio outputs specifically designed to receive RovoCam's output from up to 100m away. RovoRx-SDI also offers a DA (Distribution Amplifier) Mode for extensive output options.

Control ,display and distribute RovoCam's gorgeous UltraHD/HD imagery remotely with RovoRx-SDI.

RovoRx-SDI is an UltraHD/HD HDBaseT Receiver with four integrated 6G/3G-SDI outputs and HDMI video and audio outputs specifically designed to receive RovoCam's output. Receive the RovoCam's video and audio up to 100m away from the camera, and output to SDI monitors, routers and recorders and HDMI TVs and devices. RovoRx-SDI also offers a DA (Distribution Amplifier) Mode for extensive output options, simplifying and expanding your HDBaseT workflows.

Connectivity Features Include:

- 4 x 6G/3G-SDI UltraHD/HD HDMI outputs
- 1 x UltraHD/HD HDMI output
- DA Mode for distribution needs of HDBaseT sources
- 1 x RCA stereo audio output
- 1 x USB for firmware upgrades
- 1 x RS-232 for RovoCam control
- 1 x HDBaseT connector (RJ-45)

RovoRx-SDI

Tech Specs

Video Formats

- (4K) 4096 x 2160p 50, 59.94, 60 (8-bit 4:2:0)*
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160p 50, 59.94, 60 (8-bit 4:2:0)*
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60*
- (HD) 1080p 23.98, 24, 25, 29.97, 50, 59.94, 60
- (HD) 1080i 25, 29.97
- (HD) 720p 25, 29.97, 50, 59.94, 60
- (SD) 625i, 525i

NOTE: RovoCam only supports up to UltraHD at up to 29.97 FPS, RovoRx-SDI can support the higher frame rates with other HDBaseT Sources

Video Input

- HDBaseT (RJ-45), Analog Video reference terminating input

Video Output

- HDMI 1.4b, No EDID negotiation, No embedded audio
- 6G-SDI output on SDI 1-4 while in "DA Mode"
    - (UltraHD) 3840 x 2160p 50, 59.94, 60 (8-bit 4:2:0)*
- 3G-SDI output on SDI 2-4, SDI 4 is Analog video reference active output
    - 4 x 6G-SDI
    - 4K/UltraHD 4:2:2 or 4:4:4 (4 x BNC)
    - 4K/UltraHD LFR 3.0 GB 2SI (2 x BNC)
    - 4K/UltraHD LFR 1.5 GB 2SI (4 x BNC)
    - 4K/UltraHD HFR 3.0 GB Level A 2SI (4 x BNC)
    - 4K/UltraHD HFR 3.0 GB Level B 2SI (4 x BNC)
- 3G-SDI (Level A or B)
    - (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
    - (HD) 1920 x 1080i 25, 29.97

- HD-SDI
    - (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30
    - (HD) 1920 x 1080p 23.98, 24, 25, 29.97, 30
    - (HD) 1920 x 1080i 25, 29.97, 30
    - (HD) 1280 x 720p 50, 59.94, 60
- SD-SDI
    - (SD) 625i 25
    - (SD) 525i 29.97

NOTE: RovoCam only supports up to UltraHD at up to 29.97 FPS, RovoRx-SDI can support the higher frame rates with other HDBaseT Sources

Audio Output Digital

- 8-Channels (4 pairs) of SDI embedded audio supported
- Rates supported: 48 kHz

No Audio on HDMI output

Audio Output Analog

- 2 x RCA connectors, 2-Channel unbalanced

This feature only works when used in conjunction with RovoCam Audio

RS-232

- 1 x 3.5mm TRS Input for RS-232 bidirectional signals

USB Config

- 1 x USB

Size (w x d x h)

- 4.66" x 6.97" x 0.94" (118mm x 177mm x 23.9mm)

Weight

- 0.8 lbs (0.4kg)

Power

- RovoRx-SDI only: 48V @ 303mA = 14.5W typical, 48V @ 335mA = 16W max
- RovoRx-SDI powering RovoCam: 48V @ 450mA = 21.6W typical, 48V @ 480mA = 23W max

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

(Video Display Information on next page)

RovoRx-SDI

Tech Specs

Video Displays

HDBaseT Cable Run Performance for 4K/UltraHD/HD

W x H	Frame Rate	Color Sampling	Max. Cable Length		Max. Bit Depth
			Cat 5e/6	Cat 6a/7	
1920 x 1080	< 30 fps	4:2:2	100 meters	100 meters	16-bit
	> 30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	70 meters	100 meters	16-bit
2048 x 1080	< 30 fps	4:2:2	70 meters	100 meters	16-bit
	> 30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	70 meters	100 meters	16-bit
3840 x 2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	> 30 fps	4:2:0	70 meters	100 meters	8-bit
4096 x 2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	> 30 fps	4:2:0	70 meters	100 meters	8-bit

RovoRx-HDMI

RovoRx-HDMI
Receive and Deliver

RovoRx-HDMI is an UltraHD/HD HDBaseT receiver with integrated HDMI video and audio outputs specifically designed to receive RovoCam's output. Receive the RovoCam's video and audio up to 100m away from the camera, and output to HDMI TVs and devices.

Control and display RovoCam's gorgeous UltraHD/HD imagery remotely with RovoRx-HDMI. RovoRx-HDMI is an UltraHD/HD HDBaseT Receiver with integrated HDMI video and audio outputs specifically designed to receive RovoCam's output. Receive the RovoCam's video and audio up to 100m away from the camera, and output to HDMI TVs and devices. The HDBaseT connector on RovoRx-HDMI supports camera uncompressed video, audio, power, and control, all over a single Cat 5e/6 cable, greatly simplifying cabling and systems integration.

Connectivity Features Include:

• 1 x UltraHD/HD HDMI output
• 1 x RCA stereo audio output
• 1 x USB for firmware upgrades
• 1 x RS-232 for RovoCam control
• 1 x HDBaseT connector (RJ-45)

RovoRx-HDMI

Tech Specs

Video Formats*

- (4K) 4096 x 2160p 50, 59.94, 60 (8-bit 4:2:0)
- (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30
- (UltraHD) 3840 x 2160p 50, 59.94, 60 (8-bit 4:2:0)
- (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30
- (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- (HD) 1080p 23.98, 24, 25, 29.97, 50, 59.94, 60
- (HD) 1080i 25, 29.97
- (HD) 720p 25, 29.97, 50, 59.94, 60
- (SD) 625i
- (SD) 525i

Wide range of VESA formats supported for pass through see associated chart on VESA formats.

Video Input

- HDBaseT (RJ-45)

Video Output

- HDMI 1.4b

Audio Output Digital

- 8-Channels (4 pairs) of HDMI embedded audio supported
- Rates supported: 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz

Audio Output Analog*

- 2 x RCA connectors, 2-channel unbalanced

This feature only works when used in conjunction with RovoCam

RS-232

- 1 x 3.5mm TRS Input for RS-232/VISCA Bidirectional signals

User Interface

- AJA Control Software

USB

- 1 x USB for firmware and additional control

Size (w x d x h)

- 4.03" x 5.2" x 0.94" (102.4mm x 132mm x 23.9mm)

Weight

- 0.7 lbs (0.4 kg)

Power

- RovoRx-HDMI only: 48V @ 125mA = 6W typical, 48V @ 156mA = 7.5W max
- RovoRx-HDMI powering RovoCam: 48V @ 271mA = 13W typical, 48V @ 312mA = 15W max

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

Tech Specs

Video Displays

HDBaseT Cable Run Performance for 4K/UltraHD/HD

W x H	Frame Rate	Color Sampling	Max. Cable Length		Max. Bit Depth
			Cat 5e/6	Cat 6a/7	
1920 x 1080	< 30 fps	4:2:2	100 meters	100 meters	16-bit
	> 30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	100 meters	100 meters	16-bit
2048 x 1080	< 30 fps	4:2:2	100 meters	100 meters	16-bit
	> 30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	70 meters	100 meters	16-bit
3840 x 2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	> 30 fps	4:2:0	70 meters	100 meters	8-bit
4096 x 2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	> 30 fps	4:2:0	70 meters	100 meters	8-bit

VESA Displays

W x H	Frame Rate	Color Sampling	Max. Cable Length		Max. Bit Depth
			Cat 5e/6	Cat 6a/7	
640 x 480	to 85 fps	4:4:4	100 meters	100 meters	24-bit
800 x 600	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1024 x 768	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1152 x 768	-	4:4:4	100 meters	100 meters	24-bit
1280 x 768	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1280 x 800	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1280 x 1024	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1360 x 768	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1366 x 768	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1440 x 1050	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1440 x 900	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1600 x 1200	to 75 fps	4:4:4	100 meters	100 meters	24-bit
	120 fps	4:4:4	100 meters	100 meters	24-bit
		4:4:4	100 meters	100 meters	24-bit
1680 x 1050	to 85 fps	4:4:4	70 meters	100 meters	24-bit
	120 fps	4:4:4	100 meters	100 meters	24-bit
		4:4:4	70 meters	100 meters	24-bit
1920 x 1200	to 120 fps	4:4:4	100 meters	100 meters	24-bit
1920 x 1440	to 60 fps	4:4:4	70 meters	100 meters	24-bit
2560 x 1600	60_RB	4:4:4	70 meters	100 meters	24-bit

RovoCam 3 Year Warranty

AJA Video warrants that RovoCam will be free from defects in materials and workmanship for a period of five years from the date of purchase.

RovoRx-HDMI 5 Year Warranty

AJA Video warrants that RovoRx-HDMI will be free from defects in materials and workmanship for a period of five years from the date of purchase.

RovoRx-SDI 5 Year Warranty

AJA Video warrants that RovoRx-SDI will be free from defects in materials and workmanship for a period of five years from the date of purchase.

About AJA Video Systems, Inc.

Since 1993, AJA Video has been a leading manufacturer of video interface and conversion solutions, bringing high quality, cost effective digital video products to the professional, broadcast and postproduction markets. AJA products are designed and manufactured at our facilities in Grass Valley, California, and sold through an extensive sales channel of resellers and systems integrators around the world. For further information, please see our website at **www.aja.com**

AJA Video Systems, Inc.
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