AT-OME-RX31
Specification Sheet

Omega™ 3x1 AV Switcher and Dual HDBaseT Receiver

Description

The AT-OME-RX31 is an HDBaseT receiver, three-input switcher, and 4K/UHD scaler with a local HDMI input. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the AT-OME-RX31 features two HDBaseT inputs for receiving video up to 4K/60 4:2:0, plus embedded audio, control, and Ethernet over distances up to 330 feet (100 meters). The HDMI input supports video up to UHD/60 4:4:4. The AT-OME-RX31 is HDCP 2.2 compliant and features 4K/60 upscaling and downscaling with frame rate conversion. Additionally, it provides integrated control for displays and room functions such as motorized screens, and can be externally triggered with the addition of an occupancy sensor. The AT-OME-RX31 is ideal for 4K presentation applications with Omega or UHD-EX Series transmitters, as well as AV presentation switchers with HDBaseT outputs, local HDMI sources, and Gain™ Series amplifiers.

Applications

Complete System Integration

- The AT-OME-RX31 and an Omega Series switcher or transmitter provide a compact, comprehensive, cost-effective, and fully automated integration solution.

Meeting Rooms and Conference Rooms

- Switches between AV from two transmitters below a meeting table, at separate wall locations, or in two podiums. The HDMI input is ideal for a wireless collaboration gateway or digital signage.

Active Learning Classrooms

- Installed in a lectern, the AT-OME-RX31 can receive AV from two student pods, each with an AT-OME-ST31A below the table. Built-in 4K scaling optimizes content for the primary 4K or HD display.

Key Features

Dual HDBaseT receiver with local HDMI input

- Three-input switcher with two HDBaseT inputs and an HDMI input.
- The HDMI input is ideal for a wireless gateway, PC, video conferencing codec, or media player installed near a display.

Video, audio, power, and data over category cable using HDBaseT technology

- Receives up to 330 feet (100 meters) at 1080p with Cat 5e/6 or at 4K/UHD with Cat 6a/7 cable.
- Uses easy-to-integrate category cable for low-cost, reliable system installation.

4K/UHD downscaling and upscaling

- Preserves color and spatial detail when down-converting 4K content to 1080p or vice versa.
- Ideal for presentation applications where content is viewed on a variety of 4K and HD displays.

Automatic input selection and automatic display control

- Automatically changes display power state, and switches between inputs based on device connection or disconnection.
- Enables effortless, automated system operation without an external control system.

Audio de-embedding

- De-embeds two-channel PCM audio to a balanced analog audio output.
- Independent volume and mute controls for embedded and de-embedded two-channel PCM audio, plus five-band EQ for the analog audio output.

Dual Ethernet ports and integrated network switch

- Allows a single connection to an AV LAN for IP control of a display and the receiver (plus transmitter or switcher over HDBaseT).
- Simplifies system design and integration with just one network drop for AV system control.

Contact closure for screen or display lift control

- Dry contact closure triggers electronic screen or lift operation based on the active or standby mode of the unit.
- Automates screen or lift activation at system power-up, without a separate AV control system.

Trigger I/O ports for occupancy sensing or remote button controls

- With an occupancy sensor, the switcher can automatically go into standby and power off the display once participants have left the room.
- Simplifies user operation by avoiding the need to manually power up the system.

Specifications

Video	
HDMI	2.0
HDCP	2.2
UHD / HD / SD	4096 × 2160 @ 24, 25, 30, 50, 60 Hz 3840 × 2160 @ 24, 25, 30, 50, 60 Hz 1920 × 1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz 1920 × 1080i @ 25, 29.97, 30 Hz 1280 × 720p @ 50, 59.94, 60 Hz 720 × 576p @ 50 Hz; 720 × 576i @ 50 Hz 640 × 480p @ 59.94, 60 Hz; 640 × 480i @ 30 Hz 4K/UHD @ 60 Hz: 4:4:4 on HDMI input/output; 4:2:0 on HDBaseT
VESA	2560 × 1600, 2048 × 1536, 1920 × 1200, 1680 × 1050, 1600 × 1200, 1440 × 900, 1400 × 1050, 1366 × 768, 1360 × 768, 1280 × 1024, 1280 × 800, 1152 × 864, 1024 × 768, 800 × 600, 640 × 480 — all @ 60 Hz
VESA 21:9	2560 × 1080 @ 30 Hz 4:4:4 2560 × 1080 @ 60 Hz 4:4:4 3440 × 1440 @ 30 Hz 4:4:4 3440 × 1440 @ 50 Hz 4:4:4 3840 × 1600 @ 30 Hz 4:4:4
Scaler Output	1024 × 768 @ 60 Hz 1280 × 720 @ 50, 60 Hz 1280 × 768 @ 60 Hz 1280 × 800 @ 60 Hz 1360 × 768 @ 60 Hz 1600 × 1200 @ 60 Hz 1920 × 1080 @ 24, 25, 50, 60 Hz 1920 × 1200 @ 60 Hz 2048 × 1080 @ 60 Hz 3840 × 2160 (UHD) @ 24, 25, 30, 50, 60 Hz 4096 × 2160 (DCI) @ 24, 25, 30, 50, 60 Hz
Color Space	YUV, RGB
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Color Depth	8-bit, 10-bit, 12-bit
HDR	HDR10, Hybrid Log-Gamma (HLG), and Dolby® Vision™ @ 60 Hz (HDMI only)

Audio	
HDMI Pass-Through Formats	LPCM 2.0, LPCM 5.1, LPCM 7.1, Dolby® Digital, Dolby Digital Plus™, Dolby TrueHD, Dolby Atmos®, DTS® Digital Surround™, DTS-HD Master Audio™, DTS:X®
Bit Rate	24 Mbps maximum
Sample Rate	32, 44.1, 48, 88.2, 96, 176.4, 192 kHz

Analog Audio Output	
Format	2-channel stereo
Balanced Output	+4 dBu nominal; +20 dBu headroom
Frequency Response	20 Hz to 20 kHz, ±0.5 dB
THD+N	< 0.004% at 20 Hz to 20 kHz
SNR	> 104 dB at 1 kHz, zero clipping at 0 dBFS, unweighted

Control	
RS-232	Device control and configuration Baud rates: 2400, 4800, 9600, 19200, 38400, 57600, 115200
Trigger	Occupancy sensor triggering; wake from standby and/or display power-up when the room becomes occupied. Electrical rating: 30 V @ 1 A (maximum)
Relay	Contact closure for room functions such as motorized screens and display lifts. Normally open (NO), Toggle or Pulse mode. Electrical rating: 48 V @ 1 A
IP	Protocols: HTTPS, Telnet, mDNS Modes: DHCP or static — selectable from the front panel and the built-in web server
CEC	Yes

Cable / Resolution	4K/UHD	1080p
HDMI IN / OUT	15 ft (5 m)	30 ft (10 m)
Cat 5e	295 ft (90 m)	330 ft (100 m)
Cat 6 / 6a / 7	330 ft (100 m)	330 ft (100 m)

Connectors	
HDMI IN	1× HDMI Type A, 19-pin female
HDMI OUT	1× HDMI Type A, 19-pin female
AUDIO OUT	1× 5-pin captive screw, balanced / unbalanced 2-channel
TRIGGER I/O	1× 4-pin captive screw
RS-232	1× 5-pin captive screw
RELAY	1× 3-pin captive screw
LAN	2× RJ45
HDBaseT	2× RJ45
PWR	1× 4-pin DIN

Buttons and Indicators	
SHOW IP, INPUT	2× momentary, tact-type buttons
IP MODE, RESET	2× momentary, tact-type buttons
PWR, INPUT	3× LED, green
IP MODE, RESET	2× LED, green

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +122 °F	0 to +50 °C
Storage Temperature	-4 to +140 °F	-20 to +60 °C
Operating Humidity (RH)	20% to 90%, non-condensing	

Power	
Consumption	8.1 W
BTU/h	27.6
External Power Supply	Input: 100–240 V AC, 50/60 Hz Output: 24 V DC, 2.7 A

Dimensions (H × W × D)	Inches	Millimeters
Device	1.02 × 8.62 × 5.98 in	26 × 219 × 152 mm
Power Supply (AT-PS-2427-D4)	1.26 × 1.93 × 4.69 in	32 × 49 × 119 mm

Weight	Pounds	Kilograms
Device	2.15 lb	0.975 kg

Certifications	
Device	FCC, CE
Power Supply	FCC, CE, UL

Compliance	
TAA	Yes

Warranty	
Device	To view the product warranty, visit: hallresearch.com/warranty

© 2026 Hall Research, Inc. All rights reserved. Pricing, specifications and availability subject to change without notice. Actual products, product images, and online product images may vary from images shown here.
HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. Dolby, Dolby Atmos, and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation. DTS, the Symbol, DTS and the Symbol together, and Digital Surround are registered trademarks and/or trademarks of DTS, Inc. HDBaseT is a trademark of the HDBaseT Alliance. All other trademarks are the property of their respective owners.
Dolby Vision is a trademark of Dolby Laboratories Licensing Corporation.