## Introduction

The Atlona **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 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 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 OME-RX31 is ideal for 4K presentation applications with Omega or UHD-EX Series transmitters, as well as Atlona AV presentation switchers with HDBaseT outputs, local HDMI sources, and the Gain™ Series amplifiers.

## Applications

- **Complete system integration**
  The OME-RX31 and an Omega Series switcher / transmitter provide a compact, comprehensive, cost-effective, and fully automated integration solution.

- **Meeting rooms and conference rooms**
  The OME-RX31 can switch 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**
  In education applications, the OME-RX31 can be installed in a lectern and used to receive AV from two student pods, each with an 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.
- 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 utilizing HDBaseT technology**

- Receives up to 330 feet (100 meters) @ 1080p with CAT5e/6 or 4K/UHD using CAT6a/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 to be viewed on a variety of 4K and HD displays. Also ideal for downscaling to 1080p for hardware VC codecs.

**Automatic input selection and automatic display control**

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

**Audio de-embedding**

- De-embeds two channel PCM audio and delivers 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 OME-RX31 (plus transmitter or switcher over HDBaseT).
- Simplify 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 active or standby mode of the switcher / scaler.
- Automates screen or lift activation at system power-up; eliminates need for a separate AV control system.

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

- When used with an occupancy sensor, the switcher can be set to automatically go into standby, and power off the display once participants have left the room.
- Greatly simplifies user operation by avoiding the need to manually power up the system.

## Specifications

| Video | |
|---|---|
| HDMI | 2.0 |
| HDCP | 2.2 |
| UHD/HD | 4096×2160 @ 60[1]/50/30/25/24 Hz<br>3840×2160 @ 60[1]/50/30/25/24 Hz<br>1920x1080p @ 60/59.94/50/30/29.97/25/24/23.98 Hz<br>1920x1080i @ 30/29.97/25 Hz<br>1280x720p @ 60/59.94/50 Hz<br><br>720x576p @ 50 Hz<br>720x576i @ 50 Hz<br>640x480p @ 60/59.96 Hz<br>640x480i @ 30 Hz |
| VESA<br>All resolutions are 60 Hz | 2560×1600<br>2048×1536<br>1920×1200<br>1680×1050<br>1600×1200<br>1440×900<br>1400×1050<br>1280×1024<br><br>1280×800<br>1366×768<br>1360×768<br>1152×864<br>1024×768<br>800×600<br>640×480 |
| Scaler | 1024x768 @ 60 Hz<br>1280x720 @ 50/60 Hz<br>1280x768 @ 60 Hz<br>1280x800 @ 60 Hz<br>1360x768 @ 60 Hz<br>1600x1200 @ 60 Hz<br><br>1920x1080 @ 24/25/50/60 Hz<br>1920x1200 @ 60 Hz<br>2048x1080 @ 60 Hz<br>3840x2160 (UHD) @ 24/25/30/50/60 Hz<br>4096x2160 (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[2] | HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60Hz |

| Audio | | | |
|---|---|---|---|
| HDMI Pass-Through Formats | LPCM 2.0<br>LPCM 5.1<br>LPCM 7.1 | Dolby® Digital<br>Dolby Digital Plus™<br>Dolby TrueHD<br>Dolby Atmos® | DTS® Digital Surround™<br>DTS-HD Master Audio™<br>DTS:X® |
| Bit Rate | 24 Mbps, max | | |
| **Analog Audio** | | | |
| Format | 2-channel stereo | | |
| Balanced Output | +4 dBu, nominal gain; +20 dBu headroom | | |
| Frequency Response | 20 Hz to 20 kHz, ±0.5 dB | | |
| THD + N | < 0.004% @ 20 Hz to 20 kHz | | |
| SNR | > 104 dB @ 1 kHz, zero clipping @ 0 dBFS, unweighted | | |
| Sample Rate | 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz | | |

| Control | |
|---|---|
| RS-232 | Device control and configuration<br>Supported baud rates: 2400, 4800, 9600, 19200, 38400, 57600, 115200 |
| Trigger | Occupancy sensor triggering; wake from standby and/or display power-up when room becomes occupied.  Electrical rating:  30 V @ 1 A (max.) |
| Relay | Contact closure control for room functions such as motorized screens and display lifts, as well as occupancy sensing and remote button controls.  Normally Open (NO), adjustable Toggle and Pulse modes.  Electrical rating: 48 V @ 1 A. |
| IP | Protocols: HTTPS, Telnet, mDNS<br>Modes: DHCP, Static – selectable through front panel and built-in web server |
| CEC | Yes |

| Resolution / Distance | 4K/UHD - Feet / Meters | | 1080p - Feet / Meters | |
|---|---|---|---|---|
| HDMI IN/OUT | 16 | 5 | 30 | 10 |
| CAT5e | 295 | 90 | 330 | 100 |
| CAT6/6a/7 | 330 | 100 | 330 | 100 |

| Connectors, Controls, and Indicators | |
|---|---|
| HDMI IN | 1 – Type A, 19-pin female |
| HDMI OUT | 1 – 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, 100Base-T |
| HDBaseT | 2 – RJ45 |
| PWR | 1 - 4-pin, DIN |
| Control Buttons:<br>SHOW IP, INPUT<br>IP MODE, RESET | 2 – momentary, tact-type<br>2 – momentary, tact-type |
| Function Indicators:<br>PWR, INPUT<br>IP MODE, RESET | 3 – LED, green<br>2 – LED, green |

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

| Power | |
|---|---|
| Consumption | 8.1 W |
| External Power Supply | 100 - 240 V AC, 50/60 Hz<br>Output: 24 V / 2.7 A DC |

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

| Weight | Pounds | Kilograms |
|---|---|---|
| Device | 2.15 | 0.975 |

| Certification | |
|---|---|
| Device | CE, FCC |
| Power Supply | CE, FCC, UL |

(1) 4K/UHD p60 4:4:4 supported on input/output HDMI, 4K/UHD p60 4:2:0 is supported on HDBaseT.

(2) HDR supported on HDMI only.

## Accessories

| SKU | Description | |
|---|---|---|
| AT-LC-H2H-1M | LinkConnect HDMI to HDMI cable (1 meter) | |
| AT-LC-H2H-2M | LinkConnect HDMI to HDMI cable (2 meter) | |
| AT-LC-H2H-3M | LinkConnect HDMI to HDMI cable (3 meter) | |

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