4x1 4K HDR Switcher and Receiver
with HDMI and HDBaseT Inputs

Introduction

The Atlona **AT-OPUS-RX41** is a 4×1 switcher and receiver for 4K high dynamic range (HDR) formats. It features three HDMI inputs, plus an HDBaseT input for receiving video, embedded audio, control signals, power, and Ethernet over distances of up to 330 feet (100 meters). Supporting 4K/UHD @ 60 Hz with 4:4:4 chroma sampling, as well as HDMI data rates up to 18 Gbps, the OPUS-RX41 is the perfect complement to an Atlona Opus™ Series matrix switcher in whole-house AV applications allowing display of 4K HDR content from either the matrix or one of the connected local sources.

The OPUS-RX41 includes a number of key features to help simplify residential deployments. Extension of CEC, IR, and RS-232 signals over HDBaseT allows a control system connected to the OPUS-RX41 to select inputs on the matrix or control its sources, and allows the matrix to control the local room display. A handheld IR remote control is included for power and input selection on the OPUS-RX41. Advanced HDMI Audio Return Channel (ARC) routes audio from a smart TV to both the local TOSLINK connection as well as HDBaseT. EDID management, selectable 4K to 1080p downscaling, and HDCP 2.2 support with selectable down-conversion to HDCP 1.4 ensures compatibility with legacy displays. Remote power allows the device to be powered by an Opus matrix switcher, for installation flexibility at a display or projector.

Applications

- **Residential installations**
  The OPUS-RX41 is designed for AV systems with the latest UHD and HDR sources such as Ultra HD Blu-ray players, plus compatible televisions and projectors.
- **Whole-house AV with local HDMI switching**
  The OPUS-RX41 can be installed in a room to receive content from an Opus Series matrix switcher, and also provide switching for local HDMI sources.

Key Features

4x1 HDMI and HDBaseT Switcher

- Delivers high performance, reliable HDMI and HDBaseT signal switching.
- HDBaseT input receives AV, control, power, and Ethernet up to 330 feet (100 meters) with Category 6/6a cable.

4K/UHD capability @ 60 Hz with 4:4:4 chroma sampling, plus support for HDR formats

- Compatibility with new and emerging 4K/UHD and HDR-capable sources and displays.
- Compatible with 4K HDR10 and Dolby® Vision™ @ 60 Hz (30 Hz for HDBaseT input).
- Fully supports video resolutions, audio formats, and color space formats in the HDMI 2.0b specification.

HDCP 2.2 compliant with down-conversion

- Adheres to latest specification for High-bandwidth Digital Content Protection.
- Allows protected content stream to pass between devices.
- Selectable down-conversion to HDCP 1.4 for legacy displays.

Downscaling

- Integrated video processing for converting 4K/UHD to 1080p.
- Ensures backward compatibility with HD displays.

Automatic input selection using hot plug detect and video detection technology

- Selects active input when sources are connected or if there is a change in source power status.
- Enables simplified, automatic system operation with no user intervention necessary.

EDID management

- Manages EDID communications with the source through a display's EDID or internally stored EDID.
- Ensures desired audio formats and video resolutions are provided to the AV system.

Advanced HDMI ARC

- Supports audio return from a smart TV through TOSLINK for local audio playback as well as through HDBaseT to an OPUS matrix switcher for whole-house audio distribution.
- Increases audio distribution flexibility.

Visually lossless VESA Display Stream Compression

- Enables HDBaseT transmission of HDMI up to 18 Gbps using extremely light video compression.
- Innovative signal extension solution delivers very high, pristine image quality. Compatible with forthcoming Atlona matrix switchers with 4K HDR-enabled HDBaseT outputs.

HDBaseT Control Extension

- Supports transmission of CEC, IR, and RS-232 over HDBaseT.
- Allows local IR control of the OPUS switcher or its sources.
- Allows the control system attached to the matrix switcher to control local components including the display.

TCP/IP, RS-232, and IR control

- Flexible control options for compatibility with Atlona Velocity™ and third-party control systems.
- Reduces integration time and costs. Includes a convenient handheld IR remote control.

HDMI audio de-embedding

- Extracts HDMI two-channel PCM or multi-channel bitstream audio to the TOSLINK digital audio output.
- Provides an additional integration option for AV receivers and soundbars.

Remote power

- May be remotely powered by an Opus or UHD-PRO3 matrix switcher.
- Convenient installation at a display or projector without the need for local AC power.

Specifications

Video		
Signal	HDMI w/ARC[1]	
Copy Protection	HDCP 2.2	
Pixel Clock	600MHz	
UHD/HD/SD	4096x2160@60/50/30/25/24Hz 3840×2160@60/50/30/25/24Hz 1080p@60/59.9/50/30/29.97/25/24/23.98Hz 1080i@30/29.97/25Hz	720p@60/59.94/50Hz 576p@50Hz 576i@25Hz 480p@60/59.96Hz 480i@30Hz
VESA All resolutions are 60Hz	2560×1600 2048×1536 1920×1200 1680×1050 1600×1200 1440×900 1400×1050 1280×1024	1280×800 1366×768 1360×768 1152×864 1024×768 800×600 640×480
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, HLG, and Dolby® Vision™ @ 60 Hz[2]	

Audio			
HDMI / HDBaseT IN	PCM 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®
TOSLINK™	PCM 2Ch, Dolby® Digital, DTS® Digital Surround™		
Bit Depth	up to 24-bit		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
HDMI IN/OUT	15	5	30	10
CAT5e	295	90	330	100
CAT6/6a/7	330	100	330	100

Ethernet	
Port	1 x RJ45
Standards and Protocols	HTTPS, Telnet, mDNS, SSL
Speeds	10/100/1000 Mbps
Addressing	DHCP, Static – selectable through rear panel, IP & RS-232 commands, and built-in web server

RS-232	
Port	1 x 4-pin captive screw (local), 1 5-pin captive screw (HDBaseT)
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200
Data flow	Bidirectional

IR	
Port	1 x 4-pin captive screw (local), 1 x 5-pin captive screw (HDBaseT)
Frequency Range	30 kHz to 60 kHz

CEC	
Port	HDMI, Type A, 19-pin female
Triggering	Through IP, RS-232, and built-in web server

Buttons and Indicators	
POWER button	1 - momentary, tact-type
INPUT button	1 - momentary, tact-type
Input Indicators	4 - LED, blue

Connectors	
HDMI IN	3 - Type A, 19-pin female
HDBaseT IN	1 - RJ45, female
HDMI OUT	1 - Type A, 19-pin female
OPTICAL	1 - TOSLINK™
HDBaseT RS-232 / IR	1 - 5-pin captive screw
RS-232 / IR IN	1 - 4-pin captive screw
LAN	1 - RJ45, female
FW	1 - Micro-A USB
PWR	1 - Barrel connector, locking

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

Power	
Consumption	6.6 W
Idle Consumption	5.9 W
Supply	Input: AC100~240V 50/60Hz Output: DC 5V

Dimensions (H x W x D)	Inches	Millimeters
Unit	1.0 x 8.6 x 5.9	26 x 219 x 152
Power Supply (AT-PS-54-L)	1.22 x 1.97 x 3.17	31 x 50 x 80.6

Weight	Pounds	Kilograms
Device	1.82	0.82

Certification	
Device	CE, FCC
Supply	CE, FCC, Level VI, RoHS, cULus, RCM, CCC

Footnotes

(1) Some displays limit ARC to 2-channel. Refer to the documentation that came with your display for more information.
(2) Dolby Vision @ 30 Hz for HDBaseT input.

Accessories

SKU	Description
AT-LC-H2H-1M	LinkConnect HDMI to HDMI 1 Meter Cable
AT-LC-H2H-2M	LinkConnect HDMI to HDMI 2 Meter Cable
AT-LC-H2H-3M	LinkConnect HDMI to HDMI 3 Meter Cable

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