Omega™
Multi-format 4x2 matrix switcher
with HDMI, USB-C, and DisplayPort inputs,
plus HDMI and HDBaseT outputs

Introduction

The Atlona **AT-OME-MS42** is a 4x2 matrix switcher with HDMI, USB-C, and DisplayPort inputs, plus HDMI and HDBaseT outputs. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-MS42 is HDCP 2.2 compliant and features HDBaseT extension for video up to 4K/60 4:2:0, plus embedded audio, control, Ethernet, and USB over distances up to 330 feet (100 meters). All inputs and the local HDMI output support 4K HDR and 4K/60 4:4:4 at HDMI data rates up to 18 Gbps. Additionally, 4K downscaling to 1080p @ 60, 30, or 24 Hz is available for the HDMI output when connected to an HD sink. The integrated USB extension addresses the challenge of connecting between USB devices at remote locations, and is ideal for software video conferencing and touch or interactive displays. The OME-MS42 includes USB 2.0 and USB-C interfaces for three host PCs, plus two peripheral devices such as a camera, microphone, speakerphone, or keyboard and mouse. It is ideal for video conferencing and many other 4K presentation applications with the OME-EX-RX receiver and OME-SR21 scaling receiver.

Applications

- **Video conferencing**
  With the OME-EX-RX or OME-SR21 receiver, this switcher provides interfacing for local and remote USB devices for soft codec conferencing, with video and USB switched together between host PCs. As a matrix switcher with downscaling, the OME-MS42 is also ideal for hardware-based video conferencing, with the ability to route and optimize any source content to the codec far-end.

- **Meeting rooms and conference rooms**
  The OME-MS42 can serve as an AV integration centerpiece in a credenza, with interfacing into sources in the rack.

- **Auditoriums and lecture halls**
  This switcher can be used for presenting 4K video content through the projector, while also optimizing for a 1080p confidence monitor.

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Key Features

4×2 AV matrix switcher

- HDMI, USB-C, and DisplayPort inputs.
- No need to provide adapters for USB-C or DisplayPort to HDMI.

USB-C input for AV, data, and device charging

- Provides immediate compatibility with laptops and tablets with USB-C ports supporting AV output.
- Allows clutter-free, single cable connectivity to a PC for video conferencing and collaboration.

HDBaseT and HDMI outputs with selectable AV switching modes

- HDBaseT output transmits AV, control, Ethernet, and USB up to 330 feet (100 meters) @ 1080p with CAT5e/6 or 4K/UHD using CAT6a/7 cable.
- Selectable switching modes available with auto-input selection when outputs are mirrored or matrixed.
- Enables simple configuration and effortless user operation, tailored to the specific AV application.

4K to 1080p downscaling

- Integrated video processing available on the HDMI output for down-converting 4K/UHD @ 60 Hz to 1080p.
- Ideal for applications with 1080p displays, video conferencing codecs, and other HD sink devices.

USB 2.0 interface and extension up to 330 feet (100 meters)

- Two USB type B interfaces for connection to a host PC, plus two USB type A ports for peripheral devices such as cameras, soundbars, or touch displays. USB-C input is also available for data connection to a host PC or USB peripheral.
- Provides an ideal USB integration solution for software video conferencing and other applications. A maximum data rate of 120 Mbps is supported over HDBaseT.

Remote PoE+ (Power over Ethernet) or local powering

- Industry standard IEEE 802.3at PoE+ is supplied by an OME-EX-RX receiver or OME-SR21 scaling receiver over HDBaseT.
- Also can be locally powered by the optional AT-PS-2427-D4 power supply – to supply PoE to a receiver and charge a USB-C mobile device.

Audio de-embedding

- De-embeds two channel PCM audio for the HDBaseT output and delivers to a balanced, analog audio output.
- Provides direct interfacing into an external audio system.

Automatic display control

- Automatically changes display power state based on active or standby mode of the switcher. Control signals to display are transmitted via IP, RS-232, or CEC.
- Enables effortless, automated system operation without the need for an external control system.

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Specifications

Video		
Signal	Input - HDMI, USB-C, DisplayPort Output - HDBaseT	
HDCP	1.4 / 2.2	
Pixel Clock	300 MHz	
UHD/HD/SD	4096x2160@60[1]/50/30/25/24Hz 3840×2160@60[1]/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	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
USB-C	Up to 4K/UHD @ 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™ @ up to 60 Hz; HDMI and USB-C inputs only	

Audio			
HDMI / HDBaseT Pass-Through Formats	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®
Bit Depth	Up to 24 bits		
Analog Audio			
Format	Stereo 2-Channel		
Balanced Output	+4 dBu nominal gain, +20 dB headroom		
Frequency Response	20 Hz to 20 kHz, ± 0.5 dB		
THD+N	< 0.004% at 20 Hz to 20 kHz		
SNR	> 105 dB at 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		

USB			
Signal	2.0		
Maximum Data Rate	120 Mbps		
USB-C	Supports Audio, Video, device and host data, and up to 60W power charging		
Internal Hubs	1 USB hub when connected to USB type B host port, 2 cascaded USB hubs when connected to USB-C port		

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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			
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 3-pin captive screw; TX, RX, GND			
Use	Device control and configuration Bidirectional pass-through from control system over HDBaseT			
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200			
Data flow	Bidirectional			

IP				
Port	1 x RJ45			
Protocols	HTTPS, Telnet, mDNS			
Modes	DHCP, static - selectable through front-panel and web GUI			

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

Buttons and Indicators	
Buttons: HDMI OUT and HDBaseT OUT IP MODE, RESET, and TEST	2 - momentary, tact-type 3 - momentary, recessed
Indicators: Inputs IP MODE, RESET, and TEST	8 - LED, blue 3 - LED, green

Connectors	
HDMI IN	2 - Type A, 19-pin female
DP IN	1 - DisplayPort, female
USB-C IN	1 - USB Type-C, 24-pin female, AV input (Alternate Mode)
HDMI OUT	1 - Type A, 19-pin female
HDBaseT OUT[2]	1 - RJ45, female
USB HUB	2 - Type A, 4-pin female
USB HOST	2 - Type B, female
AUDIO OUT	1 - 5-pin captive screw, balanced / unbalanced 2-channel
RS-232	1 - 3-pin captive screw (bidirectional)
LAN	1 - RJ45, 100Base-T
PWR	1 - Internal 100-240 VAC 50/60Hz, IEC female connector

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Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +122	0 to +50
Storage Temperature	-4 to +140	-20 to +60
Operating Humidity (RH)	20% to 90%, non-condensing	
Maximum Operating Altitude	2000 meters	

Power		
Consumption	Unit only: 8.6 W Full load: 104 W (while powering USB-C device up to 60 W, HDBaseT PoE devices up to 30 W each, and USB type A devices up to 2.5 W each)	
BTU/h	Unit only: 29.33 Full load: 354.64	
External Power Supply	100 - 240 V AC, 50/60 Hz Output: 24 V / 5 A DC	

Dimensions (H x W x D)	Inches	Millimeters
Unit	1.73 x 8.64 x 10	44 x 219.5 x 254
Power Supply (AT-PS-245-D4)	1.60 x 2.60 x 6.20	40 x 66 x 157

Weight	Pounds	Kilograms
Device	3.46	1.57

Certification		
Device	CE, FCC	
Power Supply	CE, FCC, cULus, RoHS	

Compliance		
NDAA-899	Yes	
TAA	Yes	

Warranty		
3 years	View the full warranty information here: https://atlona.com/warranty	

Footnotes

(1) UHDp60 only supports 4:2:0 over HDBaseT.
(2) Maximum limit of 6 USB hubs when traversing an HDBaseT link.

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Accessories

Compatible Receivers		
AT-OME-EX-RX	Omega HDMI Over HDBaseT Receiver with USB	
AT-OME-SR21	Omega Scaler for HDBaseT and HDMI with USB	
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	
AT-LC-UC2UC-2M	LinkConnect USB-C to USB-C 2 Meter Cable	
AT-LC-MDP2H-1M	LinkConnect Mini DisplayPort to HDMI 1 Meter Cable	
AT-LC-MDP2H-2M	LinkConnect Mini DisplayPort to HDMI 2 Meter Cable	
AT-LC-MDP2H-3M	LinkConnect Mini DisplayPort to HDMI 3 Meter Cable	

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