Introduction

The Atlona **AT-OME-MS42-HDBT** is a 4×2 matrix switcher with HDMI, USB-C, and HDBaseT inputs, plus HDMI and HDBaseT outputs. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-MS42-HDBT 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-HDBT 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.

Applications

- **Video conferencing**
  With the OME-EX-RX receiver, as well as the OME-EX-TX or OME-EX-TX-WP transmitter, this switcher provides interfacing for local and remote USB devices for video conferencing, with AV and USB switched together between host PCs.

- **Meeting rooms and conference rooms**
  The OME-MS42-HDBT can serve as an AV integration centerpiece in a credenza for sources in the rack, and one or two displays in the room. The HDBaseT input allows wall or meeting table access for a presenter to connect a laptop.

- **Auditoriums and lecture halls**
  This switcher can be installed in a lectern for a presenter's laptop, and delivering video to the projector as well as the confidence monitor. The HDBaseT input is ideal for receiving HDMI from a secondary presenter location in the room.

Key Features

4×2 AV matrix switcher

- Features HDBaseT, USB-C, and two HDMI inputs.

- Delivers flexible BYOD capability without the need for adapters. HDBaseT allows remote AV input and USB connectivity wherever required.

USB-C input for AV, USB 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

- Selectable switching modes available with mirrored or matrixed outputs.

- Enables simple configuration and effortless user operation, tailored to the specific AV application.

Video, audio, power, USB data, control, and Ethernet over category cable utilizing HDBaseT technology

- HDBaseT input and output extend 4K/UHD video up to 330 feet (100 meters) with CAT6/6a/7 cable, or up to 295 feet (90 meters) using CAT5e cable.

- Uses easy-to-integrate category cable for low-cost, reliable system installation.

USB 2.0 interfacing and extension over HDBaseT

- Two USB type B interfaces, plus USB-C input for connection to three host PCs. Remote USB host interface also available over HDBaseT. Two USB type A ports for a peripheral device such as a microphone, speakerphone, or a keyboard and mouse.

- Provides an ideal USB integration solution for software video conferencing and other applications.[1]

Switch between multiple USB host sources

- Connect three USB hosts (one USB-C and two USB type B ports), plus a remote USB host from an Omega HDBaseT transmitter. USB hosts can be switched together with AV inputs, or independently. USB type B host port can be assigned to a specific AV input.

- Automatic USB host switching available, based on detection of USB signal presence at the host port, or video signal presence.

4K/UHD capability @ 60 Hz with 4:4:4 chroma sampling on local ports (HDMI and USB-C), plus support for HDR formats

- HDBaseT input and output support 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling.

- HDMI, and USB-C inputs, plus HDMI output are compatible with 4K HDR10, Dolby Vision™, and HLG (Hybrid Log-Gamma).

Local powering, or remote powering over HDBaseT

- Locally powered by the included AT-PS-245-D4 power supply. Supplies industry standard IEEE 802.3af PoE over HDBaseT input and output to compatible Omega Series endpoints.

- Also can be remotely powered by an OME-EX-RX receiver over HDBaseT (through industry standard IEEE 802.3at PoE+).[2]

Specifications

Video	
Signal	Input - HDMI, USB-C, HDBaseT Output - HDMI, HDBaseT
Copy Protection	1.4 / 2.2
Pixel Clock	300 MHz

UHD/HD/SD		
	4096x2160@60[3]/50/30/25/24 Hz 3840×2160@60[3]/50/30/25/24 Hz 1080p@60/59.9/50/30/29.97/25/ 24/23.98 Hz 1080i@30/29.97/25 Hz	720p@60/59.94/50 Hz 576p@50 Hz 576i@25 Hz 480p@60/59.96 Hz 480i@30 Hz
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
VESA 21:9	2560x1080 @ 30 Hz 4:4:4 2560x1080 @ 60 Hz 4:4:4 3440x1440 @ 30 Hz 4:4:4	3440x1440 @ 50 Hz 4:4:4 3840x1600 @ 30 Hz 4:4:4

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	Local = 480 Mbps; HDBaseT = 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			

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			

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

Buttons and Indicators	
Buttons: HDMI OUT, HDBaseT OUT IP MODE, RESET	2 x momentary, tact-type 2 x momentary, recessed
Indicators: PWR, HDBT IN, HDBT OUT HDMI OUT HDBT IN, USB-C IN, HDMI 3, HDMI 4 HDBaseT OUT HDBT IN, USB-C IN, HDMI 3, HDMI 4 DISPLAY	3 x LED, green 1 x LED, red 4 x LED, green 1 x LED, red 4 x LED, green 1 x LED, blue/red

Connectors	
HDMI IN	2 x Type A, 19-pin female
HDBaseT IN[4]	1 x RJ45, female
USB-C IN	1 x USB Type-C, 24-pin female, AV input (DisplayPort Alt Mode)
HDMI OUT	1 x Type A, 19-pin female
HDBaseT OUT[4]	1 x RJ45, female
USB HUB	2 x Type A, 4-pin female
USB HOST	2 x Type B, female
AUDIO OUT	1 x 5-pin captive screw, balanced / unbalanced 2-channel
RS-232	1 x 3-pin captive screw (bidirectional)
LAN	1 x RJ45, 1000Base-T
DC 24V	1 x 4-pin, barrel

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**: TBD **Full load**: TBD (while powering USB-C device up to 60W, HDBaseT PoE devices up 15W each, and USB type A devices up to 2.5W each)	
BTU/h	TBD	
External Power Supply	Input: 100 - 240 V AC, 50/60 Hz Output: 24 V / 6.25 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-24625-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-889	Yes	
TAA	Yes	

Warranty		
Device	To view the product warranty, use the following link: https://atlona.com/warranty	

Accessories

Compatible Transmitters	
AT-OME-EX-TX	Omega HDMI Over HDBaseT Receiver with USB
AT-OME-EX-TX-WP	Wallplate HDBaseT Transmitter for HDMI with USB
AT-OME-EX-TX-WPC	Wallplate HDBaseT Transmitter for USB-C
AT-OME-EX-TX-WP-E	EU/UK Wallplate HDBaseT Transmitter for HDMI with USB

Compatible Receivers	
AT-OME-EX-RX	Omega HDMI Over HDBaseT Receiver with USB

Compatible Cables	
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

Footnotes

(1) A maximum 120 Mbps data rate is supported over HDBaseT, due to specific USB bandwidth limitations over HDBaseT. The built-in USB hub supports USB 2.0 data rates up to 480 Mbps.

(2) HDBaseT device powering and USB-C device charging are not available when the OME-MS42-HDBT is remotely powered.

(3) UHDp60 only supports 4:2:0 over HDBaseT.

(4) Maximum limit of 6 USB hubs when traversing an HDBaseT link.

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