

AT-OME-MS42
Specification Sheet

Omega™ 4x2 Matrix Switcher + USB

Description

The AT-OME-MS42 is a 4×2 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 AT-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 at 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 AT-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 AT-OME-EX-RX receiver and AT-OME-SR21 scaling receiver.

Applications

Video Conferencing

- With the AT-OME-EX-RX or AT-OME-SR21 receiver, provides interfacing for local and remote USB devices for soft codec conferencing, with video and USB switched together between host PCs. With downscaling, also ideal for hardware-based conferencing, routing and optimizing any source to the codec far end.

Meeting Rooms and Conference Rooms

- Serves as an AV integration centerpiece in a credenza, with interfacing into sources in the rack.

Auditoriums and Lecture Halls

- Presents 4K content through the projector while also optimizing for a 1080p confidence monitor.

Key Features

4×2 AV matrix switcher

- HDMI, USB-C, and DisplayPort inputs — no USB-C or DisplayPort to HDMI adapters needed.

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

- Immediate compatibility with laptops and tablets with USB-C ports that support AV output.
- Clutter-free, single-cable connection to a PC for video conferencing and collaboration.

HDBaseT and HDMI outputs with selectable AV switching modes

- The HDBaseT output transmits AV, control, Ethernet, and USB up to 330 feet (100 meters) at 1080p with Cat 5e/6 or at 4K/UHD with Cat 6a/7 cable.
- Selectable switching modes with auto-input selection when outputs are mirrored or matrixed.

4K to 1080p downscaling

- Integrated video processing on the HDMI output down-converts 4K/UHD @ 60 Hz to 1080p for 1080p displays, video conferencing codecs, and other HD sinks.

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

- Two USB Type-B host interfaces plus two USB Type-A ports for peripherals such as cameras, soundbars, or touch displays. The USB-C input also carries data to a host PC or USB peripheral.
- A maximum data rate of 120 Mbps is supported over HDBaseT.

Remote PoE+ or local powering

- IEEE 802.3at PoE+ can be supplied by an AT-OME-EX-RX receiver or AT-OME-SR21 scaling receiver over HDBaseT.
- Can also be locally powered by the optional AT-PS-245-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 to a balanced analog audio output, for direct interfacing into an external audio system.

Automatic display control

- Changes display power state based on the active or standby mode of the switcher, over IP, RS-232, or CEC, without an external control system.

Specifications

Video	
Signal	Input: HDMI, USB-C, DisplayPort Output: HDMI, HDBaseT
HDCP	1.4 / 2.2
Pixel Clock	300 MHz
UHD / HD / SD	4096 × 2160 @ 24, 25, 30, 50, 60 Hz 3840 × 2160 @ 24, 25, 30, 50, 60 Hz 1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz 1080i @ 25, 29.97, 30 Hz 720p @ 50, 59.94, 60 Hz 576p @ 50 Hz; 576i @ 25 Hz; 480p @ 59.94, 60 Hz; 480i @ 30 Hz 4K/UHD @ 60 Hz: 4:4:4 on HDMI and USB-C; 4:2:0 over 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
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
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; not supported over HDBaseT
Scaler	4K/UHD to 1080p on the HDMI output; no frame rate conversion

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-bit
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 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 at 0 dBFS, unweighted

USB	
Signal	USB 2.0
Maximum Data Rate	120 Mbps over HDBaseT
USB-C	Audio, video, device and host data, and up to 60 W charging
Internal Hubs	1 USB hub when connected to a USB Type-B host port; 2 cascaded USB hubs when connected to the USB-C port. Maximum of 6 USB hubs across an HDBaseT link.

Control	
RS-232	Device control and configuration; bi-directional pass-through from the control system over HDBaseT Baud rates: 2400, 4800, 9600, 19200, 38400, 57600, 115200
IP	Protocols: HTTP, HTTPS, Telnet, SSH Modes: DHCP or static — selectable from the front panel and the web interface
CEC	Yes

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

Connectors	
HDMI IN	2× HDMI 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× HDMI Type A, 19-pin female
HDBaseT OUT	1× RJ45, female
USB HUB	2× USB Type-A, 4-pin female
USB HOST	2× USB Type-B, female
AUDIO OUT	1× 5-pin captive screw, balanced / unbalanced 2-channel
RS-232	1× 3-pin captive screw (bi-directional)
LAN	1× RJ45, 100Base-T
PWR	1× 4-pin DIN, locking

Buttons and Indicators	
HDMI OUT, HDBaseT OUT, DISPLAY	3× momentary, tact-type buttons
IP MODE, RESET	2× momentary, recessed buttons
INPUT	8× LED, green (solid green = active input)
PWR	1× LED, green
LINK	1× LED, yellow
IP MODE, RESET LEDs	2× LED, green (flashing)

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +113 °F	0 to +45 °C
Storage Temperature	-4 to +140 °F	-20 to +60 °C
Operating Humidity (RH)	20% to 90%, non-condensing	

Power	
Consumption	Unit only: 8.6 W Full load: 104 W (while powering a 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)	29.3
External Power Supply (optional)	Input: 100–240 V AC, 50/60 Hz Output: 24 V DC, 5 A

Dimensions (H × W × D)	Inches	Millimeters
Device	1.73 × 8.64 × 10 in	44 × 219.5 × 254 mm

Weight	Pounds	Kilograms
Device	3.46 lb	1.57 kg

Certifications	
Device	FCC, CE

Compliance	
NDAA-889	Yes
TAA	Yes

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

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