



Introduction

The Atлона **AT-OME-MS42-HDBT** is a 4x2 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

4x2 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 3840x2160@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 | 2560x1600 2048x1536 1920x1200 1680x1050 1600x1200 1440x900 1400x1050 1280x1024 | 1280x800 1366x768 1360x768 1152x864 1024x768 800x600 640x480 |
| 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 | 3 x LED, green |
| HDMI OUT | 1 x LED, red |
| HDBT IN, USB-C IN, HDMI 3, HDMI 4 | 4 x LED, green |
| HDBaseT OUT | 1 x LED, red |
| HDBT IN, USB-C IN, HDMI 3, HDMI 4 | 4 x LED, green |
| DISPLAY | 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: 8.6 W Full load: 104 W (while powering USB-C device up to 60W, HDBaseT PoE devices up to 15W each, and USB type A devices up to 2.5W each) |
| BTU/h | Unit only: 29.3 Full load: 354.8 |
| 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 | |
|----------|--|
| 3 years | View the full warranty information here: https://atlona.com/warranty |

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.

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 |

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