



## Introduction

The Atlona **AT-OME-MH21** is a compact, versatile switcher with HDMI and USB-C inputs. It is equipped with features for complete AV integration in huddle rooms and small meeting spaces, including automatic switching and display control, audio de-embedding, and a USB 3.0 hub for video conferencing peripherals or touch displays. Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-MH21 is HDCP 2.2 compliant and supports 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 when connected to an HD display. The OME-MH21 includes USB 3.0 and USB-C interfaces for two host PCs, plus two USB Type-A ports for peripheral devices such as a camera, microphone, speakerphone, touch-enabled display, or keyboard and mouse.

## Applications

- Huddle rooms and small meeting spaces**  
 The OME-MH21 provides a compact, yet comprehensive and cost-effective integration solution. When installed below a meeting table, the available Pocket™ 3H (AT-PKT-3H) provides convenient tabletop AV and USB cable access for easy BYOD connectivity.
- Video conferencing**  
 This switcher provides interfacing with USB devices for soft codec conferencing, with video and USB switched together between two host PCs. The USB interfacing is also ideal for a touch-enabled display, enabling on-screen control of a PC.

## Key Features

### Two-input AV switcher

- HDMI and USB-C inputs.
- No need to provide an adapter for USB-C to HDMI.

### USB-C input for AV and data<sup>(1)</sup>

- 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.

### Integrated USB 3.0 hub

- USB type B interface for connection to a host PC, plus two USB type A ports for a peripheral device such as a microphone, speakerphone, camera, or touch display. USB-C input is also available for data connection to a host PC.
- Provides an ideal USB integration solution for software video conferencing, and other applications.

### Selectable 4K to 1080p downscaling

- Integrated video processing available for down-converting 4K/UHD @ 60, 30, or 24 Hz to 1080p.
- Ideal for applications with 1080p displays.

### 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, IR, or CEC.
- Embedded, comprehensive selection of display drivers from the Velocity™ System driver database.
- Enables effortless, automated system operation without the need for an external control system.

### 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 without user intervention.

### Audio de-embedding

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

## Specifications

| Video                            |  |  |
|----------------------------------|--|--|
| Signal                           | Input - HDMI, USB-C<br>Output - HDMI   |  |
| Copy Protection                  | HDCP 2.2   |  |
| Pixel Clock                      | 600 MHz  |  |
| UHD/HD/SD                        | 4096x2160@60/50/30/25/24 Hz<br>3840x2160@60/50/30/25/24 Hz<br>1920x1080p@60/59.9/50/30/<br>29.97/25/24/23.98 Hz<br>1920x1080i@30/29.97/25 Hz<br>1280x720p@60/59.94/50 Hz | 720x576p@50 Hz<br>720x576i@50 Hz<br>640x480p@60/59.96 Hz<br>640x480i@30 Hz                               |
| VESA<br>All resolutions are 60Hz | 2560x1600<br>2048x1536<br>1920x1200<br>1680x1050<br>1600x1200<br>1440x900<br>1400x1050<br>1280x1024  | 1280x800<br>1366x768<br>1360x768<br>1152x864<br>1024x768<br>800x600<br>640x480                           |
| VESA 21:9                        | 5120x2160 @ 30 Hz 4:4:4<br>3840x1600 @ 60 Hz 4:4:4<br>3840x1600 @ 30 Hz 4:4:4<br>3440x1440 @ 60 Hz 4:4:4   | 3440x1440 @ 50 Hz 4:4:4<br>3440x1440 @ 30 Hz 4:4:4<br>2560x1080 @ 60 Hz 4:4:4<br>2560x1080 @ 30 Hz 4:4:4 |
| Scaler <sup>(2)</sup>            | IN   | OUT  |
|                                  | 4K@24 Hz<br>4K@30 Hz<br>4K@60 Hz   | 1080p@24 Hz<br>1080p@30 Hz<br>1080p@60 Hz  |
| Color Space                      | YUV, RGB   |  |
| Chroma Subsampling               | 4:4:4, 4:2:2, 4:2:0 <sup>(3)</sup>   |  |
| Color Depth                      | 8-bit, 10-bit, 12-bit  |  |
| HDR                              | HDR10, Hybrid-Log Gamma (HLG), and Dolby® Vision™ @ 60 Hz  |  |

| Audio                        |   |   |  |
|------------------------------|---|---|--|
| HDMI<br>Pass-Through Formats | PCM 2.0<br>LPCM 5.1<br>LPCM 7.1                     | Dolby® Digital<br>Dolby Digital Plus™<br>Dolby TrueHD | DTS® Digital Surround™<br>DTS-HD Master Audio™ |
| Bit Rate                     | 24 Mbits/s max                                      |   |  |
| <b>Analog Audio</b>          |   |   |  |
| Format                       | 2-channel stereo                                    |   |  |
| Balanced Output              | +4 dBu, nominal gain; +20 dBu headroom              |   |  |
| Frequency Response           | 20 Hz to 20 kHz, ±0.5 dB                            |   |  |
| Impedance                    | 150 Ω   |   |  |
| Stereo channel separation    | > 90 dB   |   |  |
| THD + N                      | < 0.004% @ 20 Hz to 20 kHz                          |   |  |
| SNR                          | > 94 dB @ 1 kHz, zero clipping @ 0 dBFS, unweighted |   |  |

| USB               |   |
|-------------------|---|
| Compliance        | 3.0   |
| Maximum Data Rate | 5 Gbps <sup>(4)</sup>                                       |
| USB-C             | Supports audio, video, device and host data                 |
| Internal Hubs     | 1 USB hub (when connected to USB-C or USB type B host port) |
| Power             | 4.5 W / 900 mA per Type-A port                              |

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

| RS-232     |   |
|------------|---|
| Port       | 1 x 4-pin captive screw; TX, RX, GND          |
| Use        | Device control and configuration              |
| Baud Rates | 2400, 4800, 9600, 19200, 38400, 57600, 115200 |
| Data flow  | Bidirectional                                 |

| IR              |                                  |
|-----------------|----------------------------------|
| Port            | 1 x 4-pin captive screw; TX, GND |
| Use             | Pass-through control             |
| Frequency Range | 30 kHz to 60 kHz                 |

| CEC        |   |
|------------|---|
| Port       | 1 x HDMI OUTPUT, Type A, 19-pin female      |
| Triggering | Through IP, RS-232, and built-in web server |

| Resolution / Distance | 4K/UHD - Feet / Meters |   | 1080p - Feet / Meters |    |
|-----------------------|------------------------|---|-----------------------|----|
| HDMI IN/OUT           | 15                     | 5 | 30                    | 10 |
| USB-C <sup>(4)</sup>  | 6.6                    | 2 | 6.6                   | 2  |

| Buttons and Indicators                              |  |
|---|--|
| <b>Buttons:</b><br>DISPLAY, INPUT<br>IP MODE, RESET | 2 – momentary, tact-type<br>2 – momentary, tact-type |
| <b>Indicators:</b><br>PWR, INPUT<br>IP MODE, RESET  | 3 – LED, green<br>2 – LED, green                     |

| Connectors      |   |
|-----------------|---|
| HDMI IN         | 1 – Type A, 19-pin female                                     |
| USB-C IN        | 1 – USB Type-C v3.1, 24-pin female, AV input (Alternate Mode) |
| HDMI OUT        | 1 – Type A, 19-pin female                                     |
| USB HUB         | 2 – Type A, 4-pin female                                      |
| USB HOST        | 1 – Type B, female  |
| AUDIO OUT       | 1 – 5-pin captive screw, balanced / unbalanced 2-channel      |
| RS-232 / IR OUT | 1 – 4-pin captive screw (bidirectional)                       |
| LAN             | 1 – RJ45, 100Base-T   |
| PWR             | 1 - Barrel connector, locking                                 |

| 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           | Max: 14.5 W                                      |
| BTU/h                 | 49.4   |
| External Power Supply | 100 - 240 V AC, 50/60 Hz<br>Output: 5 V / 4 A DC |

| Dimensions (H x W x D)    | Inches             | Millimeters    |
|---------------------------|--------------------|----------------|
| Unit                      | 1.02 x 8.62 x 5.98 | 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 | 2.15   | 0.975     |

| Certification |                 |
|---------------|-----------------|
| Device        | CE, FCC, CB     |
| Power Supply  | CE, FCC, UL, CB |

| Compliance |     |
|------------|-----|
| NDAA-899   | Yes |

| Warranty |  |
|----------|--|
| Device   | To view the product warranty, use the following link:<br><a href="https://atlon.com/warranty">https://atlon.com/warranty</a> |

## 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   |
| AT-LC-UC2UC-2M | LinkConnect USB-C to USB-C 2 Meter Cable |

## Footnotes

- (1) The cable used for USB-C connection should support at least USB 3.1 Gen. 1, and 4K @ 60 Hz video.
- (2) Scaler does not support frame rate conversion.
- (3) 4:2:0 is not supported over USB-C.
- (4) When USB SuperSpeed (SS) mode is enabled, video output is supported up to 4K @ 30 Hz and the USB data rate is 5 Gbps. If disabled, video output is supported up to 4K @ 60 Hz and data rate is limited to 480 Mbps.

## Copyright, Trademark, and Registration

© 2024 Atlona Inc. All rights reserved. "Atlona" and the Atlona logo are registered trademarks of Atlona Inc. Pricing, specifications and availability subject to change without notice. Actual products, product images, and online product images may vary from images shown here.



The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI trade dress and the HDMI Logos are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.



Dolby, Dolby Atmos, and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation.



For DTS patents, see <http://patents.dts.com>. Manufactured under license from DTS, Inc. DTS, the Symbol, DTS and the Symbol together, and Digital Surround are registered trademarks and/or trademarks of DTS, Inc. in the United States and/or other countries. © DTS, Inc. All Rights Reserved.

All other trademark(s), copyright(s), and registered technologies mentioned in this document are the properties of their respective owner(s).