



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⁽¹⁾

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

Audio			
HDMI Pass-Through Formats	PCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Digital Dolby Digital Plus™ Dolby TrueHD	DTS® Digital Surround™ DTS-HD Master Audio™
Bit Rate	24 Mbits/s max		
Analogue Audio			
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 ⁽⁴⁾			
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 ⁽⁴⁾	6.6	2	6.6	2
Buttons and Indicators				
Buttons: DISPLAY, INPUT IP MODE, RESET	2 – momentary, tact-type 2 – momentary, tact-type			
Indicators: PWR, INPUT IP MODE, RESET	3 – LED, green 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		
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 Output: 5 V / 4 A DC	
Dimensions (H x W x D)		
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		
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: https://atlona.com/warranty	

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.

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