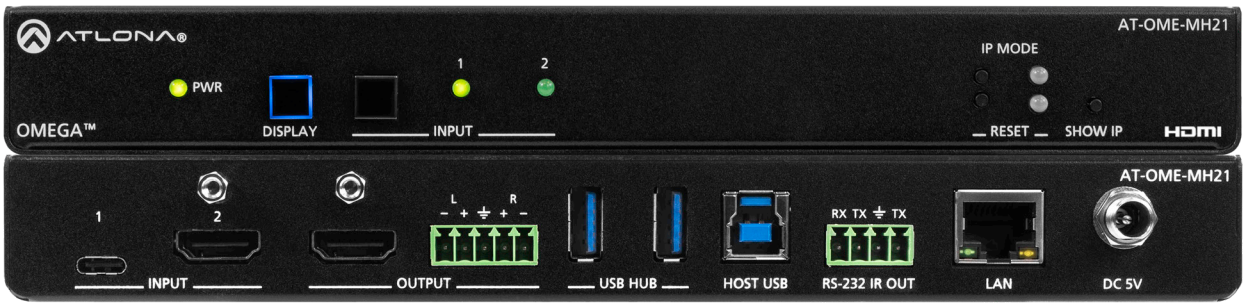
Omega™

Omega 4K/UHD Two-Input Switcher

for HDMI and USB-C with USB Hub



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	HDMI	
Copy Protection	HDCP 2.2	
Pixel Clock	600 MHz	
UHD/HD/SD	4096×2160@60/50/30/25/24 Hz 3840×2160@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	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
Scaler[2]	IN	OUT
	4K@24 Hz 4K@30 Hz 4K@60 Hz, 4:2:0	1080p@24 Hz 1080p@30 Hz 1080p@60 Hz (YUV/RGB, 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™ @ 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		
Analog 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[3]
USB-C	Supports audio, video, device and host data

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 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	HDMI, 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	10	3	10	3

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	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
External Power Supply	100 - 240 V AC, 50/60 Hz 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

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) USB-C port does not support USB device powering.
(2) Scaler does not support frame rate conversion.
(3) 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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