Omega™

HDBaseT Transmitter with

USB-C and HDMI Inputs plus USB Hub

Introduction

The Atlona **AT-OME-SW21-TX** is a 2×1 switcher and HDBaseT transmitter with USB-C® and HDMI® inputs. It sends video up to 4K/60 4:2:0, plus embedded audio, control, and USB 2.0 over distances up to 330 feet (100 meters). Part of the Omega™ Series of integration products for modern AV communications and collaboration, the OME-SW21-TX features mirrored HDMI and HDBaseT outputs and is HDCP 2.3 compliant. With a matching HDBaseT receiver, the integrated USB extension addresses the challenge of connecting between USB devices at remote locations, and is ideal for software video conferencing and interactive touch displays. The OME-SW21-TX includes a USB hub which supports USB 3.2 Gen 1 up to 5 Gbps, and USB 2.0 up to 480 Mbps for local devices and 120 Mbps over HDBaseT. Host switching is provided with USB type B and USB-C interfaces, plus two USB type A interfaces for peripherals as well as integrating with USB 3.2 Gen 1 extenders. Both 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 is available for the HDMI output when connected to an HD sink. The OME-SW21-TX is ideal for use with Omega Series receivers, switchers with HDBaseT inputs, or even as a standalone AV system unit.

Applications

- **Complete system integration**
  The OME-SW21-TX and OME-SR21 or OME-EX-RX together provide a compact, yet comprehensive and cost-effective integration solution.
- **Classrooms**
  This transmitter is ideal for extending AV connectivity from an OME-CS31-SA-HDBT behind a flat-panel display, to a lectern or desk where the instructor can easily access the system.
- **Larger classrooms**
  With the optional power supply, the OME-SW21-TX can serve an HDBaseT-equipped projector. The local HDMI output is available for a confidence monitor at the lectern.
- **Meeting spaces**
  The OME-SW21-TX can be installed below a meeting table, connected over HDBaseT to an OME-MS42-HDBT in a credenza, with another HDBaseT connection to an OME-EX-RX behind a display (or above a projector).
- **Large meeting rooms**
  This switcher can be installed with the OME-MS42-HDBT to provide USB-C and HDMI input connectivity at both ends of a long conference table.

Key Features

2x1 switcher and HDBaseT transmitter with USB-C and HDMI inputs

- Features USB-C and HDMI inputs.
- Delivers flexible BYOD capability without the need for adapters.

USB-C input for AV, USB data, and device charging(1)

- Provides compatibility for laptops and tablets with USB-C ports supporting AV output.
- Allows clutter-free, single cable connectivity to a PC for video conferencing and collaboration.

Mirrored HDBaseT and HDMI outputs

- Local and long-distance video outputs provide flexible options for AV system designs and applications.

Video, audio, power, USB 2.0(2) data, control, and Ethernet over category cable utilizing HDBaseT technology

- Transmits 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.

Integrated USB 3.2 Gen 1 hub

- USB-C and USB type B interfaces for connection to host PCs. Two USB type A ports for a peripheral device such as a microphone, speakerphone, camera, or touch display. Supports USB 3.2 Gen 1 (5 Gbps), and USB 2.0 (480 Mbps) hub connections simultaneously.
- Provides an ideal USB integration solution for software video conferencing and integrating with USB 3.2 Gen 1 extenders.

Switch between USB host sources

- Connect two USB hosts (USB-C and USB type B ports). USB hosts can be switched together with AV inputs, or independently.

4K/UHD capability @ 60Hz

- HDBaseT output supports 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling.
- HDMI and USB-C inputs, plus HDMI output support 4K/UHD @ 60 Hz with 4:4:4 chroma sampling, and are compatible with 4K HDR10, Dolby Vision™, and HLG (Hybrid Log-Gamma).

HDCP 2.3 compliant

- Adheres to latest specification for High-bandwidth Digital Content Protection. For the inputs, HDCP compliance can be disengaged through Velocity Device Manager, a control system, or the web GUI.
- Allows protected content stream to pass between authenticated devices. Backward-compatible with sources that only support HDCP 1.4.

Selectable 4K to 1080p downscaling for HDMI output

- Integrated video processing available for down-converting 4K/UHD to 1080p.
- Downscaling can be bypassed to allow pass-through up to 4K/60 4:4:4 and 4K HDR.

Remote powering over HDBaseT or local powering

- Industry standard IEEE 802.3af PoE is supplied by an Atlona receiver or switcher over HDBaseT.
- Allows convenient switcher installation at a table or other remote location, without the need for local AC power.
- Can be locally powered by the optional AT-PS-245-D4 power supply – to provide up to 60 watts for charging a USB-C mobile device, and remotely power the receiver.

Automatic display control

- Automatically changes display power state based on active video presence, or activity detected by the AT-OCS-900N occupancy sensor. Control signals to display are transmitted via IP, RS-232, 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.

Front-panel LCD display

- View system information including device IP address, video input signal status, and firmware version. View status and configure settings for IP network and RS-232 communications.
- Quick system monitoring and configuration without the need to access the web GUI.

Included accessories

- Surface mounting hardware.
- 2 meter (6.5 foot) USB-C male-to-male cable (USB 3.2 Gen 1).

Specifications

Video		
Signal Type	Input - DisplayPort Alternate Mode (USB-C), HDMI Output - HDBaseT, HDMI	
Copy Protection	HDCP 1.4/2.2/2.3	
Pixel Clock	600MHz (300MHz over HDBaseT)	
UHD/HD/SD	4096×2160(DCI)@60/50/30/25/24Hz 3840×2160(UHD)@60/50/30/25/24Hz 2560x1440@30Hz 1920x1080p@60/59.94/50/30/29.97/25/24/23.98Hz	1920x1080i@30/29.97/25Hz 1280x720p@60/59.94/50/30Hz 720x576i/p@50Hz 720x480i/p@60Hz
VESA All resolutions are 60Hz	2560×1600 2048x1536 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
VESA 21:9	2560x1080@30Hz 4:4:4 2560x1080@60Hz 4:4:4 3440x1440@30Hz 4:4:4	3440x1440@50Hz 4:4:4 3840x1600@30Hz 4:4:4
Scaler[3]	IN	OUT
	4K@24Hz 4K@30Hz 4K@60Hz	1080p@24Hz 1080p@30Hz 1080p@60Hz
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	
HDR[4]	Up to 4K HDR10@60Hz, 4K Hybrid-Log Gamma (HLG)@60Hz, and 4K Dolby® Vision™@60Hz	

Audio			
Pass-through	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 Rate	24 Mbits/s max		
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz		

USB	
Signal	3.2 Gen 1 & 2.0
Maximum Data Rate	3.2 - 5 Gbps 2.0 - 480 Mbps
Hosts	1 USB 3.0 Type-C and 1 USB 3.0 Type-B host
Hub	1 - Internal

Connectors	
USB-C	1 - USB Type-C, 24-pin female
HDMI	2 – Type A, 19-pin female
HDBaseT OUT[5]	1 - RJ45
HOST	1 - USB Type-B, female, 3.0
HUB	2 - USB Type-A, female, 3.0

Indicators, Buttons, and Controls	
PWR indicator	1 - LED, green
LINK indicator	1 - LED, yellow
Buttons DISPLAY, INPUT, UP, DOWN, ENTER Reset	 5 - momentary, tact-type 1 - recessed, momentary

Resolution / Distance	4K/UHD - Feet / Meters		1080p - Feet / Meters	
USB-C	6.6	2	6.6	2
HDMI IN/OUT	15	5	30	10
CAT5e	295	90	330	100
CAT6/6a/7	330	100	330	100

Power	
Consumption	Idle: 5.2W Max: 108W
Supply	PoE via connected receiver or *optional* 24V 5A power supply
BTU/h	Idle: 18 Max: 27.28

Temperature	Fahrenheit	Celsius
Operating	+32 to +104	0 to +40
Storage	-4 to +140	-20 to +60
Humidity (RH)	20% to 90%, non-condensing	

Dimensions (H x W x D)	Inches	Millimeters
Unit	0.98 x 5.91 x 9.84	25 x 150.2 x 250

Weight	Pounds	Kilograms
Device	1.65	0.75

Certification	
Device	CE, FCC

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
AT-LC-UC2UC-5M	LinkConnect USB-C to USB-C 5 Meter Cable

Compatible Receivers

SKU	Description
AT-OME-EX-RX	LinkConnect HDMI to HDMI 1 Meter Cable
AT-OME-SR21	LinkConnect HDMI to HDMI 2 Meter Cable
AT-CS31-SA-HDBT	LinkConnect HDMI to HDMI 3 Meter Cable
AT-OME-MS42-HDBT	LinkConnect USB-C to USB-C 2 Meter Cable

Footnotes

(1) Device charging up to 60 watts available when unit is used with optional AT-PS-245-D4 power supply.
(2) HDBaseT supports a maximum 120 Mbps data rate.
(3) Scaler does not support frame rate conversion.
(4) HDR is supported on USB-C and HDMI ports only.
(5) Maximum limit of 6 USB hubs when traversing an HDBaseT link.

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