



Introduction

The Atlona **AT-OME-CS31-SA-HDBT** is an AV presentation and collaboration system for classrooms and conference rooms. It features AV switching of remote and local sources, a mixer amplifier, and USB hub.

The switcher has one HDBaseT® input supporting extension of HDMI, Ethernet, power, control, and USB 2.0 data up to 330 feet (100 meters) as well as two HDMI® inputs. Sources connected to these inputs, such as laptops, computers, and document cameras, are routed to the HDMI output connected to a projector or display. The amplifier of the OME-CS31-SA-HDBT delivers either two channels of 25 watts or a single channel of 50 watts into 4 or 8 ohms. It features one balanced stereo audio input and two unbalanced stereo audio inputs with independent level control for each. A balanced stereo line level output allows the mixed signal to be passed to an assistive listening system or separate amplifier. The OME-CS31-SA-HDBT's USB system integrates a USB 2.0 host over HDBaseT with a local USB 3.0 and connections for four peripheral devices such as cameras, speakerphones, interactive displays, keyboards, mice, or storage devices.

The OME-CS31-SA-HDBT includes unique capabilities intended for education applications. Ducking automatically lowers the level on all other program audio sources when the teacher speaks into their microphone connected to the balanced line input. PA sense mutes the output of the amplifier whenever it detects activity on the school public address system. Both features ensure important lesson material and announcements are heard clearly.

For control, the OME-CS31-SA-HDBT includes dual Ethernet ports and two RS-232 ports for automated operation by the switcher itself or integration with Velocity™ and third-party control systems. The compact enclosure allows the OME-CS31-SA-HDBT to be mounted in a variety of locations such as behind a display or under a desk or table.

Applications

- **Classrooms**
 In addition to remote and local AV switching, audio amplification, USB routing, and control needed by modern classrooms, the OME-CS31-SA-HDBT provides additional features for education environments including ducking program audio for an instructor microphone and muting the system for public address messages.
- **Conference Rooms**
 The OME-CS31-SA-HDBT is an all-in-one solution for hybrid meeting spaces that need remote and local AV switching, audio amplification, USB routing, and display control.

Key Features

- 3x1 AV switcher with one HDBaseT® input, two HDMI® inputs, and one HDMI output.
- HDBaseT input supports extension of HDMI, Ethernet, power, control, and USB 2.0 data up to 330 feet (100 meters).
- USB system integrates USB 2.0 host over HDBaseT with local USB 3.0 type B host port and four type A peripheral ports.
- 2 x 25 watts @ 4/8 ohms amplifier (stereo or dual mono) or 1 x 50 watts @ 4/8 ohms (bridged).
- One balanced stereo line level input and two unbalanced stereo line level inputs on 3.5 mm connections.
- Balanced stereo line level output allows the mixed signal to be passed to an assistive listening system or separate amplifier.
- Supports mixing 3 line inputs, de-embedded HDMI, and USB audio to the amplifier and line outputs.
- Ducking lowers the level of all inputs when audio, such as a teacher microphone, is present on the balanced audio input.
- Supports audio mute with contact closure or PA sense so announcements can be heard clearly.
- Dual Ethernet ports and integrated network switch allows a single connection to an AV LAN for IP control of a display and the switcher.
- Two RS-232 ports for control of the switcher or peripheral devices.
- Two digital I/O ports for automated control from occupancy sensors or other third party devices.
- 5V USB charging port for powering external devices such as a Bluetooth® receiver.
- Energy Star® qualified for power efficiency and cost savings.
- Automatic display control changes display power state via CEC, IP, or RS-232 based on active or standby mode of the switcher or status of occupancy sensors connected to the digital I/O ports.
- Auto-switching selects active input when sources are connected or if there is a change in source power status.
- Manages EDID communications with the source through the connected display's EDID or internally stored EDID
- HDCP 2.2 compliant.
- 4K/UHD capability @ 60 Hz with 4:4:4 chroma sampling.
- Supports HDR10, HLG, and Dolby® Vision™ HDR formats.
- Intuitive GUI-based configuration using integrated web server.
- Front panel LED indicators provide status for power, input selection, and LAN.
- Low profile enclosure for mounting behind a display or under a desk or table.

Specifications

Video	
Signal	Input - HDMI, HDBaseT Output - HDMI
Copy Protection	HDCP 2.2
Pixel Clock	HDMI: 600 MHz, HDBaseT: 300 MHz
UHD/HD/SD	4096x2160 (DCI) @ 24/25/30/50/60 ⁽¹⁾ Hz 720x576p @ 50 Hz 3840x2160 (UHD) @ 24/25/30/50/60 ⁽¹⁾ Hz 720x576i @ 25/50 Hz 1920x1080p @ 720x480p @ 60 Hz 23.97/24/25/29.97/30/50/60 Hz 640x480p @ 60 Hz 1920x1080i @ 50/60 Hz 640x480i @ 60 Hz 1280x720p @ 30/50/60 Hz
VESA All resolutions are 60 Hz	2560x2048 1366x768 2560x1600 1360x768 2048x1536 1280x1024 1920x1200 1280x800 1680x1050 1280x768 1600x1200 1152x768 1600x900 1024x768 1440x900 800x600 1400x1050 640x480
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	LPCM 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		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		
Analog Audio			
Format	Stereo 2-Channel		
Balanced Input	+4 dBu		
Unbalanced Input	-10 dBV		
Amplifier Output	2 x 25 W @ 4 or 8 Ω Frequency Response: 20 Hz to 20 kHz +/- 2 dB THD+N: < 0.1% @ 1 kHz SNR: 85 dB		
Balanced Output	+4 dBu Frequency Response: 20 Hz to 20 kHz +/- 0.5 dB THD+N: < 0.025% from 20 Hz to 20 kHz		

USB	
Signal	3.0
Maximum Data Rate	5 Gbps
Internal Hubs	2 USB hubs

Ethernet	
Port	2 x RJ45
Standards and Protocols	HTTP, HTTPS, Telnet, SSH, JSON over WebSockets
Speeds	10/100/1000 Mbps
Addressing	DHCP, Static – selectable through built-in web server and API commands

RS-232	
Port	2 x 3-pin captive screw
Use	Unit and external device control and configuration
Baud Rates	9600, 19200, 38400, 57600, 115200
Data Flow	Bidirectional

CEC	
Ports	1 x HDMI OUT, Type A, 19-pin female
Triggering	Through HDMI

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

Buttons and Indicators	
Buttons: INPUT	1 x momentary, tact-type
Indicators: PWR LAN, LINK, IN1, IN2, IN3	1 x LED, multicolor, green/red 5 x LED, green

Connectors	
HDMI IN	2 x Type A, 19-pin female
HDMI OUT	1 x Type A, 19-pin female
HDBaseT IN	1 x RJ45
HOST	1 x USB type B, female
MIC	1 x RJ45
VOICE L/R	1 x 5-pin captive screw
L/R	2 x 3.5 mm mini-stereo
5V	1 x USB type A, female
FW	1 x USB type C, female
LAN	2 x RJ45
TRIGGER I/O	2 x 4-pin captive screw
RS-232	2 x 3-pin captive screw
PA SENSE TRIGGER	1 x 2-pin captive screw
PA SENSE GND/25V/75V/100V	1 x 4-pin captive screw
AMP OUT	1 x 4-pin captive screw
AUDIO OUT	1 x 5-pin captive screw
HUB	4 x USB type A, female
24V / 5A	1 x 4-pin DIN

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	

Power	
Consumption (max.)	95.3 W
BTU/h	325.2
External Power Supply	100 - 240 V AC, 50/60 Hz Output: 24 V / 5 A DC

Dimensions (H x W x D)	Inches	Millimeters
Unit	0.98 x 11.81 x 8.27	25 x 300 x 210
Power Supply (AT-PS-245-D4)	1.6 x 2.6 x 6.2	40.6 x 66 x 157

Weight	Pounds	Kilograms
Device	3.8	1.7

Certification	
Device	CE, RoHS, FCC
Power Supply	CE, FCC, UL, CUL, TUV-GS, CB, PSE, CCC

Compliance	
NDAA-889	Yes

Warranty	
3 years	View the full warranty information here: https://atlon.com/warranty

Footnotes

(1) 4K/UHD @ 60 Hz only supports 4:2:0.

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