4K / UHD
8x2 Multi-Format Matrix Switcher

Introduction

The Atlona **AT-UHD-CLSO-824** is a 4K/UHD 8×2 matrix switcher with dual, HDBaseT and mirrored HDMI outputs for 4K/UHD @ 60Hz signals. This matrix switcher has multi-format signal-handling, Ethernet-enabled 100-meter HDBaseT™ input/output extension, and advanced audio capabilities. The CLSO-824 brings advanced multi-format matrix switching to the CLSO series of classroom and small office switchers. The mix of inputs supports remote sources at lecterns and conference room tables via HDBaseT transmission as well as local sources in the equipment rack. The matrix serves a wide array of room configurations with two HDBaseT video outputs, each featuring a mirrored HDMI port to provide an additional output for a local display or an Atlona Extender Kit. The CLSO-824 offers three Ethernet-enabled HDBaseT inputs designed to provide system design flexibility. Two HDBaseT outputs on the switcher provide extended distance AV signal extension up to 330 feet (100 meters). These outputs are Ethernet-enabled to also provide extension of control signals to displays. All HDBaseT inputs and outputs feature industry standard Power over Ethernet to remotely power extender endpoints. Sophisticated matrixing capabilities within the switcher include a dedicated audio mix-matrix for signals routed to the switcher's outputs. This gives integrators the ability to mix audio signals from either of the two selected video sources along with both mic/line input signals. Audio is de-embedded from the video signal for processing and mixing with the mic/line sources. The resulting audio mix is sent to the balanced line level analog outputs and re-embedded to the digital video outputs.

Applications

- **Dual-screen classrooms, conference rooms, or training environments**
  The CLSO-824 allows independent content presented on two separate displays.

- **Divisible rooms**
  This matrix switcher is perfect for serving a room that can be divided into two, with the ability to feed a primary display and a confidence monitor in each space, while also connecting to remote input locations such as lecterns, floor boxes, and walls.

- **Auditoriums and lecture halls**
  The CLSO-824 makes it easy to integrate a camera, codec, and one or two displays.

Key Features

8×2 matrix switcher with HDBaseT and HDMI ports for each output

• Eight different sources may be switched to either of two outputs with mirrored HDBaseT/HDMI signals.

• Serves a wide array of room configurations.

Three HDBaseT inputs

• Works with Atlona AT-HDVS-200 transmitters for placement at remote sources near lecterns, conference tables, and instructor's desks.

• Simplifies integration of remote sources by eliminating power supplies when used with PoE-powered transmitters; single category cable carries AV signals, control and power.

Four HDMI inputs

• Digital inputs to support up to four HDMI sources or DisplayPort and DVI sources with appropriate adapters.

• Ideal for sources located at the equipment rack.

One multi-function analog input on 15-pin HD connector

• Accepts RGBHV and component signals using common adaptors and break out cables.

• Provides input options for legacy analog sources.

Two Ethernet enabled, HDBaseT outputs

• Extends control signals from third party control processors via HDBaseT along with 4K/UHD video, and audio through a single cable with 330 foot (100 meter) performance.

• Network connections simplify control system design; eliminates multiple cable runs between source, control system router and display.

Audio output matrix mixer

• Mixes de-embedded digital audio along with analog mic/line level inputs and routes to analog outputs or re-embed to video outputs.

• Eliminates the need for complex external audio routing systems.

Two, balanced, stereo audio outputs on 6-pin captive screw connectors

• Maintains proper audio gain structure between commercial line level devices; eliminates adaptors.

• Designed for use with analog commercial sound systems.

Mirrored outputs on HDBaseT and HDMI

• Each matrix output supports dual display applications for a local display and extended distance displays up to 330 feet (100 meters).

• Eliminates cost associated with extra extension components; simplifies installation. HDMI output allows additional HDBaseT transmitter for dual, long distance applications.

4K/UHD @ 60 Hz capability

• Compatible with Ultra High Definition sources and displays up to 4K @ 60 Hz with 4:2:0 color subsampling.

• Supports high resolution applications such as CAD, desktop publishing, and detailed financial reporting.

Power over Ethernet for remote-powered HDBaseT transmitters and receivers

• Industry standard IEEE 802.3af PoE supplied by the switcher over HDBaseT.

• No local AC outlet required saves time and integration costs.

TCP/IP, RS-232, and IR, control

• Compatibility with third-party control systems provides flexible control options.

• Reduces integration time and costs.

EDID management

• Manages EDID communications between source and switcher; allows integrators to force sources to preferred resolution.

• Ensures desired audio formats and video resolutions are provided to the AV system; eliminates the need for EDID management device.

Key Features (continued)

HDCP Management

- Allows non-protected material from PCs to pass to non-compliant displays and teleconference systems while protected content is not transmitted.
- HDCP compliance can be switched on/off from control systems for use with non-compliant displays, streaming devices, and codecs.

Two, balanced line/mic input with 48V phantom power

- Provides professional audio input for wired and wireless microphones.
- Saves installation costs by eliminating external audio mixer.

Microphone ducking with advanced controls

- Automatically reduces program audio levels when mic is used.
- Ensures optimized voice-over performance.

Audio de-embedding

- De-embeds PCM audio from HDMI inputs to audio out matrix.
- Provides audio signal routing to sound system.

Adjustable Volume and EQ

- Features independent gain control for each input, master audio level controls 5 band EQ adjustment.
- Optimizes audio signals eliminating the need for an external mixer.

Front panel volume and mute controls

- Volume Up and Volume Down through menu to adjust output level to sound system.
- Provides quick level adjustment for operators.

Adjustable Volume and EQ

- Features independent gain control for each input, master audio level controls 5 band EQ adjustment.
- Optimizes audio signals eliminating the need for an external mixer.

Easy, GUI-based configuration using integrated web server

- Offers menu-based configuration of network settings, RS-232 settings, input switching, EDID and HDCP management and audio.
- Allows fast configuration of internal product settings and troubleshooting from a tablet, smart phone or PC in the field.

IP to RS-232 translation

- Converts TCP/IP commands to RS-232 commands for output to external devices.
- Enables single IP connection to control processor to control both IP and RS-232 connected devices. Faster installation.

Ten RS-232 ports

- Multiple, bidirectional, RS-232 ports to control other devices in the system.
- Reduces cost associated with complex control processors.

Ethernet, RS-232 and IR HDBaseT insertion

- Adds control signals to the HDBaseT transmission including Ethernet, RS-232 and bi-directional IR.
- Simplifies display control from third-party control systems.

Multi-channel audio compliant

- Supports PCM, Dolby® Digital, Dolby Digital Plus™, Dolby TrueHD, Dolby Atmos®, DTS Digital Surround™, and DTS-HD Master Audio™ in pass through mode.
- Allows any two-channel audio stream to be used within a professional audio system.

Rack mountable 1U, full-rack width enclosure

- Installs easily in rack mounted systems with included 19" rack and wall mount brackets.
- Reduces installation time and cost.

Specifications

Video				
Signal Type	HDMI			
HDCP	1.4			
TMDS	300MHz			
UHD/HD/SD	4096×2160@60[1]/50[1]/30/25/24Hz 3840×2160@60[1]/50[1]/30/25/24Hz 2048x1080p 1080p@60/59.94/50/30/29.97/25/24Hz 1080i@50/59.94/60Hz		720p@60/59.94/50Hz 576p 576i 480p 480i	
VESA	2560×2048 2560×1600 2048×1536 1920×1200 1680×1050 1600×1200 1600×900 1440×900 1400×1050		1366×768 1360×768 1280×1024 1280×800 1280×768 1152×768 1024×768 800×600 640×480	
Color Space	YUV, RGB			
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0			
Color Depth	8-bit, 10-bit, 12-bit			

Audio			
Analog Output	PCM 2Ch (de-embedded)		
HDMI In / Out	PCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Digital Dolby Digital Plus™ Dolby TrueHD	DTS-HD Master Audio™
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		

Control				
RS-232	Device control and configuration Bidirectional pass-through from control system over HDBaseT Supported baud rates: 2400, 4800, 9600, 19200, 38400, 57600, 115200			
IP	Protocols: Https, Telnet, mDNS Modes: DHCP, Static - selectable through front panel and webGUI			
CEC Support	Yes			

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: MENU, ENTER, UP, DOWN, NUMERICAL KEYPAD	12 - momentary, tact-type

Connectors	
HDMI IN	4 - Type A, 19-pin female
HDMI OUT	2 - Type A, 19-pin female
HDBaseT IN	3 - RJ45, female
HDBaseT OUT	2 - RJ45, female
USB HUB	2 - Type A, 4-pin female
USB HOST	2 - Type B, female
AUDIO OUT	1 - 5-pin captive screw, balanced / unbalanced 2-channel
RS-232	5 - 6-pin captive screw, 1 - 3-pin captive screw
LAN	1 - RJ45, 100Base-T
MIC / LINE IN	2 - 6-pin captive screw
AUDIO IN	1 - 6-pin captive screw
IR IN/OUT	1 - 5-pin captive screw
FW	1 - mini-USB
PWR	1 - 48 V DC

Temperature	Fahrenheit	Celsius
Operating	32 to 122	0 to 50
Storage	-4 to 140	-20 to 60
Humidity (RH)	20% to 60%, non-condensing	

Power	
Consumption	78.54W
Idle Consumption	3.52W
Supply	Input: 100 - 240 V AC, 50/60 Hz Output: 48 V / 3.125A DC

Dimensions (H x W x D)	Inches	Millimeters
Unit	1.73 x 17.08 x 10.04	44 x 433.8 x 255
Power Supply	1.57 x 2.44 x 6.93	40 x 62 x 176 (mm)

Weight	Pounds	Kilograms
Device	7.69	3.49

Certification	
Device	CE, FCC
Power Supply	CE, FCC, cULus, CCC, RoHS

Footnotes

(1) Supports chroma subsampling 4:2:0 8-bit only.

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