Introduction

The Atlona AT-HDR-MX1616 is a 16x16 HDMI® to HDBaseT™ matrix switcher for high dynamic range (HDR) formats. It is HDCP 2.2 compliant, supports 4K/UHD video @ 60 Hz with 4:4:4 chroma sampling, and data rates up to 18 Gbps.

The HDR-MX1616 enables flexible routing of 16 HDMI input signals to 16 HDBaseT outputs that support transmission of video, audio, Ethernet, control signals, and power up to 330 feet (100 meters) over CAT6A cable. Each HDBaseT output also has a mirrored HDMI output for connection to local display devices.

The built-in audio matrix routes up to 16 2CH PCM de-embedded audio sources to 16 unbalanced stereo analog outputs for integration with multi-zone audio distribution systems. Each audio output has independent volume and mute control.

The HDR-MX1616 provides TCP/IP, RS-232, and IR ports for control of the switcher itself. It also supports independent RS-232, IR, and CEC communications over each HDBaseT output for controlling remote displays and peripherals.

The HDR-MX1616 is housed in a 4U enclosure with active cooling to ensure continuous reliability. It also provides remote power to compatible HDBaseT receivers.

Applications

- **Education**
  Ideal for lecture halls and auditoriums where routing centralized inputs to multiple projectors or displays installed throughout the room is required.
- **Commercial**
  Ideal for board rooms, training rooms, common areas, or manufacturing/warehousing facilities where svideo sources need to be routed to multiple display devices.
- **Hospitality/Retail**
  Ideal for sports bars, casinos, or showrooms that require matrix routing of 4K HDR content.

Key Features

- 4K HDR matrix switcher with 16 HDMI inputs and 16 HDBaseT outputs.

- Each HDBaseT output has a mirrored HDMI output to support local display devices.

- 4K/UHD capability @ 60 Hz with 4:4:4 chroma sampling.

- Features visually lossless compression with no latency to enable HDR and 4K/60 4:4:4 video signal extension over HDBaseT.

- HDCP 2.2 compliant.

- Supports HDR10, HLG, and Dolby Vision® HDR formats.

- HDBaseT outputs extend 4K HDR video, multi-channel audio, Ethernet, control signals, and power up to 330 feet (100 meters) over Category 6A cable.

- Built-in audio matrix routes de-embedded audio sources to unbalanced stereo analog outputs with independent volume control for integration with zoned audio systems.

- Remotely powers compatible receivers over HDBaseT.

- Manages EDID communications between source and display devices with automatic, user defined, or preset configurations.

- Front panel button controls and display.

- Intuitive GUI-based configuration using integrated web server.

- Flexible control options via TCP/IP, RS-232, and IR with Atlona Velocity™ or third-party control systems.

- TCP/IP to RS-232 proxy for bi-directional serial communications through the receivers over HDBaseT.

- Supports automatic CEC display power controls as well as triggering by TCP/IP or RS-232 for both HDBaseT and mirrored HDMI for each output.

- Rack mountable 4U, full-rack width enclosure.

Specifications

Video	
Signal Type	Input - HDMI Output - HDBaseT, HDMI
Copy Protection	HDCP 1.4/2.2
Pixel Clock	Up to 600MHz with a compatible receiver
UHD/HD/SD	4096×2160(DCI)@60/50/30/25/24Hz 1920x1080i@30/29.97/25Hz 3840×2160(UHD)@60/50/30/25/24Hz 1280x720p@60/59.94/50/30Hz 2560x1440@30Hz 720x576i/p@50Hz 1920x1080p@60/59.94/50/30/29.97/25 720x480i/p@60Hz /24/23.98Hz
VESA All resolutions are 60Hz	2560×1600 1280×800 2048x1536 1366×768 1920×1200 1360×768 1680×1050 1152×864 1600×1200 1024×768 1440×900 800×600 1400×1050 640×480 1280×1024
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Color Depth	8-bit, 10-bit, 12-bit
HDR	Up to 4K HDR10@60Hz, 4K Hybrid-Log Gamma (HLG)@60Hz, and 4K Dolby Vision®@60Hz

Audio			
HDMI Pass-Through Formats	LPCM 2.0 LPCM 5.1 LPCM 7.1	Dolby® Dolby Digital Plus™ Dolby Atmos®	DTS® Digital Surround™ DTS-HD Master Audio™ DTS:X®
Bit Depth	Up to 24 bits		
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz		
Analog Audio			
Format	Stereo 2-Channel		
Type	Unbalanced Audio		

LAN	
Port	1 x RJ45
Standards and Protocols	HTTP, HTTPS, Telnet, SSH, mDNS
Speeds	10/100 Mbps
Addressing	DHCP, Static

CEC	
Ports	16 x HDMI OUT, Type A, 19-pin female 16 x HDBaseT pass through, RJ45
Triggering	via Auto, and built-in Web Server

Connectors	
HDMI IN	16 x Type A, 19-pin female
HDMI OUT	16 x Type A, 19-pin female
HDBaseT OUT	16 x RJ45
Analog Audio Out	16 x 3-pin captive screw
IR IN/OUT/Ext	33 x 3.5 mm, female
ETHERNET/LAN	2 x RJ45
RS-232	1 x DE-9
AC 100-240V 50/60Hz	1 x IEC connector

Indicators, Buttons, and Controls	
Buttons Up, Down, Left, Right, Enter	5 - momentary, tact-type

Resolution/Distance	Distance	Resolution
HDMI	10m/30ft	1080p@60Hz 4:4:4 8-bit
	5m/15ft	4K@60Hz 4:4:4 12-bit
CAT 5e/6	100m/330ft	1080p@60Hz 4:4:4 10-bit
	70m/230ft	1080p@60Hz 4:4:4 12-bit 4K@60Hz 4:4:4 8-bit
CAT 6a/7	100m/330ft	1080p@60Hz 4:4:4 12-bit 4K@60Hz 4:4:4 8-bit

Power		
Consumption	Idle: 126W Max: 360W	
Supply	Internal AC 100-240V 50/60Hz	
BTU/h (max)	791.12	

Temperature	Fahrenheit	Celsius
Operating	32 to 113	0 to 45
Storage	-4 to 158	-20 to 70
Humidity (RH)	10% to 90%, non-condensing	

Dimensions (H x W x D)	Inches	Millimeters
Unit	6.93 x 17.32 x 15.07	176 x 440 x 382.7

Weight	Pounds	Kilograms
Device	38.58	17.49

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

Compatible Receivers

SKU	Description
AT-HDR-EX-100CEA-RX	4K HDR HDBaseT Receiver with Control, Ethernet, and Remote Power
AT-HDR-EX-70C-RX	4K HDR HDBaseT Receiver with Control and Remote Power
AT-UHD-EX-100CE-RX	4K/UHD HDMI Over 100 M HDBaseT Receiver with Ethernet, Control, and PoE
AT-UHD-EX-70C-RX	4K/UHD HDMI Over HDBaseT Receiver with Control and PoE

SKU	4K@60Hz	HDR	Ethernet pass through
AT-HDR-EX-100CEA-RX	X	X	X
AT-HDR-EX-70C-RX	X	X	
AT-UHD-EX-100CE-RX	X		X
AT-UHD-EX-70C-RX	X		

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