



Introduction

The Atлона AT-UHD-PRO3-1616M is a dual-distance 16x16 HDMI to HDBaseT™ matrix switcher for 4K/UHD @ 60Hz video signals with Power over Ethernet for receivers and analog audio breakout. The matrix provides both extended distance, 328 foot (100 meter) and long distance, 230 foot (70 meter) HDBaseT transmission over category cable. It also provides convenient bidirectional extension of both RS-232 and IR Control. Four HDMI outputs are provided as mirrored outputs designed for routing HDMI-based audio to an AVR or as additional matrix outputs. The matrix switcher is HDCP 2.2 compliant and supports EDID communication. The matrix is control system-friendly and integrates with any TCP/IP, RS-232, or IR based control signals. Designed for multi-zone residential or commercial distribution applications, the AT-UHD-PRO3-1616M features a 2U, rack-mountable enclosure with an internal, international power supply.

The matrix switcher provides advanced capabilities for AV signal distribution and a host of integrator-friendly features. It supports 4K/UHD @ 60 Hz, 4:2:0, 8-bit video signals; offers 3D pass-through and meets HDCP 2.2 copy protection standards. Remote power for compatible Atлона UHD-EX Series HDBaseT receivers is provided using industry standard IEEE 802.3af PoE supplied over HDBaseT links. Professional audio capabilities include analog audio de-embedding with volume, mute, and 5-band EQ for the 12 line level outputs on captive screw connectors. The matrix supports digital audio signals up to 192 kHz/24-bits. Flexible control capability is provided by the supplied IR remote, front panel control, GUI-based integrated web server as well as compatibility with TCP/IP, RS-232, or IR-based control system.

Key Features

Sixteen HDBaseT outputs with dual-distance transmission of A/V, control and power signals over a single category cable

- Eight extended distance, 328 foot (100 meter) outputs and three long distance, 230 foot (70 meter) outputs offer bidirectional extension of both RS-232 and IR control plus remote power.
- Ensures distance and value requirements are addressed to meet the needs of the installation and budget.

Four HDMI outputs with independently selectable mirror and matrix modes

- Switchable HDMI output can mirror any HDBaseT output for routing HDMI-based audio signals to an AVR; in matrix mode, the HDMI output can become an additional matrix output.
- Provides output flexibility to facilitate a variety of output needs and destinations.

4K/UHD capability with HDCP 2.2 copy protection

- Compatible with ultra-high definition PCs and other sources and displays and adheres to latest content protection specification.
- Future proofs AV systems in preparation for technology improvements, 4K/UHD streaming services and playback devices.

Power over Ethernet for remote-powered receivers

- Industry standard IEEE 802.3af PoE supplied by the matrix over HDBaseT.
- No local AC outlet required; saves time and integration costs.

Audio de-embedding

- Stereo, line level audio breakout with volume, mute, and 5-band EQ on captive screw connectors for three output zones.
- Provides audio signal routing to sound system.

TCP/IP, RS-232, and IR control

- Flexible control options compatible with all 3rd-party control systems .
- Reduces integration time and costs.

Specifications

Video		
Signal Type	Input - HDMI Output - HDBaseT, HDMI	
HDCP	HDCP 2.2	
Pixel Clock	300MHz	
UHD/HD/SD	4096x2160@60 ⁽¹⁾ /50 ⁽¹⁾ /30/25/24Hz 3840x2160@60 ⁽¹⁾ /50 ⁽¹⁾ /30/25/24Hz 1080p@60/59.9/50/30/29.97/25/ 24/23.98Hz 1080i@30/29.97/25Hz	720p@60/59.94/50Hz 576p@50Hz 576i@25Hz 480p@60/59.96Hz 480i@30Hz
VESA	2560x1600 2048x1536 1920x1200 1680x1050 1600x1200 1440x900 1400x1050 1280x1024	1280x800 1366x768 1360x768 1152x864 1024x768 800x600 640x480
Color Space	YUV, RGB	
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0	
Color Depth	8-bit, 10-bit, 12-bit	

Audio			
HDMI / HDBaseT 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 Depth	Up to 24 bits		
Analog Audio			
Format	Stereo 2-Channel		
Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		

Ethernet	
Port	1 x RJ45
Standards and Protocols	HTTPS, Telnet, mDNS
Speeds	10/100 Mbps
Addressing	DHCP, Static – selectable through rear panel, IP & RS-232 commands, and built-in web server

RS-232	
Port	1 x 5-pin captive screw; TX, RX, GND
Use	Device control and configuration
Baud Rates	2400, 4800, 9600, 19200, 38400, 57600, 115200
Data flow	Bidirectional pass-through from control system over HDBaseT

IR	
Port	16 x 4-pin captive screw, 1 x 5-pin captive screw; S, GND
Use	Local input/output and zone 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
CAT5e/6 (Port 1-8)	230	70	100	330
CAT5e/6 (Port 9-16)	115	35	60	197
CAT6a/7 (Port 1-8)	100	330	100	330
CAT6a/7 (Port 9-16)	70	230	70	230

Buttons and Indicators	
Buttons: Menu and Number	14 - momentary, tact-type
Indicators: Power	1 - LED, blue

Connectors	
HDMI IN	16 - Type A, 19-pin female
HDBaseT OUT	16 - RJ45, female
HDMI OUT	4 - Type A, 19-pin female
FW	1 - Micro-A USB
RS-232	1 - 3-pin captive screw (bidirectional)
IR IN	17 - 2-pin captive screw (bidirectional)
IR OUT	16 - 2-pin captive screw (bidirectional)
AUDIO OUT	12 - 4-pin captive screw, balanced / unbalanced 2-channel
RS-232	1 - 3-pin captive screw (bidirectional)
LAN	1 - RJ45, 100Base-T
PWR	1 - Internal 100-240 VAC 50/60Hz, IEC female connector

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	Idle: 100W Full load: 150W
Supply	AC100 - 240 VAC, 50/60 Hz

Dimensions	Inches	Millimeters
H x W x D w/feet	3.90 x 17.31 x 11.88	99.02 x 439.74 x 301.63
H x W x D w/rack ears	3.49 x 19.00 x 11.88	88.63 x 482.60 x 301.63
Rack Unit	2U	

Weight	Pounds	Kilograms
Device	13.70	6.21

Certification	
Device	CE, FCC, RoHS, RCM, TUV

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-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

Footnotes

(1) 4K/UHD @ 50/60Hz only supports 4:2:0 over HDBaseT.