OmniStream™ Pro
Wallplate Networked AV Encoder

Introduction

The Atlona **OmniStream™ 111 Wallplate** (**AT-OMNI-111-WP**) is a networked AV encoder for HDMI 2.0 sources up to 4K @ 60 Hz and HDR (High Dynamic Range). It features a US two-gang, Decora®-style wallplate form factor, and includes interchangeable black and white wallplates and faceplates. The OmniStream 111 WP is part of the OmniStream Pro Series, designed for high performance, flexible distribution of AV over standard, off-the-shelf Gigabit Ethernet switches in commercial audiovisual applications. It is HDCP 2.2 compliant and ideal for the latest Ultra High-Definition and HDR sources. This networked AV encoder features advanced high-quality, VC-2 visually lossless video compression technology with user-selectable, video quality optimization engines designed for computer-generated imaging, or motion video content. The Atlona OmniStream 111 WP achieves extremely low, sub-frame latency when paired with OmniStream AV decoders.

Applications

- **Enterprises and other large organizations**
  Maximize AV application flexibility by enabling content sharing within single meeting rooms, or corporate-wide broadcasting to every connected screen.

- **Corporate and university campuses with the need to distribute AV between buildings**
  OmniStream allows virtually unlimited AV system scope and scale, desirable for enterprise local area networks. SMPTE-standard FEC (Forward Error Correction) ensures robust, reliable image presentation at every endpoint.

- **Applications in which any AV content or resource can be shared anywhere in the system**
  AV over IP technology removes the restrictions associated with interconnecting sources and displays through standard matrix switching architecture.

Key Features

US two-gang enclosure for wallplate openings – interchangeable black or white trim kits

• Allows inconspicuous installation on a wall, in furniture, or in a floor box. Includes black and white faceplates and brackets.

• Meets end user requirements for conveniently accessible yet discreet networked AV connectivity.

AV encoder for HDMI up to 4K/UHD, plus embedded audio

• Streams video and audio, with the flexibility of transmitting them together or to separate network destinations.

• Allows wide-ranging versatility for integrators to design systems to specific requirements.

Supports UHD @ 60 Hz plus HDR formats

• Ideal for new and emerging UHD and HDR-capable sources and displays.

• Supports HDR10 @ 60 Hz and 10-bit color, as well as HLG (Hybrid Log-Gamma) for current 60p HDR broadcast services.

• Supports Dolby® Vision™ @ 60 Hz and 12-bit, delivering best-in-class dynamic HDR experience. Included as of firmware version 1.2.5.

High performance, visually lossless video compression

• SMPTE 2042 VC-2 light video compression with absolutely minimal, sub-frame latency from encode to decode.

• Ensures optimal, pristine-quality graphics and motion video presentations, and is ideal for applications requiring interactivity.

HDCP Compliance

• Adheres to the latest HDCP 2.2 specification for High-bandwidth Digital Content Protection.

• Allows protected content streams to pass between authenticated devices.

• HDCP can be disabled through AMS, allowing content to pass to non-compliant displays and teleconference systems. Protected content is not transmitted.

Network error resilience with FEC (forward error correction)

• Compensates for the possibility of AV packet losses in large systems spanning several networks.

• Enables consistent, reliable performance in enterprise-wide networked AV implementations.

Simplify integration with plug-and-play network switch compatibility

• Streamline system setup by using Atlona Certified Switch configurations for popular models from Cisco, Pakedge, and many others.

• Saves installation time and costs without the need to manually configure a network switch.

PoE (Power over Ethernet) powering

• With PoE, encoders can conveniently be powered over the network from a PoE-equipped network switch.

• PoE simplifies integration without the need for local AC power, and allows centralized power monitoring and management.

Secure content distribution with AES-128 encryption

• Any AV presentation content can be secured by scrambling IP streams.

• Ideal for government, military, and enterprise applications, as well as meeting IT security requirements.

Supports industry-standard, network security features and protocols

• HTTPS, Telnet, SSH, WebSockets with TLS, and AES-128 encryption.

• Features IEEE 802.1x which meets IT authentication requirements for improved network security.

AES67-compatible audio over IP streaming

• OmniStream features industry standard, AES67-compatible networked audio streaming between encoders, decoders, and audio interfaces.

• Simultaneously stream AES67 and native RTP.

Key Features (continued)

Enhance AV presentations with visual enhancements

- Provide corporate or institutional branding by overlaying a logo.

- Display a full-screen image as a backup in an event of an interruption in an AV stream, or between presentations.

- Identify and label presentation content with static or scrolling text.

EDID management

- Manages EDID communications between source and encoder; allows integrators to force a source to a preferred resolution.

- Ensures desired audio formats and video resolutions are provided to the AV system.

- EDID can be assigned from a display connected to an OmniStream decoder.

Encoder grouping

- Assign several encoders to a logical group.

- Allows a decoder to automatically switch between encoders in the group upon input detection.

- Create scalable, flexible switching systems with encoders placed wherever AV sources may be located.

Audio processing and pass-through

- Streams PCM, Dolby® Digital, Dolby Digital Plus™, Dolby TrueHD, Dolby Atmos®, DTS® Digital Surround™, DTS-HD Master Audio™, and DTS:X®.

- Supports multichannel PCM audio downmixing to two-channel PCM.

System Management

- Intuitive standalone web GUI.

- Atlona Management System (AMS). Web-based interface for configuration and management of OmniStream systems, including endpoints, AV, and data cross-connections.

Award-winning 10-year limited product warranty

- Ensures long-term product reliability and performance in residential and commercial systems.

- Specify, purchase, and install with confidence.

Specifications

Video	
HDMI Specification	HDMI 2.0b, HDCP 2.2
UHD/HD/SD	4096×2160 (DCI) @ 60/30/24 Hz 3840×2160 (UHD) @ 60/50/24/25/30 Hz 1920x1080p @ 23.98/24/25/29.97/30/50/59.94/60 Hz 1920x1080i[1] @ 25/29.97/30 Hz 1280x720p @ 30/50/59.94/60 Hz
VESA[2]	1920x1200 @ 60 Hz 1360x768 @ 60 Hz 1680x1050 @ 60 Hz 1280x1024 @ 60 Hz 1600x1200 @ 60 Hz 1280x800 @ 60 Hz 1600x900 @ 60 Hz 1280x768 @ 60 Hz 1440x900 @ 60 Hz 1152x768 @ 60 Hz 1400x1050 @ 60 Hz 1024x768 @ 60 Hz 1366x768 @ 60 Hz
Virtual Reality	2160×1200 @ 90 Hz (HTC® Vive)
Color Space	YUV, RGB

Encoding	
Density	One encoding engine
Compression Format	VC-2 (SMPTE-2042)
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Video Quality Optimization	User-selectable: Computer Graphics or Motion Video
Color Depth	8-bit, 10-bit, 12-bit
HDR	HDR10, HLG, Dolby® Vision™
Bit Rate	Configurable up to 900 Mbps
Latency	0.5 frame (e.g. 1080p @ 60 Hz latency is < 8 ms between encoder and decoder) 1.5 frames in Fast Switching mode (e.g. 1080p @ 60 Hz latency is < 24 ms between encoder and decoder) Note: Unusual network configurations may increase overall latency

Audio			
Pass-through	PCM 2.0 LPCM 5.1 LPCM 7.1	Dolby Digital Dolby Digital Plus™ Dolby TrueHD Dolby Atmos®	DTS® DTS-HD Master Audio™
Down-mixing	Multichannel LPCM to two-channel LPCM		
Sample Rate	32 kHz, 44.1k Hz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz		
Bit Depth	Up to 24-bit		

Protocols	
Video Streaming	RTP
Audio Streaming	RTP, up to 7.1 channels AES67, up to LPCM 7.1 channels
Addressing	DHCP, static
Encryption	AES-128
QoS Tagging	RFC 2475
Management	HTTPS, SSH, Telnet, and WebSockets with TLS
Authentication	IEEE 802.1x: PEAP/MSCHAPv2 or EAP-TLS
IP Multicast	IGMPv2 and IGMPv3 support

Graphics Features	
Text Insertion	Adjustable height/width, scrolling (speed, direction, or static), iterations (up to infinite), positioning, and adjustable color and alpha (transparency) channels.
Slate / Logo Insertion	PNG file format, adjustable aspect ratio (keep or stretch), horizontal/vertical size, screen position; slate mode can be set to off, manual (image always displayed, superimposed on the source signal, and will remain if source signal is lost), auto (image will only be displayed when source signal is lost).

Connectors	
HDMI IN	1 - Type A, 19-pin, female, locking
ETHERNET[3]	1 - RJ45, 10/100/1000 Mbps

Indicators and Controls	
PWR	1 - LED, tricolor (red, amber, green)
HDMI	1 - LED, bicolor (red, green)
LINK	1 - LED, bicolor (red, green)
RESET	1 - momentary, tact-type

Power	
PoE	IEEE 802.3af
Consumption	Up to 12.5 W
Safety	CE, FCC, cULus, RoHS, RCM

Environmental	
Operating Temperature	+14 to +122 °F -10 to +50 °C
Storage Temperature	+14 to +140 °F -10 to +60 °C
Operating Humidity (RH)	20% to 95%, non-condensing

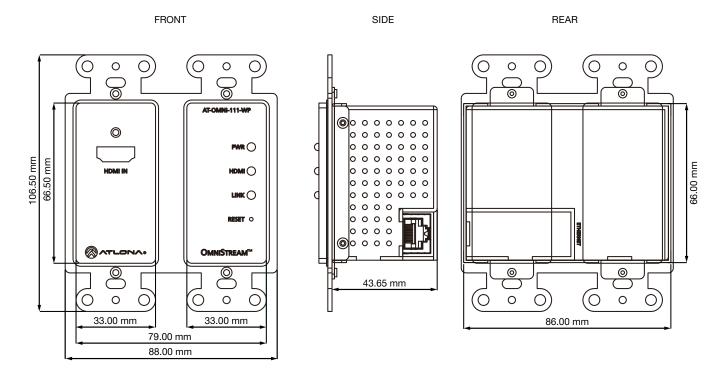| Chassis	
Dimensions (H x W x D)	4.19 in x 3.46 in x 1.72 in 106.50 mm x 88 mm x 43.65 mm
Weight	0.46 lbs 0.21 kg
Safety	CE, RoHS, FCC

(1) Scaling and deinterlacing is not supported at 1080i.

(2) All VESA resolutions are 60 Hz.

(3) Maximum distance per hop is 300 ft (100 m), depending upon network configuration.

Drawings

FRONT   SIDE   REAR

FRONT view:
AT-OMNI-111-WP

HDMI IN

PWR
HDMI
LINK
RESET

OMNISTREAM™

106.50 mm
66.50 mm
33.00 mm
33.00 mm
79.00 mm
88.00 mm

SIDE view:
43.65 mm

REAR view:
ETHERNET
66.00 mm
86.00 mm