

## Introduction

The Atлона **OmniStream R-Type 512 (AT-OMNI-512)** is a networked AV encoder with two independent channels of encoding for two HDMI sources up to UHD @ 60 Hz and HDR, plus embedded audio and RS-232 or IR control pass-through. It is part of the **OmniStream R-Type Series**, designed for high performance, flexible distribution of AV over Gigabit Ethernet in residential and light commercial applications. The OmniStream R-Type 512 is HDCP 2.2 compliant and ideal for the latest as well as emerging UHD and HDR sources. It features visually lossless compression, optimized for motion video, pristine-quality picture, and extremely low sub-frame latency from encode to decode – critical for demanding applications such as gaming. This dual-channel encoder is housed in a half-width rack enclosure and is ideal for high-density, compact installation in a centralized equipment location.

## Applications

- **Multi-room or whole-house AV systems**  
OmniStream R-Type enables cost-effective system design, allowing the connection of any number of sources to any number of displays, throughout a residence.
- **Bars, restaurants, offices, and other light commercial environments**  
Expand the system by adding encoders and decoders, making video wall and digital signage applications simple and easy.
- **Home theater and gaming**  
OmniStream R-Type delivers the uncompromising performance of traditional baseband video systems, making it ideal for applications where both image quality and low-latency are crucial.

## Key Features

### **AV encoder for HDMI up to 4K/UHD, plus embedded audio and RS-232 or IR control pass-through**

- Streams video, audio, and control, with the flexibility of transmitting them together or to separate network destinations.
- Allows wide-ranging versatility for residential and light commercial integrators to design systems to specific requirements.

### **Dual-channel AV encoding**

- Two independent channels of encoding in a single box, with dedicated processing for each channel.
- Allows high-density rack installations and reduces box count for locations with limited space for equipment.

### **Supports UHD @ 60 Hz plus HDR formats**

- Compatibility with new and emerging UHD and HDR-capable sources and displays, without being limited to HDR10 @ 24 Hz.
- Support for HDR10, HLG, and other formats will be added in future firmware updates.

### **HDCP 2.2**

- Adheres to latest specification for High-bandwidth Digital Content Protection.
- Allows protected content stream to pass between devices.

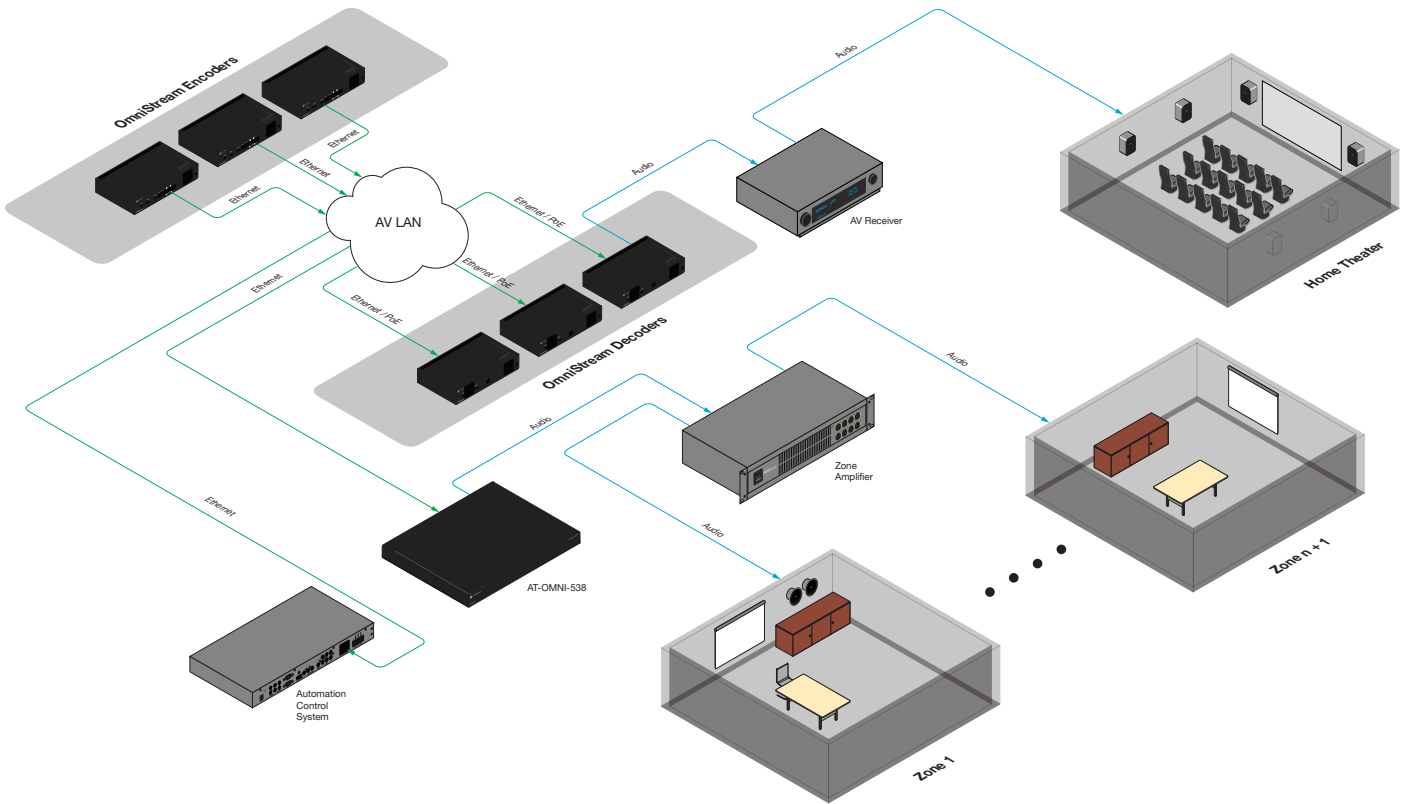
### **Simplify integration with plug-and-play network switch compatibility**

- Streamline system setup by using Atlona Certified Switch configurations for popular models from Cisco, Luxul, and others.
- Saves installation time and costs without the need to manually configure a network switch.

### **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.

### Connection Diagram



### Specifications

Video	
UHD/HD	4096x2160@24Hz, 3840x2160@24/25/30Hz (UHD), 1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@25/29.97/30Hz, 720p@30/50/59.94/60Hz
Latency	0.5 frames (e.g. 1080p @ 60 Hz latency is < 8 ms) Note: Unusual network configurations may increase overall latency
Bitrate	900 Mbps
Color Space	YUV, RGB
Color Depth	8-bit, 10-bit, 12-bit
Audio	
Digital IN	LPCM 2.0, LPCM 5.1, LPCM 7.1, Dolby® Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos®, DTS®, DTS-HD Master Audio™
Sample Rate	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
Bit Depth	up to 24-bit
Distance	
Maximum distance depends on network configuration	

Signal		
CEC	Yes	
HDCP	2.2	
Scrambling	AES 128-bit for HDCP sources	
IP		
Protocol	RTP	
Ethernet Speed	10/100/1000 Mbps	
Address	DHCP, static	
RS-232		
Bit Rate	2400 - 115200 bps	
Connector	Molex - 2 x 3 pin	
Temperature		
	Fahrenheit	Celsius
Operating	14 to 122 °F	-10 to 50 °C
Storage	-14 to 140 °F	-10 to 60 °C
Humidity (RH)	20% to 95%, non-condensing	
Power		
Consumption	12 W	
Supply (optional) *	Input: 110 - 220 V AC, 50/60 Hz Output: 12 V DC, 1 A	
SKU	AT-PS-48083-C	
Dimensions		
	Inches	Millimeters
H x W x D	6.59 x 5.90 x 5.90	167.5 x 150 x 150
Weight		
	Pounds	Kilograms
Device	3.08	1.4
Certification		
Device	CE, RoHS, FCC	

\* Unit can also be powered over Ethernet cable using a PoE-capable switch.